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RAILROAD JOURNAL**

NEW YORK [ETC.]

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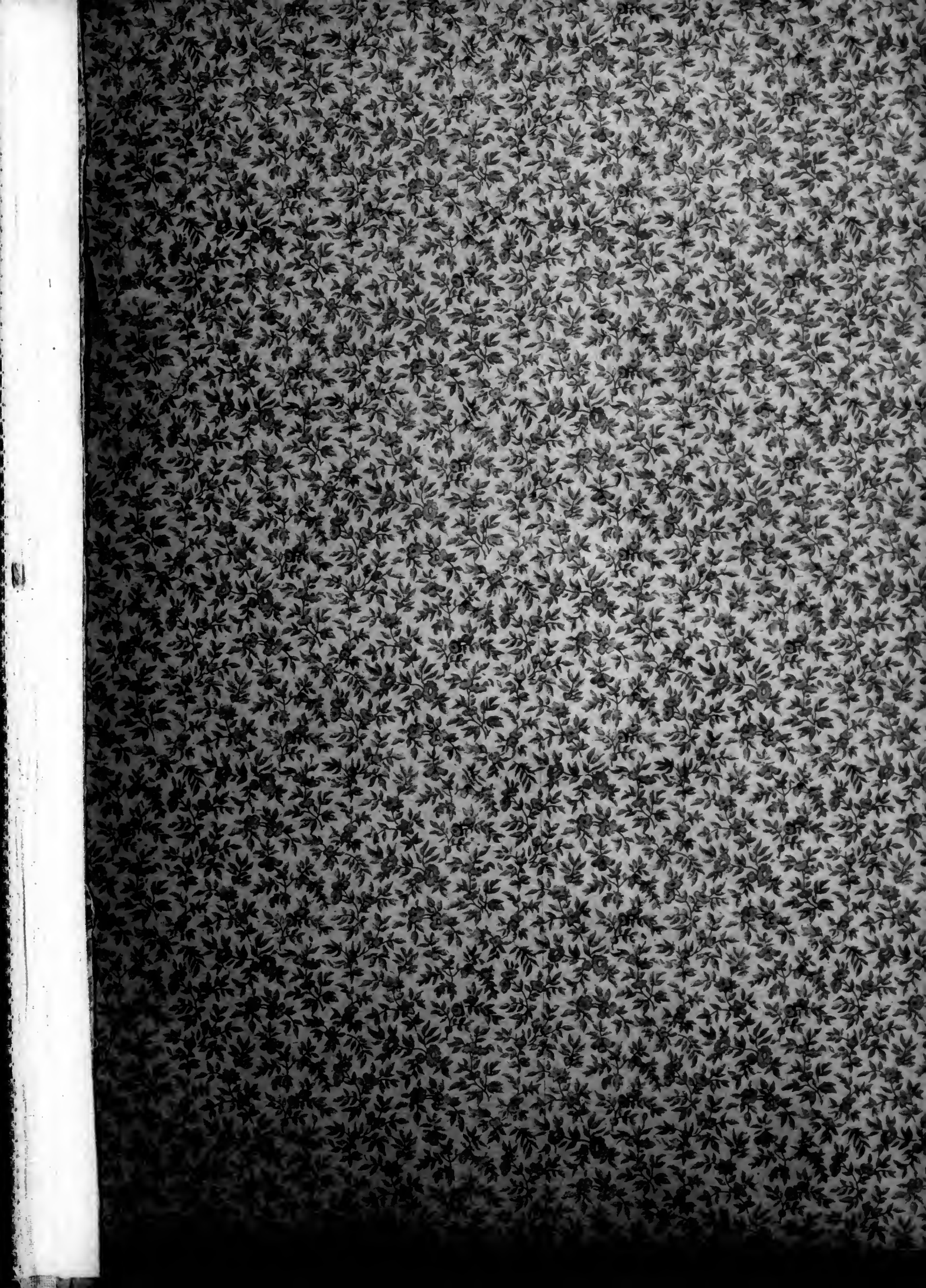
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AMERICAN

REMOTE STORAGE

RAILROAD JOURNAL,

AND

ADVOCATE OF INTERNAL IMPROVEMENTS.

JANUARY TO JULY, 1834.

VOL. III.—PART I.

NEW-YORK :

PUBLISHED BY D. K. MINOR, EDITOR AND PROPRIETOR,

No. 35 WALL STREET.

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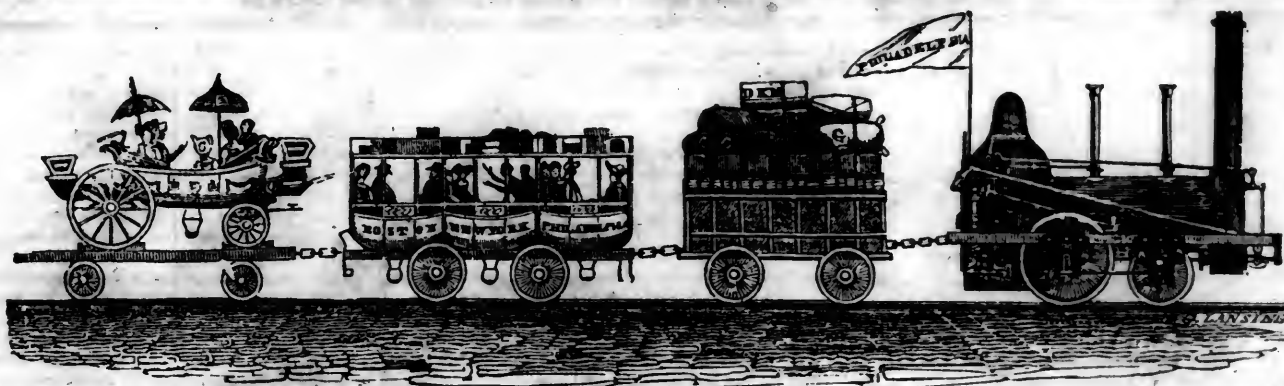
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D. K. MINOR, EDITOR.]

SATURDAY, JANUARY 11, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JANUARY 11, 1834.

TO THE PATRONS OF THE JOURNAL.—The second volume of this Journal has been completed, and with this number, (somewhat delayed, 'tis true,) another year is commenced.

In entering upon the duties of another year, it may not be amiss to ask those of its patrons and readers, who may have watched its brief career, have I fulfilled my promises? Has the Journal answered your expectations? Should you answer in the affirmative, as I, at least, may be permitted to hope, it will serve only to stimulate to renewed exertion to make the Journal more what I have desired, than I have yet been able to do. Should any of you, however, have cause to give a different answer, I can only say, that, under the circumstances, all that could be, has been done, to render it worthy of your continued patronage; and it now affords me much pleasure to assure you that I shall be able hereafter to render it far more valuable than heretofore. I shall not, however, now give any new assurances of my intentions, but merely repeat that, having decided to publish it *another year*, it will continue to pursue the path originally marked out for it. It will be mainly devoted to the subject of *Internal Improvement*, in its various modes. It will also have a mechanical, an agricultural, a miscellaneous, and a literary department—avoiding every thing like *partisan* politics, yet at the same time devoting a share of its pages to the recording of many of the important political measures of the day, for the convenience of those who desire to preserve them for future reference.

It has before been mentioned, yet it may be again, without impropriety, repeated, that thus far the Journal has not paid its expenses. I have, however, resolved to try it *another year*, and those who desire to have it, will run no risk by paying in advance for the volume, as I assure them that when once commenced, as it now is, it will be continued through the year, to those who *pay in advance*. Heretofore I have endeavored to *persuade* all to pay in advance, who wished the Journal sent to them; but have, in very many cases, been unsuccessful, either from the apprehension that it would not be continued, or from some other cause unknown to me; by which omissions I have not been able to make its income pay its expenses for *materials and labor*; and of course I have not only devoted my time to its supervision without compensation, but have also been obliged to advance, during the two years, over a *thousand* dollars to meet its ordinary expenses, that it might not be discontinued. Its discontinuance will not, therefore, I presume, be considered as a mark of disrespect by those who are *now* indebted for *past* volumes. It is always an unpleasant matter to part with old friends, especially if they happen to be *indebted* to us, and there is any prospect of obtaining the amount. It is, however, better that such friends should part while the debt is small, than that the acquaintance should be kept up entirely at the expense of *one party*—especially if it falls upon the one least able to sustain it. Those subscribers, therefore, who have not yet paid for the *previous* volumes, but wish to have it continued, will please to remember that prompt payment only for the *past* as well as for the *ensuing* volume will ensure its continuance. I am compelled to adopt this measure in order to reduce the expenses of the work, by printing only a number sufficient to supply those who *pay* for it, and to keep the sets, *now on hand*, complete. I regret exceedingly the necessity of such a course, but am resolved to work hereafter without compensation, for those only who are willing to aid in defraying the expense of materials and labor (except my own) necessary to its publication.

Bills will be forwarded in the next number

of the Journal to all who are now indebted for past volumes; and hereafter, each subscriber's name and residence, with the amount paid and date to which it pays, will be inserted in the Journal, that he may have evidence of payment in his possession, should his receipt be mislaid.

With a repetition, therefore, of the assurance that the Journal *will be continued at least another year*, and the expression of a hope that it will hereafter be a profitable work to all parties interested in it, as well as to the country at large, I beg to acknowledge the obligations under which the numerous favors of its friends have laid me, and to solicit a continuance, not only of their patronage as subscribers, but also as correspondents and friends.

* * In order to obviate the difficulty of remitting by mail, for want of *small bills*, I will observe that U. S. Bank notes of \$5, or over, may be remitted, when inclosed in presence of or by the Post-Master, at my risk, subject to postage, and credit for the amount will be given to the subscriber.

(D. K. MINOR.

New-York, "January," 1834.

☞ One word on account of the delay of this number. Absence and indisposition have been the principal cause. It will hereafter, as heretofore, be published on Saturday.

The Journal will, as heretofore, be published weekly, at three dollars, in advance. It will also be sent to those who desire it in *semi-monthly* form, with a cover, stitched, at \$4 per annum. Vols. I. and II. may now be had, *stitched in a cover, so as to be sent by mail*, like a magazine, or in boards, at \$3, with price of binding, (25—50—or 75 cents,) per volume, as may be preferred.

In this number will be found "AN APPEAL TO THE PEOPLE OF THE STATE OF NEW-YORK," in favor of a Canal to connect the Erie Canal with the Allegany river. An effort is to be made, as we understand, to obtain an act of the Legislature, authorizing the construction of this important link in our works of internal improvement. It is a measure of great importance, and one which will, we trust, find no lack of friends in the right quarter. The documents accompanying the Appeal will be given in subsequent numbers.

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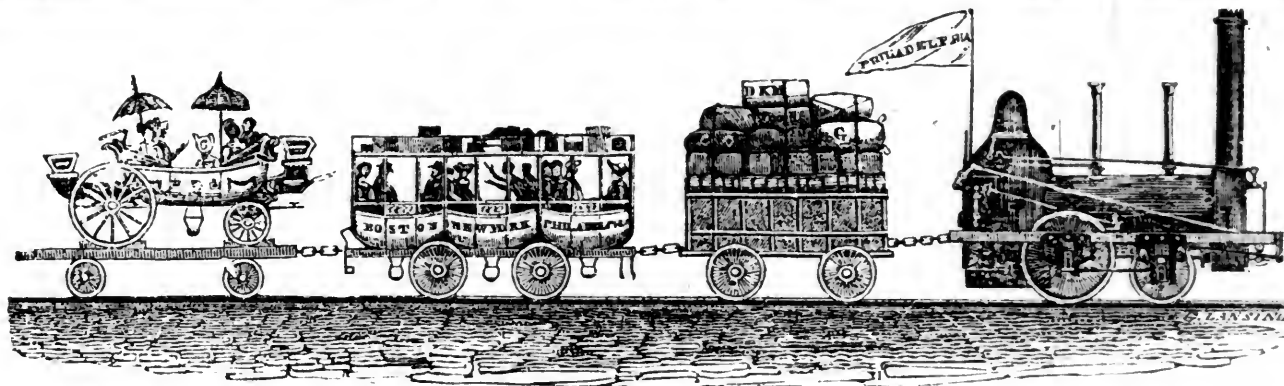
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TO THE PATRONS OF THE JOURNAL.—The second volume of this Journal has been completed, and with this number, (somewhat delayed, 'tis true,) another year is commenced.

In entering upon the duties of another year, it may not be amiss to ask those of its patrons and readers, who may have watched its brief career, have I fulfilled my promises? Has the Journal answered your expectations? Should you answer in the affirmative, as I, at least, may be permitted to hope, it will serve only to stimulate to renewed exertion to make the Journal more what I have desired, than I have yet been able to do. Should any of you, however, have cause to give a different answer, I can only say, that, under the circumstances, all that could be, has been done, to render it worthy of your continued patronage; and it now affords me much pleasure to assure you that I shall be able hereafter to render it far more valuable than heretofore. I shall not, however, now give any *new* assurances of my intentions, but merely repeat that, having decided to publish it *another* year, it will continue to pursue the path originally marked out for it. It will be mainly devoted to the subject of *Internal Improvement*, in its various modes. It will also have a mechanical, an agricultural, a miscellaneous, and a literary department—avoiding every thing like *partisan* politics, yet at the same time devoting a share of its pages to the recording of many of the important political measures of the day, for the convenience of those who desire to preserve them for future reference.

It has before been mentioned, yet it may be again, without impropriety, repeated, that thus far the Journal has not paid its expenses. I have, however, resolved to try it *another* year, and those who desire to have it, will run no risk by paying in advance for the volume, as I assure them that when once commenced, as it now is, it will be continued through the year, to those who *pay in advance*. Heretofore I have endeavored to *persuade* all to pay in advance, who wished the Journal sent to them; but have, in very many cases, been unsuccessful, either from the apprehension that it would not be continued, or from some other cause unknown to me; by which omissions I have not been able to make its income pay its expenses for *materials* and *labor*; and of course I have not only devoted my time to its supervision without compensation, but have also been obliged to advance, during the two years, over a *thousand* dollars to meet its ordinary expenses, that it might not be discontinued. Its discontinuance will not, therefore, I presume, be considered as a mark of disrespect by those who are *now* indebted for *past* volumes. It is always an unpleasant matter to part with old friends, especially if they happen to be *indebted* to us, and there is any prospect of obtaining the amount. It is, however, better that such friends should part while the debt is small, than that the acquaintance should be kept up entirely at the expense of *one* party—especially if it falls upon the one least able to sustain it. Those subscribers, therefore, who have not yet paid for the *precious* volumes, but wish to have it continued, will please to remember that prompt payment only for the *past* as well as for the *ensuing* volume will ensure its continuance. I am compelled to adopt this measure in order to reduce the expenses of the work, by printing only a number sufficient to supply those who *pay* for it, and to keep the sets, *now on hand*, complete. I regret exceedingly the necessity of such a course, but am resolved to work hereafter without compensation, for those only who are willing to aid in defraying the expense of materials and labor (except my own) necessary to its publication.

Bills will be forwarded in the next number

of the Journal to all who are now indebted for past volumes; and hereafter, each subscriber's name and residence, with the amount paid and date to which it pays, will be inserted in the Journal, that he may have evidence of payment in his possession, should his receipt be mislaid.

With a repetition, therefore, of the assurance that the Journal *will be continued at least another* year, and the expression of a hope that it will hereafter be a profitable work to *all* parties interested in it, as well as to the country at large, I beg to acknowledge the obligations under which the numerous favors of its friends have laid me, and to solicit a continuance, not only of their patronage as subscribers, but also as correspondents and friends.

* In order to obviate the difficulty of remitting by mail, for want of *small bills*, I will observe that U. S. Bank notes of \$5, or over, may be remitted, when inclosed in presence of or by the Post-Master, at my risk, subject to postage, and credit for the amount will be given to the subscriber.

[D. K. MINOR.

New-York, January, 1834.

One word on account of the delay of this number. Absence and indisposition have been the principal cause. It will hereafter, as heretofore, be published on Saturday.

The Journal will, as heretofore, be published weekly, at *three dollars, in advance*. It will also be sent to those who desire it in *semi-monthly* form, with a cover, stitched, at \$4 per annum. Vols. I. and II. may now be had, *stitched in a cover, so as to be sent by mail*, like a magazine, or in boards at \$3, with price of binding, (25—50— or 75 cents,) per volume, as may be preferred.

In this number will be found "AN APPEAL TO THE PEOPLE OF THE STATE OF NEW-YORK," in favor of a Canal to connect the Erie Canal with the Allegany river. An effort is to be made, as we understand, to obtain an act of the Legislature, authorizing the construction of this important link in our works of internal improvement. It is a measure of great importance, and one which will, we trust, find no lack of friends in the right quarter. The documents accompanying the Appeal will be given in subsequent numbers.

Undulating Railroads. By A. CANFIELD. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

SIR,—Having heard several of our most distinguished civil engineers express a disbelief in the theory of the undulating railroad as laid down by the ingenious discoverer of its advantages, (though they admit that they had not carefully examined the matter,) I am induced to offer some remarks on the subject.

What I propose to shew is, that a car must and will run over an undulating road, with a moving power less than would be required to move it on a level road. Though, to my mind, this is abundantly proved by Mr. Badnall; I shall take a different course to arrive at the same conclusion.

Let us first suppose a car placed on a level road, and a locomotive power applied which is just sufficient to overcome all friction. Now, the smallest additional force will put the car in motion; and the velocity will be exactly proportional to the said additional force. We will suppose it to be so small as to produce the least conceivable velocity. Now, we will suppose the same car to be placed at one of the apexes of an undulating road. We will suppose the undulations to be segments of circles. Now, if a power is applied barely sufficient to overcome all the friction, it is certain that the car will run down and ascend, on the opposite portion of the circle to the same height as that from which it started; and the principle of this movement is in no respect different from that of a pendulum vibrating in the same circle. If we then suppose the undulation or segment of the circle to be the same as that described by a "second pendulum," it will follow as an inevitable conclusion, that the car must pass from one apex to the other in *one second of time*. Here then is a certain distance on the undulating road passed over in a certain limited time, whereas, on the horizontal road, with the same moving power, the time occupied may be as great as can be imagined. You will observe, (and it is important,) that this result is obtained, notwithstanding that the friction is supposed to be constantly the same on both roads, and, of course, the amount of friction *greater* on the undulating, (as it is longer,) than on the level road.

But the most important fact is the one stated by the inventor, viz. that the pressure from a car is less on an inclined than on a horizontal road. This is certainly true, since a part of the gravitating force or weight of the car must be exerted, or expended, in accelerating the motion in descending; and the same portion of the gravitating force must be sustained, or overcome, by the moving power in ascending and the amount of pressure from which the rails are thus relieved is the same, whether the moving power be an impulse or a constantly acting power. This leads to a very surprising conclusion, viz. that since the pressure upon the rails diminishes in proportion to their steepness, it follows that the steeper the undulations the less moving power will be required; and this must be the fact, until the pressure upon the road is so much reduced that the locomotive power will cause the wheels to slip on the rails. I here, of course, suppose that there shall be no loss of momentum in consequence of the change of direction of the moving body.

Another proposition that bears on the case is, that the pressure of the car on the rails is diminished in the same proportion as the velocity is increased, and from this cause the friction is lessened in the same proportion. To prove this in a few words, let us suppose such a velocity to be given to a car as will cause it to move parallel to the surface of the earth, without touching the rails; now, but a moment's thought is necessary to show, that if this velocity be diminished, the pressure on the rails will begin, and will increase in exact proportion to the diminution of velocity, and the friction arising from this pressure will increase in the same proportion.

If, then, it is proved that the friction or resistance to motion is less, it cannot be denied that the same moving power will produce a greater velocity on an undulating than on a level road; at the same time, I hold it to be proven by my first proposition, that if the friction were the same on both roads, that the undulating road still has a decided advantage.

I would not at this time go so far as to make an undulating road over a level route, nor do I suppose that very long or very steep planes can be used; yet I see

no reason to doubt that this will be found to be one of the most important improvements that have been made in railroads.

I am, Sir, respectfully, your obedient servant,
A. CANFIELD.

Paterson, (N. J.) Jan. 2, 1834.

On the Improved Art of Boring for Water, as practised in the United States; and as the Foundation of a Water Company in New-York. By JOHN L. SULLIVAN. [For the American Railroad Journal and Advocate of Internal Improvements.]

The practice of boring for water appears to have been first undertaken from the rational probability of its success; but it was found necessary very much to improve the instruments of the art, on account of the nature of the rock and soil. And, for economy of labor, to devise a mode of applying the power of the steam engine to a machine which raises the chisel and allows it blow by sudden release and fall.

The alluvial soil, in which the operation is often to be carried on more deep than wells could be made, required, to reach the rock, the invention of an iron tube, having the quality of great stiffness, without any considerable projection at the joints, both in order to be forced down by powerful leverage, and to be clear within, for the operations to be carried on through it. Being undermined at the same time that pressure is exerted, it, by successive lengths, reaches the rock to be bored into, *through it*—should there not, as often occurs, have been found abundance of water at the surface thereof. Implements to overcome any obstacle in the way have also been contrived.

The tube being entered a little into the rock, and pressed down, makes therewith a tight joint; and thus a perforation to the depth of *seven* hundred feet has in several instances been made. There are, indeed, accidents to which the operation is liable, but there are, also, implements to meet such exigencies; experience has now rendered their management easy. The bore is generally first two and a half inches diameter; and if more water is required than it affords, or permits, it is enlarged to seven inches, by an instrument called the *reamer*.

When the work commences in a rock above ground, it is usual to excavate a small well, as the water often rises to the surface, or nearly so; or the bore is enlarged for the reception of the pump.

To bring up large quantities from a small bore, hydraulic principles have been superadded; which induce a more lively flow of water to the boring, and up into the pumps. The former, by abstracting the column and making a vacancy much below the height to which the water ordinarily rises; the other by placing the pumps externally on the sides of the bore, lower than the height to which the water rises. Thus availing of the natural difference between the head and the position of the pumps; that thus, filling quicker, they may be larger, and deliver more.

To be successful, this art seems only to require suitable instruments and requisite skill; and there have now been so many instances, that it begins to become a rational inquiry, whether there may not be in the geology of our country, good cause always to expect success. And, instead of looking to distant ponds and streams for a supply of pure water, whether there may not be a provision by Nature, even for cities densely peopled, on the very spot they occupy?

The researches of geology seem to have established the most material facts in this inquiry; that the primitive rocks are always stratified. It appears, that, while the earth was yet without form, and void of life, the crystallization which constitutes the rocks was going on, and forming them in strata; of which, the cause can be but conjecture. It is possible that the process extricated the substance that makes the division between them, till its quantity was sufficient to deposit; and, being settled, the crystallization recommenced, thus; forming successive layers. But that, besides the strata of its own kind, general layers of different kinds should have successively formed, is not less true than curious. In one mass, they might not have been so easily raised as appears was done.

Thus the primitive rocks are; it is believed, invariably found in the order or succession, upwards, of granite, granular limestone with quartz, gneiss, mica slate, soapstone, sienite, succeeded by the transition rocks, metalliferous limestone, argillaceous, and siliceous slate, graywacke slate, and rubblestone; which are again succeeded by the secondary rocks, red sandstone, breccia, compact limestone, gypsum, and rocksalt; and over these the diluvial masses, or aggregations of rocks and earth; and among them the recent alluvial deposits.

Thus the granite of the highest mountains must, in its formation, have been level and low; but, when the formation of the dry land took place, was upheaved by some physical cause, which the Creator had prepared.

On the Alps, in the vicinity of Mont Blanc, stupendous masses of granite stand up thousands of feet, as if protruded through strata of more recent formation, which slope down from them.

It appears that much the same operation, on the grandest scale, have prepared the continents for the habitations of man. The same *flat* which caused dry land to appear, created the valleys, and the plains, the streamlets, and the rivers, and set bounds to the sea.

On the continent of North America, there are, obviously, three distinct systems of mountains. The central line of the Appalachian, being the Alleghany mountains, is granite. And the eastern border of the base of the system may be described as appearing at the falls of all the rivers nearest tide, discharging into the Atlantic south of the Hudson. In Darby's geographical view of the United States, page 81, it is said, "this inflected line, from New-York to the Mississippi, is marked, at distant intervals, by falls, or rapids, in the bed of the streams."

The Alleghany mountains, being two thousand four hundred and seventy-three feet high, attract and condense the vapors and clouds; and is well known to be a more rainy region than the plains below, giving rise to numerous rivers.

It is reasonable to think, that when the granite strata rose from their original position, that cavities were formed by their disruption, and that whatever spaces occur, must be filled with water, and be the passage for it thence among the strata to the ocean; and if so, this water may be intercepted, in part, by perforating the strata. This might have been reasonably expected, and this expectation has been verified by trials.

The nearest boring to the Alleghany is at the Public Armory, near Harper's Ferry, on the Potomac. The next at Baltimore; again near the Schuylkill; again at Princeton; then at New Brunswick; Somerville; Amboy; Newark; and Jersey City.

On the island of New-York there were stronger reasons for expecting to find water in the rock than elsewhere, because here commences the *third system of mountain formation*, dividing the waters of the Hudson and Lake Champlain from those of the bays of New-England. It commences here and extends northward, forming the mountains of Berkshire and Vermont. It is a range of primitive rock, the strata of which rise from the west and probably decline towards the east from the centre of New-England.

We have the authority of Professor Eaton, a teacher of Geology, to say that the strata of primitive rock, after spreading down from the west as far as the Hudson, begins to rise, and come to the surface in the Berkshire mountains. That they do thus actually slope upwards from the west is known by the excavations made in this island.

The city thus being at the point where the range commences its rise northward, at the same time the strata dip west, the waters therein *cannot* flow east, and must, of course, flow south. And that the spaces are full of pure water is not only ascertained by its outpouring at the head of the streams of the Highlands, in a thousand places, but by its actual abstraction here, in a number of instances, and by the spontaneous outpourings of it also here on the spot, in the very centre of the city.

The natural indications of water here were strong before any experiment was made. The rock springs of the 1st Ward were known before the Revolution; and the central valley, before it was occupied by streets, was the seat of large and deep collections of spring water; and one of these was, in 1798, deemed by the Common Council sufficient for the whole city; and it was a question whether it should not be preserved for this purpose. But it was filled up. Nevertheless, the springs which fed it are not lost. They continue to flow, and are, in fact, recovered by the effect of the deep tube above described. The two or three millions of gallons a day, which then flowed here, are regained and protected by a mass of earth from fifty to a hundred feet deep.

The proof of this fact is in the success of three tubes. Two of them in West Grand street, the other in Lawrence, near Canal, at Cram's distillery; and

this one continually overflows on being reduced one or two joints.

There is also proof of the like issues of pure water on the east side, north of Chatham square, by the success of all the tubes that have been set down to the surface of the rock near the East river.

But on the West side the water is not obtained without penetrating the rock about one hundred feet, being on the top of the slope thereof, but this operation has in every instance been successful.

The general reason for expecting success in this operation being thus explained, the inquiry becomes perhaps the more interesting, how often the theory has been confirmed by practice? The instances have not been many, but are rather convincing. The least likely to succeed was that of the botanic garden, because begun on the bare apex of an elevated rock, about the highest ground in the island. It penetrates the rock 112 feet, and the water stands 94 feet deep, constantly renewed.

The next proof is one mile more south, at the great well of the Fire Engine Reservoir, 113 feet deep, of which 96 are in the rock, and considerable water is obtained.

West of this, near the Hudson, are those about one hundred feet deep, which supply the city with rock water, by means of drays; also, that at a distillery on Ferry street, which gives 22 to 26,000 gallons a day.

More southerly, and on the highest part of Broadway, near Bleecker street, is that belonging to the Manhattan Company, lately the subject of consideration by the Board of Commissioners.

It will be collected that this Company was instituted to bring in the Bronx water, which, at the time their charter was granted, was estimated to cost about 200,000 dollars; but, by more complete surveys, it was found very likely to absorb their whole capital of two millions, so as to defeat the purpose of employing the surplus of 1,800,000 as banking capital. The Company had employed double the amount of the original estimate in supplying the city with the best water they could command, when the progress of the art of boring for water came to the knowledge of the directors.

After making a well 42 feet deep, down to the surface of the rock, they penetrated it 400 feet, in the course of which operation good water was found between all the lower strata, and not less than eight times.

They were so well satisfied with the result, as to have it reamed to the diameter of 7 inches; and, by applying only the power of a six horse engine, raise about 130,000 gallons of water a day. And the Board of Commissioners pronounce it good and wholesome; it is in fact so, and clear as crystal.

They also calculate that 42 such borings only would supply the city with six millions of gallons a day. This one cost ten thousand dollars.

The Company may possibly have expected to raise, at once, as much as would supply the pipes already laid down, by their agent, stated at nearly 700,000 gallons a day; if so, it was rather a too great demand on one boring, though this one is, in the improved mode of management, probably capable of producing considerably more than it as yet has done.

But from some other cause, probably the preference which the stockholders give to banking with their capital, their water-works are offered for sale to the city; and might well have been an object of purchase to any party competent to their perfection, as no doubt all the houses along an extensive range of pipes would take the water, were it all as good as that thus derived from the rock.

It has thus been shown why the general formation of the country is favorable to the system of deriving water from the rock, and why New-York, specially favored, has only to penetrate a little deeper than usual to find pure water in great abundance, at a moderate expense, and, when thus obtained, incomparably finer than that of the Schuylkill at Philadelphia, and free from all unfavorable influences of climate or locality. For, however dense the population of the city may be, the rock water is defended by the depth and nature of its channels.

An apology to your readers would be offered for the length of this article, but that the subject is now becoming an interesting one to most of our sea-port cities. At New Orleans a company is incorporated having a large capital, and a banking privilege. The Mississippi is perhaps the only river in our country that, like the Nile, comes at midsummer cool from distant mountains of ice.

But no stream can be other than a drain of the district it waters. And it is well known that impurities combine chemically with water.

The recent survey and report for an aqueduct route from the Croton, though at an expense very disproportionate

to the present city, may be preferred by the community. But it is possible that the certainty and readiness, the inexhaustible nature of the sources which come hither in the natural aqueducts of the rock, have not yet been duly appreciated by the public. They certainly have not been by the commissioners; and it remains yet for public opinion to decide the interesting question, how the city of New-York shall be supplied with pure and wholesome water.

To leave behind so productive a source of supply as the rock affords, is like leaving a fortress in the rear.

This resource will, at all events, be the object of a company of capitalists. It has been solicited of the Common Council that leave be given to deliver it by aqueduct pipes. It is stated in the Water Committee's recent report, that the city actually pays 273,750 dollars for the water distributed by drays; and the shipping 50,000 dollars. They compute the number of buildings for which water would be required at 35,000. They state that in the city of London there are eight water companies. It is not stated why the Corporation did not supply that city. The explanation would have been that, where capital is to be applied, those do it most economically who have the most interest in making it effectual. One of them is stated to have risen greatly in value.

Appeal to the People of the State of New-York and their Representatives in the Legislature, in favor of constructing the Genesee and Allegany Canal

At a meeting of citizens in the city of New-York, favorable to the construction of a canal from Rochester, on the Erie Canal, to Olean, on the Allegany river, held at the Shakespeare Hotel, Oct. 11, 1833, Christian Bergh was called to the chair, and Edwin Williams appointed secretary. After full discussion, and a variety of interesting statements, it was unanimously resolved,

1. That in the opinion of this meeting, from the statements made, and information obtained from authentic sources, the proposed canal will have an important bearing on the growth and prosperity of this state, particularly of this city, and ought to be constructed at the expense of the state; inasmuch as it will open a new and great thoroughfare through the rich valleys of the Genesee, Allegany, and Ohio, to the Mississippi.

2. That a committee of forty-five gentlemen, from all the wards of this city, be appointed to call the attention of the citizens generally to the subject of this canal, and to take such measures to present this subject to the Legislature at the next session, as shall be expedient.

APPEAL, &c

In this appeal it is proposed to show, 1st, That the connection of the Allegany with the waters of New-York harbor is practicable by canals through Pennsylvania and New-Jersey: 2. That it is practicable by a canal from the Allegany within New-York to the Genesee river, and thence by the Erie canal and Hudson river: 3. That the expense of constructing the Genesee and Allegany canal will be covered by the increase of tolls on the Erie canal, and of taxable property within the western counties of the state: 4. That the Genesee and Allegany canal, as a public highway, is preferable, at the present time, to every other mode of connecting the great western rivers, the Ohio and Mississippi, with the waters of New-York harbor, and will lead eventually to the construction of a railroad through the southern counties of the state to the Hudson river: 5. That the construction of such a canal and railroad will secure to the city and state of New-York a large portion of the immense trade with the population on the banks of the Allegany, Ohio, Missouri, and Mississippi, which is now transacted at Philadelphia, Baltimore, Washington and Alexandria, on the Potomac, and in New-Orleans.

1. That the connection of the Allegany with the waters of New-York harbor is practicable by canals through Pennsylvania and Jersey.

In the year 1789, some distinguished citizens of Pennsylvania formed The Society for promoting the Improvement of Roads and Inland Navigation within that State. Their surveys and estimates and perseverance finally resulted in the construction of canals and railroads between Philadelphia and Pittsburg. The Grand Pennsylvania canal, commencing at Columbia, on the Susquehanna, at the termination of the Philadelphia and Columbia Railroad, forty miles from that city, extends westward 172 1/2 miles along the Juniata, till it meets the Allegany Portage Railroad, at Holidayburg. This road runs 36 miles to Johnstown. Thence the western division of the Grand Pennsylvania canal runs westward 105 miles to the Monongahela river at Pittsburg. The Allegany Port-

age railroad crosses the Allegany mountains at the height of 1398 feet above the basin of the canal on the eastern side, and 1171 feet above that on the western side. The Schuylkill Canal and Navigation Company, incorporated in 1815, have completed their canals and locks along this river from Philadelphia to Reading on the Schuylkill, 61 miles. The Union Canal connecting the Susquehanna with the Schuylkill, was constructed so recently as 1827. It commences four miles below Reading, on the Schuylkill river, and extends to Middleton, on the Susquehanna, 82 miles. The whole amount of costs and estimates for completing these works and other auxiliary constructions is \$20,267,280, of which more than 16,000,000 have been already expended.

Another route from the Susquehanna to the Allegany was surveyed some years since, by the celebrated English engineer, Weston, and by him reported practicable within the experienced cost of other constructions deemed practicable; that is, by the Juniata, the Conemaugh and the Kiskeminitas, with a portage over the mountains of 18 miles. The Pennsylvanians, as it appears by published reports of their society above mentioned, have also extended their views up the Allegany and French Creek, with a design to obtain the trade of Lake Erie. They have also contemplated a connection between the Susquehanna and the Allegany, by a canal within the State of New-York, with a view to draw the trade of the west up the latter and down the former, and thence, by the Union canal, to the Schuylkill and Philadelphia! The great Delaware and Raritan canal, now on the point of completion, connects the waters of the Delaware with the waters of New-York, which, with the railroad now established between New-York and Philadelphia, will give fresh inducements to the Pennsylvanians to enrich their State by facilitating transportation across it from New-York to Pittsburg.

It is true there are great obstacles to be overcome between the Susquehanna and the Allegany, within the State of Pennsylvania; but without disparaging the enterprise of that State, it may be safely said that a New-York Legislature, realizing, as it has done, the immense benefits of canal construction within this State, were they legislating for Pennsylvania and sitting at Harrisburg, would surmount those obstacles, and form that connection with the least possible delay; and it should be known that measures are now taking in Philadelphia to achieve that object by connections between the nearest points of the Susquehanna and the Allegany within Pennsylvania.

II. The connection of the Allegany with the waters of New-York harbor is practicable by a canal from the Allegany, within New-York, to the Genesee river, and thence by the Erie canal and Hudson river.

In respect to this branch of the subject, reference is made to the reports of the canal commissioners, printed with the Journals of the Assembly for the year 1826, in the appendix (F.) They are printed at large in the appendix to this Appeal.

III. The expense of constructing the Genesee and Allegany canal will be covered by the increase of tolls on the Erie canal, and of taxable property within the western counties of the State.

The Genesee and Allegany canal may be estimated at an equal cost with any equal section of the Erie canal, say of 90 miles. Then the Erie canal is to be considered as extended by this branch into the western rivers and the States of Ohio, Indiana, Illinois, Pennsylvania, Virginia, and Kentucky, and Missouri, so that the whole extension of the Erie canal to Hamilton, on the Allegany, by this southwestern branch from Rochester, which is 270 miles from Albany, will be the same in length as from Rochester by the western branch to Buffalo, which may be considered also as extending into the State of Pennsylvania and Ohio, on the lakes. Treating the Allegany and Genesee canal as an extension of the great trunk of the Erie canal, is doubtless the correct view of this proposed construction; for it is now apparent from the vast increase of trade and transportation on the western waters, and the practicability of steam navigation from Pittsburg to Hamilton, on the Allegany, a condition of inland navigation not known nor contemplated at the first design of the Erie canal, that the projectors of this great work should have directed it towards the western rivers as well as towards the lake Erie. It is indeed most clear to every man's apprehension, that if the State of New-York, with a full knowledge of the existing state of western trade and navigability of the Allegany, were limited to the alternative of terminating its Erie canal in the lakes or in the western rivers, the latter most certainly must be preferred, as opening an extent of river shores through a populous and fertile country, exceeding, by many thousand miles and many millions of people, the extent of lake shores and number of lake population, directly connected with this canal, independent of foreign favor. But happily the

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What I propose to shew is, that a car must not will run over an undulating road, with a moving power less than would be required to move it on a level road. Though, to my mind, this is abundantly proved by Mr. Baduall, I shall take a different course to arrive at the same conclusion.

Let us first suppose a car placed on a level road, and a locomotive power applied which is just sufficient to overcome all friction. Now, the smallest additional force will put the car in motion; and the velocity will be exactly proportional to the said additional force. We will suppose it to be so small as to produce the least conceivable velocity. Now, we will suppose the same car to be placed at one of the apexes of an undulating road. We will suppose the undulations to be segments of circles. Now, if a power is applied barely sufficient to overcome all the friction, it is certain that the car will run down and ascend on the opposite portion of the circle to the same height as that from which it started; and the principle of this movement is in no respect different from that of a pendulum vibrating in the same circle. If we then suppose the undulation or segment of the circle to be the same as that described by a "second pendulum," it will follow as an inevitable conclusion, that the car must pass from one apex to the other in *one second of time*. Here then is a certain distance on the undulating road passed over in a certain limited time, whereas, on the horizontal road, with the same moving power, the time occupied may be as great as can be imagined. You will observe, and it is important, that this result is obtained, notwithstanding that the friction is supposed to be constantly the same on both roads, and, of course, the amount of friction greater on the undulating, as it is longer, than on the level road.

But the most important fact is the one stated by the inventor, viz. that the pressure from a car is less on an inclined than on a horizontal road. This is certainly true, since a part of the gravitating force or weight of the car must be exerted, or expended, in accelerating the motion in descending; and the same portion of the gravitating force must be sustained, or overcome, by the moving power in ascending and the amount of pressure from which the rails are thus relieved is the same, whether the moving power be an impulse or a constantly acting power. This leads to a very surprising conclusion, viz. that since the pressure upon the rails diminishes in proportion to their steepness, it follows that the steeper the undulations the less moving power will be required; and this must be the fact, until the pressure upon the road is so much reduced that the locomotive power will cause the wheels to slip on the rails. There, of course, suppose that there shall be no loss of momentum in consequence of the change of direction of the moving body.

Another proposition that bears on the case is, that the pressure of the car on the rails is diminished in the same proportion as the velocity is increased, and from this cause the friction is lessened in the same proportion. To prove this in a few words, let us suppose such a velocity to be given to a car as will cause it to move parallel to the surface of the earth, without touching the rails; now, but a moment's thought is necessary to show, that if this velocity be diminished, the pressure on the rails will begin, and will increase in exact proportion to the diminution of velocity, and the friction arising from this pressure will increase in the same proportion.

It, then, is proved that the friction or resistance to motion is less, it cannot be denied that the same moving power will produce a greater velocity on an undulating than on a level road; at the same time, I hold it to be proven by my first proposition, that if the friction were the same on both roads, that the undulating road still has a decided advantage.

I would not at this time go so far as to make an undulating road over a level route, nor do I suppose that very long or very steep planes can be used; yet I see

no reason to doubt that this will be found to be one of the most important improvements that have been made in railroads.

I am, Sir, respectfully, your obedient servant,
A. CANFIELD.

Paterson, (N. J.) Jan. 2, 1831.

On the Improved Art of Boring for Water, as practised in the United States: and as the Foundation of a Water Company in New-York. By JONAS L. SELLIVAN. [For the American Railroad Journal and Advocate of Internal Improvements.]

The practice of boring for water appears to have been first undertaken from the rational probability of its success; but it was found necessary very much to improve the instruments of the art, on account of the nature of the rock and soil. And, for economy of labor, to devise a mode of applying the power of the steam engine to a machine which raises the chisel and allows its blow by sudden release and fall.

The alluvial soil, in which the operation is often to be carried on more deep than wells could be made, required, to reach the rock, the invention of an iron tube, having the quality of great stiffness, without any considerable projection at the joints, both in order to be forced down by powerful leverage, and to be clear within, for the operations to be carried on through it. Being undermined at the same time that pressure is exerted, it, by successive lengths, reaches the rock to be bored into, *through it*—should there not, as often occurs, have been found abundance of water at the surface thereof. Implements to overcome any obstacle in the way have also been contrived.

The tube being entered a little into the rock, and pressed down, makes therewith a tight joint; and thus a perforation to the depth of *seven* hundred feet has in several instances been made. There are, indeed, accidents to which the operation is liable, but there are, also, implements to meet such exigencies; experience has now rendered their management easy. The bore is generally first two and a half inches diameter; and if more water is required than it affords, or permits, it is enlarged to seven inches, by an instrument called the *reamer*.

When the work commences in a rock above ground, it is usual to excavate a small well, as the water often rises to the surface, or nearly so; or the bore is enlarged for the reception of the pump.

To bring up large quantities from a small bore, hydraulic principles have been superadded; which induce a more lively flow of water to the boring, and up into the pumps. The former, by abstracting the column and making a vacancy much below the height to which the water ordinarily rises; the other by placing the pumps externally on the sides of the bore, lower than the height to which the water rises. Thus availing of the natural difference between the head and the position of the pumps; that thus, filling quicker, they may be larger, and deliver more.

To be successful, this art seems only to require suitable instruments and requisite skill; and there have now been so many instances, that it begins to become a rational inquiry, whether there may not be in the geology of our country, good cause always to expect success. And, instead of looking to distant ponds and streams for a supply of pure water, whether there may not be a provision by Nature, even for cities densely peopled, on the very spot they occupy?

The researches of geology seem to have established the most material facts in this inquiry, that the *primitive rocks* are always stratified. It appears, that, while the earth was yet without form, and void of life, the crystallization which constitutes the rocks was going on, and forming them in strata; of which, the cause can be but conjecture. It is possible that the process extricated the substance that makes the division between them, till its quantity was sufficient to deposit; and, being settled, the crystallization recommenced, thus; forming successive layers. But that, besides the strata of its own kind, general layers of different kinds should have successively formed, is not less true than curious. In one mass, they might not have been so easily raised as appears was done.

Thus the *primitive rocks* are, it is believed, invariably found in the order or succession, upwards, of granite, granular limestone with quartz, gneiss, mica slate, soapstone, sienite, succeeded by the *transition rocks*, metalliferous limestone, argillaceous, and siliceous slate, graywacke slate, and rubblestone; which are again succeeded by the secondary rocks, red sandstone, breccia, compact limestone, gypsum, and rock salt; and over these the diluvial masses, or aggregations of rocks and earth; and among them the recent alluvial deposits.

Thus the granite of the highest mountains must, in its formation, have been level and low; but, when the formation of the dry land took place, was upheaved by some physical cause, which the Creator had prepared. On the Alps, in the vicinity of Mont Blanc, stupendous masses of granite stand up thousands of feet, as if protruded through strata of more recent formation, which slope down from them.

It appears that much the same operation, on the grandest scale, have prepared the continents for the habitations of man. The same *flat* which caused dry land to appear, created the valleys, and the plains, the streamlets, and the rivers, and set bounds to the sea.

On the continent of North America, there are, obviously, three distinct systems of mountains. The central line of the Appalachian, being the Alleghany mountains, is granite. And the eastern border of the base of the system may be described as appearing at the falls of all the rivers' nearest tide, discharging into the Atlantic south of the Hudson. In Darby's geographical view of the United States, page 81, it is said, "this inflected line, from New York to the Mississippi, is marked, at distant intervals, by falls, or rapids, in the bed of the streams."

The Alleghany mountains, being two thousand four hundred and seventy-three feet high, attract and condense the vapors and clouds, and is well known to be a more rainy region than the plains below, giving rise to numerous rivers.

It is reasonable to think, that when the granite strata rose from their original position, that cavities were formed by their disruption, and that whatever spaces occur, must be filled with water, and be the passage for it thence among the strata to the ocean; and if so, this water may be intercepted, in part, by perforating the strata. This might have been reasonably expected, and this expectation has been verified by trials.

The nearest boring to the Alleghany is at the Public Armory, near Harper's Ferry, on the Potomac. The next at Baltimore; again near the Schuylkill; again at Princeton; then at New Brunswick; Somerville; Amboy; Newark; and Jersey City.

On the island of New-York there were stronger reasons for expecting to find water in the rock than elsewhere, because here commences the *third system of mountain formation*, dividing the waters of the Hudson and Lake Champlain from those of the bays of New-England. It commences here and extends northward, forming the mountains of Berkshire and Vermont. It is a range of primitive rock, the strata of which rise from the west and probably decline towards the east from the centre of New-England.

We have the authority of Professor Eaton, a teacher of Geology, to say that the strata of primitive rock, after spreading down from the west as far as the Hudson, begins to rise, and come to the surface in the Berkshire mountains. That they do thus actually slope upwards from the west is known by the excavations made in this island.

The city thus being at the point where the range commences its rise northward, at the same time the strata dip west, the waters therein cannot flow east, and must, of course, flow south. And that the spaces are full of pure water is not only ascertained by its outpouring at the head of the streams of the Highlands in a thousand places, but by its actual abstraction here, in a number of instances, and by the spontaneous outpourings of it also here on the spot, in the very centre of the city.

The natural indications of water here were strong before any experiment was made. The rock springs of the 1st Ward were known before the Revolution; and the central valley, before it was occupied by streets, was the seat of large and deep collections of spring water; and one of these was, in 1798, deemed by the Common Council sufficient for the whole city; and it was a question whether it should not be preserved for this purpose. But it was filled up. Nevertheless, the springs which fed it are not lost. They continue to flow, and are, in fact, recovered by the effect of the deep tube above described. The two or three millions of gallons a day, which then flowed here, are regained and protected by a mass of earth from fifty to a hundred feet deep.

The proof of this fact is in the success of three tubes. Two of them in West Grand street, the other in Lawrence, near Canal, at Cram's distillery; and

this one continually overflows on being reduced one or two joints.

There is also proof of the like issues of pure water on the east side, north of Clatham square, by the success of all the tubes that have been set down to the surface of the rock near the East river.

But on the West side the water is not obtained without penetrating the rock about one hundred feet, being on the top of the slope thereof, but this operation has in every instance been successful.

The general reason for expecting success in this operation being thus explained, the inquiry becomes perhaps the more interesting, how often the theory has been confirmed by practice? The instances have not been many, but are rather convincing. The least likely to succeed was that of the botanic garden, because begun on the bare apex of an elevated rock, about the highest ground in the island. It penetrates the rock 112 feet, and the water stands 91 feet deep, constantly renewed.

The next proof is one mile more south, at the great well of the Fire Engine Reservoir, 113 feet deep, of which 96 are in the rock, and considerable water is obtained.

West of this, near the Hudson, are those about one hundred feet deep, which supply the city with rock water, by means of drays; also, that at a distillery on Perry street, which gives 22 to 26,000 gallons a day.

More southerly, and on the highest part of Broadway, near Bleecker street, is that belonging to the Manhattan Company, lately the subject of consideration by the Board of Commissioners.

It will be recollected that this Company was instituted to bring in the Bronx water, which, at the time their charter was granted, was estimated to cost about 200,000 dollars; but, by more complete surveys, it was found very likely to absorb their whole capital of two millions, so as to defeat the purpose of employing the surplus of 1,800,000 as banking capital. The Company had employed double the amount of the original estimate in supplying the city with the best water they could command, when the progress of the art of boring for water came to the knowledge of the directors.

After making a well 42 feet deep, down to the surface of the rock, they penetrated it 400 feet, in the course of which operation good water was found between all the lower strata, and not less than eight times.

They were so well satisfied with the result, as to have it reamed to the diameter of 7 inches; and, by applying only the power of a six horse engine, raise about 130,000 gallons of water a day. And the Board of Commissioners pronounce it good and wholesome; it is in fact soft, and clear as crystal.

They also calculate that 42 such borings only would supply the city with six millions of gallons a day. This one cost ten thousand dollars.

The Company may possibly have expected to raise, at once, as much as would supply the pipes already laid down, by their agent, stated at nearly 700,000 gallons a day; if so, it was rather a too great demand on one boring, though this one is, in the improved mode of management, probably capable of producing considerably more than it as yet has done.

But from some other cause, probably the preference which the stockholders give to banking with their capital, their water-works are offered for sale to the city; and might well have been an object of purchase to any party competent to their perfection, as no doubt all the houses along an extensive range of pipes would take the water, were it all as good as that thus derived from the rock.

It has thus been shown why the general formation of the country is favorable to the system of deriving water from the rock, and why New-York, specially favored, has only to penetrate a little deeper than usual to find pure water in great abundance, at a moderate expense, and, when thus obtained, incomparably finer than that of the Schuylkill at Philadelphia, and free from all unfavorable influences of climate or locality. For, however dense the population of the city may be, the rock water is defended by the depth and nature of its channels.

An apology to your readers would be offered for the length of this article, but that the subject is now becoming an interesting one to most of our sea-port cities. At New Orleans a company is incorporated having a large capital, and a banking privilege. The Mississippi is perhaps the only river in our country that, like the Nile, comes at midsummer cool from distant mountains of ice.

But no stream can be other than a drain of the district it waters. And it is well known that impurities combine chemically with water.

The recent survey and report for an aqueduct route from the Croton, though at an expense very disproportionate

tionate to the present city, may be preferred by the community. But it is possible that the certainty and readiness, the inexhaustible nature of the sources which come hither in the natural aqueducts of the rock, have not yet been duly appreciated by the public. They certainly have not been by the commissioners; and it remains yet for public opinion to decide the interesting question, how the city of New-York shall be supplied with pure and wholesome water.

To leave behind so productive a source of supply as the rock affords, is like leaving a fortress in the rear.

This resource will, at all events, be the object of a company of capitalists. It has been solicited of the Common Council that leave be given to deliver it by aqueduct pipes. It is stated in the Water Committee's recent report, that the city actually pays 273,750 dollars for the water distributed by drays; and the shipping 50,000 dollars. They compute the number of buildings for which water would be required at 35,000. They state that in the city of London there are eight water companies. It is not stated why the Corporation did not supply that city. The explanation would have been that, where capital is to be applied, those do it most economically who have the most interest in making it effectual. One of them is stated to have risen greatly in value.

Appeal to the People of the State of New-York and their Representatives in the Legislature, in favor of constructing the Genesee and Alleghany Canal

At a meeting of citizens in the city of New-York, favorable to the construction of a canal from Rochester, on the Erie Canal, to Olean, on the Alleghany river, held at the Shakspeare Hotel, Oct. 11, 1833, Christian Bergh was called to the chair, and Edwin Williams appointed secretary. After full discussion, and a variety of interesting statements, it was unanimously resolved,

1. That in the opinion of this meeting, from the statements made, and information obtained from authentic sources, the proposed canal will have an important bearing on the growth and prosperity of this state, particularly of this city, and ought to be constructed at the expense of the state; inasmuch as it will open a new and great thoroughfare through the rich valleys of the Genesee, Alleghany, and Ohio, to the Mississippi.

2. That a committee of forty-five gentlemen, from all the wards of this city, be appointed to call the attention of the citizens generally to the subject of this canal, and to take such measures to present this subject to the Legislature at the next session, as shall be expedient.

APPEAL, &c

In this appeal it is proposed to show, 1st, That the connection of the Alleghany with the waters of New-York harbor is practicable by canals through Pennsylvania and New-Jersey: 2. That it is practicable by a canal from the Alleghany within New-York to the Genesee river, and thence by the Erie canal and Hudson river: 3. That the expense of constructing the Genesee and Alleghany canal will be covered by the increase of tolls on the Erie canal, and of taxable property within the western counties of the state: 4. That the Genesee and Alleghany canal, as a public highway, is preferable, at the present time, to every other mode of connecting the great western rivers, the Ohio and Mississippi, with the waters of New-York harbor, and will lead eventually to the construction of a railroad through the southern counties of the state to the Hudson river: 5. That the construction of such a canal and railroad will secure to the city and state of New-York a large portion of the immense trade with the population on the banks of the Alleghany, Ohio, Missouri, and Mississippi, which is now transacted at Philadelphia, Baltimore, Washington and Alexandria, on the Potomac, and in New-Orleans.

1. That the connection of the Alleghany with the waters of New-York harbor is practicable by canals through Pennsylvania and Jersey.

In the year 1789, some distinguished citizens of Pennsylvania formed The Society for promoting the Improvement of Roads and Inland Navigation within that State. Their surveys and estimates and perseverance finally resulted in the construction of canals and railroads between Philadelphia and Pittsburgh. The Grand Pennsylvania canal, commencing at Columbia, on the Susquehanna, at the termination of the Philadelphia and Columbia Railroad, forty miles from that city, extends westward 172 1-2 miles along the Juniata, till it meets the Alleghany Portage Railroad, at Hollidaysburg. This road runs 36 miles to Johnstown. Thence the western division of the Grand Pennsylvania canal runs westward 105 miles to the Monongahela river at Pittsburgh. The Alleghany Port-

age railroad crosses the Alleghany mountains at the height of 1398 feet above the basin of the canal on the eastern side, and 1171 feet above that on the western side. The Schuylkill Canal and Navigation Company, incorporated in 1815, have completed their canals and locks along this river from Philadelphia to Reading on the Schuylkill, 61 miles. The Union Canal connecting the Susquehanna with the Schuylkill, was constructed so recently as 1827. It commences four miles below Reading, on the Schuylkill river, and extends to Middleton, on the Susquehanna, 82 miles. The whole amount of costs and estimates for completing these works and other auxiliary constructions is \$20,267,280, of which more than 16,000,000 have been already expended.

Another route from the Susquehanna to the Alleghany was surveyed some years since, by the celebrated English engineer, Weston, and by him reported practicable within the experienced cost of other constructions deemed practicable; that is, by the Juniata, the Conemaugh and the Kiskeminitas, with a portage over the mountains of 18 miles. The Pennsylvanians, as it appears by published reports of their society above mentioned, have also extended their views up the Alleghany and French Creek, with a design to obtain the trade of Lake Erie. They have also contemplated a connection between the Susquehanna and the Alleghany, by a canal within the State of New-York, with a view to draw the trade of the west up the latter and down the former, and thence, by the Union canal, to the Schuylkill and Philadelphia. The great Delaware and Raritan canal, now on the point of completion, connects the waters of the Delaware with the waters of New-York, which, with the railroad now established between New-York and Philadelphia, will give fresh inducements to the Pennsylvanians to enrich their State by facilitating transportation across it from New-York to Pittsburgh.

It is true there are great obstacles to be overcome between the Susquehanna and the Alleghany, within the State of Pennsylvania; but without disparaging the enterprise of that State, it may be safely said that a New-York Legislature, realizing, as it has done, the immense benefits of canal construction within this State, were they legislating for Pennsylvania and sitting at Harrisburg, would surmount those obstacles, and form that connection with the least possible delay; and it should be known that measures are now taking in Philadelphia to achieve that object by connections between the nearest points of the Susquehanna and the Alleghany within Pennsylvania.

II. The connection of the Alleghany with the waters of New-York harbor is practicable by a canal from the Alleghany, within New-York, to the Genesee river, and thence by the Erie canal and Hudson river.

In respect to this branch of the subject, reference is made to the reports of the canal commissioners, printed with the Journals of the Assembly for the year 1826, in the appendix (F.) They are printed at large in the appendix to this Appeal.

III. The expense of constructing the Genesee and Alleghany canal will be covered by the increase of tolls on the Erie canal, and of taxable property within the western counties of the State.

The Genesee and Alleghany canal may be estimated at an equal cost with any equal section of the Erie canal, say of 90 miles. Then the Erie canal is to be considered as extended by this branch into the western rivers and the States of Ohio, Indiana, Illinois, Pennsylvania, Virginia, and Kentucky, and Missouri, so that the whole extension of the Erie canal to Hamilton, on the Alleghany, by this southwestern branch from Rochester, which is 270 miles from Albany, will be the same in length as from Rochester by the western branch to Buffalo, which may be considered also as extending into the State of Pennsylvania and Ohio, on the lakes. Treating the Alleghany and Genesee canal as an extension of the great trunk of the Erie canal, is doubtless the correct view of this proposed construction; for it is now apparent, from the vast increase of trade and transportation on the western waters, and the practicability of steam navigation from Pittsburgh to Hamilton, on the Alleghany, a condition of inland navigation not known nor contemplated at the first design of the Erie canal, that the projectors of this great work should have directed it towards the western rivers as well as towards the lake Erie. It is indeed most clear to every man's apprehension, that if the State of New-York, with a full knowledge of the existing state of western trade and navigability of the Alleghany, were limited to the alternative of terminating its Erie canal in the lakes or in the western rivers, the latter most certainly must be preferred, as opening an extent of river shores through a populous and fertile country, exceeding, by many thousand miles and many millions of people, the extent of lake shores and number of lake population, directly connected with this canal, independent of foreign favor. But happily the

State of New-York may now construct both branches of the Erie canal, and enjoy the benefit of the trade from the rivers as well as the lakes.

These views are founded on the general principle governing the profit of canal structures, stated by Mr. Gallatin, in his report as Secretary of the Treasury to the Senate of the United States, in April, 1808. "Canals," he says, "with a few exceptions, cannot, in America, be undertaken with a view solely to the intercourse between the two extremes of the canal and along the intermediate ground which they occupy. It is necessary, in order to be productive, that the canal should open a communication with a natural extensive navigation which will flow through that new channel. It follows, therefore," says he, "when a canal has been constructed, and it might be connected by another canal to another navigation, the first constructed canal will remain comparatively unproductive until the other improvements be effected, until the other canal also be completed." Thus, if the Erie canal had terminated in its course westward at the Genesee, it would have remained comparatively unproductive till its extension southward to the western rivers, or westward to the western lakes. Had the southwestern branch of the Erie canal to the Allegany been first constructed, the same reason for extending the westward branch to the lake would have pleaded with no less force, but not greater, than does this appeal to the people and the Legislature of New-York in favor of the south-westward branch from the Genesee to Allegany.

The report of Mr. Gallatin, above referred to, was made in obedience to the order of the Senate of the 2d March, 1807, which embraced the whole subject of canals connecting the Atlantic with the great western rivers. And it appears from the report that no mode of crossing the Allegany mountains from the Atlantic to Pittsburgh, was deemed practicable by canals north of the Potomac. The connection of the Susquehanna with the Allegany, by the modes above mentioned, was adverted to by Mr. Gallatin, but deemed inexpedient. He insists much on the great importance to the Union and to the Northern and Middle States, of effecting some convenient mode of turning the Allegany mountains on the north, and connecting the great western rivers with their Atlantic harbors. But at that day the great project of the Erie canal had not been sufficiently developed to show that by these means the great barriers between Atlantic and western commerce might be turned on the north. In this view of the object of this appeal, it rises into a great national work which is to be consummated on the soil of New-York, by the construction of this canal, well worthy to be considered as the south-western branch of the Erie canal, and as much destined to add no less to the productiveness of the grand trunk of the Erie canal, than its present extension from the Genesee to Lake Erie has done, and is doing every year.

But the building timber upon the banks of the Allegany, within this State, and along its banks in Pennsylvania, comprising five hundred miles of shores, exceeds in quantity the supply of New-York ship-building for the next ten years, and perishes annually or is consumed for fuel, through mere want of conveyance to the Atlantic. Builders, both in naval and civil architecture in the city of New-York, are paying annually large sums of money for supplies of timber and lumber from other States, at great prices, and for inferior qualities, while our own timber, of superior quality, perishes where it grows.

But the inhabitants of the western counties generally are interested in this construction. Their property will be largely increased in value by the increase of population and business incident to the establishment of another extremity to the Erie canal, which connects it with a "natural extensive navigation that will flow through that new channel."

On inspection of the census of 1820 and 1830 of the United States, and of our state census in 1825, an astonishing increase of population, wealth and advancement, will be perceived at the extremities of our great inland navigation, and at places of entrepot along its route. The increase in the 8th senatorial district at the western extremity, from 1825 to 1830, exceeds even that of the 1st senatorial district, including New-York and Suffolk, Queens, Kings, and Richmond counties. Referring to Williams' New-York Annual Register, a work of unquestioned accuracy, it will be seen that the increase in these two districts, from 1825 to 1830, was far greater than in any others. The increase of the 1st district being 48,723, the double of any other district except the 8th, and the increase of the 8th being 76,211, approximating to the double of that of the first.

It is remarkable that among the counties which compose the 8th district, the increase during those 5 years

in Allegany, Cattaraugus, and Chataque, is the greatest, and the number of paupers is less than in most other counties of the State—and that the aggregate increase of population in this State, 302,674, since the healthful and invigorating action of the Erie canal, exceeds the whole number of population in each of nine States in the Union, and nearly equals the population in each of five more. These facts demonstrate, beyond all question, that the establishment of another extremity to the Erie canal must advance the wealth of the counties in its vicinity on every side. The southern counties along the Pennsylvania line must share in this benefit, in common with the other southwestern counties, and all must enjoy a large increase in every kind of valuable and taxable property.

The cost of this new branch of the Erie canal, which can scarcely be sufficiently described by a name so limited as the Genesee and Allegany canal, will be covered by the tolls. This is easily demonstrated. The cost of constructing the Erie canal from Genesee to Buffalo is covered by the tolls which this branch adds to the earnings of the rest of the canal; and not by the tolls collected for transportation on that part of the canal. In like manner the cost of this new branch will be covered by the tolls collected along the whole route of the whole canal, on merchandise which this branch will carry to and from the western rivers. If it be admitted that the cost of this branch will not exceed the cost of the Erie canal from the Genesee to Buffalo, and that the quantity of merchandise brought from the western rivers and conveyed to them will be no less than the quantity brought and conveyed by the branch from Genesee to Buffalo, the conclusion is irresistible, that the expense of the proposed canal will be as entirely covered as is the expense of the canal from Genesee to Buffalo. It has never been considered necessary that each section of the canal should produce tolls to the amount of 7 per cent. on its cost. It is enough if the whole receipts cover the interest on the whole cost. But in constructing another branch to a natural and extensive navigation, it is sufficient warrant for incurring the expense, if there be a reasonable presumption that it will bring and carry such an additional quantity of merchandise as will yield tolls throughout the whole extent of the canal to the amount of 7 per cent. on its own cost. Of this result no one can doubt from the extension of the Erie canal by this new branch towards that vast and increasing inland navigation. The rivers will yield and require as much transportation as the lakes, and the business on each will naturally augment both.

The amount of taxable property in the southwestern counties in buildings occupied as dwellings and stores, and in the increased value of their timber and farms and manufactories, will not and cannot be overlooked as an argument in favor of this construction.

IV. The Genesee and Allegany canal, as a public highway, is preferable at the present time to every other mode of connecting the great western rivers with the waters of New-York harbor; and its construction will lead eventually to the establishment of a railroad through the southern counties of the State, to the Hudson river.

It is preferable, because that connection will be effected first by the state of New-York, by constructions wholly within its own limits. The great advantage of making the first connection by water between the Atlantic and the western rivers north of the Potomac, is manifest from the report of Mr. Gallatin, who observes that after the course of trade is once established upon any convenient route, it is scarcely possible to divert it into another channel. This fact he uses as an argument in favor of adopting at first the most convenient route. This mode of connection is preferable now, because it is the most convenient route for transporting supplies from the largest market of foreign goods, where of course the producer finds the best market for his productions of every kind. It is also preferable now, because it is wanted as a less expensive mode of transporting merchandise from New-York to the banks of the great western rivers of the Allegany and Ohio, the Missouri and Mississippi, during the summer months, when the commerce of New Orleans is for the most part suspended. It is preferable to a railroad, because it may be sooner made and with far less expense. Yet it will lead to the construction of the railroad contemplated between the Allegany and the Hudson, because, in the course of a few years, the transportation between the western waters and the Hudson will probably require both of those means of conveyance. The transportation through Utica, at the present time, equals in quantity, every twenty-four hours, the whole lading of two large ships in the Liverpool line of packets.

But it is preferable because the rate of tolls between the Hudson and the Allegany can be regulated at

convenience by our own Legislature. It is enough if the aggregate receipts of all the canals cover the expense of all by yielding 5 per cent. on the whole.

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You intimate (Nov. 23) a possibility of changing the form of publication from weekly to semi-monthly, or monthly, and, among other reasons, you mention the greater certainty in transmission by mail. Newspapers from all parts, particularly political papers, have been occasionally missed, or materially damaged; but my journal has in no one instance failed. It has sometimes been delayed a week or so, and that is all. I impute this to your careful and strong wrapping, and very legible direction. I think nothing else would have saved it. A semi-monthly or monthly could not have been more certain, and, as far as I have known, not so regular. An objection may lie against the change, as the character of the paper may be considered as changed from newspaper to magazine or pamphlet, which, you know, involves an increase of postage. As another objection, I mention a remark made to me just now by a lad who had just taken up the Journal, as usual after his day's work, and was reading the introductory article: "we cannot wait so long." You see, therefore, there are some who would prefer it as often as possible. Perhaps, however, other considerations may preponderate on the other side, and we must submit to the major vote. If the majority should be against me, you may depend on it I shall act on this subject like some of our trimming politicians and go over to the strongest party, and precisely for the same reason—love of the "spoils"; for I shall not be disposed to give up the Journal for a mere change of form, so long as I think I get more than the worth of the money by it.

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WHITE PINE.—This tree, which constitutes the uncoined bullion and much of the present wealth of this part of the country, is the loftiest tree in the United States. It attains sometimes the height of 150 feet, or even more, with a trunk five feet and upwards in diameter. Its foliage is evergreen, light, delicate, and making an elegant appearance. It is found most abundant between the forty-seventh and forty-third parallels of latitude, along the Alleghanies to their south-western termination, and in its greatest glory west of the Rocky Mountains, on the river Oregon. On the head waters of the Alleghany is cut all the pine destined to supply not only the towns along the Ohio, but also the New-Orleans market, 3000 miles distant. On the head waters of the Delaware are large forests of white pine, which are floated in spring down the waters of that river, and the west branch of the Susquehanna, for the supply of the cities and towns in that quarter. The shores of Lake Champlain, and the banks of the rivers flowing into it, abound in this kind of pine, which is partly floated down the St. Lawrence to Quebec, and partly through the northern canal to Albany, whence it is distributed down the Hudson. But Maine furnishes about three-fourths of all the white pine lumber exported from the United States, and the Penobscot river is the centre of this trade, and hereafter must furnish the main supply in the lumber market. Throughout the northern states, about three-fourths of all the houses are built chiefly of this material, and the ornamental work of nearly all the rest is composed of it. For masts and spars its use is almost universal throughout the middle and northern states; and owing to its lightness, its loss could not be supplied without considerable difficulty. The Riga masts are said to have more strength; but the English derive most of those in the merchant service, and yards and bowsprits for the navy, from New-Brunswick and Canada.

As the sources of supply are annually drying up, and the demand is constantly increasing, the pine timber lands of our state are becoming invaluable.—[Bangor Rep.]

PROSPERITY OF ILLINOIS.—The following letter, from the Vandalia Whig, affords an example for clergymen, and particularly missionaries, to make public information connected with the prosperity and happiness of the people.

We copy with pleasure the following interesting extract of a letter from the Rev. J. M. Peck to Gov. Reynolds. Mr. Peck has travelled over the State perhaps as much as any person in it. He has recently made the tour of the Northern Counties, and takes an interest in noting the progress of every valuable species of improvement; his comparison between the appearance of things there, in the present and former seasons, may doubtless be taken as founded on correct data. Mr. P. is a gentleman of high character, of intelligence, and close habits of observation. His letter may be safely trusted "beyond the Blue Ridge" by those who wish to hear from the "far West."

ROCK SPRING, Ill. Oct 12, 1833.

GOV. REYNOLDS:

Dear Sir,—It will be gratifying to you, as it is to me, to learn that our state is improving rapidly in population, industry, enterprize, wealth, character, and intelligence. The crops, generally, are more than ordinary. I judge that two acres of corn have been raised this season wherever one was before, and the amount of new ground broken, fences made, and buildings erected, is double to any former year.

Schools are increasing—and a better order. Sunday schools have gained about twenty-five per cent. The class of emigrants who come are generally of the first order—then of more wealth, intelligence, and enterprize.

Chicago is destined to outstrip every other town in the State. The average amount of buildings has been one a day. Seventy arrivals of schooners, and two steamboats, from April 18 to September 11. Population now about eight hundred. Thirty stores, and plenty of mechanics.

Ottawa does not thrive rapidly. Our canal commissioners ought to have fixed the town four miles up Fox River, at the Rapids. There is the great place for business, and will eventually become one of the greatest water power places in the great West.

The Railway from Chicago to the foot of the Rapids of Illinois, (not at Ottawa,) ought to be going forward, and I think should cross Fox River at the Rapids of Fox, and run from thence straight to Chicago.

Indeed, the project should now be entered upon of a Railway from Chicago to Alton. Make it first to the navigable waters of Illinois, say Little Vermillion.

If once made to that point, I have no doubt the business would more than pay the interest on the capital and ordinary expenses. Then commence at Alton and make one to Springfield. When this is completed, I would defy the world to prevent the two ends from being tied together. Twenty-five years will see this done.

Excuse my rude suggestions—doubtless the subjects have occupied your thoughts before.

I will only add, a most interesting, because most useful, discovery has been made in the upper country, to make prairie fence for 20 cents per rod—and I think it will last forever. It is made of turf or sod, but in a peculiar way, so as to bring the grass wholly outside. If it succeeds, as I believe it will, the question about the immediate cultivation of our large prairies is settled—and millions of acres in Illinois can be put under immediate cultivation.

But I will trespass no longer on your time.

Very respectfully, yours,

J. M. PECK.

The North River is frozen over as far down as Spitzdevil Creek, within 12 or 14 miles of the city.

State of New-York may now construct both branches of the Erie canal, and enjoy the benefit of the trade from the rivers as well as the lakes.

These views are founded on the general principle governing the profit of canal structures, stated by Mr. Gallatin, in his report as Secretary of the Treasury to the Senate of the United States, in April, 1838. "Canals," he says, "with a few exceptions, cannot, in America, be undertaken with a view solely to the intercourse between the two extremes of the canal and along the intermediate ground which they occupy. It is necessary, in order to be productive, that the canal should open a communication with a natural extensive navigation which will flow through that new channel. It follows, therefore," says he, "when a canal has been constructed, and it might be connected by another canal to another navigation, the first constructed canal will remain comparatively unproductive until the other improvements be effected, until the other canal also be completed." Thus, if the Erie canal had terminated in its course westward at the Genesee, it would have remained comparatively unproductive till its extension southward to the western rivers, or westward to the western lakes. Had the southwestern branch of the Erie canal to the Allegheny been first constructed, the same reason for extending the westward branch to the lake would have pleaded with no less force, but not greater, than does this appeal to the people and the Legislature of New-York in favor of the south-westward branch from the Genesee to Allegheny.

The report of Mr. Gallatin, above referred to, was made in obedience to the order of the Senate of the 2d March, 1807, which embraced the whole subject of canals connecting the Atlantic with the great western rivers. And it appears from the report that no mode of crossing the Allegheny mountains from the Atlantic to Pittsburgh, was deemed practicable by canals north of the Potomac. The connection of the Susquehanna with the Allegheny, by the modes above mentioned, was adverted to by Mr. Gallatin, but deemed inexpedient. He insists much on the great importance to the Union and to the Northern and Middle States, of effecting some convenient mode of turning the Allegheny mountains on the north, and connecting the great western rivers with their Atlantic harbors. But at that day the great project of the Erie canal had not been sufficiently developed to show that by these means the great barriers between Atlantic and western commerce might be turned on the north. In this view of the object of this appeal, it rises into a great national work which is to be consummated on the soil of New-York, by the construction of this canal, well worthy to be considered as the southwestern branch of the Erie canal, and as much destined to add no less to the productiveness of the grand trunk of the Erie canal, than its present extension from the Genesee to Lake Erie has done, and is doing every year.

But the building timber upon the banks of the Allegheny, within this State, and along its banks in Pennsylvania, comprising five hundred miles of shores, exceeds in quantity the supply of New-York ship-building for the next ten years, and perishes annually or is consumed for fuel, through mere want of conveyance to the Atlantic. Builders, both in naval and civil architecture in the city of New-York, are paying annually large sums of money for supplies of timber and lumber from other States, at great prices, and for inferior qualities, while our own timber, of superior quality, perishes where it grows.

But the inhabitants of the western counties generally are interested in this construction. Their property will be largely increased in value by the increase of population and business incident to the establishment of another extremity to the Erie canal, which connects it with a "natural extensive navigation that will flow through that new channel."

On inspection of the census of 1820 and 1830 of the United States, and of our state census in 1825, an astonishing increase of population, wealth and advancement, will be perceived at the extremities of our great inland navigation, and at places of entrepot along its route. The increase in the 8th senatorial district at the western extremity, from 1825 to 1830, exceeds even that of the 1st senatorial district, including New-York and Suffolk, Queens, Kings, and Richmond counties. Referring to Williams' New-York Annual Register, a work of unquestioned accuracy, it will be seen that the increase in these two districts, from 1825 to 1830, was far greater than in any others. The increase of the 1st district being 48,723, the double of any other district except the 8th, and the increase of the 8th being 76,211, approximating to the double of that of the first.

It is remarkable that among the counties which compose the 8th district, the increase during those 5 years

in Allegany, Cattaraugus, and Chautauque, is the greatest, and the number of paupers is less than in most other counties of the State—and that the aggregate increase of population in this State, 302,674, since the healthful and invigorating action of the Erie canal, exceeds the whole number of population in each of nine States in the Union, and nearly equals the population in each of five more. These facts demonstrate, beyond all question, that the establishment of another extremity to the Erie canal must advance the wealth of the counties in its vicinity on every side. The southern counties along the Pennsylvania line must share in this benefit, in common with the other southwestern counties, and all must enjoy a large increase in every kind of valuable and taxable property.

The cost of this new branch of the Erie canal, which can scarcely be sufficiently described by a name so limited as the Genesee and Allegheny canal, will be covered by the tolls. This is easily demonstrated. The cost of constructing the Erie canal from Genesee to Buffalo is covered by the tolls which this branch adds to the earnings of the rest of the canal; and not by the tolls collected for transportation on that part of the canal. In like manner the cost of this new branch will be covered by the tolls collected along the whole route of the whole canal, on merchandise which this branch will carry to and from the western rivers. If it be admitted that the cost of this branch will not exceed the cost of the Erie canal from the Genesee to Buffalo, and that the quantity of merchandise brought from the western rivers and conveyed to them will be no less than the quantity brought and conveyed by the branch from Genesee to Buffalo, the conclusion is irresistible, that the expense of the proposed canal will be as entirely covered as is the expense of the canal from Genesee to Buffalo. It has never been considered necessary that each section of the canal should produce tolls to the amount of 7 per cent. on its cost. It is enough if the whole receipts cover the interest on the whole cost. But in constructing another branch to a natural and extensive navigation, it is sufficient warrant for incurring the expense, if there be a reasonable presumption that it will bring and carry such an additional quantity of merchandise as will yield tolls throughout the whole extent of the canal to the amount of 7 per cent. on its own cost. Of this result no one can doubt from the extension of the Erie canal by this new branch towards that vast and increasing inland navigation. The rivers will yield and require as much transportation as the lakes, and the business on each will naturally augment both.

The amount of taxable property in the southwestern counties in buildings occupied as dwellings and stores, and in the increased value of their timber and farms and manufactories, will not and cannot be overlooked as an argument in favor of this construction.

IV. The Genesee and Allegheny canal, as a public highway, is preferable at the present time to every other mode of connecting the great western rivers with the waters of New-York harbor; and its construction will lead eventually to the establishment of a railroad through the southern counties of the State, to the Hudson river.

It is preferable, because that connection will be effected first by the state of New-York, by constructions wholly within its own limits. The great advantage of making the first connection by water between the Atlantic and the western rivers north of the Potomac, is manifest from the report of Mr. Gallatin, who observes that after the course of trade is once established upon any convenient route, it is scarcely possible to divert it into another channel. This fact he uses as an argument in favor of adopting at first the most convenient route. This mode of connection is preferable now, because it is the most convenient route for transporting supplies from the largest market of foreign goods, where of course the producer finds the best market for his productions of every kind. It is also preferable now, because it is wanted as a less expensive mode of transporting merchandise from New-York to the banks of the great western rivers of the Allegheny and Ohio, the Missouri and Mississippi, during the summer months, when the commerce of New Orleans is for the most part suspended. It is preferable to a railroad, because it may be sooner made and with far less expense. Yet it will lead to the construction of the railroad contemplated between the Allegheny and the Hudson, because, in the course of a few years, the transportation between the western waters and the Hudson will probably require both of these means of conveyance. The transportation through Utica, at the present time, equals in quantity, every twenty-four hours, the whole lading of two large ships in the Liverpool line of packets.

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[From the Louisville Public Advertiser.]

CUMBERLAND BAR.—The obstruction in the navigation of the Ohio, occasioned by this formidable bar, has been completely obviated. A dam, five eighths of a mile in length, fifty feet broad at its base, eight feet wide at the top, and rising four feet above low water, has been erected between Dog Island, near the Illinois shore, and the head of Cumberland River. This dam is so secured by abutments that it cannot be undermined by the action of the current; and, by it, all the water that flows down the River, at a low stage, is thrown between Cumberland Island and the Kentucky shore. No doubt is entertained of the permanency of this very extensive dam, by which the bars at the head and foot of the Island have already been so far removed, as to give, at that place, as great a depth of water as there is over the ordinary bars of the river; and the action of the current is daily deepening the channel and sweeping away the remnants of the bars. The citizens of Smithland are delighted with the improvement, and it must prove highly acceptable and beneficial to those engaged in the navigation of the Ohio.

WHITE PINE.—This tree, which constitutes the uncoined bullion and much of the present wealth of this part of the country, is the loftiest tree in the United States. It attains sometimes the height of 150 feet, or even more, with a trunk five feet and upwards in diameter. Its foliage is evergreen, light, delicate, and making an elegant appearance. It is found most abundant between the forty-seventh and forty-third parallels of latitude, along the Alleghenies to their south-western termination, and in its greatest glory west of the Rocky Mountains, on the river Oregon. On the head waters of the Allegheny is cut all the pine destined to supply not only the towns along the Ohio, but also the New-Orleans market, 3000 miles distant. On the head waters of the Delaware are large forests of white pine, which are floated in spring down the waters of that river, and the west branch of the Susquehannah, for the supply of the cities and towns in that quarter. The shores of Lake Champlain, and the banks of the rivers flowing into it, abound in this kind of pine, which is partly floated down the St. Lawrence to Quebec, and partly through the northern canal to Albany, whence it is distributed down the Hudson. But Maine furnishes about three-fourths of all the white pine lumber exported from the United States, and the Penobscot river is the centre of this trade, and hereafter must furnish the main supply in the lumber market. Throughout the northern states, about three-fourths of all the houses are built chiefly of this material, and the ornamental work of nearly all the rest is composed of it. For masts and spars its use is almost universal throughout the middle and northern states; and owing to its lightness, its loss could not be supplied without considerable difficulty. The Riga masts are said to have more strength; but the English derive most of those in the merchant service, and yards and bowsprits for the navy, from New-Brunswick and Canada.

As the sources of supply are annually drying up, and the demand is constantly increasing, the pine timber lands of our state are becoming invaluable.—[Bangor Rep.]

PROSPERITY OF ILLINOIS.—The following letter, from the Vandalia Whig, affords an example for clergymen, and particularly missionaries, to make public information connected with the prosperity and happiness of the people.

We copy with pleasure the following interesting extract of a letter from the Rev. J. M. Peck to Gov. Reynolds. Mr. Peck has travelled over the State perhaps as much as any person in it. He has recently made the tour of the Northern Counties, and takes an interest in noting the progress of every valuable species of improvement; his comparison between the appearance of things there, in the present and former seasons, may doubtless be taken as founded on correct data. Mr. P. is a gentleman of high character, of intelligence, and close habits of observation. His letter may be safely trusted "beyond the Blue Ridge" by those who wish to hear from the "far West."

ROCK SPRING, Ill, Oct 12, 1833.

GOV. REYNOLDS:

DEAR SIR,—It will be gratifying to you, as it is to me, to learn that our state is improving rapidly in population, industry, enterprise, wealth, character, and intelligence. The crops, generally, are more than ordinary. I judge that two acres of corn have been raised this season where ever one was before, and the amount of new ground broken, fences made, and buildings erected, is double to any former year.

Schools are increasing—and a better order. Sunday schools have gained about twenty-five per cent. The class of emigrants who come are generally of the first order—then of more wealth, intelligence, and enterprise.

Chicago is destined to outstrip every other town in the State. The average amount of buildings has been one a day. Seventy arrivals of schooners, and two steamboats, from April 1st to September 11. Population now about eight hundred. Thirty stores, and plenty of mechanics.

Ottawa does not thrive rapidly. Our canal commissioners ought to have fixed the town four miles up Fox River, at the Rapids. There is the great place for business, and will eventually become one of the greatest water power places in the great West.

The Railway from Chicago to the foot of the Rapids of Illinois, (not at Ottawa,) ought to be going forward, and I think should cross Fox River at the Rapids of Fox, and run from thence straight to Chicago.

Indeed, the project should now be entered upon of a Railway from Chicago to Alton. Make it first to the navigable waters of Illinois, say Little Vermillion.

If once made to that point, I have no doubt the business would more than pay the interest on the capital and ordinary expenses. Then commence at Alton and make one to Springfield. When this is completed, I would defy the world to prevent the two ends from being tied together. Twenty-five years will see this done.

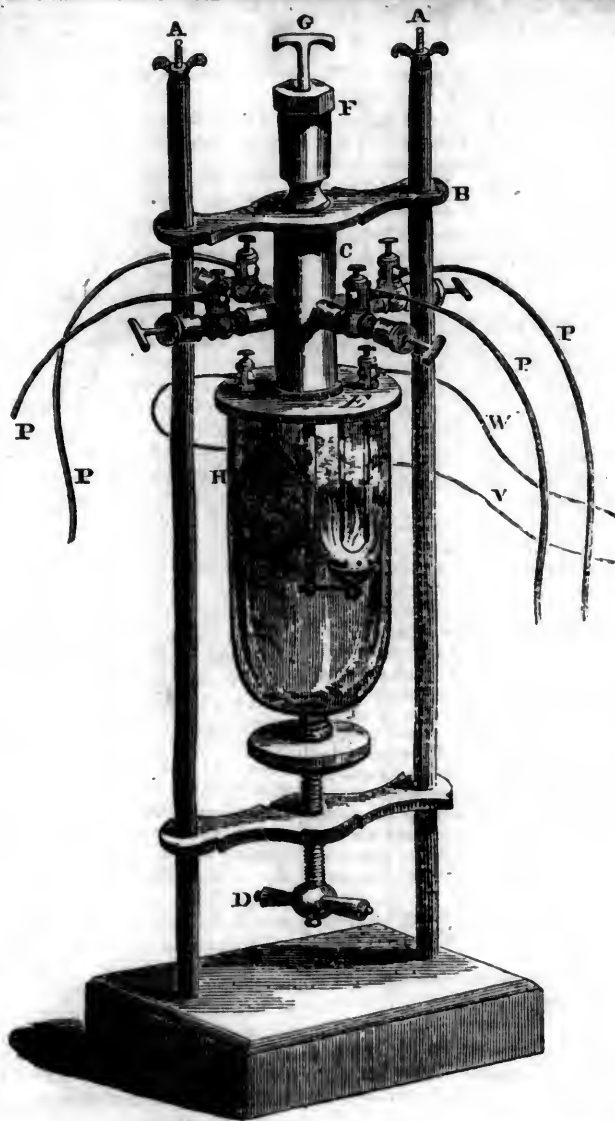
Excuse my rude suggestions—doubtless the subjects have occupied your thoughts before.

I will only add, a most interesting, because most useful, discovery has been made in the upper country, to make prairie fence for 20 cents per rod—and I think it will last forever. It is made of turf or sod, but in a peculiar way, so as to bring the grass wholly outside. If it succeeds, as I believe it will, the question about the immediate cultivation of our large prairies is settled—and millions of acres in Illinois can be put under immediate cultivation.

But I will trespass no longer on your time.

Very respectfully, yours,
J. M. PECK.

The North River is frozen over as far down as Spitzendevil Creek, within 12 or 14 miles of the city



Apparatus and Processes, by Robert Hare, M. D., Professor of Chemistry in the University of Pennsylvania. [Communicated by the Author.]

1. APPARATUS FOR EVOLVING SILICON FROM FLUO-SILICIC ACID GAS.—Into a stout mahogany block as a basis, two iron rods, A, A, are so planted as to extend perpendicularly, and of course parallel to each other, about two feet in height. Upon these rods two iron bars are supported horizontally, one, B, near their upper extremities, the other at the height of about six inches from the wooden basis. In the centre of the lower bar there is a screw, D, having a handle below the bar, and supporting above it a circular wooden block. Into a hole in the upper iron bar, equi-distant from the rods, is inserted a hollow brass cylinder, C, which at the lower end screws into an aperture in a circular plate of brass, E, which is thus supported horizontally a few inches below the bar. By these means room is allowed for the insertion into the cylinder of four valve cocks, each furnished with a gallews screw. The cylinder is surmounted by a stuffing box, through which a copper sliding rod, G, passes air tight. The brass plate is turned and ground to fit a bell-glass of about five inches in diameter, and eight inches in height, which is pressed up when necessary between the plate and the block by the screw D, supporting the block. Within the space comprised by the bell-glass, and on one side

of the centre of the plate, two stout brass wires are inserted, one of them insulated by a collet of leathers, so as to admit of the ignition, by a galvanic discharge, of a small arch of platina wire, which terminates them. The sliding rod, above-mentioned as occupying the stuffing box, terminates below the plate in an elbow, which supports a cap at right angles to the rod, at the same distance from the rod as the platina wire, and on the opposite side of it there is a brass cover, H, for the cap, supported from the plate. The arrangement is such that, by a suitable movement in the sliding rod, made by grasping it by the handle G, in which it terminates externally, the cup may be made either to receive into its cavity the platina wire, or to adjust itself to its cover, H.

The bell being removed, about sixty grains of potassium, in pieces not exceeding more than fifteen grains each, are to be introduced into the cup, which is then to be adjusted to the cover, and the bell secured. In the next place, by means of the flexible lead tubes, P, P, P, P, and the gallews screws attached to the valve cocks, establish a communication severally with an air pump, a self-regulating reservoir of hydrogen, a barometer gage, and a jar over the mercurial cistern containing fluo-silicic acid gas. First, by means of the air pump exhaust the bell, and in order to wash out all remains of atmospheric air, admit hydrogen from the reservoir. Again exhaust, and again admit

hydrogen. Lastly, exhaust the bell of hydrogen and admit the fluo-silicic acid gas. By means of the gage the exhaustion is indicated and measured, and by the same means it will be seen when the pressure of the gas within the bell approaches that of the atmosphere. When this takes place, the cocks being all closed, by means of a calorimotor, the platina wire is to be ignited, and the potassium brought into contact with it.

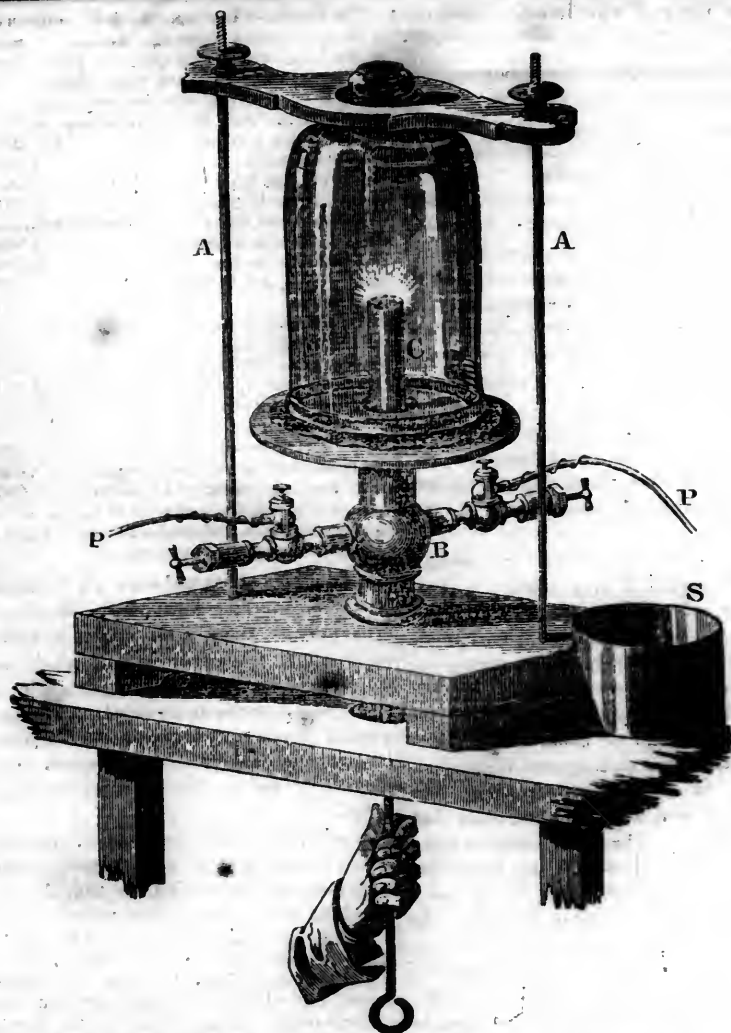
A peculiar deep red combustion ensues, evolving copiously chocolate colored fumes, which, condensing into flocks of the same hue, subside throughout the receiver, (excepting the color,) like snow in miniature. On removing the bell after the potassium is consumed, the cup which held it will be found to contain silicon, mixed with the fluoride of potassium, and with this indeed the whole of the powder deposited is contaminated. Silicuret of potassium is likewise formed in the cup, since on the affusion of water a fetid evolution of silicuretted hydrogen ensues. By repeated infusions, first in cold, and afterwards in boiling water, agreeably to the directions of Berzelius, the silicon is left in the state of a brownish ash-colored powder.

Thus obtained, silicon does not appear to be acted on either by sulphuric, nitric, fluoric, or muriatic acids; nor when exposed to nitrate of potash, liquified by heat. It seems to be soluble for the most part in a mixture of nitric and fluoric acid, which by analogy we called nitro-fluoric acid; but after exposure for 18 hours to this solvent, a small portion of a black matter remained undissolved. This is, in all probability, carbon derived from the potassium, which, according to Berzelius, when obtained by Brunner's process, is liable to be combined with carbon. The solution of nitro-fluoric acid, decanted from the residual black powder into a solution of pearlsh, gave a copious, white, gelatinous precipitate like silix, which, when thrown into a large quantity of water, subsided undissolved. When on subjecting the silicon to red hot nitrate of potash, anhydrous carbonate of the same alkali was added, so as to co-operate with the nitre, an explosive effervescence took place. All the silicon disappeared, and a compound resembling the silicate of potash was produced. This anomalous re-action may be considered as characteristic of silicon.

The impression that the black matter insoluble in the nitro-fluoric acid was carbon, is confirmed by the fact, that after the silicon had been digested for some hours in strong nitric acid, and finally boiled in it to dryness, it dissolved in nitro-fluoric acid without any such residuum.

2. IMPROVED PROCESS FOR THE EVOLUTION OF BORON.—By means of an apparatus represented by the annexed engraving, I have succeeded in evolving boron by the reaction of potassium with vitrified boracic acid in vacuo, without encountering the evil of any explosive action, to which the process as heretofore conducted, in pleno, has been found liable.

A circular brass plate is prepared, like the plate of an air pump, so as to produce, with any suitable receivers properly ground, an air-tight juncture. It is supported on the upper end of a hollow brass cylinder, B, with the bore of which it has a corresponding aperture. The brass cylinder is about three inches in diameter, and six inches in height,



being inserted at its lower end into a block of wood as a basis. This cylinder receives below, a screw, which supports a copper tube, C, of about two inches in diameter, so as to have its axis concentric with that of the cylinder, and to extend about four inches above the plate. The copper tube thus supported is closed at the upper termination by a cup of copper, of a shape nearly hemispherical, and soldered at the upper edge to the edge of the tube; so that the whole of the cavity of the cup is within that of the tube. Hence the bottom of the cup is accessible to any body not larger than the bore of the tube, without any communication arising between the cavity of the tube, and that of any receiver placed upon the plate, over the cup and tube, as in the figure.

Into the side of the cylinder supporting the plate, a valve cock is screwed, by means of which, and a flexible leaden tube, a communication with an air pump is opened, or discontinued, at pleasure.

The cup being first covered with a portion of the vitrified boracic acid, as anhydrous as possible, and finely pulverized, the potassium is introduced, and afterwards covered with a further portion of the same acid, two parts of the potassium being used for one of the acid. A large glass receiver is now to be placed on the plate, secured by rods, A, A, concentric with the tube and cup; from the heat of which the glass is to be protected by a bright cylinder of sheet brass, S, placed around it so as to be concentric with the receiver and tube.

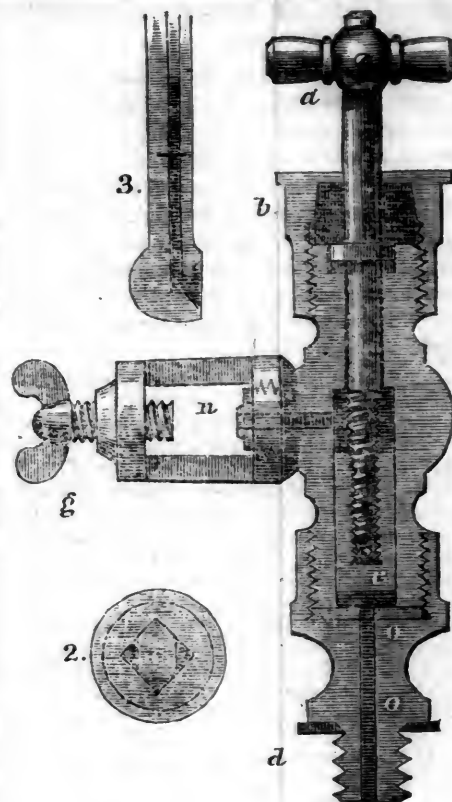
The apparatus being so prepared, and the receiver exhausted of air by means of the

air pump, an incandescent iron is introduced through the bore of the tube, so as to touch the bottom of the copper cup. In a short time a re-action commences, which aiding the influence of the hot iron, renders the cup and its contents red hot. A deep red flame appears throughout the mass, after which the re-action lessens and the heat declines.

When the cup has become cold, the air is admitted into the receiver and the contents are washed with water. If any of the acid has escaped decomposition, it may be removed by boiling the mass with a solution of potash or soda. After this treatment and due desiccation a powder will remain, having the characteristic color and properties of boron.

The additional valve cock, represented in the figure, gives the option of introducing dry hydrogen for the purpose of washing out atmospheric air, as described in the process for silicon.

3. DESCRIPTION OF THE VALVE COCK, A PERFECTLY AIR-TIGHT SUBSTITUTE FOR THE COMMON COCK, ALLUDED TO IN THE PRECEDING ARTICLES.—This figure is intended to illustrate the construction of a substitute for a common cock, which I have been accustomed to call a valve cock. It was devised by me about twenty years ago, among a number of other analogous contrivances, and seems upon the whole less liable to fail than any other which I have tried. The engraving represents a longitudinal section of the valve cock. At *a* is a piston with a collar enclosed in the stuffing box *b*, so as to be rendered air-tight by means of oiled leather. Hence the piston may be turned or made to



revolve on its axis, while incapable of other motion. Upon the end of the piston a thread for a screw is cut, which fits into a female screw in the brass prism *c*, so as to cause this prism to approach to, or retreat from a bearing, covered by leather, in the centre of which there is a perforation, *o o*, communicating with one of the orifices of the instrument. This orifice is surrounded by the male screw *d*, so that by means of this screw the valve-cock may be fastened into an appropriate aperture, properly fitted to receive it, subjecting an interposed leather to such pressure as to create with it an air-tight juncture. The prism *c* has two of its four edges cut off (see fig 2) so as to allow a free passage by it, reaching to the lateral perforation terminating in another orifice, over which there is a gallow's screw, *g*. By means of this gallow's screw, when requisite; a brass knob, such as that represented by fig. 3, soldered to a leaden pipe, may be fastened to the valve cock. The juncture is rendered air tight by the pressure of the screw in the gallow's, upon a leather which is kept in its place by means of the nipple *n*.

The method last mentioned of producing an air-tight juncture, was contrived by me about seven years ago, and proves to be of very great utility. There is no other mode with which I am acquainted, of making a perfectly air-tight communication, between the cavities previously separated, at all comparable to this in facility.

GARDENS OF SHIPS.—To sow in the temperate zone and reap between the tropics, is a somewhat singular thing. Yet it is constantly done. For our great East India ships, in imitation of the Dutch, who first introduced the practice, have little salad gardens in flat wooden boxes on their poops, where the seed, acted upon by a heat increasing daily, shoots up in a surprizingly rapid manner. In these gardens the number of crops in the year are more numerous than in any spot on earth, for

the gardeners, if so minded, can command almost any temperature.

AMERICAN SILK.—On the supposition that we have annually imported silk to the amount of four millions dollars, since 1770, when the first filature of silk was established in Philadelphia, the whole amount of this would be 252,000,000. Had this quantity been raised and manufactured in this country, a far greater number of our people would have been employed than has been in the business attending its importation. The following we take from a communication to the Genesee Farmer:

"In 1770 a filature was established in Philadelphia, and premiums announced.

"In 1771, about 2300 lbs. were brought there to reel. The ladies in particular gave much attention to the subject; as early as 1770, Susanna Wright, of Lancaster county, at Columbia, made a piece of mantua of 60 yards in length from her own cocoons. To give eclat to these *Colonial designs*, the Queen of Great Britain gave her patronage by deigning to appear in a Court dress from this *American Silk*. Yes, in American Silk! but at the present day all our silk dresses, and even our ornaments for public buildings, must be imported. Grace Fisher, a minister among Friends, made considerable silk stuff; a piece of her's was presented by Governor Dickinson to the celebrated Catharine Macaulay." Many ladies, before the Revolution, wore dresses of *American Silk*."

AN IMPROVEMENT IN THE MODE OF RAISING ANNUAL FLOWER SEEDS.—After sowing the patch of seeds, and covering it with fine moist soil, place a garden-pot inversely over it, until the seeds have struck root; then raise the pot up two or three inches, keeping it thus supported for a few days, and then remove it entirely. The pot not only keeps the soil moist, but by the sun heating the pot, the seeds come up much more quickly than otherwise they would do, in consequence of which the seeds need not be sown so early by a fortnight or upwards. The young plants are therefore less exposed to injury from cold or late spring frosts. Hollow tiles, instead of pots, answer equally well, except that where mice are, they have access to the ends.—[Gardener's Mag.]

WOOL IN ENGLAND.—Mr. Arthur Young calculated the number of sheep in England alone at nearly 29 millions, and the value of the whole growth and labor of wool produced in Great Britain and Ireland at £17,695,529, furnishing employment to about a million and a half of people. However, if we estimate the number of sheep in the whole Island of Great Britain at 28 millions, producing at an average of five pounds weight of wool each, or 140 millions of pounds in all, equal to 533,333 packs, and worth at the rate of 8d. per lb., or £8 per pack, £4,666,664., this is acknowledged to be pretty near the truth. There is also imported into England from Germany, Spain, New South Wales, and other countries, from twenty to twenty-five millions of pounds weight of foreign wool. The value of this wool may be estimated at a higher price than that of English wool; we will, therefore, take it, on an average, to be worth 1s. per pound, or £1,250,000; the value of English and foreign wool manufactured in England will therefore be £5,936,664. If the value of the raw material is quadrupled by the labor employed in manufacturing it into cloth, the growth and labor together will amount to nearly 24 millions sterling, of which nearly one half is exported in a manufactured state, the remainder being consumed in the United Kingdom.

WINE FROM THE COMMON BRAMBLE.—Five measures of the ripe fruit, with one of honey, and six of water, boiled, strained, and left to ferment, then boiled again and put in casks to ferment, are said to produce an excellent wine.

In France, the color of wine is often rendered darker by a mixture of blackberries with grapes. —[Recueil Industriel.]

NEW-YORK AMERICAN.

DECEMBER 28—JANUARY 11, 1834.

HOME INTELLIGENCE.

The Legislature of New York convened on Tuesday. Lieut. Gov. Tracey took the chair in the Senate, and thirty Senators answered to their names.

In the Assembly, 124 members appeared, and balloted for Speaker. Wm. Baker, of Otsego, was chosen, receiving 113 votes. Philip Reynolds, jr., was appointed Clerk; Daniel Dygert, Sergeant at Arms; Alonzo Crosby, Door Keeper; and Samuel Campbell, Assistant Door Keeper.

In both Houses, resolutions to provide the members with newspapers not exceeding the cost of two daily papers for each, were passed. The Governor's Message was received and read, and then both Houses adjourned.

The Governor's Message is of most inconvenient and unprofitable length. It is a mistake in every sense thus to spin out these annual communications, converting them, as it were, into elementary treatises upon every subject they may touch. Bating this objection, the message of Governor Marcy, confines itself as it should do, to State affairs; and of them it gives a flattering, though we doubt not, just view.

The State Prisons more than support themselves, and the number of convicts is decreasing. The Public Schools embrace, it would seem, more than half a million scholars. The Canal receipts exceed largely those of former years; and the Canal fund after buying up a million and a half of the Stock at a high premium, will, in two years, be equal to the whole outstanding debt. Flattering as is this perspective—in regard to new routes of internal improvement, the Governor advises a cautious course. So too, in respect of the the numerous applications for new Banks, he warns against the perils of excess. With these few remarks—and we have room for no more—we dismiss the Message.

NAVAL LYCEUM.—Messrs. Toller Turell and Co. have presented to this institution three fine engravings, in superb frames. One of *Morghen's* last supper, one of Gen. Scott, and one of Washington.

PITTSBURGH, Jan 2.—Our River Navigation.—A friend has handed us a statement of the steamboat navigation during the last month. During the month the arrivals and departures of boats were not interrupted during a single day—and there is now as little prospect of the closing of our river as there was in October.

Arrivals,	80
Departures,	74

[Gazette.]

The President has recognized Thomas Dixon as Consul, ad interim, of the King of the Netherlands, for the port of Boston. He has also recognized E. A. Homer, as Consul of Belgium, at Boston. Also, Henry Lefebure, as Consul of Belgium, at Charleston, S. C. Also, C. F. Hoyer, as Consul of the Grand Duke of Baden, at New York.

The following gentlemen have been elected Directors of the United States Bank, for the ensuing year:

Nicholas Biddle,	Daniel W. Cox,
Manuel Eyre,	John Bolton.
Ambrose White,	John R. Neff,
John Sergeant,	William Platt,
James C. Fisher,	Jno. Goddard,
John S. Henry,	Robert Lenox, of New York,
Charles Chauncey,	John Rathbone, Jr. N. York,
Matthew Newkirk,	Gen. Hoffman, of Maryland,
Lawrence Lewis,	Roswell L. Colt, Maryland,
John Holmes,	Jno. Potter, of S. Carolina.

Those in italics are new Directors.

Nicholas Biddle, Esq., has been re-elected President of the Bank of the United States.

The Banks.—The abstract of the returns of Banks in Massachusetts, showing the state of said Banks, on the first Saturday of October, 1833, prepared for the use of the Legislature, was distributed this morning. We learn from this document that on the day mentioned the state of the Banks was as follows:

Capital Stock paid in	\$38,236,250 00
Bills in circulation	7,889,110 67
Net Profits on hand	1,293,279 54
Balances due to other Banks	2,881,447 50
Cash deposited, &c. not bearing interest	3,716,182 37
Cash deposited, bearing interest	7,949,440 53
Due from the Banks	52 120,113 11
Gold, silver, &c. in Banks	922,309 84
Real Estate	791,821 77
Bills of Banks in this State	1,646,3 9 53
Bills of Banks elsewhere	250,052 43
Balances due from other Banks	3,363,716 29
Due to the Banks, excepting balances	45,291,003 09
Total resources of the Banks	52,132,218 69
Amount of last dividend	822,225 00
" " reserved profits	709,438 83
Debts secured by pledge of stock	847,549 54
" due, and considered doubtful	207,239 11

Rate of dividend on amount of capital of the Banks, as existing when dividend was made, 3 and 1-14 of 1 per cent. nearly.—[Transcript.]

A fire broke out at mid-night on Wednesday last, in the wing of the Pennsylvania Hospital, allotted to the insane. Happily, the inmates were all removed in safety, to another part of the building, and the flames were speedily extinguished by the firemen. Great praise is awarded to Mifflin Wistar, a young physician, resident in the Hospital, for his coolness, and the good arrangements immediately adopted by him for the safety of his helpless patients.

The Mercantile Advertiser of this morning announces on the authority of a letter from Matanzas, the death there on the 14th ult. of Col. *Dewitt Clinton* son of the late governor Clinton.

"Domestic Manners."—Mrs. Trollope was recently brought before the London Police for unmercifully beating a female domestic. We suppose that the old hag's dislike of American "help," grew out of their refusal to be flogged.—The Yankees are peculiar in their "notions" about flogging. One way and another, Jonathan's doggedness upon this point, has been the cause of much trouble to John Bull.—[Albany Evening Journal.]

LITERARY NOTICES.

No. IX.

CLEVELAND, OHIO, NOV. 15.

I took my passage in the stage for this place early in the evening three days since, and having at a late hour bade adieu to more than one whose friendship I trust will not be the less enduring, that it was made in so brief a space of time, retired to my chamber to catch a nap before my morning's ride. The clock was striking three, when, at the call of the porter, I arose, and descended to the bar-room. The attentive landlord himself in waiting, was ruminating before a large coal fire, and stretched upon the floor in a corner, lay the tired domestic, who, having just fulfilled a part of his duty in calling the various stage passengers, was catching a dog-nap in the interval of the stage's calling. The flavor of last night's potations still hung around the scene of so many symposia, and the fragrance of more than one recently smoked segar stole, charged with the aroma of whiskey, upon the senses. Cold as it was, I was not sorry to snuff a less scented atmosphere, as each stage that passed the house in succession hurried me vainly to the door. My own proper vehicle came at last, and by the light of the stage lamps, the only ones by the by, which shone through the sleeping city, I swung myself to the driver's box, and took the traveller's favorite seat by his side.—It was as dark as Erebus when we crossed the bridge over the Alleghany, and looking back when we had passed the gate, and were turning into the village, I could distinguish nothing of the city opposite, but the red glare of a furnace which shot out from the bank of the river and glowed an inverted pyramid of light upon its waters. Keeping on our way, the massive walls

of the state prison, with their circular towers and octangular area, frowned like some old Moorish castle over our path, as we drove beneath their dun-colored battlements, and passed the last environs of Pittsburg. It was, I confess, with some softness of heart that I bade a last adieu to a spot where the politeness and hospitality of the inhabitants had made my time pass so pleasantly. I must, however, have been *de trop* among my new acquaintances, had I remained much longer: for in Pittsburg every one is so occupied with business, that the time bestowed in attentions to a stranger is a sacrifice of some importance. I have since been much vexed to find, in looking over my papers here, that a letter of introduction, from a most flattering source, to the U. S. officer now commanding at Pittsburg escaped me untirely. I was chagrined the more, inasmuch as I should both like to have visited the arsenal, and to make the acquaintance of the valued officer, who has charge of it. I had not, however, this reflection to annoy me as, wrapped up warmly, I now rode along, watching the cheerful dawn streaking the east with pencilings of light, and dappling with ruddy rays the broad bosom of the Ohio. As the morning gradually broke, I discovered that the banks of the river presented a different appearance from what they did when I sailed along them ten days before. The November winds had been at work in the woods. The gorgeous panoply of Autumn no longer hung on the forest. The trees stood bare in the growing sunlight, and the thick strewn dead leaves rustled to the tread of the grey squirrel, that leaped from the naked boughs by the road side.

We stopped to breakfast at a low log-built shantee, within a stone's throw of the river, and being asked into a narrow chamber, half parlor half kitchen, I had for the first time an opportunity, as we collected around the breakfast table, to survey my fellow passengers. They were chiefly plain people, small farmers and graziers, returning perhaps from market, where they had been to part with their produce. Their manner, like most of my countrymen of the same class, was grave and decorous at table to a degree approaching to solemnity, though they ate with the rapidity characteristic of Americans at their meals. The ceremony of the board commenced by the oldest man in the company's taking a beef stake before him, and cutting it into small pieces with his own knife and fork. He then passed the dish around to each, and finally when all were served, helped himself. The bread was in the same way circulated by the youngest of the company, and then each having as fair a start as his neighbor, we all fell to work with a lustiness that would have done beef-eating Queen Bess good to have witnessed. The appetites of those present, were generally sharpened by the morning's ride; and, maugre the huge piles of buckwheat cakes that smoked along the board, flanked each by a cold apple pie, the beef stake was decidedly the favorite dish; and was meted out again and again, by the same knife and fork that played a private part the whiles for the stout yeoman who thus plied them for the public good.—Your banbox bred *elegant*, who was ignorant that the Spaniards and the Turks, the two most polite people in the world, thrust their fingers into the reeking bowl of olla podrida, or the smoking dish of pilau—while, like our sturdy Pennsylvanian, they always help their fellow travellers of the caravanserai, or posada before attending to themselves—might have turned up his nose in a transport of Trollopism at such refinement. The charge of vulgarity, however, would rest only with him, who, mistaking the conventional rules of society for the essential principles of politeness, should measure the manners of strangers by the standard of his own narrow circle. There was but one of my fellow passengers, I observed, who ate with his fork. He was better dressed and sat somewhat apart from the rest, interchanging with them none of the homely but hearty civilities, which

they proffered to each other. I set him down as some Eastern shop-keeper, who, though he might have been envied by a Chinese for the chop-stick dexterity with which he managed to chuck the particles of food into his mouth from a two pronged fork, might better have passed the time, spent in acquiring his slight of hand, in gaining real good breeding, from those whom he evidently sat down in his own mind as far beneath him.

Pursuing our journey, we stopped soon after to change horses at *Economy*. I was much disappointed in not having even five minutes to look through this celebrated village, where the German Rapp has so successfully raised a community, who labor in common, and own all their property only as trust members of a corporation. I saw hardly as much of the town, thus passing its suburbs inland, as when sailing by the front on the Ohio. It struck me as remarkably neat, however, and it being Sunday, a perfect silence seemed to reign over the village. Rapp, I believe, unlike most of his co-community-mongers, retains religion, not only as incident to, but an essential feature of, his system. Had it been otherwise, the attempt to form such an establishment could hardly have succeeded as it has. Religion I believe to be an instinct of the human mind—the only one except that of self-preservation, with which we are constituted. It is a feeling which as palpably prompts us to seek a God and to worship him, as does the instinct of a bird suggest the season of building her nest and the materials of its construction. The form of her frail fabric varies indeed with the climate in which it is built, and the character of the winged artificer. But the haughty temples of Heathenism, the sumptuous mosques of the Mussulman, and the Christian's humbler house of worship, may each find a semblance on the towering cliffs or tall tree top, where birds of prey alone will build—in the embowered copse where the luxurious dove delights to brood, or mid the lowly rushes where the lapwing's fragile nest is made. There is, indeed, a stolid race of birds who deposit their eggs upon the barren shore, leaving the sun to vivify or the sea to scatter their contents as chance may determine. But stupid as their offspring must be, who, in constructing an oviary, made no provision for the interesting wants of the rest of the species, because this particular genus is so coarsely constituted. Let us thank Heaven, when, thinking of the privileges of which the intrusive bigotry of foreign infidels at times would strip us, that in our free forest, and there are fields, hills, and groves, where religion, unshackled as a new-fledged bird, may build her altars how and where she pleases.

Our route continuing along the river, we soon passed a fine elevated field on the bank, where Gen. Wayne—or Mad Antony, as he was more familiarly called—encamped with his army that encountered the Indians so successfully near the Miami of the Lakes.

The stone fireplaces of the soldiery, now overgrown with turf, were, with a few other scattered marks of the encampment, discernible upon the ground; and they suggested to one of the passengers the well-known anecdote of the General having one of his men tried and shot for desertion because he had without permission from his officer, accompanied an only brother, his visiter at the camp, a few miles on his return home. The example was a terrible one, but the condition of Wayne's army, from which the men were daily dropping off, strongly required it; and, I confess, that in military affairs I respect the firmness equal to such an occasion too much to merge my admiration of the unblenching disciplinarian in sympathy for the unfortunate sufferer.

We reached the thriving town of Beaver about noon, and crossing the creek of the same name by a high wooden bridge, struck inland, and soon lost sight of the beautiful Ohio in

the broken country that here approaches its banks. A cold shower drove me for protection inside of the stage, and there wrapped up as comfortably as I could, I passed the night. The passengers had gradually dropped off along the road, leaving only a solitary country merchant and myself. We beguiled the time for a while in conversation, and then, as midnight came on, and he grew drowsy, I resigned myself to the same influence that had begun to send sounds any thing but musical from his "innocent nose." Awaking with the sun, I found that we were in the midst of new clearings, the road leading through a level country as far as the eye could reach, and having its sides faced beyond the fields with trees, whose tall stems and interlacing summits stood like giants locking arms along the highway. I must now be in Ohio, thought I, and I was right. The effect of this magnificent vegetation was striking even at this season; but after riding for half a day along such a wood, with not a valley to break the view, nor a hill to bound it, it could not but be monotonous. We passed two lakes in the course of our ride, approaching one of them near enough for me to see that it was a clear sheet of water, with a pretty yellow sand beach. But, though shut up by woods, it wanted entirely the wild yet gentle picturesqueness of the lakes I have seen among and near the highlands of the Hudson; much less could it boast of the savage grandeur of those which form the source of that princely river.

The most interesting objects on this route are decidedly the growing towns and hamlets which abound along the road. Some of them have been manufactured only this season, and it is really surprising to see the rude log huts of two years back stand side by side with the tasteful looking dwelling of yesterday, like the old and new branches of one flourishing tree; brick churches and taverns with handsome porticoes the while sprouting up in the same field of stumps. In one village called Hudson, particularly, where by the way much good taste is exhibited in the private houses, the progress of improvement is said to be as perceptible as the rise of the tide at the sea board. I could not, however, discover a palpable growth in the place from the time we sat down to dinner till hurried away from table by the call of the stage-driver. This though might be attributed either to the rapidity with which we despatched our meal, or to my optic nerves not having yet gained the true western nicety. I shall seize the earliest opportunity of practising over a rifle barrel.

We reached Cleveland during a heavy shower long after nightfall. The roar of the surf reminded me of Rockaway, and the first view of Lake Erie the next morning was really grateful to my eyes. I felt while walking along the high esplanade of turf which here forms its banks, and upon which the town is built, like one who has just come out of a pent-up chamber into the full and free air of heaven. The effect of coming on such a wide expanse of water when just emerging from the forest, is much greater than when, after long riding through an open country, you view the ocean stretched beyond its shining beach.

Cleveland is very prettily situated upon the lake. The Cayuhoga makes a bend around a high bluff as it passes into the inland sea which receives its waters, and, on the level peninsula thus formed, is built the town. The harbor, naturally an indifferent one, has been much improved by running out a pier from either side of the river, where it debouches into Lake Erie, and there being now but few better ports on this side of the lake, Cleveland must become one of the most important places on its waters. The adjacent region is, I believe, not remarkably well suited to agricultural purposes, but there is an immense tract of the most fertile country inland which looks to Cleveland for the chief outlet of its products. This will account for the rapid rise

of property here, which is almost incredible, building lots in some places commanding now as many thousands as they did hundreds of dollars five years since. The town, which can already boast of a public library, a fine church, two capital taverns, and many handsome private dwellings, is laid out with broad streets and a spacious square in the centre. The business part is as yet beneath the bluff, where a single winding street runs along the bank of the river toward the lake; but the main street above is already the scene of much bustle, and bears about the same relation to that below as Broadway does to South street in your city.

I have been happy here to meet with some old school fellows settled in the place—where indeed among our wandering people can one tread without finding an acquaintance?—and this morning I was agreeably surprised by finding an English groom waiting at the door for me with a fine saddle horse, and mentioning that my friend, its owner, would soon join me with another. We first rode out through a clearing, back of the village, and enjoyed a very pretty prospect of the Cayuhoga winding through a piece of rich meadow land below us, and affording, as the high grounds recede at its entrance into the lake, a striking view of Erie in the distance. Returning upon our tracks, we passed the village on the east, and then rode westerly along the shore of the lake. The banks, which are high and covered with sod on the top, are here composed of clay and gravel: on the surface they appear perfectly firm, but for the distance of nearly a mile along shore they have sunken, or are sinking, to the breadth of about 300 feet and slid off into the lake, whose waters thus swallow building lots worth an immense amount of money. The cause is believed to lie in quicksands beneath, and it offers a singular phenomenon to stand on the shore below, and marking the sunken platforms of earth behind, you see where half an acre of clay has risen through the sandy beach in front, within a few inches of the surface of the water.

The treacherous attributes of the shore suggested to my companion, who, though young, has been a traveller in his day, an incident he witnessed while journeying through some of the remote provinces, which would make no feeble subject for the pencil of Weir or Iman. He had ridden with an English gentleman for many hours through an unsettled country where not a drop of water was to be obtained for their horses, when, coming suddenly upon a clear stream sparkling over its bed of yellow sand, their weary beasts sprang forward simultaneously to drink from the grateful current. A break in the bank caused their riders to rein up and dismount, retaining at the same time the loosened reins in their hands, while their horses stepped down to the margin of the brook. The American, finding that the deceitful bottom yielded as soon as touched, jerked his terrified beast from the fatal spot, while as yet his fore feet were only immersed in the quicksand. But the horse of the Englishman, in his eagerness to get at the water, made but one step to destruction. He sunk floundering to his shoulders before an effort could be made to rescue him; and then, as in struggles to extricate himself from the engulfing pool, he heaved his broad chest high above its surface, the sucking sands drew his quarters in a moment beneath them. The nostrils of the suffering animal dilated with the fierce death encounter, and giving that hideous cry—

"The cry of steeds that shriek in agony,"

he tossed his head frantically above his greedy grave—his mane fluttered for a moment on the shallow water, and the bed of the stream closed over him for ever.

philosophy teaching by example, we have in this book a lesson which should not be lost on the present and future generations. The events of which it treats may now be considered dispassionately, and so completely historical, as not to disturb any existing relations of parties or partisans. These, indeed, since the day of the Hartford Convention, have undergone so complete a fusion, that many of its most vehement supporters are now found as vehement in behalf of the distinguished soldier, who, according to his own declaration, would have hanged all the members of that Convention under "the second section"—or any other he liked better. A generation of men have passed from the stage since that epoch; and by far the greater portion of those who now by their votes determine the march and character of this government, are of an entirely new generation. To the actors on the political scene of that day, they may therefore be said to stand in the light of posterity, and should judge with the impartiality of posterity the acts and motives of those times. To all capable of so judging, we hazard nothing in saying, that they will derive from Mr. Dwight's book, certainly instruction as to many interesting historical points, and as certainly in our judgment, the conviction that through party prejudice and passion, and the excitement of a state of war, the greatest injustice has been done to the motives, characters and acts of the distinguished and able men who composed the Hartford Convention. We give this opinion with the more confidence, because we have ourselves felt and surrendered to the force of the evidence here brought together and displayed with full effect, that in no way and at no time was any project entertained or proposition uttered by that Convention, or any of its members, *inconsistent with their obligations as members of the Union*. From peculiar circumstances, and, though disapproving the war, being then with a militia command in the service of the United States, and eager in common with every American to resent and avenge the outrages perpetrated by the enemy along our defenceless frontiers, the writer of these remarks did look upon the assembling of the Hartford Convention with most unfriendly feelings—feelings of which the influence has only yielded, even at this late day, to the demonstration of Mr. Dwight's book. If, therefore, to remove unfounded prejudice, or correct erroneous opinions, be to confer, as we think it is, a great benefit, we personally acknowledge our obligations, on that head, to this writer; and though we still hesitate as to the expediency, under any circumstances, in time of war, of such a Convention, we must admit that if ever circumstances could justify it, they existed for the New England States at that period. We have not the time, however, to enlarge upon these matters now; we therefore merely add in conclusion, that in the historical review of the policy of the government of the United States which led to the war of 1812, not less than in the more immediate records of the acts and proceedings of the Hartford Convention, all readers, even those who may think they have kept pretty accurately the run of public affairs, will find materials, public documents, and most significant public acts, brought into a juxtaposition, and made tributary to conclusions, which it will be more easy to condemn than to disprove.

A LECTURE INTRODUCTORY TO THE COURSE OF SCIENTIFIC LECTURES BEFORE THE MECHANICS' INSTITUTE OF THE CITY OF NEW YORK; delivered Nov. 27, 1833, by G. C. VERPLANCE: N. York, G. P. SCOTT & Co.—In felicity of selection, of language, and of illustration, the topics presented in this discourse are alike remarkable. The taste of the scholar, combined with a practical acquaintance with the wants of the active and industrious classes—honest and safe because active and industrious—is beautifully displayed throughout; and examples of power to excite the noblest emulation in every mechanic, are drawn from the mechanic arts, to prove how important and efficient to great results, is the union of theory with practice, of science with manual skill. We wish our space would allow us to make some extracts; but it is impossible. We learn, however, with great satisfaction, that the whole address is to be printed in the next number of that excellent periodical, "The Mechanics' Magazine." It will then go widely into the hands of those for whose advantage and encouragement it was designed, and is so admirably adapted.

ADDRESS BEFORE THE PHI BETA KAPPA SOCIETY of Yale College, by EDWARD EVERETT New Haven: HEZ. HOWE & Co.—Mr. Everett could not treat of the subject of education, which is the leading topic of this address, and of its influence in moulding, civilizing, and refining the human race,

without eloquence and unction. Both are exhibited in this address; and although we think a little too much, perhaps, is conceded to the power of culture to produce, under the same circumstances, nearly, upon an average, equal results, none can deny, that on all natures, its influence is very great. We must make an opportunity at some other time, to extract the striking illustration adduced by the speaker, to show the effects of education—of the New Zealand savage, and the skilful mariner who, through trackless seas, conducts to the shores of that savage, so frail and complicated a structure as a ship.

AN INTRODUCTORY LECTURE before the Brooklyn Lyceum, delivered 7th November; by THEODORE EAMES.—We published some days ago an account of this creditable and useful association lately entered into in Brooklyn; and we have read with pleasure the discourse of Mr. Eames on the opening of the Lectures. It is a sensible explanation of the origin and uses of Lyceums, and of the benefits which they are so well fitted to ensure.

BIBLIOTHEQUE CHOISIE DE LITTÉRATURE FRANÇAISE, No's 11 and 12. Philadelphia: CAREY, LEA & BLANCHARD. New York: CHARLES DE BEHR.—This select Library of modern French literature is in some sense like the family libraries in English, a republication of entire books, but a republication in semi-monthly numbers. Each of these contains 60 pages; and we may say that care is taken to exclude from the work every thing that would induce a doubt about putting this "library" into female hands.

LA FRANCE LITTÉRAIRE, No's 1 and 2. New York.—Another French periodical is here before us—well printed, and of well selected contents—appearing every fortnight, so as, at the end of the year, to constitute six large 8vo. volumes—and all for four dollars per annum. We confess our gratification at thus seeing the current literature of France naturalized among us; and trust that this work, which is in the French what Littell's excellent *Museum* is to the English periodical writings of the day—a tasteful and judicious selection of the best—will meet ample encouragement.

THE SOCIAL EVILS AND THEIR REMEDY—By the Rev. CHAS. B. TAYLOR, M. A. 1 vol. N. Y.—HARPER & BROTHERS.—They who have read "The Records of a Good Man's Life," need not be told by us that the series of narratives of which that now under notice is the first, from the same pen, is of high merit and holy aims. The idea of this series is, we think, evidently borrowed from the tales of Miss Martineau; and from some expressions in the reverend author's preliminary address to his readers respecting political economy, and what he may consider "right views thereof," and the necessity of teaching it, always as subordinate in claims and interest to "Christian economy," we are led to infer, that he considers the pre-eminence given in those tales to motives connected with present interests and wants, as undervaluing the higher motives derived from and inculcated by Christianity. We should regret this, for we believe political economy to be, not only in harmony with the dictates, but conducive to the influence, of religion, and as aiding by the intelligent forethought and the spirit of order and method which it induces, the spread of all other truths, and of that most especially which is pre-eminently *THE TRUTH*. It would, therefore, as we apprehend, be doing a real disservice to both political economy and religion that so just and reasonable a thinker as Mr. Taylor should considerably sanction the idea that there is any incompatibility between them. But as our apprehension on this score is rather surmise than certainty, we dismiss it, for the present, to say of this first narrative that it is most happily conceived and carried on; excepting, perhaps, a too obvious design and display of the means by which indeed in every condition of life good principles can alone be practically founded and preserved—a belief in, and habitual resort to, the pages of the revealed volume—but which may fall of their effect upon unwilling or unaccustomed natures, by being put forth too prominently at the onset.

This first volume is addressed to mechanics, and its object is to inculcate upon them the absolute ne-

HISTORY OF THE HARTFORD CONVENTION, with a review of the policy of the United States Government, which led to the war of 1812—by THEODORE DWIGHT, Secretary of the Convention. 1 vol. 8vo. pp. 450. New York: N. & J. WHITE.—If history be

cessity of order and degree in all societies, the danger of listening to the preacher of infidelity and turbulence, and of rejecting the old and wise ways of happiness, to seek after shorter and pleasanter paths, under leaders who are not less blind than those they set up to guide. It inculcates the sound and wholesome doctrine, that respectability, usefulness, and duty, in whatever walk of life we may be placed, depend, not upon our vocation, but upon our manner of fulfilling it; and that there is no honest calling, be it ever so humble, that he who follows it may not dignify and adorn, by a well-ordered, industrious, and above all, religious life.

The next number of "Social Evils," is to treat of the other sex, under the title of "The Lady and the Lady's Maid."

AN ADDRESS, DELIVERED BEFORE THE GENERAL TRADES UNION OF THE CITY OF NEW YORK; BY ELY MOORE, President of the Union. New York: JAMES ORMOND.—This is, in many points of view, a remarkable address. The occasion, the association to which it was delivered, and the language which it holds, are all peculiar and unusual. The Trades Union, as we gather from this pamphlet, is instituted by the producing classes, "in order to guard against the encroachments of aristocracy, to preserve our natural and political rights, to elevate our moral and intellectual condition, to promote our pecuniary interests, to narrow the line of distinction between the journeyman and employer, to establish the honor and safety of our vocation upon a more secure and permanent basis, and to alleviate the distresses of those suffering from want of employment." In plain and direct language, this is, we presume, an association of journeymen of different trades, with some masters, perhaps, among them, to regulate by combination, their own wages, and by co-operation of many to sustain the efforts of those of any particular trade in enforcing their "natural and political rights." That such a union is contrary to the common law, is admitted by the speaker himself, who, however, insists, that such law being in his judgment at variance with the genius and spirit of our institutions, it ought to be abrogated, and, meantime, he and his associates act as if it were. But in our opinion, the general scope of Mr. Moore's doctrines is more in hostility with the genius of our institutions than that doctrine of the common law which he condemns. We may say, by the way, that to the reasonableness of this doctrine we do not assent, and can perceive no reason in natural justice, or even in sound policy, why men may not, and should not, if they choose, combine for higher wages—so they do it voluntarily, each for himself, and without the use of force or menace against those of the same craft, who do not choose to join the combination, or against their employers—leaving to masters the same right to combine, if they choose, against workmen, and to each party the risk and loss of such attempts. The moment, however, that by force of intimidation a reluctant journeyman is made to give up the wages he was content to work for, and join the combination, that moment an offence against social and individual rights is committed, which should be vindictively punished. With this understanding, we are content to go with Mr. Moore in doing away the common law offence of combination. Mr. Moore's principles, however—by their tendency to create distinctions between classes of citizens, all alike equal in their rights and before the law; to combine the whole active industry, as it were, of the country against its wealth; and to impose—if they could be enforced, which they never can be—an arbitrary value upon what is in its nature ever varying, differing at different times, and at all times in different individuals—labor and skill,—do strike directly at the freedom, equality and security both of person and property guaranteed by our institutions. "Aristocracy"

is the hydra which "the productive classes" have, it is said, to contend against, and aristocracy is here explained to mean wealth. Now this aristocracy is within the reach certainly of every industrious man's reasonable hopes—however humble his commencement—and the wisdom of depreciating in advance, and rendering obnoxious, that which each and all are striving to attain, may well be questioned. It is indeed true that wealth, unaccompanied by education—in which term we include the culture of the heart, as well as of the understanding—is apt to produce arrogance and a certain scornful looking down upon those less fortunate competitors who yet toil in poverty; but this, so far from being a general characteristic, may be said to be almost peculiar to those who, having emerged from obscurity to opulence, without the restraints of moral and intellectual discipline, seem chiefly to value riches for the elevation at which they are thereby placed above those with whom they began life. In the way of overbearing, intolerant, coarse-mouthed and hard-hearted "aristocrats"—men who look upon poverty as a crime, and have none but words of harshness and reproach for misfortune—the most genuine, as well as the most offensive specimens are invariably to be found among persons of this description. Every observing reader must know, or have known, instances in point; and it is not the least curious part in such a history, that they who began life perhaps railing at aristocrats and aristocracy, and afterwards attained that enviable and much lampooned condition, are among the loudest frequently still to keep up the cry—of the truth of which, as implying harshness to inferiors, they judge from their own course; and of the efficiency of which, as a rallying cry to marshal the many against the few, they have had personal experience. But we are running on into a dissertation far beyond our purpose on sitting down, or our space. Of the talents of Mr. Moore, as they appear in this address, we are disposed to think well. Of his aims, and those of his associates, we disapprove, as subversive, in our judgment, of order, and illusory moreover in practice; yet we believe there is no premeditated purpose of evil in the "Trades Union;" and under due regulation, as conducing to emulation and mutual endeavors to enlighten and improve each other, and exalt each other's vocation, it might lead to good. We could wish, however, that *Miss Martineau's* tales were household volumes among the members of the Union; and we should not be sorry if the work noticed immediately before this, of Dr. Tayler, were also in the hands of each one of them. It is by such studies and with such guides that "the productive classes" will best assure their own happiness and respectability, and promote those of the communities of which they form so large and influential a part.

HISTORY OF THE CHURCH, from the birth of Christ to the present time, by CHAS. A. GOODRICH; 1 vol. pp. 500; New York, JUSTIN CARPENTER.—This is a curious compilation, which purports to give the history, not only of the church, but of all different sects, with biographical notices of their martyrs; which extends its notice to Mahometans, as well as Jews and Christians; and comprises, in short, or professes to do so, every sort of information respecting all sorts of creeds, rites and ceremonies. The book is divided into eight periods, each embracing a certain term of time. There are numerous wood cuts, withal; and the work, if executed with ordinary fidelity—of which we confess we have not yet read enough in it to enable us to judge—cannot but impart much useful and more curious information.

THE AMERICAN MONTHLY MAGAZINE, for January 1834. New York: M. BANCROFT.—This is a capital number, with papers in it that would do honor to the best Magazine extant. We would mention particularly "the Specimen of the Italian dramatists," and

"the Eve of St. Bartlemy." Good taste and poetical talent, as well as familiarity with the literature of Italy, are charmingly displayed in the first, and the thorough knowledge of the spirit of the times in which the second is cast, and the vigorous portraiture of character it exhibits, are quite remarkable. There are other papers of merit, but these bear the palm.

GREENBANK'S PERIODICAL LIBRARY, Vol. III. Nos. 7 and 8. Philadelphia. These numbers contain the autobiography of Galt, printed with the usual distinctness of this very cheap publication.

THE PARLOR JOURNAL. New York: PRABODY & Co.—This is a very flashy looking weekly; and if pretty types, pretty pictures, music, fashions and light talk and criticism, can make a work acceptable, this may hope to succeed.

GOVERNOR'S MESSAGE.

Fellow Citizens of the Senate and Assembly:

In performing the duty which requires me at this time to submit to your consideration the condition of the state, I feel peculiar gratification in being able to assure you that it is unusually prosperous.

As a member of the confederacy, we have no cause of alarm at any encroachment on our rights as a sovereign State. The General Government is moving in the proper sphere of its delegated powers, diligent to understand the interests committed to its charge, and devoted to the duties essential to the general security of the nation. Practising upon its avowed principle, of asking nothing that is not clearly right, and submitting to nothing that is wrong, it continues to maintain a friendly intercourse with all other nations, on terms of fair reciprocity.

The extraordinary attitude assumed at the commencement of the last year, by the state of South Carolina, in regard to the authority of the federal government, excited some apprehensions for the peace, if not for the stability, of the Union, and imposed upon that government, exceedingly delicate and embarrassing duties. We have great reason to rejoice that our national affairs were in the hands of those who were peculiarly fitted for such a crisis, and who were enabled by their wisdom, firmness and moderation, to conduct this unhappy controversy to a peaceful issue, without conceding any right belonging to the General Government, or giving any countenance to the novel and dangerous doctrine of Nullification.

Between this State and New Jersey a dispute has for a long time existed, concerning boundaries and jurisdiction. Several attempts have been heretofore made, to adjust this controversy in an amicable way; but they had all terminated unsuccessfully, and proceedings were instituted on the part of New Jersey, in the supreme court of the United States, to bring it to a judicial decision. The mutual desire of the citizens of the two states to preserve harmony between them, seemed to leave the way still open for an honorable compromise. The Executive of each state was last year authorized to appoint commissioners to effect this object. These commissioners have agreed upon terms of adjustment, which they deem to be equitable and mutually beneficial to the parties.—This agreement is not obligatory on either state, until it is confirmed by the legislature of each, and approved by congress. It is herewith transmitted for your ratification; if it shall be found, as I believe it will be, compatible with our honor and our interests. The Union is to be preserved and strengthened by concord among its members. The sentiments of patriotism, as well as a regard to our local interests, will inspire you with a desire to remove the only known cause that can disturb our friendly relations with any of the states.

From this view of our external relations, permit me to direct your attention to our internal affairs.—To the spirit of our free government, to the wise legislation of your predecessors, but, above all, to the kind regards of a gracious Providence, we are indebted for our present unexampled prosperity. No pestilence has been permitted, within the last year, to visit our citizens; our agricultural products have been abundant; manufacturing establishments have multiplied in all parts of the state; commerce has expanded beyond its former limits; enterprize is exerting its energies in all directions; and the gratifying evidences of moral and intellectual improvement are every where around us. Let it not, however, be supposed that this fulness of prosperity has superseded the labors of legislation. Evils exist that require

correction; and new wants are constantly disclosed, that cannot be fully supplied without your aid.

Every wise system of municipal laws necessarily contains within itself an adequate provision for the due execution of them. Laws are rendered effective only by the agency of public officers. The judiciary is an essential branch of all governments; to those of liberal principles it is, and ever will be, an object of much solicitude, and the more so in proportion to the sacred regard which is cherished for personal security and the rights of property. It must be accommodated to the duties devolved upon it. When we take into view the rapid increase of this state in population, and the still more rapid augmentation of its business transactions, both of which greatly multiply the labors of the judiciary, we must, I think, be convinced that our present establishment, though adequate to the public exigencies when first organized, now needs to be enlarged. Both the ability and the diligence of our higher courts are admitted; yet the business in them has so greatly increased, and the prospect of its further accumulation is so certain, that it has become your duty to deliberate on the means of affording relief. It is not so much to subvert the convenience of the courts overburdened with business, as to relieve parties from expense and loss; that such a measure has become expedient. Delay is not only attended with additional costs, but in many cases it is a denial of justice.

The organization of a Vice Chancellor's court in the city of New York, has fulfilled the public expectations of its usefulness. It is suggested whether one or two other similar courts, in other parts of the State, might not prove useful auxiliaries, not only to the Court of Chancery, but to the Supreme Court. To such courts the equity business of the circuit judges might be assigned; and most of the interlocutory proceedings in the Supreme Court might be transferred to these judges. The pressure of business is on the Court of Chancery and the Supreme Court, and on a few of the circuit judges, in consequence of their Chancery business. If two Vice Chancellor's Courts should be organized, it might not be necessary to increase the number of judicial officers. Two of the circuit judges might be appointed to preside in them, and the number of circuits reduced to six. It is believed that six judges would be able to perform all the circuit duties, together with such interlocutory business as could be properly devolved on them.

If upon mature deliberation, this measure should not be deemed a proper or an effectual remedy for the public inconvenience, there appears to be no other course left, but to amend the Constitution, and thereby increase the number of judges, or create other courts to participate in the business of those which now possess general jurisdiction.

Judges, like all other public servants, have certainly a just claim to a fair allowance for their official services; and in settling it, due consideration should be given as well to the qualifications required for such stations, as to the arduous and responsible duties imposed by them. It is true that judicial offices are highly honorable, and are generally aspired to with better motives than a regard to the measure of compensation; but this circumstance does not render an adequate reward to judges less an act of justice, or a dictate of sound policy.

Economy is the virtue of republican governments, but it is as distinguishable from parsimony as from profusion. It requires that faithful public services should be fully, and no more than fully, paid; and it is as much the duty of the Legislature to bring to this standard, salaries that are too low, as those that are too high. In forming an opinion as to the compensation to be given to judges, it is proper to look at all the circumstances connected with the subject; to their situation, which necessarily debars them from all private pursuits; to their qualifications, which result from a union of moral worth, high intellectual powers, and extensive acquirements; to the services they are required to perform, which, in this state, are more important and laborious than those imposed upon the judiciary of any other state. If, in addition to these considerations, we compare the present compensation of the judges in our higher courts, with the salaries given to such functionaries in other states, or with the salaries formerly given here, without the imputation of extravagance, we are, I think, necessarily brought to the conclusion that our judges are inadequately paid. I should neglect what I think due to an important department of the government, if I omitted to invite you to deliberate on this subject.

The business transactions of this state are almost wholly founded on credits. It should therefore be the object of legislation to provide for the faithful

execution of contracts. In 1831, an important change was made in the law on this subject, by abolishing imprisonment in certain cases. This change has, to some extent, excited dissatisfaction among the people; but most of it, I believe, is to be ascribed rather to the defects of the law, than to its principle. Its real object is in accordance with the spirit of the age. No reasonable objection can be urged against exempting the honest debtor, who is without the ability to pay, from imprisonment; but great care should be taken to prevent such a wholesome provision of law from becoming a refuge for dishonesty and fraud. It was scarcely to be expected in such a case, that all the safeguards against abuses and perversions could have been provided, without the light of experience. This law has been nearly two years in operation, and its prominent defects are now developed, and I trust your attention will be carefully directed to devising adequate remedies for them.

Our penitentiary establishments are objects of great public interest, and must ever draw towards them the anxious regards of the legislature. The improvements by this state in prison discipline, have been imitated by other states, and have attracted the attention of several governments in Europe. The commissioners sent from abroad to examine our penitentiaries, and ascertain their practical operation, have bestowed on both high commendation. By means of these establishments, we have been enabled to meliorate our criminal code, with safety to the rights of persons and property, and in a great measure to relieve the people from a heavy annual burden for the support of convicts.

The operations of the state prisons continue to present favorable results. The number of persons received into them during the last year, is less than that of the previous year; and the avails of the labor performed by the convicts have defrayed the ordinary expenses of these establishments, and yielded a surplus income of eleven thousand eight hundred and eighty dollars and thirty-one cents.

It was feared that the diminution of the number of convicts in 1832, from that of 1831, was to be ascribed to the effects of the cholera, which had interrupted some of the courts; but the reports of the past year have removed this apprehension, and proved, that while our population is rapidly increasing, crimes punishable in the state prisons are decreasing. The whole number of convicts in the Auburn prison on the first day of December last, was six hundred and seventy-two. One hundred and seventy-one had then been received since the first day of January last, which exceeds by thirty-nine the number received in the previous year. The whole number of convicts in the Mount Pleasant prison on the first day of December last, was eight hundred and thirty-three; and the number received previous to that date, in 1833, was two hundred and nineteen, which is seventy less than the number received in the preceding year.

The earnings of the convicts in the Mount Pleasant prison, during the last fiscal year, which closed on the thirtieth of September, were sixty-seven thousand five hundred and forty-eight dollars and sixty-five cents; which exceeds the ordinary expenses of that establishment, not including therein the charge of the corporation of New York for keeping the female convicts, three thousand two hundred and fifty-five dollars and twenty-six cents. A part of this surplus has been expended in building a range of workshops, two hundred and forty feet in length. No appropriation, either for the support of this prison, or for any additional improvements to it, will be required for the current year.

The earnings of the convicts in the Auburn prison, for the last fiscal year, were forty-nine thousand six hundred and sixty-five dollars and fifty cents. This sum produces a surplus, after deducting the ordinary expenses of the prison, of eight thousand six hundred and twenty-five dollars and five cents. Some portion of this surplus has been expended in altering and repairing the south wing of this prison. This work was deemed necessary for the preservation of the edifice, and for accommodating the establishment with a chapel and mess-room. From the representations of the officers, and from personal observation, I am convinced that a regard to the safety of this prison, and the accommodation of its business, requires that its enclosure should be considerably enlarged. This improvement cannot be made without your authority, and will probably involve an expenditure beyond the surplus income of the establishment.

Although we have done much for the improvement of prison discipline, much more remains to be done. There is one class of criminals to which it cannot be extended without another establishment, every

year's experience confirms the propriety of the repeated and urgent recommendations which have been made to your predecessors, in favor of providing a separate prison for female convicts. The number of these now is 53. Twenty-three of them are in the Auburn prison; but the salutary influence of its admirable discipline cannot be fully extended to them for the want of proper accommodations. The remaining thirty are confined at Bellevue in the city of New York, at the annual charge of one hundred dollars for each convict, paid by the State to that city. Even economy, which is less to be regarded in this matter than other considerations, would be promoted by such an establishment. Most of the labor of erecting it, might be performed by the convicts of the Mount-Pleasant and the Auburn prisons. I earnestly invite your attention to this subject.

Whatever diminishes minor offences will also diminish those of a higher grade; we ought, therefore, to apply our correctives to the incipient steps of transgression, with the double view of preventing crimes, and of reforming offenders. If long experience has taught any one lesson on this subject more clearly than another, it is that the association of criminals in idleness, with opportunities of unrestrained intercourse, renders reformation almost hopeless, and mutual contamination nearly certain.

The persons convicted of minor offences, are more than three times as numerous as the State prison convicts; and more than half of them are sentenced to be imprisoned in the county jails. As places of punishment, jails are much more objectionable than the State prisons were before their discipline was improved. Until establishments for punishing these offenders are provided, to which the salutary discipline of the state prisons can be extended, it is in vain to expect any considerable diminution of crimes, either of the lower or higher grade.

There is no institution partaking of the character of a penitentiary, that can be regarded with so much satisfaction as the House of Refuge for juvenile delinquents in the city of New York. The benevolent and humane individuals to whom this institution owes its existence, and who have generously devoted their labor and means to rear up and sustain it, have not been disappointed in the only reward they expected—the satisfaction of having been instrumental in rescuing many fellow-beings from misery and crime, and turning them into the path of virtue and usefulness. This institution admirably combines the advantages of education and moral instruction with a preparation for business pursuits. Its guardian care does not cease with its direct control over these delinquents; it follows them into society, and secures them from relapsing into criminal conduct by placing them in situations where they can, not only obtain a livelihood, but enjoy the ordinary means of becoming useful citizens.

It has been satisfactorily ascertained that most of those who have gone from this institution, have since pursued a virtuous course of life, and many of them are already established in business with the fairest prospects of success. This happy result is doubtless to be attributed, in a great measure, to the supervision over them which extends beyond the period of their actual imprisonment, and provides for them a proper employment. I am persuaded that some assistance of this kind afforded to convicts when first discharged from the state prisons, would, in many instances, prevent their relapse into crime. The House of Refuge now contains two hundred and thirty-three inmates; but it never has had as large a number as it could accommodate. This, I am sure, would not be the case, if magistrates who have the power to send juvenile delinquents to it, were fully apprised of the decided advantages of its discipline over any other mode of punishment. The managers of this establishment are making laudable efforts to enlarge it, so as to accommodate colored children; but they have not yet been able to raise the means required for this object. If they should be obliged to solicit aid from the legislature, the merits of the application will entitle it to a favorable consideration.

There are two institutions in this state for the instruction of the deaf and dumb—the New York Asylum, and the Central Asylum at Canajoharie. The number of pupils in both is one hundred and sixty-five. One hundred and thirty-four of them are in the school at New York. Ninety-six of these and twenty-four in the Central Asylum at Canajoharie, are educated by the state at an annual expense of fourteen thousand four hundred dollars.

By an act passed in 1829, the supervisors are au-

thorized in certain cases, to select from their respective counties, indigent mutes, and send them to these institutions, which are required to instruct them on such terms as the state pupils are received. This authority has not been exercised by any of the counties except those of New York and Montgomery; not for want of fit subjects, but probably from an unwillingness to levy the expenses that would be thereby incurred. It is worthy of your consideration, whether the exercise of this authority, which is now optional with the supervisors, might not be properly made an imperative duty.

Interesting as is this class of persons to our humane feelings, and claiming as they certainly do your sympathy, and a liberal degree of your care and patronage, there is another class, larger in number, and still more unfortunate in condition, who have a rightful claim to a greater share of your compassion and an equally liberal measure of your assistance. I refer to the insane—and more particularly, to the insane poor. We should be deaf to the most powerful appeal of suffering humanity, and wanting in gratitude to God, who has endowed us with the faculty of reason, and blessed us with abundant means of administering to the wants of others, if we did not use both, for the comfort, and, to every practicable extent for the cure of those who are deprived of these gifts. It, indeed, the diseases of the mind lay beyond the reach of human agency, it would be still our duty to afford these sufferers all the comfort and consolation which could be enjoyed in such a forlorn condition. But recent experience has proved, that in a few cases only, is their doom irrevocable. Medical science and mental philosophy have finally obtained an almost entire dominion over these maladies. There is, however, this peculiarity in the cases of insanity, that little hope of effecting a cure can be indulged, without the conveniences of proper institutions.

The Asylum at Bloomingdale, under the management of the Governors of the New York Hospital, is the only establishment affording accommodations for insane patients, which has received any assistance from the public treasury. The state has already paid, for founding and supporting it, one hundred and seventy thousand dollars; and has made provision for an annual payment towards its support, of ten thousand dollars, until the year 1857. It is, however, inadequate to the public wants. Besides, this institution is, in effect, closed to that class of insane patients presenting the strongest claims for your bounty—to those who are unable to contribute to their own maintenance. Poverty is sometimes the cause, and oftener the consequence of mental derangement. For those who labor under this double affliction, nothing has been done specifically by the legislature. By the census of 1825, it appears that there were in this state, eight hundred and nineteen lunatics; and if the number has increased proportionably with the population, it cannot be less at this time, than one thousand. Of these, seven hundred at least, are paupers, and most of them utterly beyond all reasonable hope of recovery, without legislative aid. If any thing were wanting to urge you to vigorous action on this subject, and call forth your patronage in behalf of these sufferers, it will be found in the well authenticated fact, that of recent cases under the treatment of the best regulated asylums, eighty and sometimes ninety patients in an hundred, have been restored, and even those who have been long neglected and cruelly misused, are not in a hopeless state. If the victims of disordered intellects had not been deprived of the usual means of exciting public compassion, or if they could have come forth from the places of their confinement, to exhibit their deplorable condition to the public eye, I cannot believe that a provision for their relief would have been delayed to this late day. If the claims of humanity in this respect, have been disregarded, you have now the power, and I doubt not will feel the disposition, to satisfy them.

The blind also, are another class of persons upon whom misfortune had laid a heavy hand, and who have a just claim to something more substantial than bare sympathy. Books have recently been made with embossed letters, whereby they are enabled, after a proper course of instruction, to read with considerable facility. By this ingenious contrivance, a new avenue is opened to their minds, and ampler means of knowledge brought within their reach. The number of persons suffering under the deprivation of sight, in this state, cannot be accurately estimated; but it is very considerable—sufficiently so, at least, to make their condition a subject worthy of your attention and kind regard.

The establishment of county poor-houses has been generally attended with beneficial results. In them, paupers enjoy more comforts than could be extended to them in the former way of providing for their support.

In most cases, they receive kind treatment: the able are put to work; the sick are carefully nursed, and well supplied with medical attendance; the young are furnished with the means of education, and enjoy opportunities of moral and religious instruction. The general burden of support has been greatly diminished wherever these houses have been established and properly managed. This system, particularly in what regards its police, is undoubtedly susceptible of some improvements. All who are received into these houses should be treated with kindness; but the idle should not find them places of repose from labor, if they are able to work; nor should those who have been brought into them by their vices, be allowed opportunities for further indulgence.

There are many charitable and benevolent institutions in the State, and particularly in the city of New York, of great usefulness, which I would commend to your favorable regard. It is your duty to second individual efforts in building up and sustaining establishments, which are fitly designed to reclaim the vicious, to relieve the distressed, and to enlighten the ignorant.

From the consideration of subjects which relate to the relief of the unfortunate, I pass to those which regard public education and moral improvement. Republics should be ever mindful of this important truth, that to be free, man must be educated. Without a knowledge of his rights, he will never properly estimate nor long maintain them. Our enjoyments as individuals—our usefulness as members of society—our privileges as citizens of a free government, are all founded on education. These obvious propositions show at once the vast importance of our system of public instruction, and the necessity of so improving it as to give to its operations the utmost extension and the greatest efficacy. While we are reopening our hopes for the continuance of civil liberty upon the general intelligence of the people, it becomes our duty to see that this foundation is laid broad and deep. By providing an adequate fund for the support of common schools, the legislature discharge but a part, and by far the least difficult part of their duty towards educating the people. They must secure its efficient application to the proper objects. In this respect, there is, in my judgment, a manifest defect in our system. Little as yet has been done to provide teachers properly trained for this pursuit. Without well qualified and skilful instructors, the amplest funds will prove comparatively useless. It is scarcely less important to establish a wise plan of supervision, not so much for the purpose of securing a faithful application of the public monies, as to introduce the most effectual modes of teaching, and the best systems of instruction.

The mere imposition of tasks, which are usually performed as an enforced duty, falls far short of the ends that should be aimed at. Emulation should be awakened in the minds of the pupils, and the acquisition of knowledge made a desirable object. When they once become sensible of the great advantages of education in the ordinary pursuits of life, and of the numerous enjoyments springing from the cultivation of their mental faculties, the difficulties of the work are nearly overcome, and the duties of the government are in a great measure performed. They then become their own teachers, and will seek opportunities, and furnish themselves with means of instruction.

Republican governments are the most deeply interested in the cause of education, and from them it is reasonable to expect vigorous efforts for the general dissemination of knowledge among the people; yet, I regret to see, that in this respect, we fall far behind even some of the monarchies of Europe. Several of the German states, particularly Prussia, are doing much more for the education of the people, than we are. If this state has failed to take the lead in well doing, in the cause of popular education, let it be the first to follow the example of those who have excelled us.

I fear there is too much reason to regret that more zeal is not felt, and greater efforts made, to improve the condition of our primary schools throughout the state; yet there are places where their importance is duly appreciated, and vigorous exertions have been made for their advancement. Justice requires that the example of the city of New York should not be passed with out notice and commendation. This city imposes annually a general tax, which now produces about ninety thousand dollars, for the support of its public free schools. They are under the management of a board instituted by the Common Council, called the Public School Society. This board are careful to select competent teachers, and to cause the schools under their charge to be often visited, and the course of instruction in them to be properly directed and vigilantly supervised by intelligent committees. The school established by "The General Society of Mechanics and Tradesmen," is liberally supported and wisely managed, and reflects great credit on the public spirit and intelligence of that class of citizens. A personal examination of these schools has convinced me that they are well conducted, and induces me to commend them to other parts of the state for their imitation, so far as circumstances will permit.

The results of our system of common schools throughout the state, will be fully presented to you in the report of the Superintendent. Eight hundred and twenty towns and wards, (being the whole number in the state,) have made reports to him for the year 1832. From them it appears that there were then nine thousand one hundred and seven district schools, in which five hundred and twelve thousand four hundred and seventy-five children were instructed. The whole number of children in these districts, between five and sixteen years of age, was five hundred and twenty-two thousand six hundred and eighteen. The public moneys distributed to the districts, including one

hundred thousand dollars from the common school fund, and eighteen thousand five hundred and ninety three dollars and twenty four cents from local funds, amounted to three hundred and seven thousand seven hundred and thirty three dollars and eight cents; and the inhabitants of the districts raised for the same purpose, three hundred and sixty nine thousand six hundred and ninety-six dollars and thirty-six cents. These sums, amounting to six hundred and seventy-seven thousand four hundred and twenty-nine dollars and forty-four cents, except about sixty thousand dollars expended in New York for school-houses, were paid to teachers for their services. If to this amount were added the other expenses incident to this system, the whole sum expended for the support of common schools in that year, would be about one million one hundred thousand dollars.

The regents of the university distribute annually, from the literature fund, ten thousand dollars to the academics subject to their visitation. The number which partook of this bounty last year, was sixty-five; and the number of students in them was four thousand eight hundred and fifty six, which exceeds that of the previous year by six hundred and sixty eight. There are many other valuable institutions of the kind in the state, which do not participate in the literature fund. We have seven colleges, two of which are devoted to medical instruction. Some of them are firmly established and highly prosperous; the others are struggling with difficulties, for the want of sufficient endowments; but all, I believe, are in an improving condition. As affecting more extensively the general welfare, common schools are justly entitled to the first consideration and the most liberal patronage; yet seminaries of a more elevated rank ought also to be sustained and cherished for many reasons, and for this particularly, that upon them we must, in a great measure, depend for competent teachers of the common schools.

The subjects connected with the business pursuits of our constituents, next claim our notice. Among these, agriculture stands first in the order of nature, as well as in the rank of importance. It contributes so essentially to wealth, that the early writers on political economy regarded it as the only source of wealth. It furnishes the means of human subsistence, and supplies most of the materials for manufactures, and the chief articles for commerce. When the labor of the farmer is bountifully rewarded, all other kinds of industry partake of its success; whatever, therefore, is done by the government for the agricultural interest, redounds to the benefit of every other. There is no occupation which is so diversified in its objects, and requires such various knowledge to conduct it skillfully, as that of agriculture. This knowledge results from experiments in all climates, soils, and seasons, and is consequently to be derived from different countries; it receives large contributions from the mechanic arts, and from the sciences of botany, chemistry and natural philosophy. The patronage of the government can scarcely be directed to a more useful object than furnishing the means of collecting information on this subject, and of spreading it among the agricultural population. A board composed of practical farmers and men of scientific acquirements, would possess great facilities for concentrating this various and scattered information; and the best means of disseminating it among the people, would be afforded by a public institution, under the direction of such a board, where agriculture should be taught as a science, and practically illustrated as an art. The general interest felt for this branch of industry, will recommend it to your favor; and its intimate connection with the permanent prosperity of the state, will make you desirous of contributing to its advancement.

The citizens of this state have invested a large amount of capital in manufacturing establishments. The encouragement which this branch of industry has been most anxious to obtain, a protection against foreign rivalry; and this could be given only by the general government. The policy, as well as the right, of giving it, otherwise than as it incidentally results from the imposition of such duties on imports as are necessary to raise a revenue merely sufficient to support the government, has been contested. This interest has suffered by the frequency of legislation on the subject of the tariff, and by the uncertainty, as to the measure of protection it would permanently receive. Hopes are now confidently entertained, that the existing laws will remain for some years without material modification. Should such be the case, there is reason to believe that our manufactures will flourish, and soon acquire a permanency which will enable them to withstand foreign competition.

Though commerce and agriculture are the branches of industry which seem to participate most directly in the benefits of our system of internal improvement, yet they are no more favored in this respect, than many kinds of manufactures and the mechanic arts. While our public works have been attended with local advantages, they have contributed, even beyond our anticipations, to the general prosperity of the state.

It was our fortune that the most practicable route for a water communication between the Atlantic ocean and the great western lakes, lay thro' our territory. This advantage was early discovered by the sagacity of the people of the state, and effectually improved by their enterprise. The internal commerce carried on through the Erie canal, aided as it is by the improvement executed by the enterprise and energy of the state of Ohio, has, during the past season, increased to a magnitude which was supposed to be attainable only in its full maturity, and has extended to regions which were conceived to be beyond its utmost limits. The country around these lakes and along the rivers emptying into them, as well as the valley of the Ohio, quite down to the Mississippi, have been supplied through this channel with some portion of their merchandise. Boats are daily seen passing upon it, freighted with goods destined for the territory of Michigan, the states of Ohio, Indiana, Illinois, Kentucky, Tennessee, and even for Missouri and Alabama. The delightful climate of this western region, the great fertility of its soil, and the numerous conveniences it offers for the enjoyments of human life, are daily becoming better known, and attracting towards it an increasing tide of emigration. No human efforts—no conceivable changes of circumstance, can check its rapid settlement, or put far off the time when it will be the abode of a population of many millions, abounding in wealth, and seeking the comforts and luxuries to which commerce must necessarily administer. Its trade will increase with its wealth and its numbers. If our canals are to be what a wise management cannot fail to make them—the principal channel for this trade—we must calculate its extent, and make them adequate to this object. When our system of internal improvements was commenced, a great part of this fertile region was a wilderness, and scarcely a sail was spread, for the purposes of commerce, on the great western lakes. The advancing steps of settlement have but just passed the borders of what was then a wild domain, and it already abounds in products demanding a market, and inviting an exchange for articles from merchandise from the Atlantic states. Lake Erie now appears like a frequent track in the highway of commercial nations. Its waters

are navigated by twenty steamboats, and one hundred and twenty-eight ships and schooners.

The shipping on this lake has increased in the three last years, from six to eighteen thousand tons. The tonnage entering the port of Buffalo last year, was more than two hundred thousand; and an hundred thousand passengers are estimated to have left it for the west.

We ought not, however, to flatter ourselves that we shall enjoy what we now possess, and what lies before us, without competition. The western trade is a noble prize, for which several of the Atlantic states are contending with a laudable emulation; and they are making powerful efforts to remove the barriers interposed by nature between them and their object. We look on their exertions with no unfriendly feeling; and we trust that they will view, in a like spirit, our efforts to administer to the wants and to subserve the convenience of the western country.

It has already become quite evident that the capacity of the Erie canal will not much longer be adequate to the exigency of the business on it. The improvements which will soon be required, are double locks to facilitate the passage of boats, and an enlargement of the canal in its width and depth. These improvements must necessarily be made under great disadvantages. The public interests will not allow of an interruption to the navigation; and a considerable part of the labor must therefore be performed in the winter season. This subject will probably be presented to you in a communication from the officers having the charge of the canals, and it will undoubtedly receive from you the attention its great importance demands.

The extent of business on all canals is increased by the facility of transportation, and a reduction of the expenses. By enlarging the capacity of the Erie canal, the cost of transportation will be diminished. The tolls are a considerable part of the expense. This subject has occupied the anxious attention of the Canal Board, during the present year; and some of the beneficial results to which I have alluded, particularly the wide diffusion of the trade into the western and southwestern sections of the union, are justly ascribable to the enlightened views of this board, and the judicious modification of the rates of toll. Previous to opening the canals last season, the tolls were reduced twenty-eight and an half per cent. on most of the products of the country, and fourteen and a quarter per cent. on merchandise. Notwithstanding the reduction, the amount of tolls received on the Erie and Champlain canals during the last season, is one million four hundred and sixty-four thousand and fifty-nine dollars and ninety-eight cents, which is two hundred and thirty-four thousand seven hundred and seventy-six dollars and fifty-one cents more than the receipts of the preceding year. This board have it in contemplation to make a further reduction on merchandise, of twenty-five per cent. on the present rates of toll, before the navigation opens in the spring. This reduction will bring the tolls down nearly to the constitutional limit. It is probable they might be reduced on some articles below that point, if it were practicable without lessening the total amount of revenue.

I deem it proper to mention another subject, which has an important connection with the operations of our canal system, but which belongs essentially to the general interests of commerce. The obstructions in the Hudson river, although they affect more immediately the interests of the people of this state, operate injuriously also, upon the commercial interests of the whole country. The federal government exercises a jurisdiction over this river, so far as the regulation of commerce is concerned. It is not only the medium of internal trade among the states, but is extensively used for the purposes of foreign commerce; and the duty of regulating both, is, by the constitution, committed to Congress. There is a great diversity of opinion as to the limits of the power possessed by the general government, to expend money on works in aid of commerce, and in some cases intrinsic difficulties exist in determining whether a particular object lies within or beyond its scope, yet I believe there are but very few acquainted with the subject, who would contest the right of that government to appropriate money for the purpose of removing obstructions in the Hudson river; and all who admit the right, and are apprised of the extent of the injury arising from the frequent interruption of the navigation, will at once concede that it is the duty of Congress to effect this object; but the appropriation for this purpose has heretofore been defeated, by being united in the same bill with appropriations for other objects, clearly unconstitutional, in the opinion of many members of Congress; and some who were most anxious for this improvement, were driven to the alternative of either voting against the whole bill, or of violating their obligation to support the constitution, by giving their sanction to what they regarded as the illegal exercise of a power, which, if once established, would certainly be used to withdraw from this state, to a great extent, the advantages she has won by her unaided efforts, & by the expenditure of millions derived solely from her own resources. The passage of the bill containing these appropriations would have formed a precedent for resorting to the treasury of the United States, for funds to execute projects having no pretensions to be ranked among those of a public or national character. I venture to affirm that the people of this state, in order to procure one or two hundred thousand dollars, for what is really a national object, will never depart from a sound construction of the constitution, approved by our wisest statesmen, and consent to a dangerous enlargement of the powers of the general government, which would be used to take from them indirectly many millions. They cherish the federal constitution, and more highly prize the common welfare, which can only be permanently maintained by

a proper exercise of the powers delegated to Congress, than any advantages they might obtain by unwarrantably extending these powers to accommodate their local interests, or by giving their sanction to an illegal application of them to favor the local interests of others.

If the appropriation for improving the Hudson river must be encumbered with others for objects not generally considered within the powers of congress, and its success must abide the event of a struggle to establish a theory of construing the constitution adverse to the salutary doctrines contained in the message of the present Executive on the Mayaville road, and since virtually sanctioned by the people of the United States, you ought under these circumstances, to consider whether the interest of your constituents does not require that this improvement should be embraced among our public works.

Two modes of overcoming the difficulties in the navigation of this river have been suggested; the one by excavating the alluvial deposits with machines, or removing them by contracting the channel, and thus increasing the current; the other by constructing a lateral ship-canal, commencing below the bars, and extending to the cities above.

Apprehensions are entertained by many acquainted with this subject, that the removal of these deposits, will afford but a temporary relief, and that natural causes will soon form others. The ship-canal is considered by them as the most certain, as well as the most economical mode of effecting this improvement. This work is of a different character from any that the state has yet executed. Your will therefore feel the necessity of examining carefully the various plans that have been, or may be, suggested, before making any selection, should you decide in favor of the expediency of the undertaking.

Our first public work of internal improvement was commenced in 1817, and in the course of sixteen years we have completed six canals—the Erie, the Champlain, the Oswego, the Cayuga and Seneca, the Chemung and the Crooked Lake. By means of them, water communications are opened from the Hudson river to the Susquehanna on the south, to the lakes in the interior of the State, and to the inland seas on our northern and western frontiers. The aggregate length of these canals, is five hundred and thirty miles and the amount expended in their construction, is more than eleven and a half millions of dollars. From the commencement of the system, it has been steadily carried forward, without interruption, under wise councils and prudent management.

At the last session of the legislature another canal, of ninety-five miles in length, was ordered to be constructed, which will involve, as recent examinations seem to indicate, a further expenditure of one million five hundred thousand dollars. Though some of these works were not undertaken so early as those sections of the state most immediately interested in them, desired yet I am disposed to believe we have effected more, by a cautious policy, than would have been done by a less considerate course of proceeding. By attempting too much at once, we might not only have done less, but endangered the entire system.

The splendid success generally ascribed to the whole, is in truth, the result of only a part of our works—the Chemung and Crooked Lake canals have not been in operation a sufficient time to show the extent of their utility; but it is estimated that they will not equal in productiveness the Cayuga and Seneca, or the Oswego canal, which have not yet ceased to be a burden on the public treasury.

The Commissioners of the Canal Fund estimate the charges above the amount of tolls, for the support of the Chemung canal, for the ensuing year, at thirty thousand eight hundred and thirteen dollars and sixteen cents; and of the Crooked Lake canal, at eight thousand five hundred dollars. These sums, if the estimate should prove correct, must be paid out of the treasury of the state.

The revenue of the Oswego and of the Cayuga and Seneca canals, has considerably augmented during the past season, and if a fair allowance were made for the increase of this on the Erie canal in consequence of the additional business resulting from these canals, their income would probably be equal to the expense of repairs and supervision, and the interest on the debt incurred for their construction.

The amount beyond the income of these canals, paid for their support last year from the treasury, was nineteen thousand five hundred and sixty-five dollars and twenty-seven cents; and the estimate of the amount to be paid for the same purpose the ensuing year, is twenty thousand two hundred and fifteen dollars and thirty-six cents.

I do not allude to these circumstances with the view of questioning the policy of these works; subordinate to the Erie Canal, but to justify the considerate movements which have characterized our past legislation, and which I hope to see observed in our future measures on this important subject. I desire not to be understood by this remark as entertaining a wish to withdraw your attention from any of the applications which may be made to you for internal improvement; my wish is, to see the system not only continued, but carried forward, in the best way calculated to diffuse its blessings as widely as practicable. We are favored with a country every where presenting capabilities for improvement, and containing industrious and enterprising inhabitants, who are rapidly developing its resources, and anxious to have their own energies aided by

the patronage of the government in removing the obstacles which intercept their easy access to our great markets.

I am aware that applications will be made to you for the construction of several other works, which I deem it unnecessary to specify, because I have not sufficient information in relation to any of them, to enable me to make particular suggestions which would aid your deliberations. My views relative to the character of works which it is expedient to execute at the public expense, were submitted to your immediate predecessors. Upon further consideration of the subject, I see no reasons for modifying them. The proper application of the principles then stated, will, in my judgment, carry us forward in the progress of improvement as rapidly as sound policy dictates, and in due time will extend our system to all the objects which ought to be embraced in it.

If these views should appear to you too restrictive in their operation, and you should deem it expedient to authorize public works, which, for a series of years after they are finished, will impose an annually increasing charge on the treasury for their support, besides entailing on the State a debt for the original expenditure, you will, I presume, consider your duty to provide the means for the ultimate payment of these burdens at the same time they are created. This provision can, in my judgment, only be made by a general tax, or by a permanent incumbrance upon the revenue of the Erie and Champlain canals. The injury that would result to the State at large, by resorting to either of these modes to raise funds for such a purpose, would, I think, much more than counterbalance the advantages of any public work which will not pay, after the lapse of many years, the interest on the sum expended for its construction, and the expense of repairs and superintendence.

For most, if not for all, of the proposed works, several routes are suggested; and various opinions are entertained as to the proper points for connecting them with the canals already completed, and with our rivers and the lakes. There are strong considerations to induce you, before authorizing the construction of any work, to have the routes minutely and accurately surveyed, and the proposed points of connection carefully examined by skillful and experienced persons, with a view to ascertain the amount of expenditure it will involve, and its utility when completed. The propriety of such a course is evinced by the fact that casual examinations and partial surveys have in all cases led to very erroneous estimates. All the works that have been completed, were authorized under the confident expectation that they would require a much less sum to construct them than they have actually cost. The route of the Chenango canal was repeatedly surveyed, for the purpose of ascertaining accurately the expenditure; but after all the pains taken to arrive at a correct result, the estimates were in some instances 50, and in others 75 per cent. below the sum which the surveys recently made, with a view to its actual construction, indicate as its probable cost.

It would be desirable to distribute impartially to all parts of the state the benefits of internal improvements, but this cannot be done; because all parts do not offer equal facilities and equal advantages for public works. Indulging, as I trust you do, a desire to diffuse these benefits to a reasonable extent, you will consider the various plans that may be presented to you, and test them by the application of the general principles of legislation, which ought to direct your proceedings on this important subject. The disposition you may feel bound to make of them, will, I trust, be generally approved.

I have no doubt you will grant, as good policy requires you should, liberal terms and fair privileges to companies or individuals who may be willing to vest their capital in works for the improvement of the state, or for developing any of its resources.

The great design of internal improvements is to afford to the people generally the means of an easy and expeditious intercourse, and to increase facilities for the transportation of their products and articles of merchandise. While we are intent upon devising and executing insignificant works for attaining these objects, let us not lose sight of those of a humbler character, but of very general interest, essentially contributing to the same end. The heavy burdens annually imposed upon the people for common highways and bridges, are not, it is generally believed, attended with corresponding benefits. The mode of applying the labour assessed and the money raised for this purpose, is conceived to be defective. Without increasing the public expense, much better results might be obtained, by securing greater economy in the expenditures, and a more skilful application of the labour to the objects to be accomplished. The general interest of all classes of our citizens in this subject, will commend it to your favorable notice.

We are apprised, through the medium of the public journals, that numerous applications will be made to you for the increase of banking institutions. Notices for one hundred and fifty new banks, with capitals amounting to about fifty-six millions of dollars, have already been published, and it is probable that additions will be made to this number. These institutions have a vital connection with the business pursuits of our constituents, by reason of their effects on the currency of the country. Our business transactions have been so long conducted by means of bank credits, and by the use of a paper currency, that this course has become firmly settled, and, if it were desirable, it would be scarcely possible, to change its direction. Banks are now regarded as necessary establishments, but I cannot believe that they are required to the extent now asked for. So far as the business of the country demands an increase of them, you will feel inclined to add to their number.

Banking privileges, not only as they are granted by this State, but as they exist in almost every country, are a monopoly which ought not certainly to be increased beyond the actual exigencies of the public. Private interest in res-

pect to these institutions, unless it accords with the public demand for them, should not, and I dare presume, to say, will not be permitted to influence your action on this subject. All legislation which turns aside from the public good, to administer favors to individuals or classes, is partial and unwholesome. Every charter granted on the terms heretofore imposed, confers, in the prosperous condition of the State, a donation on the stockholders, of a sum varying from ten to fifteen per cent. on the capital of the company.

Though I do not impute to the applicants, in any instance, selfishness as their leading motive, yet we should overlook a universal law of human conduct, if we did not suppose that self-interest mingles its influence in their actions, and exerts its sophistry to mislead their judgments, as to the public necessity for institutions from which they have reason to expect a considerable direct pecuniary benefit. If any means could be devised to cause the stock to go into the hands of those to whom it is distributed, worth only its par value, I think there would be much less solicitude for the increase of banks. Whatever value is given to the stock above the sum paid for it, in consequence of the franchise or peculiar privileges granted to the corporation, may, upon any principles of justice, be withheld from the subscribers and rightfully claimed by the state; and it is a cause of regret, that some provision to effect this object had not long since been adopted.

The increasing pressure upon the legislature for the multiplication of banks, and the constantly recurring contests attending the distribution of stocks, are every day demonstrating the propriety of such a measure. I am ready to admit that there are many plausible, and some weighty objections, to appropriating to the state the enhanced value of the stock of an institution chartered by the legislature. The consideration that former applicants have received advantages which are to be denied to others of equal merit, ought not to prevail against any measure for correcting the abuses resulting from the bestowment of these advantages. If such an objection is valid now, it must be equally so at any future period; and the evils must continue, because they have once existed. One of the most effectual modes which has occurred to me, of withdrawing from the original owners the premium on bank stock, is by a public sale, and reserving to the State the advance above the par value. To this mode of distribution there are several objections. It would facilitate the concentration of stock in the hands of a few wealthy individuals, and thereby lead to a monied influence unfriendly to the free principles of our government. Besides, a bank, in the vicinity of its stockholders, and those not only numerous, but composed of citizens of various pursuits and different sentiments, will be more certain to fulfil the public designs of such an institution, than one owned by a few individuals, residing perhaps at a distance from it, who would feel less disposed to accommodate local customers, and be more strongly tempted to devote it to personal and private purposes.

If the premiums on the sales of stock were either paid into the treasury for general purposes, or assigned to any of the particular funds, this disposition of them, which would be but the mere incident of a measure to correct existing abuses, might be converted into a principal motive for increasing such institutions. The desire of supplying the wants of an exhausted treasury, or of increasing a favorite fund, might possibly operate as an inducement to grant applications which would not be sustained on the ground of public utility. Combinations, by speculators, at the sale, might also prevent fair competition and engross the stock. These objections, to some extent at least, are admitted; but it is believed their force might be much weakened by wise provisions of law regulating the sales, yet whether sufficiently to render the measure expedient, is a question for your determination.

The reduction of interest on bank loans has been suggested as a measure that would prevent an undue multiplication of banks, by removing private inducements for charters. Judging, from the exorbitant profits of most of these institutions, it would appear that the interest on such loans, might be brought down to, and even below, six per cent, and still the investment of capital in bank stock yield ordinary profits. I much fear, however, that this measure is more specious in theory, than that it would be sound in practice. There are many things that laws cannot effectually control, and one of them is the interest of money. If the use of money is worth eight or ten per cent, those who have it to loan will generally contrive, in spite of legislative enactments, to obtain that rate of interest. The reduction of interest on bank loans, below the general rate, would increase, I apprehend, to an alarming extent, one of the evils to be dreaded from these monopolies. Their tendency is to degenerate into exclusive private institutions, conducted on the narrow principles of favoritism. If bank interest was one or two per cent. below the common rate, their loans would generally be made to persons interested in the institutions, and so far as the public at large was accommodated, it would be done by a secondary operation, through the agency of those persons, at or above the common rate of interest. The large profits in which all the stock holders now participate, would be partially withdrawn from them, not however to be more generally diffused, but to be concentrated in a narrower circle. The concentration of benefits would be speedily followed by the concentration of the stock; and the few who would by these means get the management of an institution, would be likely to use it for the purpose of private speculation, or to secure to themselves accommodations for their own business on better terms than their competitors would be able to obtain. If such should be the effect of this measure, the inducement of a private character for the multiplication of banks would be increased, and the public benefits intended to be conferred by them, diminished.

The beneficial effects expected from the proposed reduction, would probably be defeated by changing the mode of doing business at the banks. Instead of loaning money on paper, payable at their own counters, they would use their funds to purchase drafts and bills made payable at other places, as such discount as would be equal, at least, to the general rate of interest. This operation could not be restrained, nor the rate of discount regulated by law, without essentially impairing the public usefulness of these institutions.

A general reduction of interest on all loans and other contracts, would leave banks with at least the comparative advantage they now possess, and the effects of such a measure upon the general prosperity of the state, are worthy of your profoundest consideration. That the accumulation of capital, as distinguished from bank loans and a surcharged circulation of bank paper, is conducive to our general prosperity, cannot be doubted. It is equally obvious that, bringing down the rate of interest, would, to some extent, diminish the total amount of our capital, or at least

check its introduction into the state. Other parts of the Union, where the rate of interest is below ours, think that in this respect we have advantages over them, and they are making efforts to increase it to our percentage. In prosperous times, abundance of capital enables us to expand our business and develop our resources; and in seasons of embarrassment, it helps us to sustain the public pressure.

But if the stock of such new institutions as you may deem it discreet to grant, must be scrambled for by the subscribers, and go into the hands of the successful competitors, worth considerably more than its par value, much of the bitterness of feeling, ordinarily resulting from these contests, would be prevented, and combinations to get control of these institutions, in some measure, defeated, by appointing commissioners for the distribution of stock, in each case, who reside out of the county wherein the bank is to be located, and who shall be not only disqualified from holding any office in it, but from taking, directly or indirectly, any of the stock, for a limited time after it shall go into operation.

These considerations are worthy of your serious attention; but much less so, than the great questions, how far banking capital can be safely augmented, and what further safeguards are required to secure our banking institutions from disasters, in seasons of great commercial revulsion and general embarrassment. In the course of events, such seasons will come, and the increase of banks may be one of its causes that will contribute to their recurrence; and when they do come, it will certainly be the cause of aggravating the severity of the public distress.

Almost the entire business transactions of this State, and of the whole country, are founded on a gigantic system of credit. This system expands, not only with the increase, but by the continuance of our prosperity. Success emboldens the spirit of enterprise, and men gradually forget the lessons of caution and prudence that adversity teaches, as they recede from the times in which they have received this useful instruction. It is your duty, when called on to extend this system by multiplying banks, to consider well what effect this measure will have upon the stability of the whole. If you enlarge the super-structure, you ought to strengthen the foundation.

It is worthy of your consideration, whether an additional safeguard would not be afforded by a general provision, restricting the circulation, not only of the new banks, but, in due time, of those already incorporated, to the amount of their capital. This restriction, seems to me, to be well calculated to add to the public security, without greatly impairing the ability of these institutions to administer to the public wants. Only the specie in the vaults of these banks, remains necessarily in an unproductive state; the residue of the capital may be profitably employed; which, together with the privilege of a circulation equal to the whole, and the use of the temporary deposits, will enable them to defray their necessary expenses, and render a liberal return to the stockholders for their investments.

I should extremely regret that the considerations which I have urged for cautious action on this subject, should be construed into a warning against particular impending dangers. I am confident there is, at the present time, no existing cause for alarm. Our system of credit, compared with the immense business of the State, embracing, as it does, the transactions of the principal commercial emporium of this great nation, is not extended beyond the systems of the neighboring States, or those of other commercial countries. Besides all the safeguards provided for banks elsewhere, this State has fortified her institutions with additional securities; by creating a fund to protect bill-holders from ultimate loss; by making the interest of all to detect the mismanagement and contribute to the safety of each;—and by instituting a visitatorial commission to supervise their operations, with ample powers, not merely to correct, but to prevent abuses.

The last four years have been to the people of this State a season of unwarmed prosperity. Within this time there has been none of those commercial alterations which ordinarily happen every few years, except a slight pressure about two years since, occasioned mostly by an unfavorable balance against the country in its foreign trade, and one of local operation, at this time, resulting principally from the management to which the Bank of the United States has resorted with a view to obtain a renewal of its charter; but the former of these did not, and it is believed, the latter cannot, put to a severe trial the solidity of our banking institutions.

The legislature, within these four years, added nine millions to our banking capital; and you will be urged at this session to add many millions more. It appears to me that it would be hazardous too much to augment this capital to an unprecedented extent, before we have had the experience of less prosperous times to test the effect of the increase already made. While you feel a desire to contribute, in this respect, to the wants of the various sections of the State, you will, I trust, bear in mind that you are acting on a subject of vital importance to all, in its nature both delicate and difficult—delicate, because it relates to a system sustained in a great degree by extensive and mutual confidence—and difficult, because it has numerous and complicated relations to the business pursuits of all classes of our constituents.

The constitution is now so amended as to allow the legislature to reduce the duty on salt manufactured in the western part of this state, to six cents on each bushel; this subject will, therefore, properly occupy your attention. The vote on the amendment of the constitution shows clearly that a reduction is generally expected; but a question may arise as to the amount proper to be made at this time. I think there are sufficient reasons for bringing down the duty at once to the minimum rate. Salt is an article of general consumption, and a diminution of its price is a direct benefit to the consumer. The demand for that manufactured in this State is regulated by the extent of the country to which it furnishes a supply, and this extent will be enlarged as the price is reduced. A regard to the public revenue, as well as to the interest of the manufacturers, requires that the region for consumption should be extended as widely as practicable. The material for the manufacture of this article is so abundant, that the supply may be easily equal to the utmost demand.

Of the salt manufactured by our citizens, large quantities are consumed in the Canadas—it supplies the country around the lakes, the western part of Pennsylvania, and a large portion of the State of Ohio, and enters into competition with the salt made at the Kenhawa springs in Virginia, on the borders of Indiana and Illinois. A reduction of six and one half cents on the bushel will be the means of extending the sphere of consumption far beyond these limits, and the increase in the quantity manufactured for the purpose of satisfying this additional demand, will ultimately compen-

sate the revenue for the increase in the rate of duty. The mutual interest of the manufacturers and the consumers in this State—the advantages to the business intercourse between our citizens and the north and west, resulting directly and indirectly from our ability to supply these regions with this important and necessary article, and the ultimate effect of this increased demand upon the public revenue, considered in reference to the tolls on the canal, as well as to the direct duty on the salt, render it expedient, in my opinion, to bring the reduction to the lowest constitutional limit.

The militia system was cherished by the patriots who laid the foundation of the general and state governments, as essential to the preservation of our liberties. I regret that efforts have been made to bring it into some disrepute. The unfavorable opinions which now prevail on this important subject, do not arise, I am persuaded from a general conviction that all organization of the kind is useless; but they are to be ascribed to the defects of the present system. Those defects can be effectually removed only by Congress.

The joint resolutions of both houses of the last legislature suggesting several modifications of the present laws, have been transmitted, agreeably to a direction therein, to our senators and representatives. In congress, and also to the governors of the several states, with a request that they might be laid before the respective legislatures thereof. It is reasonable to expect that this subject will occupy the attention of congress, and that the present organization will be so far improved, as to remedy its defects without impairing its efficiency.

By the report of the Adjutant General for the present year, the numerical force of the militia of this state appears to be one hundred and eighty-eight thousand, four hundred and forty-seven men.

The particular funds of the state continue in a prosperous condition. The Canal Fund, notwithstanding the reductions of the tolls, has increased in productivity. The total amount of receipts during the fiscal year ending on the 30th of September, including the tolls on the Orwego and the Cayuga and Seneca canals, and the interest on the surplus moneys belonging to this fund, was one million nine hundred and ten thousand eight hundred and ninety-five dollars and sixty-four cents. The total amount of canal debt is six millions six hundred and seventy-three thousand and six dollars and twenty-nine cents. The debt created for the construction of the Erie and Champlain canals, was, on the 30th of Sept., five million five hundred and twenty-two thousand six hundred and fifty-nine dollars and twenty-nine cents. To this debt the constitutional pledge of the tolls at a specified rate, and of the auction and salt duties, attaches. During the last year, the commissioners expended one million five hundred and sixty-six thousand three hundred and ten dollars and three cents, in purchasing the stock of this debt. In consequence of the period of redemption being in 1837 and 1845, they were obliged to make purchases at a premium. After making these purchases, they had in money on loan, and invested in other stocks, amounting to two millions six hundred and two thousand five hundred and ninety-four dollars and seventy-six cents, belonging to this fund. The actual amount of the debt to which the constitutional pledge is applicable, beyond the means the commissioners possess for redeeming it, is therefore only two millions nine hundred and twenty thousand and sixty-four dollars and fifty-three cents.

If large expenditures are not made for enlarging and improving the Erie and Champlain canals, the commissioners will probably have, before the end of three years, sufficient means for discharging the whole of this debt; yet the pledge must continue, unless all the stock be purchased, until July, 1845. The object of the pledge was to obtain the means of re-imbursing the loans made for the construction of these works. When funds are accumulated amply sufficient for this end, there can be no good reason for retaining the pledge. Its continuance beyond that period, will be attended with embarrassments and positive injury. It will prevent such a modification of the tolls, as would best preserve the interests of trade, or as would produce the best result as to revenue. It is intended, as the course of your predecessors for a few years past seems to have indicated, that the canals shall return to the general treasury of the state, some part or the whole of the moneys that have been taken from it for their benefit, it would seem proper to have that matter adjusted as soon as practicable. Should it be judged expedient to make the revenues of the canals subsidiary to the support of the constitution, of other public works of internal improvement—even for this purpose, it would be convenient to have them disencumbered at an early period.—After considering this subject in all its bearings, you will determine whether the interest of the State requires that this pledge should be removed, when sufficient means for paying the loans secured by it, shall have been obtained.—As such a measure will require an amendment of the constitution, which cannot be effected in a shorter period than two years, you are invited to consider it at the present session.

The productive capital of the School Fund is one million seven hundred and fifty-four thousand forty-six dollars and eighty-four cents, and has increased eighteen thousand eight hundred and seventy-one dollars and fifty-six cents, the last year. Its income was, during that year, one hundred and nine thousand one hundred and seventeen dollars and seventy-seven cents.

The capital of the Literature Fund is two hundred fifty-seven thousand nine hundred thirteen dollars and forty-six cents, and it produced an income last year, of twenty-two thousand five hundred and seventy-seven dollars and twenty-two cents.

I presented to your immediate predecessors the condition of the General Fund, and urged on them the necessity of devising the means of replenishing it. Such a measure seemed to me necessary to enable that fund, not only to defray the ordinary expenses of the government, which amount annually to about three hundred thousand dollars, but to pay such appropriations as it might be deemed expedient to make for establishing or supporting institutions for objects worthy of public patronage. That duty was deferred, and it now devolves on you. I take the liberty to refer you to my annual message to the legislature last year, for my views on this subject, and to recommend to you to devise and settle a system of finance for the support of the government.

Having discharged the duty imposed on me by the constitution, of communicating to you the condition of the State, and recommending such matters as in my judgment ought to attract your attention, permit me in conclusion to assure you that I shall most cordially co-operate with you in all measures for the common good of our constituents, or for the interest of any portion of them, so far as it is compatible with the welfare of all.

W. L. MARCY.

Albany, Jan. 7, 1834.

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**INSTRUMENTS.****SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.**

EWING & HEARTT, at the sign of the Quadrant, No. 33 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same.
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SUPERIOR VEGETABLE AND AGRICULTURAL SEEDS, &c.—The subscribers having devoted a portion of their grounds to testing the excellence of the various Vegetables of foreign climates, and also the most select of our own country, now offer to supply vend re and others with a most extensive assortment of the finest Esculent Vegetable Seeds: also with Agricultural Seeds, and with those of above 300 varieties of annual and perennial Flowers. The Seeds now offered possess the advantage of being reared under their own direction; or, when imported, of being tested to our satisfaction, and their accuracy and vitality are expressly guaranteed; and among them will be found a large number of highly estimable kinds never before offered to the public. Catalogues will be forwarded to every applicant, and orders sent by mail will meet with the utmost dispatch.
WM. PRINCE & SONS. [J1]

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons. The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 40, page 72 of this Journal.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufacturer and sold by **E. & G. W. BLUNT**, 154 Water street, corner of Maidenlane.
J31 6

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.
WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.
Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have not needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rail on this Road.

This Instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.
Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I am safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.
E. H. GILL, Civil Engineer.

Germantown, February, 1833.
For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Contract and Railroad.

GRACIE, PRIME & CO. having this day taken into co-partnership **JOHN CLARKSON JAY**, will continue their business under the same firm.—New-York, 1st October, 1833.

FOR SALE.

ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1832, with wood cuts, &c. dedicated to Historical and Natural Sciences, Botany, Agriculture, &c. at one dollar per annum.

MEDICAL FLORA OF THE UNITED STATES, in 2 vols. with 160 plates, containing also the economical properties of 500 genera of American plants, \$3.

MANUAL OF AMERICAN VINES, and Art of Making Wines, with 6 figures, 25 cents.

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AMERICAN FLORIST, with 36 figures—price 25 cts.
* * * Orders for these works, or any other of Professor Rafinesque's, received at this office. **ASIJ M & F**

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of **Duffee, May & Co.** offer to supply Rope of any required length (without splices) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principalities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, {
January 29, 1833. **F3 if**

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References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushon & Aspinwall, Druggists. Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means.
SI R J M M & F

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 18, 1833. **ASIJ RM&F**

TO RAILROAD COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double tracks. These CARS may be drawn by horses or steam. He claims to have discovered them ever since 1823, by his patents filed in the Patent Office. Apply, post paid.
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TO STEAMBOAT COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, offers his services to render steamboats incombustible and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and punished by the public as un mindful of safety. Apply, post paid.
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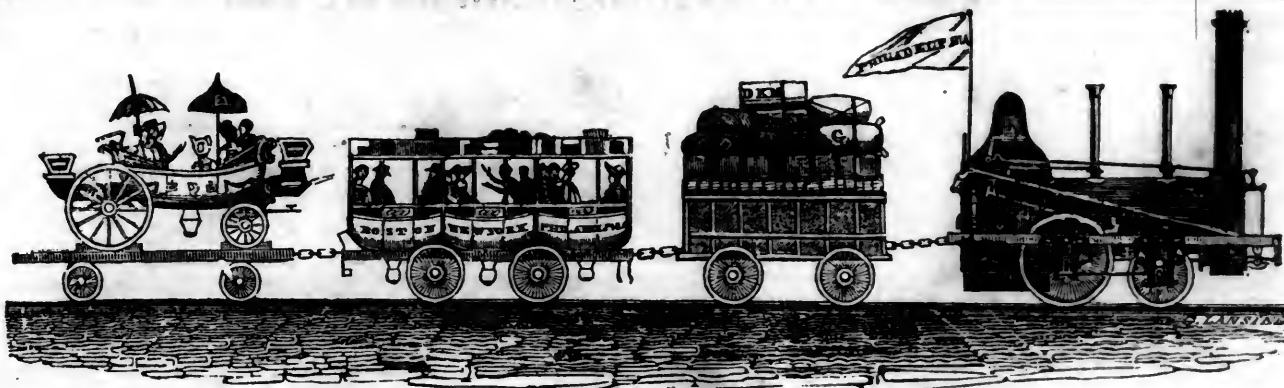
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Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* * * Mr. Thornburn is also Agent for the following publications, to wit—

NEW YORK FARMER and **American Gardener's Magazine**, **MECHANICS' MAGAZINE** and **Register of Inventions & Improvements**; and the

AMERICAN RAILROAD JOURNAL and **Advocate of Internal Improvements**; and the
NEW-YORK AMERICAN, **Daily**, **Tri-Weekly**, and **Semi-Weekly**; either or all of which may be sent and obtained by those who wish them, by calling at 347 North Market street, Albany.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, JANUARY 18, 1834.

[VOLUME III.—No. 2.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JANUARY 18, 1834.

PORTSMOUTH AND ROANOKE RAILROAD.—The Editor acknowledges his obligation to R. H. Bradford, Esq., of Washington City, for a paper containing a report of the chief engineer of this railroad, a part of which will be found at page 24, and the remainder will be given in a future number of the Journal. The prospects of this road may, we think, be considered very fair; the more so at this moment, on account of the disposition exhibited in the Virginia Legislature, by the passage in the House of Delegates of a bill authorizing a subscription by the State for two-fifths of the stock of the company. The completion of the Roanoke and Portsmouth railroad will be of immense benefit to the whole Roanoke country, as well as to the ancient city of Norfolk. Lands which have for years been of no value, or of so little value as to remain uncultivated, will be again brought into use. The construction of railroads, intersecting the various parts of Virginia and North Carolina, will have a tendency to check emigration, and of course to re-establish a different and more gratifying state of things in those States.

In acknowledging our indebtedness to the numerous friends of the Journal for past favors, to which it is mainly indebted for its present standing, the Editor cannot refrain from soliciting, and even urging, a continuance of the same kind feeling which has enabled him thus far to contribute to the extension of information calculated in a high degree to promote the prosperity of the country. With a continuance of their aid, and an increased exertion on his part, he hopes to be able to diffuse, more widely

than heretofore, such information as will promote the convenience and happiness of the mass of his countrymen.

ITHACA AND OWEGO RAILROAD.—In a recent excursion westward, we had an opportunity of passing over and examining a part of this road. From a previous hasty perusal of the report of its able engineer, we were led to entertain a favorable opinion of the mode of construction adopted by him—and a personal examination, we are much gratified to say, enables us to speak in high terms of that part from the foot of the inclined plane to its termination at the inlet, which is now completed. The curve of this part of the road is upon a radius of 2,434 feet, which may be considered an easy one for the use of locomotive power. The ascent from the wharf to the foot of the inclined plane, a distance of 5,366 feet, is at the rate of $7\frac{3}{8}$ ft per mile. The rails are laid along and parallel to the inlet, at a distance sufficient to allow of a range of large storehouses between it and the water, so that goods may be taken in from the cars at one end, and from boats at the other. In forming the embankment for this part of the road, a channel for the stream or canal has been dug, which confines its waters within certain bounds, therefore does away, or remedies, a serious inconvenience, under which the place has sometimes labored, in consequence of its overflowing its banks. It will also, with a small additional expense, enable boats to come quite up into the village.

That part of the road, however, between the inlet and the foot of the inclined plane, loses, comparatively, its interest when you approach and ascend the inclined plane. This plane, probably, attains a greater elevation in the same distance, than any other in the world. It rises 1 in $4\frac{2}{3}$, or 405 feet in 1,733. It commences a short distance from the base of the hill with a high embankment, but soon finds a resting on a firmer basis—the solid rock—a considerable excavation of which is carried near to the summit, and upon which rails of the most permanent kind, being of white oak, 12 inches square, secured in the best manner to the rock beneath, are laid. At a distance of 1733 feet, and an elevation of 405, from the base of

the plane, stands the engine-house for stationary power, into the second story of which the plane is carried, in order to attain, in the shortest possible distance, the greatest practicable elevation; directly at the south end of this building, and at an elevation of over 20 feet, the railroad crosses the Owego turnpike, and continues gradually to ascend for about seven miles, to the summit level; after which, it descends gradually to the Susquehannah, at Owego. At first view, it will probably appear that so bold an ascent is injudicious—yet, on reflection, it will be conceded, we think, that, with a powerful stationary engine, and a plane of uniform grade, the ascent of 404 feet may as well be overcome in five as in ten thousand feet.

The second inclined plane commences a short distance from the head of the first, but its ascent is only as 1 in 21, or 106 in 2,225 feet: thus overcoming, in the distance of 3,959.3 feet, an elevation of 511 feet. The greatest part of it, however, or 405 feet elevation, is attained within the space of 1,733—which is probably a greater elevation than is attained on any other Railroad within the same distance.

Doubts are entertained by some of the policy of the measure, as they apprehend danger in descending. There will be danger, undoubtedly, unless the machinery is appropriate to the occasion; but with such machinery,—and we were informed that Mr. Randall had also invented a safety-apparatus, which will prevent damage, even if the rope were to break,—we entertain no doubts of the complete success of the plane. It will be a curiosity in the history of Railroads.

With a water communication on one side, and a railroad on the other, which will ere long be continued to this city, Ithaca, with her immense water power, which is said to be equal to the power of 30,000 horses, must become not only one of the most flourishing, but also one of the greatest manufacturing towns in the state.

The extreme cold weather, and other engagements, prevented an examination of the line; but we were informed that a section of about 13 miles is to be completed and in use early in the spring. It will not long continue, we trust, an isolated road, but soon be continued, or rather connected, with one which will extend from the Hudson to Lake Erie.

Mr. Burden's New Steamboat. By G. [Communicated for the American Railroad Journal.]

It is interesting to observe, as we sometimes may, how nearly the extremes of the perfection of science, and the early rude essays of art, approximate each other; how often, when the efforts of genius, after long and painful study and experiment, have produced a work which excites wonder and admiration. We may find among some of the earliest and rudest specimens of savage or untutored art, an example of the successful application of the principle by men whose minds were never admitted even to the vestibule of the science, and which has existed in the view of half the world for ages, without ever having been known to arrest the eye of science with reference to the particular principle sought for.

I was led to this remark by the notice I have seen in the Journal, of Mr. Burden's new invented steamboat, the principle of which seems to be so far in advance of all others heretofore known, that perhaps we might conclude that attempts so further improvements would be vain. It is indeed, so far as I can judge from the descriptions I have yet seen, a highly important improvement, and Mr. Burden deserves much credit for his sagacity, enterprise, and perseverance. And the remark with which this article is introduced was far from being designed to detract from the merits of the invention, or the credit of the inventor. It was intended rather to excite attention to the fact, that a careful observation of many of the earliest essays of art may be useful in any endeavors still further to improve this important department of naval architecture, as well in assisting the researches of science on other subjects.

Of the various elements which enter into the composition of the most perfect specimens of naval architecture, some are, in a degree, incompatible with others. Thus, of the respective forms of construction best adapted for speed, burthen, safety, strength, or power of control, severally, no one can be exclusively given, in its utmost extent, without destroying or essentially impairing the usefulness of the vessel in respect to some other requisite properties.

Since the introduction and extension of railway conveyance has appeared to threaten almost to supersede the use of canals, particularly in cases where speed of transportation was an essential object, the attention of a portion of the community has been directed to the question, whether the supposed limit to the speed of canal boats, occasioned by the accumulated resistance of the water in proportion to the increased velocity of the boat, might not be overcome. The laws of matter and motion, however, were confidently supposed to preclude the possibility of success, to any degree which should approach to the velocity already attained on railways, (unless perhaps at an expense of motive power greater than would be justifiable in practice.) ut experiments were instituted in Great Britain, which soon determined that a speed of at least 15 miles per hour was attainable by a canal boat, with the power of a single horse. (I refer here to experiments on the Ardrossan, and on the Forth and Clyde canals, in 1830.) Later experiments may have produced still higher results, but I do not recollect to have seen any accounts of such. Mr. Burden's experiment, however, seems, so far as we can judge at present, to establish the fact that, by the power of steam, any desirable degree of velocity may be obtain-

ed on smooth water, as easily as on land. The disparity, therefore, between railway and canal transportations, so far as *velocity* is concerned, appears by this to be immensely diminished, if not perhaps annihilated; and modern science will glory over ignorant antiquity, in the discovery that the resisting power of water is no longer an insuperable impediment to the swiftness of conveyance over its surface.

But, let us pause. Making certain degrees of allowance for the facility rendered by the more or less gradual and smooth outline of the curves forming the stem and stern of the boat, the power necessary to propel a vessel through the water is not so much proportioned to the *absolute weight* of the boat, or the quantity of water it displaces, as to the superficial measure of the greatest transverse section of that part of the boat which is immersed in the water. This principle has long been applied to practice in the construction of boats used to ascend our rapid rivers with heavy loads. These have been made as narrow as they would bear without upsetting, or becoming too unsteady for safety; and as long as they would bear without breaking, when they happened to lie aground; perfectly straight on the floor, with as long a rake, fore and aft, as was consistent with convenient management. They were so constructed from the observation of facts, obvious to the eye of the practical boatman, without reference to reconclite principles of physical science, because they knew no more of those principles than their effect on the subject matter of their daily occupations. Yet they gained one of the points long sought by science. They transported their loads, ascending against the smooth rapid currents of our rivers, with the least possible expenditure of muscular power, which was the only power then employed; and this point was all they sought. But there were other points not attained in this simple construction. The long flat bottom, and strait "wall sides," were well adapted to easy motion in a direct line forward, in perfectly smooth water, but to move in a curve line was not so easy, and to double a short point, or follow the sinuosities of some of the rivers and streams, without constantly chafing against the banks, would require more power to be exerted laterally, than would be requisite for the *direct* propulsion of the boat in the strongest current. To navigate, also, in *rough* water, the long low-sided boat was unfit. The short waves, not sufficiently broad and gradual to bear up the whole boat, were yet sufficiently high to break over its sides, and fill and sink it.

Mr. Burden's improvement remedies both these disadvantages. The curves of the *bottom*, as well as the sides of his boat, facilitate the steering, and place it under the control of the helm. His *tight deck*, (for so that part of his boat which lies out of the water may be termed,) prevents the filling and sinking of the boat in rough water; though, perhaps, something of its speed in a *direct* line and *smooth* water may be sacrificed by the greater transverse section of the bilge. But this is a minor consideration, compared with its other advantages. The great length, compared with its small transverse section, gives the advantage of increasing the tonnage without increasing the direct resistance to its speed; and the arched form of the whole gives it all the strength which is consistent with other indispensable properties.

But, the example of the river-boats, which I have cited, is not the only instance of the successful application in *practice* of principles unknown in *theory* (unless the practical observations of the untutored savage may be said to be scientific theory in another form). I have, many years ago, with emotions of surprise and pleasure, watched the rapid gliding of the long, slender, curvilinear forms of the cedar canoes of the Indians navigating the waters of the Oronoke—the apparent ease with which they propelled them with their light paddles—the velocity of their direct movements, and the graceful ease of their steerage. With similar feelings I have seen

and navigated the light birch bark canoe of the Indians of the Penobscot. Their speed—ease of propulsion—facility of evolutions—safety, in *skilful*, yet, fragility and danger in *unskilful*, hands—have long been a theme of admiration to those to whom familiarity has not rendered the sight indifferent. These, with those of the Oronoke, and other parts of the south, and, as far as I can judge from the descriptions I have seen, the astonishingly swift *pirogues* of the South Sea Islanders, are all actually formed *at and below their water-line*, substantially on the principle of Mr. Burden's *parabolic spindle*. The savage fashions his rude back in the form which the *experience* of his forefathers has taught him was best adapted to obtain the ends desired—speed, safety, and ease of evolution, so far as circumstances would admit of their combination. But one thing more was wanting. The least possible width to the boat was necessary to diminish the resistance of the water to its rapid flight; but this rendered it too liable to be upset. To remedy this, the "outrigger," and the "double-canoe" of the South Seas, appear. These perhaps may have afforded the hint for the "twin boat," introduced but few years ago on the Forth and Clyde canal—and now to the latter succeeds, on the same radical principle, the "twin parabolic spindle raft" (if I may be allowed to coin the appellation) of Mr. Burden. *

It is yet to be ascertained whether Mr. Burden's boat will prove as valuable an improvement in navigating the ocean, as it appears to be in the mode of river and canal navigation. Its "tight deck" gives it, in some respects, the advantage over its partial prototype, the Indian canoe; but, for *some* purposes, the form of the latter may be preferred. It may, also, at present be doubted, whether the extreme length of the projecting part of the "spindle," level with the surface of the water, may not, in *ocean* navigation, expose it so much to the power of the waves, as to impede its motion and endanger its safety, more than sufficient to counterbalance its other advantages. But this is only the precautionary suggestion of ignorance; and I would not, by any means, utter it to damp the ardor of inventive improvement, or diminish the credit due to the experiment thus far. Mr. Burden will doubtless be stimulated by his present success, to study still farther improvements; and will not, I am sure, impute the observations I have made to any unfriendly spirit. They are made on the spur of the moment, under the influence of real pleasure at the announcement I have just seen of his experiment, and a disposition to contribute my mite towards bringing to view any such facts in the history of the arts as may afford any lessons or hints useful to the cause of general improvement. The facts I have alluded to prove, at least, that one part of Mr. Burden's principle—the form of his boat below the water-line—is a sound one—that it has stood the test of long experiment. With respect to the other part—the unity of the whole to prevent the dangers, in rough water, of almost constant submersion—perhaps the "*kajak*" of the Greenlander may afford an analogy of *some* importance. So that, on the whole, should Mr. Burden's first experiment fail, or come short of *complete* success, he will have the support of long-tried facts to sustain him in asserting the soundness of the *principles*; and need only to direct his attention to such improvements as may be necessary in the *details*, to make his invention complete in *all* respects. Every American—indeed, every friend to the success of rightly-directed enterprise and the improvement of the condition of man—must cordially wish him success.

G.

STEAMBOAT NEW ENGLAND.—We are induced to insert the annexed testimony of the witnesses examined respecting the bursting of the boilers of the New England, notwithstanding its length, on account of the importance of the general subject to which it relates, the

melancholy interest connected with the case immediately under consideration, and the high scientific reputation of the gentlemen composing the Board of Examiners. Public opinion had assigned a *deficiency of water* as the cause of the explosion; but the Committee, after the most careful investigation, are unanimous in the belief that it was "the pressure of steam produced in the ordinary way, but accumulated to a degree of tension which the boilers were unable to sustain."

Alexander Marshall, Engineer—Was engineer of the Steamboat New England, on the 8th October last. Left New-York a few minutes after 4, P. M., on that day, with a light pressure of steam. The engine having been started cold, the steam did not increase till we had proceeded as far as Hurlgate.

The average pressure used on the passage was from 10 to 12 inches. The steam rose after starting from 8 to 14 or 16 inches. At 7, P. M., left the engine in charge of Mr. Younger, the assistant engineer, and retired to rest with a view of taking his watch at 10 P. M. Was called by Mr. Younger at 10 o'clock. There was a heavy sea in the sound, and, in consequence of orders which Capt. Waterman had given, the steam was reduced to 8 or 9 inches. Was obliged to stop before arriving in the river by order of the pilot, in order to adjust the wheelrope. Arrived in the river about 1 o'clock A. M. Missed the wharf at Saybrook, and after a second attempt to gain the wharf, some difficulty occurred with the lifting valves, in consequence of the binders by which they are confined being screwed too tight, which made it necessary to anchor. After loosening the valve rods, the boat got under way, and landed at Saybrook. Landed also at Lyme. Just before landing at Essex, went into fire-room and examined the gauge-cocks (water-cocks,) and found the water good in the boilers. This was three or four minutes previous to the explosion. The boat was stopped about two minutes at Essex to land a passenger, with the small boat. Took hold of the pulley of the safety valve for the purpose of raising it, and at this moment the explosion took place. Does not know whether he had lifted the valve or not.

Being further examined, he says, that the steam-gauge did not exceed 14 inches while in the Sound nor 10 inches after entering the river. This statement is not founded on actual measurement. There was no scale of inches marked to either of the steam gauges. Refers only to the height of his own gauge in the engine room. Is aware that the steam-gauges in the two fire-rooms ranged considerably higher. Ascribes the difference to the greater expansion of the mercury in the fire-rooms, from the proximity to the fire. Had a greater pressure of steam immediately previous to the explosion than was proper to use in the river, where the boat does not steer well under a strong power, and this was the reason why witness attempted to raise the safety valve.

Witness further says, that the New England commenced her first trip on the 30th August last, under the charge of witness as engineer, he having been employed to set up the engine. The charge of the engine was afterwards given to Mr. Potter, the engineer of the company who owned the boat.

Witness again took charge of the engine on the trip previous to that on which the accident occurred, in consequence of the illness of Mr. Potter. Witness was employed as engineer of a steamboat at the South, 12 years ago, which boat was run by him during the season of navigation. Says that his management on the night of the accident was not at any time influenced by a desire to shorten the passage. Heard no inquiry made by any of the passengers about racing. The only fuel used by him in the New England was pine wood. Witness has been

20 years engaged in his present business. Has served a regular apprenticeship in the manufacture of engines. Has been employed in New-York by Mr. McQueen, Mr. Attaire, Mr. Sabbatton, and the West Point Foundry Association.

The safety valve of the New England was loaded 18 pounds in the square inch, and its position on the steam pipe is 20 feet, or more, from the boilers. Besides two regular weights on the safety valve, there were two extra weights, a 50, and a 28. The valve will blow off at 8 pounds to the square inch, with the two regular weights. This is owing to the lever of the safety valve having been shortened about 2 feet, to bring it within the walls of the room by which it is enclosed. The diameter of the safety valve is 10½ inches. The diameter of the steam pipes which lead from the boiler is about 10 inches.

Robert Younger, Assistant Engineer—Witness started from New-York at a few minutes past 4 o'clock, P. M., as assistant to Marshall. At 7, P. M., Marshall left the engine in charge of witness. About half past 8, Capt. Waterman came to the engine-room and asked if the engine did not labor too much in the sea. Also inquired the height of the steam-gauge; was answered 10 inches. Capt. Waterman requested him not to carry any more. Witness then blew off steam, and went to the fire-room and gave directions for less fire. Run with steam from 8 to 10 inches, till Mr. Marshall came on deck at 10 o'clock. Witness examined the water in the boilers frequently on the passage. Did not see the height of the steam-gauge for the last 10 or 15 minutes previous to the explosion, because his view of the gauge while standing at his post in the engine-room was obstructed by an appendage to the steam-pipe. There was no difficulty occurred in the management of the water in the boilers. One of the boilers foamed once while Mr. Marshall was below. This was immediately stopped by putting oil into the force pump. The steam was blown off at Saybrook while lying to for the purpose of loosening the binders of the lifting rods. This was before landing at Saybrook Point. The position of the bulk-head did not prevent the raising of the safety valve. Witness saw the moveable part of the bulk-head in its proper place on the morning after the accident. Is certain of this from his own personal examination. Has never witnessed an accident of this kind before. Has been 12 years engaged in the business of making engines. Made his first trip as an acting engineer in the New England when the boat was first started. Assisted Marshall in fitting up the engine. Thinks that there was no want of water above the flues, but is of opinion that the steam had blown the water from the legs of the boilers.

William Vail, Pilot—Says that the New England left New-York at 12 minutes past 4 P. M. in company with the steamboat General Jackson. The steamboat Boston left the wharf soon after the New England. The Boston gained upon the New England till they reached Hurlgate. The New-England then got more steam on, and drew away from the Boston. Found a heavy sea in the Sound, after passing Sand's Point, and the Boston then preserved her distance. The New England steers very badly. After passing Falkner's Island, the wheelrope got foul, and detained us a few minutes, and the boat fell into the trough of the sea. Off Killingworth, and again off Duck Island, the same detention occurred. When off Cornfield Point, (Saybrook,) witness told the engineer that the boat would not steer in the dark with such a heavy sea, and told him not to carry over seven inches, and repeated the same direction to the engineer when in the river. When crossing the bar at the mouth of Connecticut river, the boat steered very bad, and was obliged to ring the bell to shut off the steam. Missed the dock twice at Saybrook,

to take a line. Backed down to near the Fort, where, owing to some difficulty with the valves, the boat could not be started ahead, and was obliged to anchor to prevent drifting on shore. Went into the engine-room and waited twenty minutes for the engineer to get ready for a start. Looked into the fire-room and asked if the water was plenty in the boilers, and was answered 'yes.' Got up the anchor and landed at Saybrook. Started again from Saybrook, and was obliged again to order the steam shut off, because it was difficult to steer the boat. Landed at Lyme, and on starting again, found that the boat jumped so with a head of steam, and steered so badly, that it was necessary to shut off the steam again, and continued shut off till we reached Essex, seven miles from Saybrook. Was detained three or four minutes in landing at Essex. When the small boat had landed, Capt. Waterman gave the word, and witness rung the bell to start the engine, and the explosion immediately followed.

The steam was not blown off at Essex. Witness thought at the time that there was too much steam on. Heard but one explosion, which was like a heavy fall or crash. Had been pilot of the New England for 30 days, which was nearly as long as the boat had run. The accident occurred an instant after ringing the bell to go ahead. Witness had felt apprehensions for his personal safety, on account of the pressure of steam which was carried; judged of this by the motion of the engine and the management of the boat. Saw at Saybrook, the steam-gauge standing at 12 or 14 inches, and cautioned the fireman against carrying too much steam. The stop at Essex was no longer than 3 or 4 minutes.

The greatest distance gained of the Boston was about two miles and a half, which was near the head of the Sound. The Boston was nearly abreast when we entered the river. Witness is unable to make up his mind as to the cause of the accident, but thinks that the rent commenced in the legs of the boiler near the after end.

Giles Farnham, Fireman—This witness was on duty at the larboard boiler. Took the first watch from New-York, and went below at 8 o'clock. Took his second watch after 12 o'clock, just before the boat entered the river. There were but 8 or 10 inches steam on the boiler before the boat arrived at Saybrook. The steam-gauge rose to 12 or 13 inches while lying at anchor at that place. Blew off the steam to 7 inches, and pumped water by hand into the larboard boiler. Witness says the water was lower in the boiler at this time than at any other, being at the 2d cock. The other boiler needed no supply. Witness examined the water every five minutes. Started from Saybrook with water at three cocks, and kept it afterwards at four cocks till the time of the accident. Above Lyme there was more steam on than there ought to be for the river. The floating stick in the steam-gauge in the larboard furnace was within two inches of the upper or boiler deck, when the boat stopped at Essex, and witness supposes it must have reached the deck previous to the accident.

While the boat was stopped at Essex, tried the water-cocks, and found the water as high as the upper cock. The witness then went over to the starboard fire-room, and told Bell, the other fireman on duty, that "he would not have to fire up again for a week if they went on so." Had but a moderate fire at this time in the furnace. Says, the extra pressure was owing to the engine being shut off so much. At the moment of the explosion witness was sitting on the rail of the fire-room gangway, at the outside of the guard, conversing with Bell, the other fireman. Witness heard a sudden cracking of the boiler, and attempted to look round to see what was the matter, which was the last he knew till he found himself in the water. Was severely scalded, but succeeded in swimming to the shore.

of his gauge-rod was so short as to fall three inches below the top of the muzzle of the steam-gauge, and therefore did not indicate so much pressure as the gauge of the other boiler, that is, did not indicate the whole amount of pressure by three inches.

Edwin Bell, Fireman.—Was in charge of the starboard boiler at the time of the accident. Left New-York with seven inches steam, and carried about the same pressure till through Hurlgate, after which carried 12 or 13 inches till dark.

Was then directed by Mr. Younger to keep 8 or 9 inches, which was done till 8 o'clock, when witness took his watch below. Came on duty, and took the fire again at Saybrook, at which time there were 8 or 9 inches of steam on, and the fire was run down. Capt. Waterman came and asked witness about the water, examined and found three full cocks. Witness had no occasion to supply his boiler by the hand-pump. At Lyme, the steam-gauge was at 12 or 13 inches, and on reaching Essex, the gauge-rod was within 3 or 4 inches of the upper deck.

When the boat stopped it soon rose to the deck. Witness then turned off the condensed water from the steam-gauge, which caused it to fall about two inches, but it soon rose as high as before. Tried the water-cocks, and found good solid water at three lower cocks, and steam and water at the upper cock. Went over to the larboard boiler when first we stopped at Essex, and found 3 cocks of good water, and the gauge-rod three or four inches from the deck. The gauge-rod of the starboard boiler usually stood higher than the one in the larboard fire-room.

Witness never saw the float rods of the steam-gauges so high as at this time. Has run in the boat from her first trip. Witness told Giles (Farnham,) when the latter came into his room, "that they would not have to fire up more than once more during the whole watch."

There was a light fire kept up between Lyme and Essex. Witness heard no steam blown off at Essex. The accident happened about 3 o'clock in the morning. The New England came out from New-York before the Boston. At 8 o'clock the Boston was about two miles astern.

Isaac Seymour, Mate.—Agrees in the statements made by Mr. Vail. In the Sound, from Sands' Point to Matinecock Point, the steam stood at the pressure about 8 inches, and Mr. Marshall was sometime blowing off. Marshall said that it was made faster than he wanted it, and he should speak to the firemen. Thinks there were 10 or 12 inches on the gauge in the engine-room, at the time when the boat was anchored at Saybrook, and they commenced blowing off. Saw the water tried in the boilers at Saybrook, which showed plenty. The larboard boiler was then pumped into by hand.

Perceived no difficulty in working the boat, except at Saybrook. Was not apprehensive of any accident. Was employed in landing with the small boat at Essex. Saw Mr. Marshall visit the fire-room just before the landing at Essex. Witness was facing the dock when he first heard a cracking noise, and was in the act of turning towards the steamboat when the explosion instantly followed.

The larboard boiler, which was nearest to witness, exploded a little before the other. Could just perceive the difference.

Roswell Potter, Engineer.—Witness has run the New England as engineer since she first commenced running, except the first and last trip, when he stayed back on account of ill health. Had no reason to expect that any thing would go wrong. Usually carries from 14 to 17 inches of steam on the boilers of the New England. The engine is intended for carrying 16 to 18 inches. Safety valve, as

gauges, which would rise from 31 to 32 inches without blowing out the mercury. Steam-gauges of this length are now used in the steam-boats. The gauges in the fire-rooms would stand $3\frac{1}{2}$ inches higher than the engineer's gauge in the engine-room; supposes this to be owing to the loss of heat from the steam in passing through the steam-pipe. Has run with Capt. Bunker to New-Haven, with steam at 8 inches. This was several years ago. Boilers are now made stronger than those which were formerly used.

The extreme of safe pressure on the boilers of the New England he thinks to be 22 to 24 inches. The boat would not sail faster with this pressure than with 17 inches. Has had 24 inches on the boilers; once, when the boat was on trial, and at other times since. This was occasioned by stopping the engine. Has not seen the gauge rods rise as high as the boiler deck in any case. Witness examined the steam-gauge in the engine-room after the accident, and found it in perfect order, with the mercury remaining in the gauge. Also, found mercury in one of the fire-room gauges, both of which were torn down by the explosion. The height of the gauge rod, when up to the deck in the fire-room, would be 28 inches. After turning off the condensed water from above the mercury, we get the true gauge. Has not known any racing with the New England, except with the steamboat Providence, on which occasion had bad wood, and could get a pressure of but $11\frac{1}{2}$ inches. The engineer must stand constantly at the engine to attend to the orders of the pilot. Was engineer of the steamboat Oliver Ellsworth for several years, and usually carried from 12 to 14 inches of steam on the boiler of that boat. The Oliver Ellsworth has the strongest boiler. The latter is made of stouter copper than those of the New England, is $9\frac{1}{2}$ feet in diameter by $16\frac{1}{2}$ feet in length, and is stronger braced than any boiler the witness has ever seen. The engine of the New England is nearly four times the power of that of the Oliver Ellsworth. Thinks that the middle legs of the boilers were heated, and that they now appear to be annealed, and different from the outside of the boiler. The force pumps of the New England are very large, and will fill the boilers running over full from Saybrook to Essex. The New England will steer well with 8 or 10 inches steam in smooth water. The Oliver Ellsworth formerly carried from 12 to 14 inches, and now carries 16 to 18 inches. The McDonough carries 12 to 14 inches. On being further examined, witness says that one of the boilers of the New England was patched twice on the middle leg at the after end, and that a similar patch was put upon the same part of the other boiler. There was a crack in the flange at this point, which made it leak, but these repairs did not stop it. This was the trip previous to the accident. The safety valve would commence blowing off at 18 inches, but had carried 24 inches with the same weights, with the steam blowing through the valve. The boilers had not been proved above 24 inches. Had found the brace-bolts between the top of the furnace and the connection of the flues to the steam chimney, to be leaky, owing to a straitening in the angle of the braces. Had taken them out, and put strait screw bolts in their stead. This was on the second trip which the boat made. Considers the engine to be of 120 horse power.

Adam Hall, Engineer.—Witness is chief engineer of the establishment of the West Point Foundry Association. Made the engine and boilers of the New England. The boilers were 8 feet 4 inches wide, 9 feet high, and about 15 feet long. Each boiler had two arched flues and five circular return flues of 16 inches in diameter.

The arches were made of rolled copper, No. 3, wire gauge, the outer shell of No. 4, and the circular flues of No. 5. The boilers were placed

distance of about 25 feet from the engine. The boilers were strongly braced with $\frac{3}{4}$ inch bolts through the legs or flat sides, at the distance of 9 inches, and the arches were secured to the upper parts of the boiler by long bolts of $\frac{3}{4}$ inch copper, with screw fastenings. The steam-pipes were also of copper 10 or $10\frac{1}{2}$ inches in diameter, and the safety valve was of the diameter of $10\frac{1}{4}$ inches. The latter was calculated to blow off at a pressure of 20 inches; but the lever was afterwards shortened to about two feet, and new weights added, after the boat commenced running. There were four water cocks on each boiler, for ascertaining the height of the water.

The lowest of these cocks was three inches above the highest part of the upper flues, and each successive cock was placed three inches higher than the preceding one, the upper cock being twelve inches above the flues. Witness had proved the boilers. Thinks that the boilers should have borne fifty pounds to the square inch, if there had been no previous imperfection. The strength of copper, as compared with iron, is nearly as 3 to 5. The difference witness says is 60 per cent. in favor of iron. Copper has been preferred as a material for boilers, because it suffers less from corrosion. Copper is weakened by the action of heat at about 250 degrees. The strength of iron is increased when exposed to heat up to a certain point of temperature. A copper boiler will bear a greater pressure when cold than when heated. An iron boiler, if not heated beyond 450, will bear a greater pressure than when cold. Has tried experiments with Mr. Stevens on a flat iron boiler, braced at distances of 8 inches, with $\frac{3}{4}$ inch brace bolts, at distances of 6 inches with $\frac{1}{2}$ bolts, and at 5 inches with $\frac{1}{4}$ inch bolts. One of the $\frac{3}{4}$ bolts broke at 756 pounds to the square inch. Three of the $\frac{1}{2}$ bolts gave way at 256 pounds to the inch, and $\frac{1}{4}$ inch braces stood this pressure without injury. The power was applied by a water press, the safety valve being carefully loaded with an addition of 10 pounds at each trial. Witness thinks, from the appearance of the metal, that the rent of the boilers must have commenced in the arches near their connection with the after end. Knows Alexander Marshall, and would have no hesitation in trusting him with the care of an engine in any case. Witness employed him to take charge of a high pressure engine last winter.

Henry Waterman, Jr., Captain of the New England.—Left New-York without working the engine warm, and run the steam down to 4 or 5 inches. The Boston left soon after us, and came up strong till we got through the gate. Then got on 10 or 12 inches of steam and drew away from the Boston. Might be $1\frac{1}{2}$ or 2 miles ahead at $7\frac{1}{2}$ to 8 o'clock. At this time felt a little alarmed for the laboring of the engine in the heavy sea with 12 or 15 inches. Usually works 14 or 18 inches when in full speed. Was often in the fire-room, till half past 10, when he retired. Below Falkner's Island, the wheelrope got foul, which brought him on deck, the boat being in the trough of the sea. Crossed the bar, and got into the river at 1 o'clock, it being low water. Made two attempts to land at Saybrook, and failed, owing to there being no one to fasten a line on shore. Anchored in consequence of a difficulty in moving the valve rods, and blew off the steam. Observed the fireman pumping up one of the boilers, and ordered others to assist him. When the engineer was ready, got under way immediately, and went to the wharf. Heard no complaint of the boat behaving worse than common. Saw nothing unusual or alarming. Carried less steam in the sound than usual, on account of the heavy sea. Should have carried from 12 to 18 inches had the water been smooth. Had a favorable passage excepting the heavy sea. Did not notice the state of the steam after leaving Saybrook. Had no apprehension, or fears of any kind at the time, and

Fig. 1—Longitudinal Section.

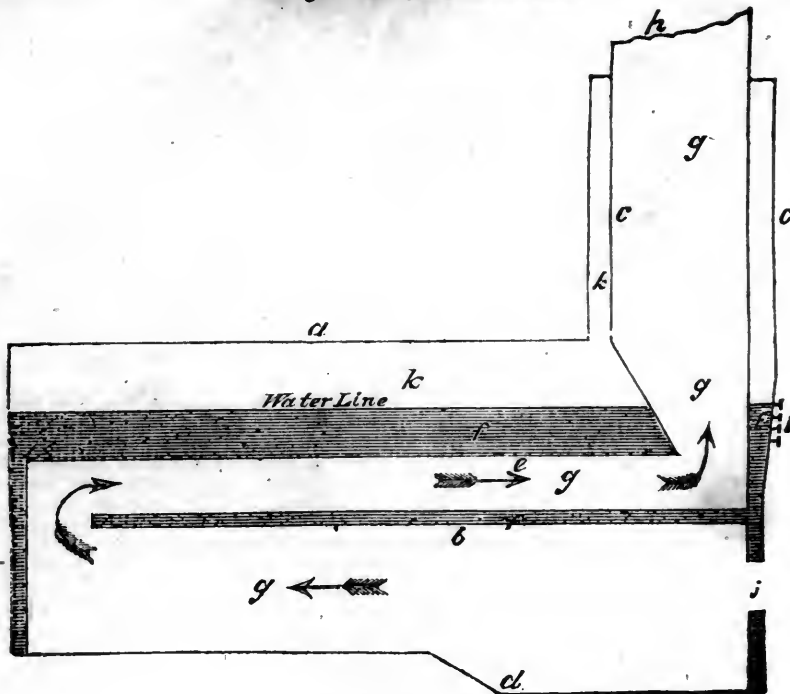
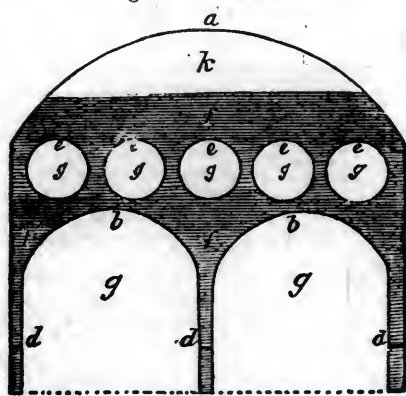


Fig. 2—Cross Section.



REFERENCES.—a the outer shell of the boiler; b b the arches or tops of the main or furnace flues; c c the steam chimney; d d d the water-legs; e e e e e the upper or return flues; f f f the water in the boilers; g g g g g the passage for the fire through the flues to the chimney; h h the iron chimney-pipe, cut off above its junction with the steam chimney; i i the furnace door; k k the chamber; l l the water-cocks.

or other persons on board. Had full confidence in the perfection and strength of the boilers and machinery. This confidence was derived from the experience we had already had. Witness has been five years in the steamboat business, and has had charge of a boat for the last 3 years. Was making no unusual exertions to reach Hartford early, and felt no inducement to such a course.

Has accidentally fallen in company with other steamboats since he has run the New England, and had not been able to keep as much steam while so in company as was desirable, the boilers being too small for the engine, and could not, on an average, in these cases, keep more than 13 inches. Six persons were blown overboard by the explosion, of whom two were drowned. Witness is not able to form an opinion as to the immediate cause of the accident.

Mr. Samuel M. Hayden.—The witness lives at Essex, about 25 rods from the spot where the disasters occurred. Heard the steam when the New England arrived at Essex, the noise of which continued while the boat was landing. Witness doubts if it was three minutes from the time he first heard the steam, till the explosion took place.

His first knowledge of the arrival of the steamboat was from hearing the steam. There were two distinct explosions, following very closely, and "lapping on to each other." The last explosion appeared to be the sharpest.

Fifteen persons have died, including those whose bodies were found in the river.

Such is the evidence which was submitted to our consideration. It was also testified by one of the firemen, that the damper, by means of which the fire is held in check, was not closed during the stop at Essex, a fact which has not been recorded in its proper place. We consider it a remarkable fact, as well as an important circumstance in respect to the success of our investigation, that we have been able to obtain the testimony of the engineers and firemen who were on duty at the time of the explosion, all of whom were providentially saved. This has relieved the case from much of that obscurity which has rested on other disasters of this kind, where those immediately in charge of the boilers and engine have been the principal sufferers.

We annex sketches of the longitudinal and cross sections of the boilers of the New England, reduced from the original drafts from which the boilers were constructed, which will serve to illustrate the foregoing descriptions.

The various theories and conjectures which have been put forward to account for this disaster may be comprized under the three following heads.

1. The production of some gas, (probably hydrogen,) suddenly evolved in great quantity.
2. A supposed injurious heating of the water legs, (d d d, Fig. 2,) and lower parts of the

boiler, in consequence of water being driven by the steam into the upper part of the boiler, and perhaps causing a rapid production of steam on its return to the heated metal.

3. A deficiency, at the time of the accident in the quantity of water which it is necessary to carry in the boilers, owing to the carelessness of those in attendance, or to their being deceived in the examination of the water-cocks. It has been supposed that the metal of the boilers may thus have been weakened by heat, or that the sudden suffusion of water on the metal thus heated, occasioned by the sudden discharge of steam at the safety valve, may have generated steam in such quantity, and in a manner so instantaneous, as to destroy the boiler.

4. Stress of steam, accumulated beyond what the boilers were able to sustain.

1. It is supposed by some that the explosion was produced by gas.

2. Others ascribe the explosion in question, to an over heating of the water legs of the boiler.

3. By others, the explosion is ascribed to deficiency of water.

After some lengthy objections to these suppositions, which we have not room for, they state—

"We are constrained to adopt the remaining conclusion, and give it as the unanimous opinion of the board of examiners,—That the explosion of the steamboat New England was caused by the pressure of steam, produced in the ordinary way, but accumulated to a degree of tension which the boilers were unable to sustain."

[For the American Railroad Journal.]

MR. EDITOR: I wrote an article in your Journal, volume II, page 756, "on the southern termination of the Boston and Providence Railroad," which is replied to by a writer in your Journal, volume II, page 789; who attempts to convey the belief that it is the "termination of the Stonington and Providence" Railroad that is in question, instead of the Boston and Providence; by which disingenuous subterfuge, an attempt is made to deceive the public.

The low insinuations of a personal nature do not affect the merits of this question, and can have but little weight with a discerning community, who may chance to read the communications alluded to. Among other erroneous statements, this writer, referring to the Pawtucket Company, says—"These men profess to have an entire confidence on the committees appointed for the sole purpose of considering the termination spoken of." I will answer that, so far as that relates to the committee of the Boston and Providence Railroad Company, that no such confidence has been expressed.

The writer above referred to "offers his congratulations to the Pawtucket Company, on the sagacity of their counsel." Far better had this writer reserved his congratulations for the "Boston and Providence Railroad Company," whose cause, I presume, he means to espouse, (though he attempts to disguise it.)

On the honesty and integrity of their advocate, as manifested by his own false and puerile communication. As the writer above alluded to does not enter into the merit of the question, no farther remark here is necessary, but shall, in a future communication, refer to the subject of the

"Southern Termination of the Boston and Providence Railroad."

HEATING STOVES.—The wood used in close stoves should be sawed to the length of three or four inches, and put as near the door or draft as possible; one or two sticks, if placed parallel to the door, will produce a much greater body of flame than if placed in the usual direction.

ANNUAL REPORT OF THE COMMISSIONERS OF THE CANAL FUND.

The annual report of the Commissioners of the Canal Fund, was presented to the Assembly on Wednesday. It appears from this report, that the total amount of tolls collected on all the canals of the State, for the year ending 30th Sept. 1833, is as follows, viz:

Erie and Champlain canals,	\$1,324,421 63
Oswego canal,	20,950 23
Cayuga and Seneca canals,	14,783 59
	\$1,360,155 45

The expenses of collection are deducted from the tolls received by the collectors, which add, say

25,800 00

And it gives, as the total amount of tolls,

\$1,385,955 45

The Erie and Champlain canal fund, has a considerable revenue in addition to that derived from canal tolls. The highly prosperous condition of this fund, is exhibited in the report as follows:

The actual amount of revenue received on account of the Erie and Champlain canal fund, from all sources, from the 30th September, 1832, to 30th September, 1833, is as follows, viz:

From tolls,	\$1,324,421 63
Vendue duty,	181,014 23
Salt duty,	227,860 05
Interest upon deposits of surplus monies,	122,236 74
Interest upon loan to Albany, and upon investments in stocks,	18,083 16
Interest on bonds for sales of lands,	934 43
Penalties, and sale of stone at little basin,	64 17
	\$1,874,614 41

Total revenue,

The actual amount of expenditures during the year has been as follows, viz:

For interest on loans,	\$357,794 88
Repairs of the canals by superintendents,	330,759 44
Expenses on account of canals, by Canal Commissioners,	35,264 66
Salaries of Weighmasters, assistants, &c.,	4,602 25
Salary of clerk, and other incidental expenses,	447 31
Printing, including circulars, blanks, and all other printing for the Canals,	2,016 61
Tolls refunded,	551 22
Costs of suits brought for penalties for violations of canal regulations,	489 21
To the proprietors of the Albany basin,	6,470 25
To Samuel Young, Canal Commissioner,	304 14
To George W. Newell, 2d Deputy Comptroller, canal department,	453 08
For clerk hire in the canal department of the Comptroller's office, estimated for one year,	1,300 00
	739,453 08

Thus showing the nett revenue of the Erie and Champlain canal fund, after paying all expenses, to amount to the sum of

\$1,135,161 33

The report states the amount of surplus funds under the care of the Commissioners, on the 30th Sept. 1832, at

\$3,055,247 65

And the amount received since, up to 30th Sept. 1833, at

1,875,655 50

Making a total sum to be accounted for by the Commissioners, of

\$4,930,913 15

This sum is accounted for as follows, viz:

Paid for interest on canal loans,	\$356,794 88
For purchase of canal stock, viz:	
5 per cents of 1837,	\$414,346 47

6 per cents of 1837, 723,039 51

5 per cents of 1845, 428,924 05

1,566,310 03

To canal superintendents,

330,759 44

To Canal Commissioners,

35,264 66

To Crooked Lake Canal Fund, premium on stock,

20,402 26

For sundry expenditures on account of the canals,

13,406 79

For clerk hire in the canal dept,

5,380 33

2,328,318 39

Leaving a balance in the hands of the Commissioners, on the 30th Sept., 1833, applicable to the canal debt, of

\$2,602,594 76

Of this balance there was in deposit and on loan in sundry banks, on the 30th Sept., the sum of \$2,510,941 81

Loaned and invested in stocks,

91,652 95

2,602,594 76

The Erie and Champlain canal stocks are redeemable in 1837 and 1845. The following statement exhibits the amount of stocks unpaid at the close of September 1832, the amount redeemed during the year ending 30th September, 1833, and the amount outstanding at the latter period, viz:

Six per cents of 1837, outstanding

\$2,093,500 00

30th Sept. 1832, Redeemed during the year ending

663,629 35

30th Sept. 1833, Outstanding, 30th Sept. 1833,

\$1,429,870 65

Five per cents of 1837, outstanding

\$1,395,500 00

30th Sept., 1832, Redeemed during the year ending

391,250 17

30th Sept., 1833, Outstanding, 30th Sept. 1833,

1,004,249 83

Six per cents of 1845, outstanding

\$50,000 00

30th Sept. 1832 (none redeemed), Five per cents of 1845, outstanding

\$2,662,035 86

30th Sept. 1832, Redeemed during the year,

413,497 05

Outstanding, 30th Sept. 1833,

2,238,538 81

Total amount of Erie and Champlain canal stock unpaid, 30th September, 1833,

\$5,522,659 29

From this amount deduct the means in the hands of the Commissioners at the close of the fiscal year, and applicable to the redemption of this debt, as before stated,

2,602,594 76

And there will remain a balance of the Erie and Champlain canal debt, as yet unprovided for, of

\$2,920,064 53

If the annual receipts for three years to come should equal the revenue for the year embraced in this Report, there will be funds sufficient to pay off the entire debt contracted for the construction of the Erie and Champlain canals, nine years before the latest period fixed by the State for the redemption of the stock.

We quote the following paragraphs from the report:

Redemption of Canal Stock.

"From the foregoing statement it will be seen that since the last annual report, the commissioners have purchased and cancelled \$1,478,376 57 of the stock issued for the construction of the Erie and Champlain canals.

"The 7th sec., title 2d, of chap. 9th of the 1st part of the Revised Statutes, provides that the Commissioners of the Canal Fund shall, from time to time, apply the surplus revenues of the canal fund, after paying the interest of the canal debt, to the purchase of canal stock of this state, if in their opinion such stock can be purchased upon advantageous terms; and the certificates of stock so purchased shall be cancelled.

"The Commissioners have for several years been desirous of applying the surplus funds in their hands to the redemption of the debt, in conformity with the requirements of the section above quoted. Their views upon this subject have been presented to the legislature from year to year, in their annual reports.

"During a considerable portion of the year 1832,

the Commissioners kept a deposit of \$20,000 in the bank in New York, where the transfer of stock are made, for the purpose of purchasing stock, should an opportunity offer; but the effort to obtain it in this way proved entirely unsuccessful.

The surplus moneys which have been rapidly accumulating since 1826, amounted, on the 30th September, 1832, as stated in the last annual report, to the sum of \$3,055,247 65. This great accumulation of funds in the hands of the Commissioners, with the prospect of having this sum increased, by the ordinary receipts, to at least six millions of dollars, before any portion of the debt would be payable, has been a source of much solicitude to the Commissioners; and they have been so fully impressed with the importance of availing themselves of the first, and of every opportunity to purchase and cancel the stock, that all the loans and deposits of the surplus moneys have been made with reference to this object.

"The banks which receive the tolls from the collectors, and the general depositing banks in Albany, are under a stipulation to pay the Commissioners' drafts at sight, for the sums held by them respectively; and the banks which have loans from these funds, and pay 4 1/2 and 5 per cent. interest, are liable to be drawn upon by the Commissioners on a notice of sixty days. The measures of the Commissioners have been such, that there has been no period for the last seven years, in which the entire amount of funds under their care could not have been applied to the payment of the debt, on a notice of sixty days; and one half of the surplus has constantly been in a situation to be drawn at sight.

"The Commissioners have no reason to question the ability of the banks to comply with these stipulations. It has been apprehended, however, that if the moneys belonging to this fund were allowed to accumulate in the banks until the year 1837, and were to be at that time drawn for the payment of the entire sum which is then reimbursable, it might occasion a severe pressure upon the customers of the banks, if not upon the banks themselves.

"In the last annual report the Commissioners presented this subject to the consideration of the legislature, that they might, if they thought proper, prescribe limits to the loans to Banks; and also that the remarks of the Commissioners might reach the institutions interested, and prepare them for the event apprehended.

"The Commissioners were so strongly impressed with the importance of applying the surplus funds to the payment of the canal debt, that they determined in January last to redeem the stock, whenever it could be obtained on such terms as would render the purchase equal to an investment at an interest of about 3 1/2 per cent.

"On the 28th of January, the Commissioners received an offer from Messrs. Prime, Ward, King & Co. of \$30,000 of the 6 per cents. of 1837, at a premium of 9 per cent. with the addition of the interest upon the stock, from the 1st of January to the date of the purchase. This offer was accepted, and the persons of whom the stock was purchased, were informed that the Commissioners would redeem any amount of the 6 per cent. stock of 1837 at the same rate, and would pay a premium of 6 per cent. for the 5 per cents. which are reimbursable at the same time; and that these prices would be paid until the 1st of July following.

"This determination of the Commissioners was made known to other dealers in stocks; and letters were also addressed by the Comptroller to a number of the stockholders whose residences were known, offering the premiums before stated, as an inducement for them to surrender the stock."

"On the 1st of August, the stock of 1837 then having about four years to run, the Commissioners resolved to reduce the premium one per cent. and from that time, to the 1st of January, 1834, to pay 5 per cent. premium and the current interest upon the 5 per cent. stock, and 8 per cent. and interest upon the 6 per cents.; and the Comptroller, on the 7th of August, issued a circular, which was sent to all the stockholders whose residences could be ascertained."

"The efforts of the commissioners to obtain the stock were so successful, that the funds in the general depositing banks were soon exhausted, and it

* The general depositing banks are the Mechanics and Farmers bank, and the New York State bank, of Albany. The deposits in these banks being drawn upon at sight for the current expenses of the canals, and to pay the interest upon the canal debt, the rate of interest paid for these deposits is only 3 1/2 per cent. When the commissioners commenced purchasing canal stock, there was a deposit in the banks of more than six hundred thousand dollars. The commissioners drew upon these deposits to such an extent, that on the 14th June, the amount in the Mechanics and Farmers bank was only \$47,020

became necessary to draw upon the monies which were on deposit at an interest of 4 1/2 per cent. At this rate of interest, upon a calculation merely arithmetical, it would appear less favorable to the interests of the State to purchase the stock at the premiums paid, than to continue the deposits in the banks. But the extinguishment of the State debt, always a desirable object, is peculiarly important in the case of the canal debt, from its connection, by a constitutional pledge, with the regulation of the tolls and the application of the canal revenues.—These, and other considerations, to some of which allusion has already been made, far outweigh, in the opinion of the commissioners, the apparent loss to the fund of about 1 per cent. by the purchase, and are decisive in favor of the policy which has been pursued. It is proper also to add, that the premiums paid have not in general exceeded the market value of the stocks, and the Commissioners had no alternative between paying those prices and suffering the funds to accumulate in their hands."

Loans and Deposits of the Canal Fund Monies.

"Since the last annual report, loans have been made from the surplus funds, at 5 per cent interest, as follows:

Ogdensburg Bank, at 5 per cent.,	\$30,000 00
Bank of Albany, at 5 per cent.,	50,000 00
Leather Manufacturers' Bank, (N.Y.)	
at 5 per cent.,	50,000 00
Union Bank, (N. Y.) at 5 per cent.,	50,000 00
Yates County Bank, at 5 per cent.,	20,000 00

Total \$200,000 00

Notwithstanding the large sum which has been applied to the extinguishment of the canal debt, the interest received upon the surplus moneys remaining in the banks for the year ending the 30th of September, 1833, amounts to \$122,236 74. The estimated interest for the current year is \$130,120 61."

Reduction of Tolls.

"The Canal Board, in March last, made a reduction in the rates of toll upon wheat, flour, salted beef and pork, butter and cheese, and most of the productions of the country coming towards tide-water, which was equal to about twenty-eight and an half per cent.; and a reduction upon merchandize and most articles passing from tide-water, which was equal to about fourteen and one-fourth per cent. upon the former rates. These reductions in the rates of toll, applied to the same commodities which were transported upon the canals in 1832, would have diminished the aggregate amount of tolls about 150,000 dollars. Such, however, has been the increase of business upon the canals, that the amount of tolls received from the commencement of navigation on the 22d of April, to the 30th of September, has exceeded, by the sum of \$209,566 72, the tolls for the same period of the preceding year; and by the sum of \$144,679 76 the receipts for the same months of the year of 1831. The amount of tolls was considerably diminished in July and August, 1832, by the prevalence of the cholera; and therefore the comparison is carried back to 1831, which was a prosperous season for the canals.

"How far the reductions in the rates of toll have contributed to swell the total revenue, by increasing the commodities transported, and how much of this increase is to be credited to the natural growth of the country which seeks a market through the canals, is not easily determined.

"In relation to the trade of the western States generally, the maximum of revenue to the Canal fund, is probably to be attained, by a considerable reduction from the present rates of toll. Merchandize, during the past season, has been transported through the Erie canal, by way of the Lakes and the Ohio canal, to the borders of the Mississippi. To continue and extend this trade, a further reduction of 25 per cent. of the tolls on merchandize, bringing that article within a fraction of the constitutional minimum, is contemplated.

"An arrangement has been made between the canal board of this State, and the Canal Commissioners of Ohio, by which it is expected that a reduction in the rates of toll upon merchandize, of 25 per cent. from former rates, will take place simultaneously upon the New York and Ohio Canals, at the opening of navigation in the spring of 1834.

"If the Canal Board had the power of reducing

83, and in the New York State bank \$18,474 49. It will be seen by reference to the table marked L. that the total sum received by the two banks above named, during the year, was \$1,326,515 47; and that the sum drawn from them by the Commissioners during the same time, was \$1,571,112 43. The accommodation afforded by these banks, in giving drafts on New York, to pay for stock purchased, has greatly facilitated the operations of the Commissioners in cancelling the debt, and has enabled them in all cases to transmit the funds for the payment of stock, on the afternoon of the same day on which notice of its purchase was received.

the toll upon lead, to one or two, instead of five mills per 1000 pounds per mile, it is supposed that a branch of trade, important to our citizens generally, if not to the canal revenue, might be opened with the mining country between Lake Michigan and the Mississippi river. The revenue could not be diminished, and might be considerably increased, by such a reduction in the rates of toll."

The condition of the lateral canals, as exhibited in the report, is somewhat unfavorable. The tolls are insufficient to keep them in repair and pay the interest upon the debts created in constructing them. The following sums have been drawn from the treasury to make up the deficiencies in the revenues of the several canals named, to wit:

Oswego canal.....	\$11,758 82
Cayuga and Seneca.....	5,826 41
Chemung.....	43,730 28

Total sum paid from the Treasury to make up deficiencies.....\$63,315 51

The debt standing against the state, on the 30th September, for the several canals, was as follows, to wit:—

Erie and Champlain canal debt.....	\$5,522,656 29
Oswego do.....	327,347 01
Cayuga and Seneca do.....	257,000 00
Chemung do.....	316,000 00
Crooked Lake do.....	120,000 00
Cheaugo do.....	5,990 00

Total.....\$6,673,006 29

CONSUMPTION OF STAPLE ARTICLES IN ENGLAND.—The following is an accurate estimate of the home consumption of England in the great staple articles of commerce and manufactures. Of wheat, 15,000,000 quarters, or 120,000,000 bushels, are annually consumed in Great Britain—this is about a quarter of wheat to each individual; of malt, 25,000,000 bushels are annually used in breweries and distilleries in the United Kingdom, and there are 46,000 acres under cultivation with hops; of the quantity of potatoes and other vegetables consumed we have no accounts; of meat, about 1,250,000 head of cattle, sheep, and pigs, are sold during the year in Smithfield market alone, which is probably about a tenth of the consumption of the whole kingdom; the quantity of tea consumed in the United Kingdom is about 30,000,000 pounds annually; of sugar nearly 4,000,000 cwt., or about 500,000,000 pounds every year, which is a consumption of 20 pounds for every individual, reckoning the population at 25,000,000; and of coffee about 20,000,000 pounds are annually consumed; of soap 114,000,000 pounds are consumed; and of candles about 117,000,000 pounds; of sea-borne coals alone there are about 3,000,000 chaldrons consumed in England and Wales, and it is estimated that, adding the coals of the inland counties, each person of the population consumes a chaldron throughout the kingdom; of clothing we annually manufacture about 200,000,000 pounds of cotton wool, which produces 1,200,000,000 yards of calico, and various other cotton fabrics, and of these we export about a third, so that 800,000,000 yards remain for home consumption, being about 32 yards annually for each person; the woollen manufacture consumes about 30,000,000 pounds of wool; of hides and skins about 50,000,000 are annually tanned and dressed; of paper about 50,000,000 pounds are annually manufactured, which is about 2,000,000 reams of 500 sheets to the ream.—[Farmer's Magazine.]

BUTTER IN NEW-YORK AND LONDON.—On the supposition that half a pound of butter is consumed by each inhabitant of this city, in a week, 6,500,000 pounds would be required in a year. This, at 20 cents per pound, amounts to \$1,300,000. This sum is considerably less

than that paid by the inhabitants. Allowing 150 pounds to each cow, 43,333 cows would be required. The following we take from an English paper.

"Butter is very extensively used in this and most other northern countries: that of England and Holland is reckoned the best. In London, the butter of Epping and Cambridge is in the highest repute: the cows which produce the former, feed during summer in the shrubby pastures of Epping Forest; and the leaves of the trees, and numerous wild plants which there abound, are supposed to improve the flavor of the butter. It is brought to market in rolls from one to two feet long, weighing a pound each. The Cambridgeshire butter is produced from cows that feed one part of the year on chalky uplands, and the other on rich meadows or fens: it is made up into long rolls like Epping butter, and generally salted or cured before being brought to market; the London dealers, having washed it, and wrought the salt out of it, sell it for Epping butter.

"The butter of Suffolk and Yorkshire is often sold for that of Cambridgeshire, to which it is little inferior. Somersetshire butter is thought to equal that of Epping; it is brought to market in dishes containing half a pound each; out of which it is taken, washed, and put into different forms, by the dealers of Bath and Bristol. Gloucestershire and Oxfordshire butter is very good; it is made up in half-pound packs or prints, packed up in square baskets, and sent to the London market by waggon. The butter of the mountains of Wales and Scotland, and the moors, commons and heaths of England, is of excellent quality when it is properly managed; and though not equal in quantity, is superior to that produced by the richest meadows.

"Considerable quantities of butter are made in Ireland, and it forms a prominent article in the exports of that country; it is inferior to that of England. Some of the best Irish butter brought to London, after being washed and repacked, is sold as Dorsetshire and Cambridge butter.

"The salt butter of Holland is superior to that of every other country; large quantities of it are annually exported. It forms about three-fourths of all the foreign butter we import.

"The production and consumption of butter in Great Britain is great. The consumption in London may be averaged at about one half-pound per week for each individual, being at the rate of 26 pounds a year; and supposing the population to amount to 1,450,000, the total annual consumption would be 37,700,000 pounds, or 16,830 tons: but to this may be added 4,600 tons for the butter required for the victualling of ships and other purposes, making the total consumption, in round numbers, 21,000 tons, or 47,040,000 pounds, which, at 10d. per pound, would be worth £1,960,000.

"The average produce per cow of the butter dairies is estimated by Mr. Marshall at 168 pounds a year; so that, supposing we are nearly right in the above estimates, about 280,000 cows will be required to produce an adequate supply of butter for the London market.

"But the consumption of butter in London has sometimes been estimated at 50,000 tons; which would require for its supply 666,000 cows!"

Report of WALTER GWYNN, ESQ., Engineer, to the President and Directors of the Portsmouth and Roanoke Railroad Company.

SUFFOLK, Nov. 18, 1833.

To the President and Directors, &c.:

GENTLEMEN—I have the honor to submit to you the following report and estimate of the probable cost of your railroad:

The case with which the supposed difficulties in the construction of the road between Portsmouth and Suffolk have been overcome, will dissipate all apprehensions as to the feasibility of the work, and the expediency of the undertaking has been so fully and clearly established by former statements to the company, as to render further comment unnecessary on the present occasion. I shall therefore proceed to the subject immediately before me.

The line which I have selected as the basis of my estimate, commences at the intersection of the western boundary of Portsmouth and the centre line of High street, and proceeds over an extremely level and unbroken surface to an eligible site for crossing by a bridge a branch of the Nansemond River, a few hundred yards north of the termination of the Dismal Swamp Land Company's Canal. Thence continuing the line to Suffolk several spring branches are crossed, requiring the construction of small stone drains and some heavy cuttings and fillings. After leaving Suffolk the character of the country changes and becomes somewhat bold—and in order to diminish the quantity of excavation and embankment several undulations in the plane of the railroad are unavoidably made—the inclinations are, however, gentle, and the line reaches Blackwater without encountering any other difficulties than an increased expenditure on this portion of it. From Blackwater a level is maintained for some distance, the line passes along the borders of the Swamps, which make up to the Highlands and crossing the Nottoway, on the lands of Mr. Rochelle, about seven miles below Jerusalem, it ascends at the rate of twenty feet per mile, passing near Mr. Gurley's, to the Cypress Bridge Road. Thence, leaving Vick's Chapel a little to the south and making a slight undulation to avoid some filling, the line arrives at Captain Barns's Quarter, on the summit of the ridge dividing the waters of the Nottoway from those of the Meherrin. From Captain Barns's a descent is effected on a grade of twenty feet per mile to Buckhorn Run. Thence the line is continued, on a level, across the Meherrin, about a mile above Branch's Bridge. It then ascends, varying from an inclination of twenty to twelve feet per mile, until the summit of the railroad is attained, giving an elevation, above the level of tide water, of one hundred and forty-four feet.

Descending from the summit, the line crosses the Petersburg Railroad, (on a level with that road), about two hundred yards south of Captain Garey's. It afterwards crosses the head of Racoon Swamp, and terminates on the north bank of the Roanoke river, opposite Weldon. Its direction is S. seventy W., and its length seventy-seven miles, being only a half mile longer than the distance on a direct line between Portsmouth and Weldon. On reference to the profile, the inclinations and distances will be found as follows:

TABLE OF ASCENTS AND DESCENTS FROM PORTSMOUTH TO THE ROANOKE.

From Portsmouth to Suffolk.				
Length of grade.		Inclination in feet per mile.	Ascent in feet.	Descent in feet.
Miles.	Feet.			
1	1705	0.000	.....	.....
1	4100	15.043	11.685	5.700
1	2000	3.175	9.920	4.763
1	3175	6.864	3.230	.....
1	2500	5.280	8.600	4.500
1	3320	4.224	3.280	2.000
1	4500	3.960	.....	2.550
1	4100	2.640	2.900	1.000
1	520	2.112	1.960	.....
1	2000	1.056	.....	1.760
1	4900	.....	.....	.....
1	3520	.....	.....	.....
11 miles				

From Suffolk to the Roanoke.				
Length of grade.		Inclination in feet per mile.	Ascent in feet.	Descent in feet.
Miles.	Feet.			
6	1740	00.00	.....	.....
7	1040	20.90	143.939	182.500
9	660	19.00	86.003	45.161
4	2780	.....	.....	.....
2	1990	.....	.....	.....

2	340	18.000	37.159	.....
2	4840	14.000	40.833	.....
—	3550	12.00	.....	8.067
1	370	11.00	11.770	10.208
—	4900	.....	.....	.....
1	1320	10.00	.....	12.500
3	1810	0.00	.....	30.085
3	3060	7.00	25.056	.....
2	840	5.00	10.795	2.746
—	2900	.....	.....	.....
1	120	4.00	4.099	3.545
—	4680	3.00	3.295	.....
1	520	2.00	2.008	12.826
1	220	.....	.....	.....
6	2170	1.00	.....	1.430
1	2270	.....	.....	.....
59 m. 5160 ft.				

From an inspection of the above table, it will be perceived that the greatest inclination does not exceed 20 feet to the mile, and throughout the whole extent of the road there are but few deviations from a straight line, and these are effected on the arcs of circles whose radii are in no instance less than 5730 feet, and are most generally 11,460 feet in length.

Gentle inclinations and easy curvatures (when it is necessary to vary from a straight line) are points of essential importance in the location of railroads; these desirable objects, as well as a line extremely favorable to the advantageous employment of locomotive engines, are here attained. Indeed, considering the straightness and the moderate ascents and descents, the performance of an engine (of given power) will be greater on this than on any other railroad now constructed in the United States. We are therefore enabled to use light engines, thereby diminishing very considerably the great and leading items in the expense of transportation on railroads, viz: wear and tear and repairs.

The engine which it is proposed to use will not exceed five tons weight, and its performance on this road will be equal to that of a six ton engine, on a road with 30 feet grades. From this general view it will be seen, that the face of the country is eminently suitable to the proposed work. The intervening Swamps and the alluvial bottom lands of the Nottoway, Blackwater and Meherrin, offer no serious obstacles. The bottom is every where composed of solid materials, affording a firm foundation for any embankment or other structure it may be necessary to place on it.

Before proceeding with the estimate I would offer a few remarks in relation to the construction of the railroad.

It will not be necessary on the present occasion to discuss the relative merits of the various modes of construction, and the variety of materials which have been used in the formation of railways. Suffice it to say, that the almost universal substitution of wood for stone, and the iron-edge rail, establishes its preference in the first instance, even where stone is abundant and timber scarce. Among the many reasons for this preference of wood are its elasticity, its sufficient stability, and its diminution of the wear and tear of engines and cars. It follows, then, as a necessary consequence, that I recommend for your railroad the use of timber, which is found in abundance, of excellent quality, on almost every part of the line.

The superstructure, then, which I propose to adopt, will be heart-pine rails, nine by five inches, plated with iron bars two inches wide, and half an inch thick, resting on white or post oak sills, ten by twelve inches, and eight feet long, placed across the road, five feet apart from centre to centre. The rails will be placed parallel to each other four feet eight and a half inches apart, let into the sills and properly secured by white oak wedges. The sills will be notched for the reception of the rails and wedges, and hollowed out in the middle, so as to admit of the construction of a path over them, which will add considerable stiffness to the road, at a very moderate expense, and adapt it to the use of either horse or locomotive power, or both.

WIDTH OF ROAD-BED.—I have estimated for a single railway, which for the present will afford sufficient accommodation to the trade and travel. The ditches, however, will be cut, and the waste earth disposed with a view to a double track, whenever it may be deemed necessary. The graduated surface of the road-bed in excavations, will vary from 18 to 16 feet in width, the slopes being 45 degrees. The graded surface on embankments will present a uniform width of 12 feet, with side slopes of 33 $\frac{1}{2}$ degrees, or 1 $\frac{1}{2}$ base to 1 perpendicular.

Between Suffolk and Spikes' Run we shall pass several small streams by means of stone drains. The stone for this purpose can be readily obtained at Port Deposit, and the work done now, on as reasonable terms as at any other period. Farther on, wooden structures will be thrown over the water courses, with a span affording sufficient room for the erection here.

after of stone or brick culverts. The bridges across the Blackwater, Nottoway and Meherrin rivers, will be supported by abutments and piers of masonry, the stone for which can be transported by water from Norfolk to their respective sites, and will not at most exceed \$5 per perch (of 25 cubic feet) delivered. On approaching the Roanoke, rock is found tolerably convenient to the line, and will probably be used in crossing the Oconeechee, Troublefield, and Racoon Swamp.

[To be continued.]

[For the American Railroad Journal.]

Mr. EDITOR—The Delaware and Hudson Canal Company have put in the Delaware, on the North river, "Disbrow's Combined Steam Boiler," to test the best method to create steam with anthracite coal; and the following are some of the many benefits derived:

1st. This new boiler, in the Delaware, will generate steam faster with Lackawana coal than the old boiler, which was much larger, ever did with the best pine wood.

2d. The saving of fuel, by these experiments, has been proved to be 25 per cent.; and competent and experienced judges say, that no doubt one half may be saved.

3d. The saving of labor in tending s at least one half.

4th. But little room will be required for this fuel, on board the boat; and no detention of boat occasioned in putting it on board.

5th. And last, though not least, in the minds of passengers, a boiler of this construction, with one row of cones, can be so disposed of, on the wings of the boiler, that in case of explosion it would be thrown overboard.

All persons building new boats would be richly repaid by examining the great advantages obtained by this experiment.

I will send you a drawing, to be inserted in a future number, that a description of this boiler, and a knowledge of its utility and advantages, may be widely extended.

A. Z.

AGRICULTURE, &c.

USEFUL INSTRUCTIONS REGARDING THE MILKING OF COWS.—The operation of milking is performed differently in various parts of the country. In some, the dairy-maid dips her hand into a little milk, and by successively stripping the teat between her finger and thumb unloads the udder. The plan, however, is attended with the disadvantage of irritating more or less the teat, and rendering it liable to cracks and chaps, which are followed by inflammation, extending to the rest of the quarter. This accounts for the disease occurring more frequently among the cows under the charge of one milker than it does in those which are under the charge of another; and, as this practice is more common in some parts of the country than in others, it also accounts for the disease being more common in these parts. This plan of milking, where the irritation is not sufficient to excite the extent of inflammation to which I have alluded, frequently produces a horny thickening of the teat, a consequence of the cracks and chaps, which renders it more difficult to milk than when in its natural state; and, at the same time, predisposes to inflammation, when any cause occurs to set it up. These effects may be, and are almost entirely avoided, by the more scientific plan of milking adopted in other parts of the country, where, instead of drawing down or stripping the teat between the thumb and fingers, the dairy-maid follows more closely the principles which instinct has taught the calf. (The calf jerks its nose into the udder, and forces down the milk.) She first takes a slight hold of the teat with her

hand, by which she merely encircles it; then lifts her hand up, so as to press the body of the udder upwards, by which the milk escapes into the teat, or if (as is generally the case when some hours have elapsed between milking-times) the teat is full, she grasps the teat close to its origin with her thumb and fore finger, so as to prevent the milk which is in the teat from escaping upwards; then making the rest of the fingers to close from above downwards in succession, forces out what milk may be contained in the teat through the opening of it. The hand is again pressed up and closed as before, and thus, by repeating this action, the udder is completely emptied, without that coarse tugging and tearing of the teat, which is so apt to produce disease.—[Quarterly Journal of Agriculture.]

MEANS OF RENDERING THE VINE MORE PRODUCTIVE.—A foreign journal, of some ability recommends four ounces of alum to be mixed with four pellets of clay, by means of a sufficient quantity of water, and the roots of the vine being uncovered on a fine day towards the end of winter, they are to be moistened with this mixture, and the earth then changed, so that what was previously uppermost shall be undermost. It is asserted that through this operation a vine produces a great additional quantity of grapes.

INCREASE OF BEES.—The recent improvements in preserving bees will probably produce very great additions of honey, at a much cheaper rate. We still import honey from the Havana. The following we extract.

"It is not to be expected that many will attend to bee-husbandry merely for the sake of pleasure, but profit may induce others to follow that employment during their leisure hours. Often has the industrious laborer or mechanic been relieved from embarrassed circumstances, by the toil and labor of a swarm of bees, when he could avail himself of no other mode of relief. Not only are bees of immediate profit to their owners, but were they encouraged to the extent of which the pasture of the United Kingdom would permit, they might become even a source of national wealth. It is estimated by persons of learning, that the pasture of Scotland could maintain as many bees as would, on an average, produce 4,000,000 pints of honey, and 1,000,000 pounds of wax. Were this quantity tripled for England and Ireland, the produce of the empire would be 12,000,000 pints of honey, and 3,000,000 pounds of wax, annually. The income that would thus arise from honey, at the very moderate price of 5s. per pint, would amount to £3,000,000 sterling; and the wax, at 1s. 6d. per pound, would produce £2,225,000 sterling, affording, in round numbers, a total of £3,225,000 annually. The rearing of the bees must, therefore, appear to be, an object worthy of the consideration of all who feel an interest in the welfare of their country. As there are few concerns more profitable than bees, in favorable seasons, considering the small expense that attends them, I humbly beg leave to lay before my readers the following estimate. Suppose a person to commence with only two hives, which may cost £3 10s. sterling, and allowing each hive, on an average, only to double its number annually, they would increase as follows in a period of ten years—

1st year, 2 hives; 2d, 4 do.; 3d, 8 do.; 4th, 16 do.; 5th, 32 do.; 6th, 64 do.; 7th,

128 do.; 8th, 256 do.; 9th, 512 do.; 10th, 1024 do.

At this rate, two hives would produce one thousand and twenty-four swarms in the period of ten years, which, at a very moderate calculation, would be worth £1 15s. sterling each, so that there would be a clear profit of £1,792 sterling, for a little attention to the rearing and proper management of the bees, allowing the second and third swarms to pay for the hives, stools, labor, and incidental losses. It may be supposed by the above estimate that the seasons are favorable, but allowing 50 hives to fail from various causes, there would still remain £1,700 10s. sterling of clear profit. The years 1824 and 1825 were very favorable for bees; the latter was remarkably so. Almost every hive that year swarmed once, many of them twice, and a few even three times. When the store was collected, they weighed from 25 to 40 pounds each hive. Notwithstanding, I read in the public papers that honey to the value of £240,000 sterling had been imported into Great Britain in the course of this same year, 1825; a most extraordinary sum, and one which in my humble opinion might have been easily saved to the nation, if a stricter attention had been paid to the proper encouragement of our own bees.—[The Bee Garden.]

SKINLESS OATS.—At the meeting of the Warwickshire Agricultural Society, a specimen of the *Avenaica Farina*, or skinless oat, was produced by the Rev. Mr. Knott, which had been plucked that morning out of a piece of ground belonging to that gentleman, at Wormleighton. It was produced from seed furnished to him from Mr. Trucker, of Heanton Punchardon, near Barnstaple, Devonshire. According to the account furnished to us by that gentleman, it was grown in the season of 1830, for the first time it was ever produced in Great Britain, by Thomas Derenzy, Esq. of Clebemon Hall, who obtained the seed through a friend of his at Rotterdam, whether it was imported from Shantag, a remote district in China, and was quite unknown to Europeans till within these three years. The advantages which this extraordinary and valuable grain possesses over all other kinds of oats are numerous, viz.: When thrashed from the sheaf, it is exactly like oatmeal, and it is fit for immediate use for culinary purposes, and every other sort which oatmeal is consumed for, the grain being quite free from every particle of rind or husk. The flavor is delicious, and it contains much more farinaceous matter. There is, of course, considerable saving of oats, and expense of kiln drying, sifting, &c. &c.; and one peck of it contains more nutritious food for a horse than three pecks of common oats. The produce is most astonishing, the average being twenty-six barrels, of fourteen stone, to the Irish acre—the exact quantity grown by Mr. Derenzy on one acre. It was not sown till the 4th May, 1830, and was reaped early in August the same year. It is remarkably hardy, and well adapted to this climate.

POTATOES FOOD FOR HORSES.—An Irish writer on husbandry, whose name is Martin Doyle, and whose works were published in Dublin in 1830, has the following remarks:

With respect to potato-feeding for horses, I recommend it from an experience of some years. My horses are old (one of them at least 20 years of age), but they are in high spirits and condition, from having every eve-

ning after work, excepting during the soiling months [when grass &c. was cut and carried to them,] an abundant supply of boiled potatoes (warm) regularly given to them; but as the authority of T. C. Curwen, Esq. M. P. of Workington Hall, Cumberland, is infinitely more valuable than mine on this subject, I shall quote the following passages from his 'Agricultural Hints.'

'It requires from 5 to 6 hours for a horse to masticate a stone [14 lbs.] of hay, while he will eat a stone of potatoes in 20 minutes or less. The saving of 4 hours for rest, is alone sufficient to produce the greatest difference in the health and condition of the animal. After great fatigue also, a horse would be tempted to take warm food when he would not eat hay. I have at this time in my works, horses which were purchased six years ago of a farmer, who was selling off his stock as worn out and of little value, and which are yet able to do their work with the best horses I have. I think there is little doubt of the life of this valuable animal being considerably prolonged by this mode of feeding—I have begun to mix an equal quantity of cut straw and potatoes; racks are, according to this mode of feeding, as unnecessary as they are productive of waste—for to save trouble they are always filled, and what is not eaten is always so tainted with the breath of the animal as to be wasted.'

Probably steamed mangel wurtzel, and other roots, would be valuable as food for horses.—[N. E. Farmer.]

BAYBERRY BARK.—The bark of the root of the bayberry bush, which grows so plentifully in the woods and waste fields of this county, has become of late quite an article of traffic. We learn that it is used at the manufactories for the purpose of dyeing. In the town of Harwich, we are informed that a great quantity of this bark, (perhaps 30 tons,) has been collected during the past season by the women and children, who obtain at the stores three cents per pound for it. It is sent to Taunton, Fall River, and other manufacturing places, where it is sold for 12½ cents, and in some instances much higher. It is also used for medicinal purposes. This bark is easily obtained; the bushes grow in a light soil, the roots near the surface; they are pulled up with little strength and dried, and then the bark flies off with a gentle pounding. We believe this is the greatest benefit this county has ever received from the "American System."—[Barnstable Patriot.]

PLOUGHING IN WINTER TO KILL INSECTS.—Professor Rennie says, the common notion of frost killing insects is far from being correct. We, however, give the following from the Bucks County (Pa.) Intelligencer:

Last winter, observing several weeks of open and mild weather, unsuitable for threshing, I ploughed up a stiff sward, in a field which had been infested with the Wire-worm, for nearly thirty years. The ravages of this insect have even been so great, that not more than half a crop had been raised on the field during all this time. The ground was ploughed a good depth, say from eight to ten inches. About the middle of April it was well harrowed, and afterward ridged. I planted about the first of May, and from the present prospect, I should think the field would average forty bushels of corn per acre—and no Wire-worms appeared. I know not whether success is to be attributed to the time of ploughing; but it is an experiment which, giving a favorable result in one instance, may induce others to examine into the best means of guarding against this potent enemy to agriculture.

NEW-YORK AMERICAN.

JANUARY 11—17, 1834.

LITERARY NOTICES.

No. X.

DETROIT, November 25.

I had just left the reading room of the Franklin Hotel, in Cleveland, and was making myself at home for the rest of the evening, in my own neat chamber, when the sound of a steamboat bell, about nine o'clock, gave note that one of these vessels, which at this stormy season cannot navigate the lake with any regularity, had touched at Cleveland on her way to this place. No time was to be lost, and huddling my clothes, &c. into my trunk as quickly as possible, I jumped into a vehicle waiting at the tavern door, and in a few minutes was upon the quay. Here I witnessed a scene of indescribable confusion. The night was dark and somewhat gusty, and the boat and the wharf were both crowded with boxes, bales, and the effects of emigrants, who were screaming to each other in half as many languages, as were spoken at Babel. Lanterns were flashing to and fro along the docks, and hoarse orders and countermands, mingled with the harsh hissing of the steam on every side. At length we pushed from the shore, and escaping in a moment from the head of the mole, stood fairly out into the lake, while the bright beacon of the Cleveland lighthouse soon waned in the distance, and was at last lost entirely. I found myself, upon looking around, on board of the fine steamboat "New-York," captain Fisher, to whose politeness I was much indebted for showing me about the boat before turning in for the night. Taking a lantern in his hand, and tucking my arm under his, he groped about among his motley ship's company like Diogenes looking for an honest man. Our course first led us through a group of emigrants collected around a stove mid-ships, where an English mother nursing her infant, a child lying asleep upon a mattress, and a long-bearded German smoking his meerschaum on the top of a pile of candle-boxes, were the only complete figures I could make out from an indefinite number of heads, arms, and legs, lying about in the most whimsical confusion. Passing further on we came to two tolerable cabins on either side of the boat just forward of the wheels, both pretty well filled with emigrants, who were here more comfortably bestowed. We next passed the forward bar-room, (there being another abaft for cabin passengers,) and finally came to the bow, of which a horse and several dogs had already been the occupants for so many days, the New-York having been twice driven into port and delayed by stress of weather, that it might have been mistaken for either stable or kennel. A noble English blood-hound, the second dog only of that rare breed that I have ever seen, here attracted my attention, and delayed me until I made his acquaintance, which was but a moment, however, for every dog of a generous strain can tell instinctively when a friend of his kind approaches him. Among others of the canine crew, too, there was a fine spaniel, whose deplorable fate subsequently I may as well mention here as elsewhere. The master of poor Dash, it seems, went ashore during the night at Huron, where the boat put in to land way-passengers, and the animal springing eagerly along a plank at his call, was kicked from his narrow foothold by some brute of a fellow into the lake. The night was dark, and the shadow of the high wharf shut out the few lights on shore from the view of the poor animal, while those on board of the boat led him away from the land. He swam after us, yelling most piteously, until his suffocating cries were lost in the freshening sea, which probably the next morning tossed him a carrion on the shore. Had I witnessed the act of throwing him overboard, I could not have restrained myself from pitching the dastardly perpetrator of the cruelty af-

ter the victim of his brutality: for if there be one trait in men, which awakens in me, indignation amounting almost to loathing of my kind, it is to see human things treating those parts of the animal creation beneath them, as if this earth was meant for none of God's creatures but man. If Heaven ever grants us another revelation, I am convinced there will be yet one more commandment added to the decalogue, besides those which enjoin upon us our duty to God and our neighbor, and that will be, our duty to those of the brute creation, which Providence entrusts to our kindness and our care. But to return to our travels through this floating castle—we next ascended a steep stairway to the upper deck of all, and I here spent some moments rather amusingly in surveying the furniture of the emigrants with which it was crowded. They differed according to his origin. The effects of the Yankee were generally limited to a Dearborn wagon, a feather bed, a saddle and bridle, and some knickknack in the way of a machine for shelling corn, hatching flax, or, for ought I know, manufacturing wooden outmeigs for family use. Those of the Englishman are far more numerous; for John Bull when he wanders from home, would not only, like the roving Trojan, carry his household gods with him into strange lands, but even the fast anchored island itself could he but cut it from its moorings. Whenever, therefore, you see an antique fashioned looking-glass, a decrepit bureau, and some tenderly preserved old china, you will probably upon looking further have the whole housekeeping array of an honest Briton exposed to your view. But still farther do the Swiss and Germans carry their love of family relics. Mark that quaint looking wagon which lumbers up a dozen square feet of the deck. You may see a portrait of it among the illuminated letters of a vellum-bound edition of Virgil's *Bucolics*. It was taken from a Helvetian ancestor that transported Cæsar's baggage into winter quarters. It might be worth something in a museum, but it has cost five times its value in freight to transport it over the Atlantic. What an indignity it is to overwhelm the triumphal chariot with the beds and ploughs, shovels, saddles and sideboards, chairs, clocks and carpets, that fill its interior, and to hang those rusty pots and kettles, bake-pans, frying-pans and sauce-pans, iron candlesticks, old horse-shoes, and broken tobacco-pipes, like trophies of conquest over Time, along its racked and wheezing sides. That short man yonder, with square shoulders and a crooked pipe in his mouth, is the owner; he with the woollen cap, that is just raising his blue cotton frock to thrust his hand into the fob of his sherrivalleys. That man had probably not the slightest idea of the kind of country he was coming to. His eyes are but now just opening to his new condition; nor will he sacrifice a particle of his useless and expensive trumpery, until they are completely open. That man has not yet a thought in common with the people of his new abode around him. He looks indeed as if he came from another planet. Visit him on his thriving farm ten years hence, and except in the single point of language, you will find him (unless he has settled among a nest of his countrymen) at home among his neighbors, and happily conforming to their usages, while that clean looking Englishman next to him will still be a stranger in the land.

I subsequently looked into the different cabins and compartments of the boat not yet visited, and had reason to be gratified with the appearance of all; though the steamboat Michigan, which I have since visited at the docks here, puts me completely out of conceit of every part of the New York, except her Captain. The Michigan, machinery and all, was built at Detroit; and without entering into a minute description of her, I may say, that fine as our Atlantic boats are, I do not recollect any on the Atlantic waters, for strength and beauty united, equal to the M.

It is worth a journey to the Lakes to make a trip in her. A great mistake, however, I think, exists here in building the boats for these waters with cabins on deck, like the river boats. In consequence of such a large part of the hull being above water, they are rendered dangerous during the tremendous gales which sweep lake Erie, and are often compelled to make a port of safety several times during a passage. The English steamers which ply between Dover and Calais are built like other sea vessels; and having their machinery below, can consequently keep on their course in a sea where one of ours would live but a few minutes. I was fortunate, considering the stormy season of the year, in having a tolerably smooth passage across the lake, there being but few persons sea-sick aboard the boat, and I happily not included in the number. But it must be very unpleasant, during a heavy blow, to be tossed on the short cobble sea which the light fresh water of these lakes always breaks into beneath the wind.

We passed a number of islands soon after breakfast in the morning; some of them mere rocks, and others several miles in circumference. On one of these, of a few acres in extent, a row boat, in which a man undertook to transport himself and one or two members of his family to the shore, was wrecked some years since. The father and brother, with a daughter of about 12 years, managed to subsist upon the snakes and snails they found among the rocks, until a passing vessel took them off, after some ten days of suffering.

It was during a shower, shortly after noon, when some low wooded islands on the American side of the lake, with a tall flag-staff peering above the haze from the little town of Amherstburgh on the British shore, indicated that we had entered the mouth of the Detroit river. The wind, which was now beginning to rise into a threatening tempest, compelled us to hug the Canadian shore so closely, that the red-coated sentinel, pacing along the barracks above Fort Malden, was plainly seen from the boat. The river soon after narrows sufficiently for one to mark with ease the general appearance of its banks and the different settlements upon their course. Their appearance must be pretty in summer, when fields and woods show to the most advantage. But now, though slightly undulating, with a sudden rise from the river of some fifty or sixty feet, the adjacent country is too low to be strikingly beautiful. Those, however, who admire the Delaware below Trenton, if they can dispense with the handsome seats which ornament its not very clear waters, may find a charm in the gentle banks and transparent tide of the Detroit river.

The city of Detroit itself stands upon an elevated piece of table land, extending probably for some twenty miles back from the river, and being perfectly unbroken for at least two miles along its margin. Beneath the bluff—for the plain is so high as almost to deserve the name—is a narrow bustling street of about half a mile in length, with the wharves just beyond it; and fifty yards inboard runs a spacious street, called Jefferson Avenue, parallel with the lower street and the river; for three or four miles along this latter, the chief part of the town is built. The dwelling houses are generally of wood, but there are a great many stores now building, or already erected, of brick, with stone basements. The brick is generally of an indifferent quality, but the stone which is brought from Cleveland, Ohio, is a remarkably fine material for building purposes. It is a kind of yellow free stone, which is easily worked when first taken from the quarry, and hardens subsequently upon exposure to the air. There are at this moment a good many four story stores going up in Detroit, as well as other substantial buildings, which speak for the flourishing condition of the place. The want of mechanics is so great, however, that it is difficult as yet to carry on these operations upon the scale common in our At-

lantic cities, although the demand for houses in Detroit, it is said, would fully warrant similar outlays of capital. The public buildings are the territorial Council-house, situated upon an open piece of ground, designated on an engraved plan of the city as "The Campus Martius," a Court house, Academy, and two banks. There are also five churches, a Catholic, an Episcopal, a Presbyterian, Baptist and Methodist. The Catholic congregation is the largest, and their stone church, which after remaining several years in an unfinished state, it is said, is now soon to be completed with funds derived from Rome, will make an imposing appearance when finished. The population of Detroit is, I believe, between three and four thousand—it increases so rapidly, however, that it is difficult to form an estimate. The historical associations, the safety, and commodiousness of the harbor with its extensive inland commercial advantages, must ever constitute this one of the most interesting and important points in the Union, although other causes may combine to make newer places in the territory equally as flourishing as Detroit.

The appearance of the place is any thing but what you would expect from a town founded in the same year with Philadelphia. The ancient houses which formerly stood upon streets hardly ten feet wide, were all swept away in the great fire twenty years since, and the new white dwellings standing upon broad avenues of twenty-five yards, make the town show like a place of yesterday.

I am surprised to find so few military remains in a frontier post so frequently fortified, and which has witnessed so many scenes of border war. A small stone arsenal, with a tall picket fence around it, is the only thing of the kind discoverable, and yet the place is thought by military men to have been sufficiently strong during the last war, to have held out, if properly commanded, against twice the force which the brave General Brock brought against it. The lapse of twenty-two years has not yet cooled the indignation of the inhabitants at its dastardly surrender by Hull. It is necessary to see the ground to estimate properly that besotted act, at which his officers broke their swords, and his men nearly rose in open mutiny, while even the women of the fort shut the gates and declared that their husbands and brothers should not abide by the disgraceful orders of their commander. It is astounding to think how slight an exertion of force might have annihilated the attacking party. They landed about two miles below the town, and advanced in solid column along a straight road, which runs parallel with the river, and is walled inland with a high picket fence, in front of the French farm-houses which line the way. At the entrance of the town, and nearly in front of the handsome hotel where I am staying, were planted two pieces of cannon, loaded with grape and canister. A single discharge must have swept half of the British force into eternity, while the river on one side, and the high picket on the other, would have hedged the remainder in upon a spot where the slaughter of the whole would have been inevitable. The artillerymen were standing with lighted portfires when the order to retire within the fort caused them to fling their matches to the ground, and leave it with disgust. The memory of General Hull, which with that love of glorification that constitutes the weakest point of our national character, was so hallowed in the Eastern newspapers when he died, a few years since, is here held in the contempt that was the due of a man who was sentenced to be shot to death for conduct entailing so much disgrace upon the nation.

I was not a little amused while talking over these events, upon the very scene of contention, with some gentlemen a few evenings since, to hear a person, whom I soon discovered to be an Englishman, sliding into the conversation,

and taking his part of it with equal animation and good feeling; upholding, however, like a leal and true Briton, the acts of his own nation. The conversation was very frank on both sides, although when he spoke of the Kentuckians flaying the body of Tecumseh after the battle of the Thames, I could not trust myself to retaliate by mentioning Proctor's massacre at Frenchtown of the flower of the youth of Kentucky, which, as you know prompted this ferocious act of their countrymen in relation to the fierce but noble savage. The ball of conversation which had hitherto been thrown with equal temper and breeding by better and abler hands, fell into mine, just as "the delicate question of impressment" was suggested by the English stranger, and in begging him to dismiss a matter upon which our views could so little harmonize; I could not help adding the opinion you have often heard me express, that my country should never notice the existence of that national difficulty, except through the mouths of our cannon, that is, that we should regard and treat impressment like piracy or kidnapping on the high way.—"Kidnapping!" exclaimed my well bred antagonist, politely waving the further discussion of the subject of the word, "why, I myself, Sir, have been taken up for kidnapping within the very precincts of this town." He then went on to tell in most admirable style, a series of whimsical adventures which he met with, when on a surveying party on the lakes, just after the last war—"surveying on the lakes twenty years ago," exclaimed I to myself, why, who can this man be? I have already travelled with him since tea, over all Europe, and a greater part of Asia, not to mention the West Indies, and South America, with the whole coast of Africa.) The lively and unaffected relation was every thing to the story, which at once enlisted the attention of all present, but the particulars were barely these:—"The stranger, then a subaltern in the British service, was sent by his commanding officer, to catch some deserters, who had escaped by night from the schooner in which the surveying party were embarked, and which was anchored in the Detroit river. He landed on the American shore, and tracing one of the knaves to an Inn hard by, he seized him near the door, handcuffed the fellow, and handed him to his men to take off to their boat in waiting. Then entering the inn the sight of a number of articles stolen by the runaways, induced the young officer to search for the rest of their number. Provoked at his want of success, he very naturally exclaimed, while passing vainly from room to room, "well thank heaven, I have one of the rascals in limbo!" a stout looking fellow present, immediately slid out of the apartment, and for the present, was seen no more. The young Englishman tired at last with his search of the premises, determined to leave the house to look further elsewhere.—His foot was on the threshold of the door.—"Stop there you mister," exclaimed a tall Yankee, bringing a bayonet to a charge at his breast, "you don't come here and kidnap our citizens at that rate, I guess."

"Kidnap your citizens, why my good fellow that was a rascally deserter that I apprehended."

"Deserter or no deserter, we don't want no such doings over our side, and you don't budge from here my hearty, except to go before Gov. Cass."

"Gov. Cass? Why my dear Sir, I have a letter here for Gov. Cass, and am anxious to find him out in person."

It was "no go," however, as the sturdy yeoman said, and he and his comrades at once led our young and hasty adventurer to the residence of the Governor. Detroit was then a military post of the first distinction. The town was crowded with officers and their families, and on that very day there was a levee, at which three general officers, with their respective suites, received company at the Governors.—

The culprit was politely received by the Governor, and being soon drawn within a group of officers, they all heartily sympathized with him, and agreed that they might, without thinking, have acted similarly in violating a foreign territory when sent after a scoundrel of a deserter. It was, in short, a mere matter of moonshine; and the young offender need give himself no concern about it, but fill his glass, and let the hour bring forth what it might. To make a long story short, however, our subaltern was soon ordered before the Governor, who in a totally altered manner explained the grave nature of his offence to him, and told him he must be handed over to the civil authority, adding, that if he did not like to go to jail, he might take up his residence in the fort, under the care of Captain O'Follon, whose politeness the English gentleman had already experienced, and under whose custody he was glad to place himself. His stay there he found far from disagreeable, and he spoke with warmth of the courtesy of the officers in walking out with him every day, and keeping up their necessary surveillance over his person in a manner that made it not at all unpleasant. The Grand Jury soon after found a bill against him for the crime of kidnapping "an American citizen, name unknown," and he was held to bail in the sum of \$2000, which was at once forthcoming from a gentleman on the Canadian side. The result of the trial was against the prisoner, but the United States subsequently quashed the proceedings of the Court, and set the culprit at liberty.

This relation, the particulars of which I have since found, are familiar to the old residents of Detroit, seemed from the unaffected yet animated manner in which it was made to strike every one present, and as you may imagine, our interest in the party chiefly concerned, was not a little heightened by our discovering the next morning, that the individual who had made himself so agreeable the evening before, was Captain Vidal of the British Navy, whose enviable reputation as the companion of Captain Owen in his recent arduous voyage of discovery along the coast of Africa, gives one the privilege of mentioning his name, as that of a public man. Capt. V. has just settled on a farm on the Canada side, but so near to Detroit that his society will be an acquisition to a neighborhood remarkable for its agreeableness and elegant hospitality.

I have made several excursions to different places in the vicinity of Detroit. The pleasantest ride perhaps is one along the river on the Canada side; from which Detroit appears to great advantage. Every thing looks dead, though in William IV's dominions, after coming from the bustling American town. The French there insist upon holding on to their acres, and being unwilling to improve their property, its value remains stationary. These French tenures have had their effect too, in retarding the growth of Detroit, and they still check in no slight degree, its advances in prosperity. The French farms are laid out along the river on both sides, with a front of only two or three acres on its bank, while they extend back into the country for half a dozen miles; a disposition of property very unfavorable to agriculture, and only adopted originally, to bring the colonists as near together as possible, for the sake of mutual protection against the Indians. Many of these farms now cross the main street of Detroit at right angles at the upper end of the town, and of course offer on either side a dozen building lots of great value. The original owners, however, persist in occupying them with their frail wooden tenements and almost valueless improvements notwithstanding large sums are continually offered for the merest slice in the world off the end of their longtailed patrimonies. They are a singular race of beings altogether. Mild and amiable, with all that politeness of manner which distinguishes every class of the courteous nation from which they derived their origin—they are still said to be profoundly ignorant. They call Detroit

"the Fort" to this day, and yet few of them know any thing of the country whose soldiers first held it. They are good gardeners but very indifferent farmers, and their highest ambition is to turn out the fastest trotting poney when the carriage race commences on the ice at mid-winter. Some of them will own a hundred of these ponies, which, in defiance of snow and sun, run in the woods from one end of the year to the other. The fastest of the herd, which is generally a three minute horse, the owner will keep for himself, or if he parts with him, asks the purchaser two or three hundred dollars for his bargain, while from the rest, for twenty-five or thirty, he may select at pleasure. They are very easy gaited animals, carrying astonishing weights with ease, but their shoulders are so low it is difficult to keep an ordinary saddle on their backs with any comfort. But though generally rough misshapen looking creatures, some are very elegantly formed, and remind me often—while neither resembling the Arabian nor the English horse—of some French drawing I have seen of the spirited steeds of the Balkore, or the rushing coursers of the Ukraine. I am credibly informed that they are known to perform journeys under the saddle of 80 miles a day for 10 days in succession without being at all injured by it. They are thought to have a different origin from the Canadian horse, to which the best of them bears no particular resemblance except in size.

A race of horses might be raised from this hardy stock to vie in vigor and beauty with the magnificent pear trees which are here produced by grafting a delicate fruit upon the tough wild thorn of the country.

The drive to lake St. Clair must be very pleasant in summer judging from what I saw of it during a raw snowy day. The banks of this river are indeed rather low for beauty and the lake itself when you arrive at it, is only a large black sheet of clear water, but the thick set orchards of the French farmers coming quite down to the shore of the river, are pleasing objects in themselves, and with the green islands in the strait, the decaying windmills so frequently recurring along its shores, and the groups of shaggy ponies almost invariably grouped around their base, would enable a painter to eke out a very pretty landscape.

About ten miles from Detroit a United States Arsenal is now erecting, under the superintendence of Lieut. Howard, of the Army; for an introduction to whom I was indebted to two young officers, who rode out with me to visit the place. The day was cold and cloudy, like most it has been my lot to describe to you of late; but my companions were intelligent and agreeable, my horse free and sufficiently fast, and my reception at the end so satisfactory, that I still think of my ride along the lazy banks of the billious looking river Rouge with pleasure. The arsenal, though of brick, is by far the best specimen of masonry I have yet seen here. It is to be regretted, however, that for such a national work the appropriation by government for its erection had not been large enough to have permitted the beautiful Cleveland stone which form the lintels of its doors and windows to be substituted for the perishable looking material of which the building is now constructed. The taste of Mr. H., which is already evinced by some arrangements in the vicinity, will no doubt induce him to preserve some hoary and fantastic-looking oaks, which cling their gnarled branches within a few yards of the walls, and which even now, stripped as they are of their foliage, are worth a whole forest of common ornamental shrubbery. The trees I have generally seen around our military posts look all as straight and martinet-like as if planted by a drill-sergeant. These veteran oaks stand upon a sloping bank, and as they are too crooked ever to catch the eye of the utilitarian, and to be sawed up into boards, they may, if not now molested, wave yet for a century above these ingenuous idlers who delight to—

—under the shade of melancholy boughs
Loose and neglect the creeping hours of time:

Too much praise can hardly be accorded to the activity of the officer, who, in five months, has reared such a building, and created the village which is already growing up around it in the midst of an unbroken forest. There is a capital tavern, a store, and

two or three dwellings, in the new town of "Dearbornville"—all built since last July. I sat down to dine on a fine haunch of venison, with the veteran General B—and his young Aid, who were together on a hunting expedition in the vicinity. Nothing could have impressed a stranger more favorably with military breeding, than the bland, paternal manner of the gentleman-like old officer to his four juniors present. The deer yet abound within a morning's walk of Detroit, the primitive forest standing untouched within a few hundred yards of the town, immediately in its rear. They are hunted daily at this season, and no slight sensation was made here a day or two since, by the prolonged absence of the General, who had been benighted and lost his way, upon one of these short excursions. The town was about to turn out en masse, when the re-appearance of the hunter, after two days' absence, relieved a very general anxiety.

The tedious length of this letter is sufficient apology for the abruptness with which I must break off.

H.
THE KNICKERBOCKER, for January. PEABODY & Co.—This—in so far as it is original, is a poor number—but its volume is chiefly made up of Mr. Verplanck's discourse before the Mechanics' Institute, which, though excellent, has appeared in another shape, and selections from English annuals, which have no business in an American Magazine purporting to be original.

ADUNGZEBE, OR A TALE OF ALRASCHID, 2 vols.—Philadelphia, CAREY, LEA & BLANCHARD.—Another novel of the East, setting forth the splendors and the crimes of that region of the sun, and depicting with a vigorous pencil, and, as cannot be doubtful, from personal knowledge, the gorgeoussness of Indian scenery, the fierce and implacable feuds of Indian despots.

LA REVUE FRANÇAISE, No. 3. New York, HOKINS & SNOWDEN.—There is much good reading in this number, which is, moreover, less inaccurate than its precursors in its typography, of the general execution and appearance of which, and of the Magazine generally, we have only to speak with praise. The account of an assault by a Paris mob in 1789, on the Hospital of Lazarus, is new to us, and well told.

THE MILITARY AND NAVAL MAGAZINE, for January. Washington: B. HOMANS.—We perceive we think—and it gives us pleasure—that the two services take a more decided interest in this periodical, dedicated so particularly to their amusement and instruction; under their auspices, and with the aid they can give, it must flourish.

The leading paper in this number, respecting the Navy, with suggestions for its improvement, is worthy of attention. We have heard before, what is broadly stated by this writer, that the efficiency of the Navy is retrograding; and viewing it as we do, as the great arm of our safety and defence, the *decus et tutamen* of the nation, we would hope that any well considered suggestions for its improvement, may be operative in quarters where the power exists of giving effect to them.

The plan of a *President Society*, for the two services, which has been for sometime under discussion, is, as it strikes us, shown to be both unadvisable and impracticable, by the elaborate report of the officers stationed at West Point. Life Insurance Companies offer to officers of the Army and Navy, and all others, dependant upon a salary, the easiest and surest means, at the cost of a little present self-denial, to ensure some provision at their death for their families.

THE YOUTH'S SKETCH-BOOK. Boston: LILLY, WAIT & Co.—It is not yet too late, we hope, to express, as, but for the pressure of other matters, we should have done before, our admiration and approbation of this pretty little book, so well finished, embellished with so many engravings calculated to arrest the attention of young readers, and of which the contents, diversified by prose and poetry, and mostly original, are all of a nature to improve as well as to amuse. It is, too, handsome in appearance, as well as good in purpose and execution.

CONGRESS.—The following were among the petitions, memorials, &c. called up during the week ending on Saturday last:—

Mr. Hazeltine, the petition of inhabitants of Chautauque Co., for an appropriation to construct a harbor at Portland, Lake Erie.

Mr. Seldon, of the Masters and Owners of Vessels navigating the Hudson, that a Light House may be erected at Esopus Creek—all which were referred to the Committee on Commerce.

Mr. Reed, of Mass., the petition of inhabitants of Nantucket for Buoys in Swash & Tuckanuck Shoals, heretofore presented; and Mr. Fillmore, of Richmond, Hargrave Lee.

Mr. Davis, of Massachusetts, a petition of Thomas Blanchard, of New York, praying that letters patent grant him for an invention of an engine for turning or cutting irregular forms may be renewed.

Mr. Turill, a petition from inhabitants residing near Lake Ontario, for the construction of a ship Canal around the Falls of Niagara.

Mr. Heister, for the construction of a steamboat navigation from Chesapeake Bay, up the Susquehanna River, Seneca Lake, and Oswego River, to Oswego; also a similar connection between Lake Michigan and the Illinois River; were referred to the Committee on Roads and Canals.

LEGISLATURE OF NEW-YORK.

January 9.—SENATE.

The President announced the following Standing Committees.

On Claims.—Messrs. Sudam, Tracy, and Fisk.
On Finance.—Messrs. Dodge, Van Schaick, and Halsey.

On the Judiciary.—Messrs. Lansing, Edmonds, and Edwards.

On the Militia.—Messrs. Foster, Maison, and Kemble.

On Canals.—Messrs. Hubbard, Armstrong, and Livingston.

On Rail-Roads.—Messrs. Edwards, Mack, and Maison.

Roads and Bridges.—Messrs. Westcott, Lynde, and Seger.

Literature.—Messrs. Van Schaick, Gansevoort, and Bishop.

State Prisons.—Messrs. McDonald, Seward, and Foster.

Banks and Insurance Companies.—Messrs. Edmonds, Stower, and Armstrong.

Division of towns and counties.—Messrs. Conkling, Fisk, and Mack.

Agriculture.—Messrs. Halsey, Cropsey, and Griffin.

Manufactures.—Messrs. Quackenbush, Cary and Bishop.

Privileges and Elections.—Messrs. McDowell, Westcott and Dodge.

Enrolled Bills.—Messrs. Lynde, Hasbrouck and Seger.

Indian Affairs.—Messrs. Seward, Conkling and Kemble.

Expiring Laws.—Messrs. Tracy, McDowell and Cropsey.

On Expenditures.—Messrs. Stower, Griffin and Quackenbush.

Incorporation of Cities and Villages.—Messrs. Gansevoort, Birdsall and Livingston.

On the Governor's Message.

On the Boundary line between New Jersey and New York.—Messrs. Sudam, Lansing and Livingston.

Relative to the Deaf and Dumb.—Messrs. Birdsall, Dodge and McDowell.

On the Asylum for the Blind.—Messrs. Cropsey, Cary and Hubbs d.

On the Asylum for the Insane.—Messrs. Hasbrouck, Lansing and Edmonds.

On Salt.—Messrs. Edwards, Mack and Gansevoort.

County Poor Houses.—Messrs. Fisk, Seward and Westcott.

The Senate then adjourned.

Saturday, Jan. 11.—IN ASSEMBLY.

The Speaker announced the following committees.
Ways and Means.—Wheeler, Myers, Clark, A. J. Parker, Cash.

Grievances.—Anderson, De Graw, Livingston, Healey, Sumner.

Privileges and Elections.—Brasher, Dusenbury, Williams, Mabbett, Terry.

Judiciary.—Haight, Phelps, Gordon, Grinnell, Clary.

Expiring Laws.—Bagley, Martin, Watt, Collier, Harris.

Claims.—Ingalls, Fox, Crosby, Robertson, Cuykendall.

Colleges, Academies and Common Schools.—M'Kean, Bogardus, Beardslee, Schermerhorn, Yates. Engrossed Bills.—Jackson, Case, Hall, Conklin, Nichols.

Erection and Division of Towns and Counties.—O. Robinson, Butrick, Wheaton, Orr, Kingman.

Incorporation of Cities and Villages.—Drake, Wright, Bull, Stone, Enos.

Agriculture.—Kernon, Morehouse, Woods, Temple, Dyer.

Incorporation of Charitable and Religious Societies.—Cargill, Strong, M'Knight, Bockhoven, Young.

Incorporation and Alteration of Banking and Insurance Co's.—Morris, Willes, Younglove, Bowne, Smith.

Aliens.—Osborne, Ringgold, Chamberlain, Arnold, Lewis.

Canals and Internal Improvements.—Humphrey, Strong, Stevenson, Morrill, West.

Roads and Bridges and the Incorporation of Turnpike Companies.—Angel, Stafford, Campbell, Mabbet, Fleming.

State Prisons and Penitentiary System.—Staats, Gordon, Lockwood, Groom, Harkhurst.

Militia and the Public Defence.—Fowler, Tompkins, Ruggles, Ward, Germond.

Indian Affairs.—Snyder, Jones Mitchell, Patterson, Hanbrouck.

Manufacture of Salt.—Strong, Guinnip, Wright, Osborne, Bostwick.

Medical Societies and Colleges.—Winfield, Staats, Stevenson, Anthony, Palmer.

Two Third Bills.—Tompkins, Haight, Archibald, Johnson, Lefever.

Public Lands.—M'Knight, J. P. Robinson, Hunt, Myrick, Grover.

Trade and Manufactures.—Myers, Hough, Barnes, J. B. Parker, Spafford.

Railroads.—Beardsley, Todd, J. H. Parker, Shays, Coe.

Select Committees on the Governor's Message.

On so much as relates to Poor Houses.—Marvin, Culver, Church, Whipple, Emmons.

On so much as relates to Insane Poor.—A. J. Parker, Titus, Dana, Sears, Thompson.

On so much as relates to the Deaf and Dumb.—Hortell, Brasher, Elithorp, Merceroan, Brown.

January 7.—IN SENATE.

Documents accompanying the Governor's Message.

Copy of a letter from the Commissioners appointed to settle the boundary between New York and New Jersey.

New York, Oct. 20th, 1833.

Sir:—We have the honor to inform you that pursuant to our appointment under the act concerning the territorial limits and jurisdiction of the State of New York and the State of New Jersey, passed January 18th, 1833, and after several conferences with the Commissioners appointed under a similar law of the State of New Jersey, we have concluded an agreement for the purpose of settling the boundary referred to in those acts.

We deem it unnecessary to enter into a detailed account of the course of the negotiation, and will only observe in respect to it, that waiving all discussion of the strict rights of either party, the Commissioners on both sides made such concessions as they supposed to be not only compatible with the substantial interests of each of the States, but conducive to the harmony and welfare of both. Proceeding upon these principles, it will be seen that the middle of the waters which divide this State from New Jersey has been agreed upon as the line of property, with such variations as to include within this State the islands belonging to it; and that this is also to be the line of jurisdiction, except where circumstances render a departure from it proper. This was peculiarly the case with respect to the waters adjacent to the city of New York, and we trust that the jurisdiction necessary for the health, improvement, and police of that city has been amply secured, and that the agreement herewith delivered to you will be satisfactory to the Legislature and to our fellow-citizens generally.

We are, Sir, with high respect, your obedient servants,

B. F. BUTLER,
PETER AUGUSTUS JAY,
HENRY SEYMOUR.

To His Excellency WM. L. MARCY,
Governor of the State of New York.

Agreement made between the Commissioners on the part of the State of New York and the Commissioners on the part of the State of New Jersey,

relative to the boundary line between the two States.

Agreement made and entered into by and between Benjamin F. Butler, Peter Augustus Jay and Henry Seymour, Commissioners duly appointed on the part and behalf of the State of New York, in pursuance of an act of the Legislature of the said State, entitled "An act concerning the territorial limits and jurisdiction of the State of New York and the State of New Jersey," passed January 18th, 1833, of the one part, and Theodore Frelinghuysen, James Parker and Lucius Q. C. Elmer, Commissioners duly appointed on the part and behalf of the State of New Jersey, in pursuance of an act of the Legislature of the said State, entitled "An act for the settlement of the territorial limits and jurisdiction between the States of New Jersey and New York," passed February 6th, 1833, of the other part.

ARTICLE FIRST.—The boundary line between the two States of New York and New Jersey, from a point in the middle of Hudson river opposite the point on the west shore thereof, in the forty-first degree of north latitude, as heretofore ascertained and marked, to the main sea, shall be the middle of the said river, of the bay of New York, of the waters between Staten Island and New Jersey, and of Raritan bay, to the main sea, except as hereinafter otherwise particularly mentioned.

ARTICLE SECOND.—The State of New York shall retain its present jurisdiction of and over Bedlow's and Ellis' islands, and shall also retain exclusive jurisdiction of and over the other islands lying in the waters above mentioned, and now under the jurisdiction of that State.

ARTICLE THIRD.—The State of New York shall have and enjoy exclusive jurisdiction of and over all the waters of the bay of New York, and of and over all the waters of Hudson river lying west of Manhattan Island, and to the south of the mouth of Spuyten-duyvel creek, and of and over the lands covered by the said waters to the low water mark on the westerly or New Jersey side thereof; subject to the following rights of property and of jurisdiction of the State of New Jersey, that is to say:

1. The State of New Jersey shall have the exclusive right of property in and to the land under water lying west of the middle of the bay of New York and west of the middle of that part of the Hudson river which lies between Manhattan Island and New Jersey.

2. The State of New Jersey shall have the exclusive jurisdiction of and over the wharves, docks and improvements made, and to be made, on the shore of the said State, and of and over all vessels aground on said shore, or fastened to any such wharf or dock; except that the said vessels shall be subject to the quarantine or health laws, and laws in relation to passengers, of the State of New York, which now exist or which may hereafter be passed.

3. The State of New Jersey shall have the exclusive right of regulating the fisheries on the westerly side of the middle of the said waters, provided that the navigation be not obstructed or hindered.

ARTICLE FOURTH.—The State of New York shall have exclusive jurisdiction of and over the waters of the Kill Van Kull, between Staten Island and New Jersey, to the westernmost end of Shooter's Island, in respect to such quarantine laws and laws relating to passengers as now exist or may hereafter be passed under the authority of that State, and for executing the same; and the said State shall also have exclusive jurisdiction, for the like purposes, of and over the waters of the Sound, from the westernmost end of Shooter's island to Woodbridge creek, as to all vessels bound to any port in the said State of New York.

ARTICLE FIFTH.—The State of New Jersey shall have and enjoy exclusive jurisdiction of and over all the waters of the Sound between Staten Island and New Jersey lying south of Woodbridge creek, and of and over all the waters of Raritan bay, lying westward of a line drawn from the light house at Prince's bay to the mouth of Mattavan creek, subject to the following rights of property and of jurisdiction of the State of New York.

1. The State of New York shall have the exclusive right of property in and to the land under water, lying between the middle of the said waters and Staten Island.

2. The State of New York shall have the exclusive jurisdiction of and over the wharves, docks and improvements made and to be made, on the shore of Staten Island; and of and over all vessels aground on said shore, or fastened to any such wharf or dock, except that the said vessel shall be subject to the quarantine or health laws, and laws in relation to passengers of the State of New Jersey which now exist, or which may hereafter be passed.

3. The State of New York shall have the exclusive right of regulating the fisheries between the shore of Staten Island and the middle of the said waters, provided that the navigation of the said waters be not obstructed or hindered.

ARTICLE SIXTH.—Criminal process issued under the authority of the State of New Jersey, against any person accused of an offence committed within that State; or committed on board of any vessel being under the exclusive jurisdiction of that State as aforesaid; or committed against the regulations made or to be made by that State, in relation to the fisheries mentioned in the third article; and also civil process issued under the authority of the State of New Jersey against any person domiciled in that State, or against property taken out of that State to evade the laws thereof; may be served upon any of the said waters within the exclusive jurisdiction of the State of New York, unless such person or property shall be on board a vessel aground upon, or fastened to the shore of the State of New York, or fastened to a wharf adjoining thereto; or unless such person shall be under arrest, or such property shall be under seizure, by virtue of process or authority of the State of New York.

ARTICLE SEVENTH.—Criminal process issued under the authority of the State of New York, against any person accused of an offence committed within that State; or committed on board of any vessel being under the exclusive jurisdiction of that State as aforesaid; or committed against the regulations made or to be made by that State, in relation to the fisheries mentioned in the fifth article; and also civil process issued under the authority of the State of New York, against any person domiciled in that State, or against property taken out of that State to evade the laws thereof; may be served upon any of the said waters within the exclusive jurisdiction of the State of New Jersey, unless such person or property shall be on board a vessel aground upon, or fastened to the shore of the State of New Jersey, or fastened to a wharf adjoining thereto; or unless such person shall be under arrest, or such property shall be under seizure, by virtue of process or authority of the State of New Jersey.

ARTICLE EIGHTH.—This agreement shall become binding on the two States when confirmed by the Legislatures thereof respectively, and when approved by the Congress of the United States.

Done in four parts (two of which are retained by the Commissioners of New York to be delivered to the Governor of that State, and the other two of which are retained by the Commissioners of New Jersey, to be delivered to the Governor of that State,) at the city of New York, this sixteenth day of September, in the year of our Lord one thousand eight hundred and thirty-three, and of the Independence of the United States the fifty-eighth. (Signed.)

B. F. BUTLER, THEO. FRELINGHUYSEN,
PETER AUGUSTUS JAY, JAMES PARKER,
HENRY SEYMOUR, LUCIUS Q. C. ELMER.

IN ASSEMBLY.—Friday, Jan. 10.

Bill introduced on notice.

By Mr. Myers, for the better security of steamboat passengers—referred to a select committee, and double the usual number of copies ordered. The bill provides that three steamboat inspectors shall be appointed for two years by the Governor and Senate for each of the cities of New York and Albany; whose duty it shall be to direct the peculiar construction of steam boats intended to navigate the Hudson, so as most effectually to guard against the bursting of boilers—to inspect all such boilers previous to their being placed on board—to examine as to the competency of the engineers now, or hereafter to be employed—to ascertain once every two months, during the season, the condition of the boilers and machinery of every boat, and examine minutely into the causes of every explosion:—Also, that no boat shall be permitted to carry passengers on the Hudson, without having been examined by two inspectors (any one of whom may prohibit the conveyance of passengers by any boat which he may judge to be defective in boilers or machinery,) nor unless the engineer shall have submitted to an examination and received a certificate of qualification. Penalty for navigating the Hudson without obtaining the certificate of the two inspectors, \$500 for each offence; and for employing an engineer who has not complied with the requisitions of the act, \$50 for each day he may be so employed. Fees of commissioners \$5 each per diem while on duty; to be paid by the person employing; and \$5 for each engineer's certificate. Each boat is to be reported by the captain, and registered, for which he shall pay \$2 50. Tow boats not included in the act. Racing prohibited on penalty of forfeiture of boat, machinery, &c.

LATEST FROM BUENOS AYRES.—We have been favored by a friend with the perusal of a letter from a gentleman in Buenos Ayres, to his friend in this city, dated the 8th of November, from which we learn that the insurrection, of which our last previous accounts made mention, is at an end, and tranquillity restored.

It appears that popular discontent rose so high that vast numbers of citizens abandoned Buenos Ayres, and repaired to the outside party, which soon amounted to 7000 men, well armed, whilst the government had only about 500 men, very badly mounted. In this state of things Gov. Balcarce addressed a note to the legislature, soliciting their advice. They returned an answer somewhat equivocal, but containing an oblique hint to resign. He rejoined, and said "he was resolved to abide by their advice, and even to resign, if their honorable body thought it advisable."

Without waiting for further formality, the Legislature immediately voted to consider his suggestion as a resignation—and addressed another note to his Excellency, acquainting him that they had accepted his resignation! They next proceeded without loss of time to elect a new Governor, when General Viamont received 17 votes, and General Pinto, the Speaker of the House, 12. The former being declared elected, was ordered to appear before the House immediately, to make the usual oath, which he did at once, and entered upon the active duties of his office. Having taken possession of the fort, he despatched a communication to General Piendo, the head of the insurgents, informing him of the state of things in the city, and received for reply that the armed citizens without the walls rejoiced at the election of General Viamont, and would cheerfully yield obedience to any commands that he might issue.

The next day about one hundred officers of Balcarce's party went off to the schooner of war Sarandí, and having made Capt. Wilder prisoner, got her under way and decamped. The Captain wrote back to the Captain of the port, stating that he was a prisoner, and that the officers required him to land them at Colonia—on the Banda Oriental. It was expected that the vessel would be returned. On the 7th of Nov. about five thousand of the outside troops entered the city and marched to the Plaza de la Victoria, where they saluted the new Governor, and after making a grand display those of them who were soldiers repaired to their respective quarters, and the citizens to their houses and avocations. "Our present Governor, says the letter, is an old patriot, universally beloved, and one who, though firm, is inclined to peace. The selection which he has made for his ministry cannot be better—Garcia for finances and government, and Gen. Guide for War and Foreign Affairs. Gen. Mancilla, Chief of Police, Gen. Pinedo, Inspector General, and Col. Espora, Captain of the Port. Thus has ended the most systematic and orderly revolution which has ever taken place. I call it a revolution because a legitimate government has been compelled to abdicate by the torrent of public opinion, and we are now likely to enjoy the sweets of peace for some years to come."—[Com. Adv.]

The idea of the annexed dialogue, which is of course supposititious, is clever—and it is cleverly carried out:

DIALOGUE BETWEEN CAPTAIN ROSS AND CAPTAIN HUMPHREYS.

[From the Leeds Mercury.]

Capt. R.—I have been thinking, Humphreys, what Lord Melville, and Croker, and my old enemy, Barrow, will say to my discoveries. I have prepared despatches for the Admiralty at least ten times, sealed them firmly, and enclosed them in a wooden box, in the hope that they might be found if I perished.

Capt. H.—Lord Melville and Croker are out long since. Sir James Graham is First Lord now.

Capt. R.—What, Sir James Graham? Of course it is not the radical member from Cumberland, who makes the motions about sinecures.

Capt. H.—The very same, and as stingy in office as he was snarling out. Even the King, though so fond of the service, can't stop his pruning and lopping.

Capt. R.—The King! why I thought he preferred the army, and neglected the navy.

Capt. H.—Ah! I forgot to tell you. Old George has gone. We've now William IV. The Duke of Clarence that was.

Capt. R.—Indeed! What sort of a King does he make? Is he a strict disciplinarian? I hope he has not infringed on the liberties of the people, nor ordered Brougham and Denham, who abused him so at the Queen's trial, to be strung up at the yard-arm.

Why, what a horrible renegade Sir James Graham must be! I wonder the Duke would take him in.

Capt. H.—The Duke! Brougham! and Denham! renegade! strict disciplinarian! Ah! my good fellow, you are a thousand leagues out of your reckoning: we've changed the poles of the earth since you left us.

Capt. R.—I hope you've not had a revolution?

Capt. H.—Oh no, but we've had Reform.

Capt. R.—What! Has Lord John Russell carried his motion to give members to Manchester, Leeds, and Birmingham? Did the Duke and Peel consent?

Capt. H.—The Duke has been turned to the right about three years since. Earl Grey and the Whigs are now in office.

Capt. R.—Is it possible! Grey is a fine fellow, but rather proud of his order. However you say reform is carried. How do Grey and the boroughmongers go on together?

Capt. H.—Just as the dog Billy and the hundred rats did. He has worried them every one—there is no such thing as a boroughmonger in the Kingdom—they have all gone to Davy's locker.

Capt. R.—You make game of me. Why, what has become of the Tory majorities of Parliament?

Capt. H.—Reduced to a miserable minority in the Commons, and kept in decent order in the Lords. All the large towns have representatives. The rotten boroughs are annihilated. The King turned Reformer, and then it was up with the Tories.—The Reformed Parliament has emancipated the West India slaves, opened the China trade, and reformed the Irish Church.

Capt. R.—You tell me miracles. Pray have the Whigs found out a way to pay off the National Debt?

Capt. H.—No, that and the North West Passage will be discovered together.

Capt. R.—But tell me, has the King forgiven Brougham and Denham?

Capt. H.—Judge for yourself, the first is a Lord, and keeps the King's conscience; the second is Lord Chief Justice of the King's Bench.

Capt. R.—Good Humphreys! tell me next, do people walk on their hands or their feet now in England?

Capt. H.—The fashion had not changed in that respect when I sailed; but what think you of their travelling at the rate of thirty knots an hour—a hundred people or so drawn by one engine!

Capt. R.—Now, Humphreys, don't bounce; no tricks upon travellers; you, at home, are turning Manchus now.

Capt. H.—As I live, it's true; the Duke of Orleans went the other day from Liverpool to Manchester in an hour and five minutes.

Capt. R.—The Duke of Orleans! I hope the French have not invaded us; yet old Charles X. must have hated the English Reform.

Capt. H.—To be sure he did; he was running as fast as possible the other way, that is, towards pure despotism; so the French capsized him; and put his cousin the Duke of Orleans at the helm. They call him Louis Philip, and he makes a moderately good King, and keeps the French quiet, though the Liber-

als say he does not go far enough. His daughter married Leopold.

Capt. R.—Prince Leopold, you mean; do they live in England then?

Capt. H.—Prince Leopold! No, lack-a-day, one has to teach you the whole alphabet over again. King Leopold—King of Belgium; that is a new kingdom sprung up, separated from Holland; the Belgians do not like playing second fiddle to the Dutchman, so they mutinied, and chose a captain of their own, and they've got our Prince Leopold.

Capt. R.—And what said the Holy Alliance to that?

Capt. H.—Said! Why, Nic was beginning to be saucy, and talked of sending an army to France; but the Poles revolted, and it took a twelvemonth to lick them; they fought like lions, but what signified that when they were surrounded by such a set of devils? At last Nic got them down, and then he cut their throats. As to Austria and Prussia, they did not like the look of things, as the Frenchmen were clearing for action, and calling all hands on deck. So they thought it better to sheer off.

Capt. R.—You take away my breath. I can't receive all this at once, and I fear you're bouncing, Humphreys, or else the world has turned topsy-turvy, whilst I have been locked up in ice these four years, almost as fast as a block of freestone. I thought if any body had climbed to the top of the tree in England, it would have been Huskisson.

Capt. H.—Poor Huskisson! he's gone; he was run down by an engine at the opening of the Liverpool railway, and killed.

Capt. R.—Horrible! I am almost afraid to ask who is alive. But tell me, how is my old neighbor —, and his daughter, a pretty little girl just left school.

Capt. H.—Little girl! She is Mrs. —, and has a fine boy a year old.

Capt. R.—You don't say so: the chit! Well, I see the world's going on the old principle still; but every thing seems to be done quicker in England than it used to be. What is Walter Scott's last tale?

Capt. H.—Ah! He has told his last; we have got to the Finis: the bright star has set. But I have news for you—the course of the Niger has been discovered.

Capt. R.—Who is the lucky man?

Capt. H.—Two young chaps called Lander; one of them was the attendant of poor Clapperton.—They are well behaved, steady lads, and they have done what so many fine fellows perished in attempting. They have traced the river to the Bight of Benin. One of them has gone out again, and it will be well if the dysentery does not catch him this time.

Capt. R.—(Sighing) I was not born under so fortunate a star. But I have done what man could do, and suffered more than most. Even Barrow will confess that.

Capt. H.—Every body will confess it. Cheer up man, you have solved the problem one way at least: you could not find a passage where there was none. Four winters in the ice is what no man ever endured before. The world will give you every credit for bravery, perseverance, and skill, not to be outdone.

Capt. R.—Do you think so?

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 10th to the 31st of December, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermom.	Baromet.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Dec. 10..	6 a. m.	36	30.00	sw by w	fresh	{ wsw } { wnw }	fair.
	10	40	30.01	wsW-WNW	..	WNW	cloudy from WNW
	2 p. m.	40	30.02	WNW-NW	stormy	..	..
	6	39	30.10	NW	fresh	..	..
" 11..	6 a. m.	36	30.16	NNW	..	{ w by s } { wnw }	fair
	10	38	30.15	..	..	..	..
	2 p. m.	41	30.11	..	..	..	..
	6	37	30.13	..	..	..	hazy
" 12..	10	34	30.14	..	..	..	—fair
	6 a. m.	26	30.20	N by W	..	wsW	fair
	10	28	30.23	..	..	..	..
	2 p. m.	32	30.20	NNW	..	..	clear
" 13..	6	31	30.24	..	..	..	..
	10	26	30.29	..	..	..	..
	6 a. m.	22	30.34	..	light	..	..
	10	26	30.35	..	..	..	..
" 14..	2 p. m.	32	30.29	NE-SE	faint	..	..
	6	30	30.30	NE	..	..	..
	10	26	30.31	..	..	..	..
	6 a. m.	22	30.28	..	mod.-fresh	{ w by s } { NE }	cloudy
	10	23	30.28	NE by E	fresh	{ NE by E }	..
	2 p. m.	27	30.14	ENE	strong-gale	ENE	..
	6	31	30.05	..	gale	..	—snowy
	10	31	29.93	..	—strong	..	—snow

CITY OF NEW-YORK—CONTINUED.

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Dec. 15.	6 a. m.	30	29.88	N by E	strong	..	snow
	10	29	29.93	N	fresh	..	..
	2 p. m.	31	29.99	N by W	moderate	NNW	cloudy
" 16.	6 a. m.	27	30.09	NNE	..	ENE	hazy
	10	29	30.15	NE—ENE	..	..	cloudy
	2 p. m.	30	30.27	ENE	..	..	..
" 17.	6 a. m.	34	30.24	..	fresh	..	..
	10	34	30.20	..	strong-gale	..	..
	2 p. m.	34	30.13	..	heavy gale	..	rainy
" 18.	6 a. m.	39	29.72	NE by E	mod.	..	rain
	10	40	29.63	..	..	..	..
	2 p. m.	43	29.50	NE by E	..	..	cloudy
" 19.	6 a. m.	39	29.60	..	..	..	..
	10	39	29.63	..	..	..	..
	2 p. m.	41	29.72	NNE	fresh	..	..
" 20.	6 a. m.	37	29.80	..	..	..	..
	10	35	29.91	..	..	..	..
	2 p. m.	32	30.00	N by E	moderate	NNE	fair
" 21.	6 a. m.	34	30.18	NNE	..	..	..
	10	36	30.19	N by E	..	N by E	clear
	2 p. m.	32	30.24	..	..	..	..
" 22.	6 a. m.	29	30.27	..	..	..	..
	10	24	30.31	N by W	..	..	..
	2 p. m.	27	30.36	N	..	..	..
" 23.	6 a. m.	32	30.30	..	..	..	..
	10	31	30.30	..	calm	..	..
	2 p. m.	27	30.32	..	..	..	..
" 24.	6 a. m.	25	30.23	N by E	light	WSW	fair
	10	29	30.30	..	..	..	..
	2 p. m.	36	30.25	SW—WNW	faint	..	cloudy
" 25.	6 a. m.	34	30.23	s westerly	..	..	..
	10	34	30.20	..	..	..	rainy—moon visible at times
	2 p. m.	34	30.10	NNW	..	..	..
" 26.	6 a. m.	36	30.12	NW	moderate	WNW	..
	10	40	30.11	..	..	WNW	..
	2 p. m.	37	30.20	..	..	..	clear
" 27.	6 a. m.	35	30.23	..	calm	..	..
	10	34	30.25	NNE	faint	w by s	fair
	2 p. m.	36	30.28	..	..	..	cloudy
" 28.	6 a. m.	36	30.24	..	..	..	..
	10	36	30.20	..	..	..	rainy
	2 p. m.	36	30.10	..	..	..	..
" 29.	6 a. m.	40	29.82	NE	strong	NE	..
	10	39	29.86	NNE—N	—fresh	..	..
	2 p. m.	40	29.85	NNW	fresh	{ WSW } { NNW }	cloudy
" 30.	6 a. m.	39	29.89	..	moderate	..	..
	10	39	29.88	..	..	..	..
	2 p. m.	38	29.78	NE	moderate	..	and foggy
" 31.	6 a. m.	39	29.77	NNE—N	..	..	rainy
	10	40	29.60	NNW	..	..	—snow and rain
	2 p. m.	38	29.63	NNW	..	..	..
" 32.	6 a. m.	36	29.63	..	..	..	rainy
	10	38	29.63	..	..	..	..
	2 p. m.	38	29.63	..	..	..	..
" 33.	6 a. m.	33	29.97	WNW	fresh	{ WSW } { NNW }	fair
	10	41	30.03	..—w by s	..	..	..
	2 p. m.	39	30.10	w by N	..	w by N	clear
" 34.	6 a. m.	35	30.11	w by s—wsW	..	..	..
	10	34	30.11	wsW	..	..	..
	2 p. m.	32	30.10	w by N	..	..	fair
" 35.	6 a. m.	33	30.11	WNW—w by N	..	..	..
	10	33	30.11	w by N	..	..	..
	2 p. m.	34	30.10	..	..	WNW	..
" 36.	6 a. m.	31	30.09	..	..	..	..
	10	30	30.09	..	..	..	..
	2 p. m.	30	30.05	WSW	..	{ WSW } { WSW }	cloudy
" 37.	6 a. m.	31	30.10	..	..	..	..
	10	33	30.08	w by s	..	w by s	cloudy
	2 p. m.	33	30.04	..	moderate	..	..
" 38.	6 a. m.	33	30.06	..	..	..	..
	10	33	30.06	..	..	..	..
	2 p. m.	35	30.14	..	..	w by N	fair and pleasant
" 39.	6 a. m.	37	30.19	..—w by N	..	..	..
	10	41	30.20	..—w by s	..	{ WSW } { N }	..
	2 p. m.	36	30.27	WSW	light	..	..
" 40.	6 a. m.	34	30.30	..	..	..	..
	10	33	30.28	ENE	..	..	cloudy
	2 p. m.	35	30.35	..	..	s	rainy
" 41.	6 a. m.	36	30.25	..	..	..	..
	10	39	30.21	..	faint	..	..
	2 p. m.	41	30.17	..	..	..	..
" 42.	6 a. m.	39	30.02	NNE—N by E	..	..	cloudy and foggy
	10	41	30.04	N—NNW—w by s	..	WSW	..
	2 p. m.	42	29.96	WSW	moderate	..	fair
" 43.	6 a. m.	42	29.93	..	..	..	..
	10	39	29.96	..	..	..	cloudy

In December, the observations of winds from the North-Eastern quarter, were 794—from the South-Eastern, 1—from the South-Western, 23—from the North-Western, 431.

The observations of the direction of clouds or higher currents, for the same month, were as follows: From the North-Eastern quarter, 28—from the South-Eastern, 1—from the South-Western, 534—from the North-Western, 251.

Maximum of the barometer 30.50 in.—Minimum, 29.50 in.—Range, 1 in.

The snow storm of the 14th commenced at Baltimore at half past eleven on Saturday morning, and at Philadelphia at 4 o'clock in the afternoon, and continued about the same length of time as here.

The storm of the 17th, as well as that of the preceding Saturday, commenced somewhat earlier at the south and later at the eastward than usual; or, in other words, the progress of these two storms from south-west towards the north-east was slower than the average of other storms. The storm of the 17th is said to have been near twenty-four hours in travelling from New-York to Portland.

The common notion that the violent westerly wind which commonly succeeds an easterly gale is an opposing or antagonist wind, forcing back the easterly gale, is disproved by the facts attending the gale of the 17th, which, in this part of the country, exhibited no change to the westward—the wind continuing to blow from the north-eastern quarter till long after the gale had passed beyond the eastern limits of the United States. Such facts can be satisfactorily accounted for only by admitting the circuitous or whirlwind character of these storms.

GRACIE, PRIME & CO. having this day taken into co-partnership JOHN CLARKSON JAY, will continue their business under the same firm—New-York. 1st October, 1833.

FOR SALE.

ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1832, with wood cuts, &c. dedicated to Historical and Natural Sciences, Botany, Agriculture, &c. at one dollar per annum.

MEDICAL FLORA OF THE UNITED STATES, in 3 vols. with 100 plates, containing also the economical properties of 500 genera of American plants, \$3.

MANUAL OF AMERICAN VINES, and Art of Making Wines, with figures, 25 cents.

FISHES AND SHELLS OF THE RIVER OHIO, 1 dollar.

AMERICAN FLORIST, with 36 figures—price 36 cts.

* Orders for these works, or any other of Professor Rafinesque's, received at this office. A91J M & F

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jarvis, Eng. M. & H. K. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, { January 20, 1833. } F81f

INCOMBUSTIBLE ARCHITECTURE.

INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTIGNIS, or incombustible Varnish, at one dollar per lb.

Apply to C. S. RAFINESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 3rd street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushton & Aspinwall, Druggists.

Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means. S1 R J M M & F

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Laneburg, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure.

One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Laneburg, August 15, 1833. A291 R M & F

TO RAILROAD COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level Mountain roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double track. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1823, by his savings filed in the Patent Office. Apply, post paid. S1 R J M M & F

TO STEAMBOAT COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, offers his services to render steamboats incombustible and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and deserted by the public as unmindful of safety. Apply, post paid. S1 R J M M & F

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN, 347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:

NEW YORK FARMER and American Gardeners' Magazine.

MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

List of Subscribers who have paid in advance to the year 1835.

Ayres, John B., Jonesborough, Ala.
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Ackley, Henry, Ithaca, N. Y.
Akins, Jonathan, Pawlings, Dutchess co. N. Y.
Albers, J. H., New-York City.
Boyce, Lt., Philadelphia.
Bache, Major, Philadelphia.
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Buel, jr., Jesse, Albany, N. Y.
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Reynolds, L. O., Savannah, Geo.
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Wing, Elibu, Quaker Hill, N. Y.
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Willard, W. T., New-York City.
Williams, John R., ditto.
Yates & McIntyre, ditto.

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.
D. K. MINOR, 35 Wall street.
New-York, August 14, 1833.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

AGRICULTURAL WAREHOUSE AND SEED STORE.

No. 81 Barclay street.

H. HUXLEY & CO., Produce Brokers, offer their services in selling and buying all kinds of Country Produce, and Farming and Gardening Implements.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J331f

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 72 of this Journal.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

J31 6t

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This Instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer accurately any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later all angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.
Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.
E. H. GILL, Civil Engineer.

Germanstown, February, 1833.
For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germantown, and Norristown Railroads.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch, 200 do. 1 1/2 do. 40 do. 2 do. 800 do. 2 1/2 do. 800 do. 3 do. soon expected.

Flat Bars in lengths of 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON, 9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing & Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your Manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, JANUARY 25, 1834.

[VOLUME III.—No. 3.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JANUARY 25, 1834.

SAFETY APPARATUS FOR STEAM BOILERS.—

An apology is due to several of our esteemed correspondents for the delay which has occurred in the publication of their communications. That of Lieut. A. C. Twining and of J. S. Williams, Esq. of Cincinnati, Ohio, were received a long time since, but have been delayed by my absence and a desire of giving another communication upon the same subject, in the same number of the Journal. It is not, however, in readiness, and we will not longer delay those which have been so long in hand.

The communication of Mr. J. N. Pomeroy, describing a new mode of constructing vessels, has also been some time in hand. It is, indeed, as he observes, "as a water craft entirely unique," and as such, we submit it to the observation of the public.

At a meeting of the Stockholders of the LAKE ERIE and MAD RIVER RAILROAD COMPANY, held, as we are informed, at Urbana, January 9th, 1834, it being ascertained that more than five thousand shares had been subscribed, they proceeded to the election of officers, when the following gentlemen were duly appointed :

President—Joseph Vance.

Directors—Horatio G. Phillips, Pierson Spining, John C. Pearson, Benjamin M. Piatt, William Townsend, Charles G. Swaim, Jonathan Harshman, Charles Cavileer, John H. James, Josiah Hedges, James Hollister, and John G. Camp.

Treasurer—John H. James, of Urbana.

Secretary—Jeremiah Warder, Springfield.

Committees were appointed to take such other measures as they may deem proper to cause the subscriptions of stock to be filled, to employ a competent engineer for the final location of the road, to commence on the first day of May, and so soon as 800,000 dollars shall be taken, the work is to be put under contract, from Dayton to Urbana, and from Portland to a point 40 miles south, and beyond Tiffin.

MR. BURDEN'S STEAMBOATS.—It is said that a company of gentlemen in Albany have purchased of Mr. Burden the exclusive right to use steamboats made after his model, for the conveyance of passengers upon the Hudson river. Mr. B. reserves to himself the privilege of using his boats on the Hudson for freighting and towing.

However great may be the improvement which Mr. Burden had made in the construction of boats to be propelled by steam, we think further progress in the art will yet be exhibited. Mr. Langdon, of West Troy, has already a model of a boat prepared, which promises fair to outstrip Mr. Burden's. While it combines all the requisites which B.'s plan furnishes for obviating the resistance of fluid through which it passes, it also possesses the additional advantage of a greater buoyancy. It may also be constructed at a less expense, and does not appear so likely to get out of repair. We shall not be surprized to see it rank before Mr. Burden's, both as to speed and safety.—[Troy Budget.]

The following extract is taken from a London paper :—

Application is intended to be made in the ensuing session for a bill "to authorize in the constructing, improving, and using ten feet in width of the carriage way, or waste ground on the side of the carriage way, of the turnpike roads from Islington, in the county of Middlesex, to the town of Birmingham (being part of the several roads constituting the Holyhead mail-coach road between those places) into a hard and solid road, for the passing or travelling thereon of locomotive steam carriages;" comprising also powers to levy and collect tolls upon such carriages, and to apportion them between the trustees or proprietors of the said roads, and the persons who shall be authorized to construct such intended steam carriage road; and to alter and increase the tolls, rates, &c. authorized by the various acts at present in force.

RAILROAD, GERMANY.—The subscription for the intended railroad between Nuremberg and Furth amounts already to 130,000 florins.

Our "highly esteemed correspondent," the writer of the following extract and communication, need not be at all apprehensive that his communications will be omitted "agreeably to the law (of editors) in such cases made and provided" in consequence of a "press of other matter"—especially if they should have the same, hereafter, to recommend them as those already received: they will always find a place in the Journal. We cannot, however, forbear to publish the following extract from his letter by way of showing his philosophy, and at the same time recommending it to those who may have occasion to exercise it.

"I am sorry that I could not have furnished you with an article less prolix, and more worthy of the Journal; but you need not hesitate at declining to use it. You have only, 'agreeably to the law (of editors) in such case made and provided,' to express your 'profound regret, that the press of other matter, &c. &c. obliges you to omit the publication of the communication of your highly esteemed correspondent, &c. &c. &c.—and this, you know, applies the anodyne to all wounds of this kind."

On the Petrifying of Wood, as applicable to Timber for Railroads, &c. By G. [For the American Railroad Journal and Advocate of Internal Improvements.]

Some time since, in an eastern paper, there appeared an article stating that some person had discovered a method of completely petrifying wood, and so preserving it nearly, or quite indestructible, by saturation with HYDRATE OF LIME. If any of your correspondents furnish any information of the process, or any facts which may elucidate the subject, perhaps they might render an important service to the cause of railroads, in situations which require or admit the use of wood; and I would respectfully suggest to any who may recollect such facts, that the communication of them to the Railroad Journal would be a gratification to at least one of its readers—probably to many.

It is said that timber imbedded in lime, under certain circumstances, as, for instance, the ends of beams inserted in the walls of brick houses, decays sooner than in the open air—becomes dry rotten, &c. I have heard it argued that this is owing to the causticity, or some other quality of the lime; and to prevent the effect, it has been a practice, in some cases, to leave a space for the ends of the beams, large enough for the free circulation of air around them, and free from contact with the lime used in the construction of the walls. Whether the facts ob-

served in these cases fully justify the conclusion that time is always, or ever, injurious to the durability of the timber, I would not venture to assert, and it is not my purpose now to inquire. I am willing to admit the conclusion that it may be so in some cases; but I would suggest the inquiry whether its causticity may not be so completely destroyed by saturation with water, and in this state whether wood may not be so far impregnated with it as to become much more durable, and perhaps next to indestructible.

The notice mentioned at the introduction of this article, if it may be relied on as fact, answers the inquiry in the affirmative. Of the fact, however, I am ignorant, and therefore it is that I make this communication and inquiry. My object is to excite others to further investigations, and with this end in view, I beg leave to state some facts of which I have been informed, which seem to me to prove sufficiently, that lime may, in some situations, be made to contribute very essentially to the durability of wood; and, perhaps, may suggest a remedy, to some important extent, for the disadvantages to which wooden railroads are obviously liable.

Some years ago, I was travelling on the sea-coast of Maine, and put up for a night at the house of an elderly gentleman, who had been all his days concerned in ship-building and navigation, and appeared to be a sensible, shrewd observer. He had, that day, a new vessel arrived from her first voyage to a foreign port, and among other circumstances was told that she had not leaked a drop during the voyage. This led me to remark that she must have been exceedingly well built. He replied that he thought the tightness of the vessel was owing, in a measure, to the lime with which she had been stuffed while building. He had been led to believe that lime was a better preservative of the timber of ships than salt, or any other substance heretofore used for that purpose. While this vessel was being built, and before ceiling up the inside, he had the interstices of the timbers filled with new stone lime, pounded fine enough to be driven in between the timbers, and rammed in as solid as was possible in that state; the planking was then finished, and the lime left to slake and fill the remaining interstices. His theory was, that the air, and the moisture of the wood, and perhaps a little water, which might be expected to leak into the best built vessel, would slake the lime so that its expansion would fill every chink in the timbers, and penetrate the pores of the wood itself, sufficiently to prevent speedy decay; but any effect in rendering the vessel more staunch he had not anticipated. He, however, concluded that the expansion of the lime, though, from its small quantity, not sufficient to injure the vessel by its mechanical force, yet had been sufficient, by the addition of the little water which had leaked in, to form a mass of mortar so solid as to prevent, at least in some degree, the further ingress of water from without. This, however, was a new idea, and the present experiment was not conclusive; but as to its effect in preserving the timber, he had no doubt; and he related several facts in his own knowledge in support of this opinion.

As one instance, he stated that he had once owned a coasting vessel, built of the common timber of the coast of Maine, which, when nearly new, was once bound from Thomaston to Boston, with a cargo of lime, and on her passage went ashore somewhere between Cape Ann and Boston, and bilged. The lime slaked, burnt the deck and upper works, and, as might be expected, penetrated the timbers throughout. The vessel was unloaded, repaired, and lived, I think he said, thirty or forty years after this event; had undergone occasional repairs since, but the principal part of the original timber remained. When, after that time, examined, it was found that the original timbers, which had been impregnated with the lime, were perfectly sound, while those which had been added since that time, were all, or nearly all, rotten. He adduced, also, the

fact that vessels employed in carrying lime, generally, if not always, last longer than any others; and said that he had resolved thereafter to saturate, as far as possible, all his vessels with lime, as the best method of preserving them from decay.

Another instance was that of a parcel of pine planks which had been used as a platform, on the ground, on which to make lime mortar. This platform was laid by his grandfather, in a corner of the yard, and used more or less every year for the purpose of a "mortar bed." His father continued it in the same use; himself, the grandson, continued it for a time, as long as he had occasion; after which, it lay some years unused, and overgrown with grass and weeds; at length, wanting the ground for another purpose, he had it torn up and removed, expecting to find the planks entirely rotten—but, to his surprise, found them sound, and, to use his forcible expression, "as hard as a bull's horn." This was after they had lain in contact with the surface of the ground, exposed to all the vicissitudes of the atmosphere, I think he said, about sixty years!

It is now near 15 years since I received these accounts from the old gentleman, and I have never seen him since: my recollection, therefore, may not be perfectly accurate in the details of his statements, but of their substance I feel certain. When I saw the notice referred to in the beginning of this article, respecting the preservation of timber by means of hydrate of lime, these facts at once recurred forcibly to my mind, and I was led to the inference that, in the cases mentioned, there had been so much water present as to destroy the caustic properties of the lime, convert it to a hydrate, and hold so much of it in solution, and in such a situation, as that it might always be presented to the wood for its absorption, until it had become entirely saturated, and the wood thus effectually preserved.

Will some of your correspondents recollect, and furnish for publication in the Journal, such facts as may confirm or correct this inference, and trace out its legitimate consequences if confirmed?

G.

Safety Apparatus for Steam Boilers. By ALEX. C. TWINING. To the Editor of the American Railroad Journal.

SIR,—I have read several interesting articles in your Railroad Journal, the object of which was to propose one plan and another for protecting steam boilers against that danger of explosion which arises from the exposure of the flues to a violent heat when the water is permitted to descend below them. Respecting this hazard, (which is of frequent occurrence, as any man may be satisfied who takes time and pains to make extensive inquiries, and concerning which I speak reflectively when I express the opinion that it subjects the traveller to more multiplied and more fearful risks than any other circumstance attending the steam engine,) there can scarcely be too much discussion, until some adequate means of public safety in relation to it shall have been discovered and brought into common use. In this article I design to add one more to the proposed expedients for safety, after bringing up to view one or two principles which are necessary to a clear understanding of the precise object before us, and which are often overlooked by those who discuss this subject.

It is a principle, or, at least, it is a truth, which ought to take the place of a principle, not to be lost sight of on this subject, that mechanism, ever so excellent, cannot be made to supersede the practice of that same strict and personal examination by means of the gauge-cocks, which is now enjoined upon the engineer and other attendants of the engine. The propriety of this assertion will be understood by every one who is practically acquainted with the imperfection of materials, and knows that machines, put together according to the best rules of art and maxims of science, are subject, nevertheless, to irregularities, which, in

mechanism for this purpose, though they occur but once in many years of time, do entirely prostrate the whole design. Nothing can be more simple, as a security against excess of steam in the boiler, than the present safety valve; yet, simple as it is, no one ventures to rely upon it without the attendant indications of the mercurial gauge; and if any arrangement equally simple shall ever be devised to meet the object now in question, as it is very probable there may, no-wise man will rely upon it without the attendant indications of the gauge-cocks,—at least, until the construction of boilers shall make their explosions, when they do occur, altogether less destructive than they are at present. Indeed, if the vigilance and skill of those who are entrusted with the engine might be implicitly relied on, there would be little occasion for seeking any other safeguard: but men are scarcely less fallible than mechanism; and if the defects of this make it an uncertain dependence, the defects of the other ought, on the same principle, to teach us the necessity of providing a check against those causes of danger which do continually act,—such, for example, as deficient skill, or inattention, or drowsiness, or the use of spirituous liquors, or unforeseen accidental circumstances—causes that beset the passengers' way with dangers which a timely prevention generally disarms, but which sometimes give terrible demonstration that they are not imaginary. From such considerations we infer that no apparatus can do away with the necessity of that personal vigilance which is now the only dependence for safety—that the single end of an apparatus should be to provide a check upon those causes which make that first dependence sometimes to fail, and that such an apparatus is really most necessary, notwithstanding the opinions of many practical men to the contrary.

But, in forming such an apparatus, it should be a principle to make its indications of such a kind as to give the early notice of impending danger, not to passengers, but to those attendants on the engine whose business it shall be to apply the remedy. An opposite idea, it is true, has been incorporated into most of the current devices, for sounding or ringing alarms, or regulating moveable indices, open to the sense of all who may wish to gauge, at any moment, the precise dimensions of their travelling security. Not that bells or an index might not be so arranged as to give timely notice in the proper quarter only; but those projectors who have contemplated arrangements for indiscriminate alarm, have taken measures to defeat the success of their own projects, since experience has shown that the excitement and headlong impulses of a mass of people, acted on by the impression of impending danger, are almost as much to be dreaded as any common danger itself; and it is from their experience of this tendency, as well as from motives of immediate interest, and pride of personal feeling, that captains and proprietors would naturally discountenance every plan which would proclaim indiscriminately each momentary danger. The thing to be aimed at is to give notice when danger is at hand to those who have the means of averting it, and not at once to others; for, although it were ever thought a doubtful question whether passengers ought not at once to know the crisis, yet it is not a doubtful question whether captains and proprietors will readily consent that they shall; and still less is it doubtful respecting any specific means of safety, whether it will come into general use without the favor of those authorities.

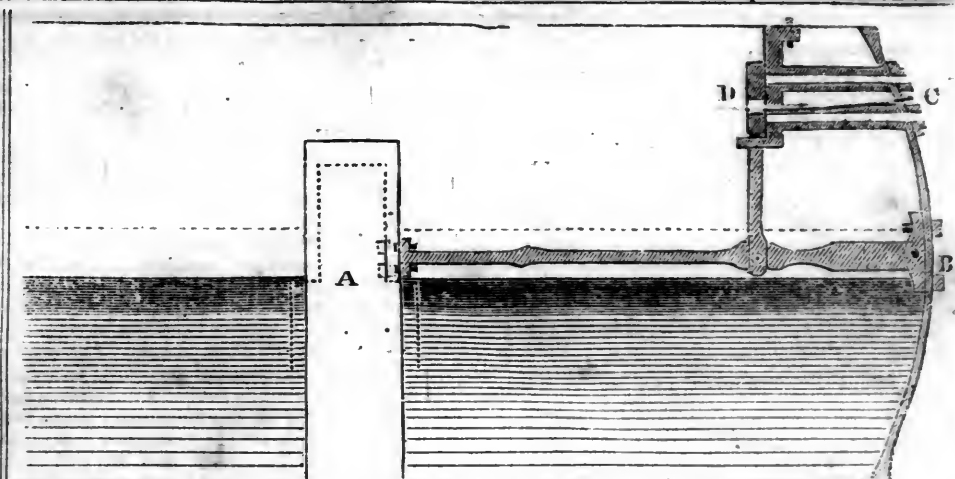
These considerations, with others, led the writer many months ago to suggest to two or three individuals, of great skill in the steam engine, an arrangement for causing a small puff of steam to issue and alarm the engineer and firemen, in case the water should fall too low, while by others it would be undistinguished from the common sounds that now issue from the boilers, unless, indeed, the evil were permitted to continue uncorrected, in which case the

increasing alarm would give indiscriminate notice of neglect and hazard. Since the time when those communications were made, an interesting article has found insertion in your Journal respecting a safety apparatus invented by Mr. Kennedy, of New-York, which, if I understand it rightly, embraces in its plan substantially the same idea. Mr. Kennedy, therefore, if that method of alarm shall be found to possess advantages sufficient to bring it into use, will be entitled to the merit of having first brought the idea up to public notice; though his particular arrangement, there is reason to fear, would fail of success, from a circumstance which deserves to be pointed out more specifically.

The circumstance alluded to, (and which, indeed, is common to most other plans that have been proposed for this object,) is that the rod, which connects Mr. Kennedy's float with his escape valves, is made to pass through the boiler in such a manner that this rod, or rather the "wadded stopper" which it works, is subject to the atmospheric pressure above, and the steam pressure beneath; but as the atmospheric pressure is subject to changes equivalent to two inches of mercury, and the steam pressure in the boiler to changes much greater, it may be seen at once that a stopper of no more than one inch in area would be subject to influences which would of themselves greatly impair the accuracy of the indications of any float of moderate size. Add to this the friction of the stopper, which by reason of its packing must adhere to the tube with a considerable force, and there will be found in these three disturbing forces reason to apprehend a very capricious action of the float.

In my own arrangement, as well as the preceding, there are valves and a rod; but the rod is to work wholly in the steam, and is to be connected with the float by the intervention of a lever, which gives a considerable mechanical advantage,—say, an advantage of three to one. At the same time, packing is made unnecessary by the adoption of a metallic plate, working upon another plate in the manner of the common slide valve; but this will be more fully understood when we shall come to the figure and explanation.

None of the plans in your Journal which I have noticed, except Mr. Kennedy's, have guarded against the uncertain amount of action in the float from its ebullition or foaming of the water. Mr. Kennedy has proposed a box, in which his float is to rise and sink; but I propose to accomplish the same object only by adapting the form of my float to that purpose, in the manner following: Suppose a float of the form and in the position of an upright cylinder, sunk just to touch the boiler at its lower end, or within an inappreciable distance of it, the water in which it floats being dead or free from ebullition; then when steam began to be generated, the water would swell in bulk and rise in height around the cylinder, but the upward pressure upon the cylinder's base would remain unvaried, since the specific gravity of the column above it is as much diminished as its height is augmented. The cylinder, therefore, would neither sink nor rise, but would retain its position unaltered until the absolute quantity of water in the boiler became itself altered. By adopting thus a cylindrical float, to sink in the dead water as near to the bottom as the requisite play of the float will admit, we may secure the necessary regularity of action. But, in case it should be inconvenient for the float to sink so deep, let us suppose the immersion to be only to a part of the water's depth—it may be one-third, or one-fourth—then, if the immersed cylinder suddenly break off in its shape to a less diameter at the water line, forming a smaller cylinder, resting immediately upon the larger, and united to it at the precise line of the water, and if the cross section of the smaller bear the same ratio, in area, to the cross section of the larger, that the immersion in dead water of the combined float bears to the average depth of dead water required in the boiler, such a float will be very nearly stationary



when the water changes from its dead state to a state of violent ebullition, or foaming. By the principles of hydrostatics, it would be perfectly stationary if the density of the floating column of water in ebullition were alike from bottom to top; but this is not the case in reality, by reason of the bubbles of steam enlarging a little as they ascend, and the greater quantity of steam thrown up along the sides of the boiler, establishing a superficial current from the sides to the middle. The variation from equal density, however, in the middle, is not great, and it is in favor of the float's descending too low when the water foams: which is on the side of safety. One of the gentlemen to whom I had communicated, in conversation, the principles of this apparatus, objected to hollow floats; that he had often in the actual trial found them unaccountably to fill with water. This result was doubtless occasioned by minute imperfections in the metal and workmanship, which did not manifest themselves until the float became subject to the steam pressure in the boilers, and to the corrosive action of the water and gases. These imperfections it may not be easy wholly to avoid; and the objection led me to adopt, in my proposed arrangement, a float entirely open at the bottom, which would always be emptied of water by the ascending steam, and its buoyancy kept unimpaired so long as there is occasion for its action.

Before leaving this subject, I will remark upon one mechanical principle, which, if real, possesses the greatest practical importance. The nature of the danger which is to be dreaded, in the case of a deficient supply of water in the boiler, is very generally understood—that is, if the water line descends below the flues, they become intensely heated, and when the water, either by ebullition or by injection through the supply cock, again reaches the incandescent metal, an immense quantity of vapor is immediately generated, which neither the safety valve can discharge, nor the boiler sustain. This is a common and satisfactory statement, and one which receives confirmation from the valuable experiments of Professor Johnson, of the Franklin Institute. There is, however, a mode of action in this vapor, and one which may be, in particular cases, of intense efficacy, that involves a mechanical effect additional to those above mentioned; and I embrace this opportunity of calling the attention of men of practical science in the steam engine, to the principle involved, as I do not remember ever to have met with it. It is well known that, if a charged gun barrel be so loaded as to leave a considerable space between the ball and charge, the piece will burst when fired. The French, and I believe the military rationale of the fact is, that the flame, reverberating from the ball back to the charge, creates a more perfect and sudden inflammation in the chamber than would otherwise take place. But, although this explanation does assign a real cause, we might ask whether the amount of gas thus sud-

denly evolved, can exceed that which was pent up in the same chamber, at the proof of the piece with double or even treble charges, and weight of ball? A more adequate cause might be assigned, arising out of the established principles of re-action: for when inflammation of the charge takes place, the whole volume of gas, urged by a pressure equivalent to hundreds of atmospheres, rushes towards the muzzle of the piece; but when it meets the ball, there is a sudden check in the moving mass, which must re-act laterally upon the chamber in the manner of a shock or blow. The accumulated force which the gaseous material has been progressively receiving from its evolution to its impact on the ball, is brought to bear in one instantaneous impulse on the sides of the piece which cannot resist the momentum, and swells or bursts. A most able mechanician, the same who is engaged in conducting the gun factory of the late Eli Whitney, of New-Haven, informed me, not long ago, that, at one period of their inspections by the United States' officer, more than a hundred barrels were ruined by being swelled or burst at the chamber, from some cause most inexplicable to the artificers, till at length they made a ponderous rammer, to drive home the balls with most quivering certainty, and the mysterious effect was experienced no longer. Now, to apply this principle of force to the subject in hand, when, in the case supposed, the water, by ebullition or by injection through the supply cocks, reaches the incandescent metal, not only an immense volume of vapor is suddenly generated, but, being generated within narrow limits, it must rush on every side with great velocity, and reach the limits of its confinement with accumulated momentum, and a shock similar in kind (though vastly less in amount) to that experienced in the case of the gun barrel already dwelt upon. This principle of force is a real cause of rupture, of an unknown degree of efficacy, and one which ought not to be neglected by practical men; for it may sometimes occur, in consequence of the same mode of action, that even without a deficiency of water, but merely from excess of steam, our present means of safety may become a cause of explosion; for if an overstrained boiler were suddenly relieved from its state of undue tension by a hasty opening of the escape valves in full, the water, being of high temperature, would fly into steam, which, though not in volume too excessive for the boiler to bear, would certainly rush with an upward motion to the limits of the boiler, and encounter the resistance there with a shock which might prove fatal. In every such case the escape valves should be opened very gradually. This may possibly prove to be the explanation of the circumstances which have been accounted so mysterious, that boilers placed apart, and connected only by the steam education pipes, manifest a sympathy through which, in case of rupture, a second boiler often follows the destiny of the first: for instance, in the late disaster of the New-England,

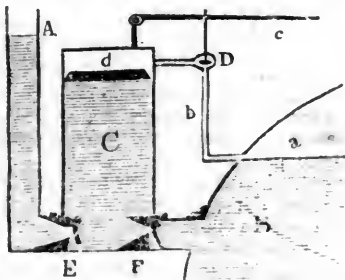
which was caused, it is believed, by excess of steam, and not by deficiency of water, it cannot be supposed that the two boilers were so nicely matched in strength that a given pressure in the same instant shattered both; but it may be supposed that, when the first exploded, and pressure was thus taken off the second through the eduction pipes, water flashed into steam in quantities equal to the discharge through the vent opened through the pipes, and met the boiler, already strained to its limit, with a momentum which proved fatal. This idea is countenanced by the distinct, yet very contiguous explosions of the first and second boilers in that unhappy disaster.

I now proceed to explain the prefixed figure, which is intended to represent a middle and vertical section made longitudinally through the boiler, and safety apparatus proposed and alluded to in the foregoing remarks. A B represent the lowest admissible water line; and the dotted line, above, the highest. At A is a cylindrical float, extending nearly to the bottom of the water; or, for the uniform cylinder, may be substituted the two cylinders combined in one float, as shown by the dotted figure at A. If this form be adopted, the lower cylinder must lie wholly immersed, when the water is free from ebullition, and the smaller must be as much less in cross area as the depth of immersion is less than the depth of water, in order to counteract the effects of ebullition. The float which is adopted must be open at bottom, to admit steam; and tight at the top and sides. It is to be attached to a lever, A B, working vertically around a fixed axis at B, and carrying the slide D by means of the rod shown in the figure, which must be so attached to the lever as to allow a slight horizontal play at the point shown at the bottom of the rod. The water line being shown in its lowest admissible position, it will be seen that, if it descend lower, the orifice in the sliding piece at D will come into junction with the lower orifice C, and emit a puff of steam into the fire room; and the lower the water descends, the greater will be the quantity of steam which is emitted become. But if so much water be injected as to raise the water line above the dotted line parallel to A B, the orifice D will come into junction with the upper orifice C, and steam will be emitted thence.

The subordinate fixtures and arrangements there is no necessity for explaining. I would only add, that every thing in this arrangement, of which I am the author, is at the service of every one who can use any part of it to advantage. I am, Sir, yours, respectfully,

ALEXANDER C. TWINING.

We annex the following plan, suggested by Mr. John S. Williams, of Cincinnati, Ohio:



The principle may be thus applied:—Place the water chamber (C) either against the boiler, or at a distance on a level with it. This chamber must have one valve (E) opened toward it from the supply water, and another (F) from it towards the boiler, on the principle of the seat of the common force pump. By an escapement, or three-way cock (D), placed in a small pipe (b) leading from a, the steam in the boiler, to the chamber the atmospheric and steam pressure may be alternated in the chamber, so as to allow the supply water first to flow into the chamber through E, and then from it

through F to the boiler. No force is required, except to work the very small escapement in the alternation pipe; and never while the supply water in A, and operation is kept up, will the water in the boiler rise higher or sink lower than the line a, above the level of which the chamber shall have capacity equal to the waste during the operation. d is a float to prevent condensation.

Or the same result may be produced, by placing the chamber C something higher than above described. Let the water in the supply pipe, reservoir, or cold water pump, A, be kept higher than the chamber C, which is furnished with valves, E and F, as before. Let the entrance of the alternation pipe b, be exactly at the water line a in the boiler B. By means of the lever c, work the double puppet valve D up and down; or provide any means so as alternately to shut the steam and air out of the chamber C. This is all the power required. It is evident that if the water in the boiler should be lower than a, the chamber would pour in more than the water, and raise the water to a; but if the water should happen to be higher than a, no steam could pass through b to displace the water in C; and of course there would be no supply until the water would be evaporated down to a, where it would stand for ever, provided the supply water in A, and the opening and shutting of D, were continued. When the steam is down, the boiler might be filled through E and F.

If the chamber C were placed in the common condenser, and subject to the action of the escape steam, the necessary supply of water, and no more, would be heated.

One apparatus will supply any number of connected boilers; but should one be attached to each boiler, and the boilers unconnected, a boat might be ever so much, or ever so long listed, without a possibility of the water being more exhausted in one than in another; and no more sediment would be collected in one boiler than in another. If, in addition to this, were each boiler furnished with a valve in the steam pipe, opening toward the cylinder, the following benefits would be the result of the arrangement. A weak boiler or flue would not be subjected to the strain of an accidental surcharge of steam in another. Should a surcharge happen in one boiler, it would occupy the whole safety valve for its relief. Should one boiler burst, or a flue in one collapse, the others would not be affected by it, and not a stroke of the engine would be lost, but the remaining boilers would continue to work the engine as if nothing had happened, unless the bed were deranged. Were one boiler to burst, that, and that only, would exert its power to destroy the boat and crew, and to derange the bed: whereas by the present system, the force of all is exerted by an accident in one. The above results might be obtained from one supplying apparatus, having a branch pipe with a valve F and stop cock, running into each boiler, for its separate supply.

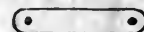
On increasing the Facilities for Transportation by Water. By JOHN N. POMEROY. To the Editor of the American Railroad Journal.

Sir,—Although my acquaintance with you is very limited, I hope you will pardon the liberty I take in addressing you. My profession necessarily occupies a great portion of my time and attention; nevertheless, I am not indifferent to the progress of improvements which are going on at such an astonishing rate in our country. The wonderful facilities for rapid transportation afforded by the introduction of railroads, and its vast superiority, in velocity at least, to the modes of transportation on the natural water communications throughout the country, could not but excite the inquiry—"Is it true, then, that the various rivers and arms of the sea, which intersect the face of the earth,

and which have been heretofore considered as great highways for the convenience of man, and designed as such—is it true that the progress of improvement is to prove these but *obstacles*, rather than *facilities*?" The present superiority of the railroad system would seem to indicate an affirmative answer to this question; but a reflecting mind would be unwilling to admit it, and would be led to inquire into the *reason* of the apparent superiority, and would, at all events, be induced to doubt the wisdom of man, rather than his Maker. What, then, is the reason why we cannot pass with equal (or with greater) facility and velocity through the water, as on the railroad? It is doubtless, chiefly, if not wholly, on account of the *law of resistance* to motion in fluids: can that be obviated? I do not hesitate to say it can, and will be. How? This leads me to the object of this letter, which is to describe a plan which I have invented for that purpose, and as your opinion, and, through you, the opinion of practical men, of whom, I think, you must number many among your friends or acquaintances. It appears to me to obviate the difficulty above referred to; but is the plan *practicable*; or are there insuperable practicable objections to it? In order to give you an idea of the plan above mentioned, or machine, I may as well describe the one which I have made; first premising that the object is to have the *sustaining* part of the vessel the part which moves and gives motion. The machine which I have made is composed, first, of 25 tin cylinders, 8 inches long, 2 inches in



diameter, with caps at each end, water-tight, and a pivot also in each end, in the centre of the cap or head, say a half inch in length. These cylinders are connected together by a chain, composed of narrow strips of tin, having



holes at each end, and placed on the pivots, so that the cylinders nearly touch each other, not



quite; and so that the cylinders can revolve on the pivots without interfering. These cylinders, thus connected at each end, are made to enclose the *hull*, or boat, which is (as I have



made it for experiment) a frame about 18 inches long, 8 1/2 inches wide, and 4 inches in height or thickness, and so turned at each end as to admit an easy path for the cylinders, and also so that the cylinders may strike the water in a proper direction. There is a flange on the exterior edge, or circumference of the frame, to prevent the cylinders from rolling off. It will now be perceived, I think, that a force exerted on the pivots in the same direction, on any one or more of the cylinders, that it will give motion to the whole, and when placed in the water, the machine, sustained by the buoyancy of the cylinders, must move as fast ahead as the cylinders pass through the water to the stern. This power in my machine is applied to the pivots of the cylinders by two wheels, on a shaft, which passes transversely through the machine, and plays on gudgeons at each end—

the wheels adapted by cogs to act on the pivots, and the shaft turned by a spring.

Now, what are the practical objections to the above? I admit the first impression must be unfavorable—it is, as a water-craft, entirely unique; but, appearances aside, it may be said that a vessel on this construction cannot be made sufficiently strong to sustain itself in rough water without being too heavy to derive the benefit proposed from the cylinders. It appears to me that the form of the hull is well adapted for strength, without much weight. As to the cylinders, it is more doubtful. I have supposed a vessel made of about 100 feet in length, and 30 feet broad, 10 feet high between the two floors, having 60 cylinders or barrels, each 30 feet long, 5 feet in diameter, and having 25 barrels, say, in the water, which would be about the number. Now, 25 of these barrels, entirely immersed, would sustain 450 tons; and it appears to me that a vessel complete of this construction and size might be made considerably within the limits; and it is to be borne in mind, that, from its mode of progression, it would not conflict with rough water, as ordinary vessels do, as the impinging cylinders would rather 'nullify' than make war with the opposing element. Would it not be top-heavy, and careen? I see no objection to its being made sufficiently broad to avoid this difficulty. Would it not be inconvenient? I should judge not, but the reverse, as the rooms might be made square, high, and with sufficient windows at the sides; and I see no objection to having guards, a deck fore and aft the cylinders, and a promenade deck over the cylinders. Would it require more power to produce a given velocity than ordinary steamboats? I think very far less; but the cylinders, which are in the water, would be much impeded in their revolutions (which must be rapid) by the water. If this be a difficulty, it may be avoided by wheels on the pivots, or gudgeons of the cylinders, which should sustain the cylinders and revolve on their axes, leaving the cylinders to pass the water without revolving.

I do not flatter myself that I have nullified all objections which may be raised to the practicability of the above plan. What I have said is by way of suggestion; and having had the subject on my mind for two or three years, I am anxious to relieve myself, by getting the opinion of experimental and scientific mechanics, as to its practicability and probable utility. The same principle, I am inclined to think, may be applied to railroad cars with many advantages.

Very respectfully, yours, &c.

JOHN N. POMEROY.

Report of WALTER GWYNN, Esq., Engineer, to the President and Directors of the Portsmouth and Roanoke Railroad Company.

[Continued from page 24.]

The difficulties to be overcome having been adverted to, and the plan of the work described, I have next to submit to you the probable cost of the railroad.

The gradation on division 1, from Portsmouth to Suffolk, is finished, a portion of the road has been laid, and nearly all of the timbers delivered. It is contemplated to complete it in the course of the winter, or very early in the spring. On this section of the road, the Dismal Swamp is encountered and successfully crossed; large ditches were dug, which sufficiently drained and furnished materials for the substratum of the road-bed, and this covered with sand to the depth of a foot or more, formed at once a durable and unyielding foundation for the superstructure. Capt. Crozer's estimate of \$90,563, for this portion of the work, will prove more than adequate; the cost will not exceed \$75,000; which will be for

Division I.—From Portsmouth to Suffolk—17 miles.
At \$4411 76 per mile, \$75,000

Division II.—From Main Street, in Suffolk, to Station 290—10 miles.

Excavation—108,923 cubic yards, at 9 cents per yard, \$10,347 68
Embankment—128,213 " at 10 cents, 12,821 30
Four Stone Drains, 1,000
Abutment at Smith's Branch, including Bridge, 4,200
Six Truss Bridges, 600

One hundred and sixty tons iron, at \$45 per ton, 7,200
Six Tons of Spikes, at \$198 per ton, 1,188
Splicing Plates, at \$15 per mile, 150
105,600 lineal ft. heart pine Rails, \$50 p. 1,000 ft., 5,280
10,560 Sills, at 50 cents per Sill, 5,280
21,120 Oak Wedges, at 31 cents per wedge, 739 20
Carpenter's work, Horse-path, &c., \$704 per mile, 7,040 1

Total, \$55,846 18

Division III.—From Station 290 to Station 525, on the West bank of the Blackwater—3 miles.

Excavation—90,849 cubic yards, 9 cents p. yd. \$8,176 41
Embankment—82,358 " 10 " 8,647 59
20 Truss Bridges, 1,500
Stone abutments, Pier & Bridge across Blackwater, 9,500
144 Tons of Iron, at \$45 per ton, 6,480
Spikes, at \$118 80 per M., 1,069 20
Splicing Plates, at \$15 per mile, 135
95,040 lineal ft. heart pine Rails, \$47 per 1,000 ft., 4,466 88
9,504 Sills, at 40 cents, 3,801 60
19,008 Wedges, at 31 cents, 665 28
Carpenters' work, Horse-path, &c., \$704 p. mile, 6,336

Total, \$50,777 96

Division IV.—From the Blackwater to Station 672, on the West bank of the Nottoway—5 miles, 2275 feet.

Excavation—12,375 cubic yards, 9 cents p. yard, \$1,113 75
Embankment—60,735 " 10 " 6,377 17
Stone abutments, Pier & Bridge over Nottoway, 11,000
87 Tons Iron, \$45 per ton, 3,915
Spikes, at \$118 80 cents, per mile, 645 08
Splicing plates, \$15 " 81 45
57,350 lineal feet heart pine Rails, \$47 " 2,695 45
5,735 Sills, at 37 cents, 2,121 95
11,468 Wedges, at 31 cents, 401 38
Carpenters' work, Horse-path, &c., \$704 per mile, 3,823 20

Total, \$32,274 43

Division V.—From the Nottoway to Cypress Bridge Road—4 miles, 1665 feet.

Excavation—46,931 cubic yards, at 9 cents, \$4,223 79
Embankment—45,202 " 10 " 4,520 20
69 Tons of Iron, at \$45 per ton, 3,105
Spikes, at \$118 80 per mile, 512 02
Splicing plates at \$15 " 64 65
45,550 lineal ft. heart pine Rails, \$47 p. 1,000 ft., 2,140 85
4,555 Sills, at 40 cents, 1,822
9,110 Wedges, at 31 cents, 318 85
Carpenters' work, Horse-path, &c., \$704 per mile, 3,034 24

Total, \$19,741 60

Division VI.—From Cypress Bridge Road to Buckhorn Run—9 miles, 3000 feet.

Excavation—95,069 cubic yds. 9 cts. p. yd. \$9,126 55
Embankment—92,516 " 10 " 9,251 60
153 Tons of Iron, at \$45 per ton, 6,885
Spikes, at \$118 80 per M., 1,135 72
Splicing plates, at \$15, 143 40
110,040 lineal ft. heart pine rails, \$47 p. 1000 ft., 4,748 88
10,101 Sills, at 40 cents, 4,041 60
20,203 Wedges, at 31 cents, 707 28
Carpenters' Work, Horse-path, &c. \$704 p. mile, 6,730 24

Total, \$42,770 27

Division VII.—From Buckhorn Run to Station 1,146, on the West bank of the Meherrin—4 miles, 70 feet.

Excavation—12,411 cubic yards, at 9 cents, \$1,116 99
Embankment—46,143 " 10 cents, 4,614 30
Stone abutments, Bridge and Pier across the Meherrin, 14,500
Truss Bridge across Buckhorn Run, 120
64 Tons of Iron, at \$45 per ton, 2,880
Spikes, at \$118 80 per M., 476 73
Splicing plates, at \$15, 60
42,330 lineal ft. heart pine Rails, at \$47 per 1000, 1,991 86
4,238 Sills, at 40 cents, 1,695 20
8,476 Wedges, at 31 cents, 296 66
Carpenters' Work, Horse-path, &c., \$704 p. mile, 2,816

Total, \$30,567 74

Division VIII.—From the Meherrin to Station 1288—5 miles, 1570 feet.

Excavation—77,447 cubic yards, at 9 cents, \$6,970 23
Embankment—113,927 cubic yards, at 10 cents, 11,392 70
Truss Bridges, 500
86 Tons of Iron, at \$45 per ton, 3,870
Spikes, at \$118 80 per M., 633 60
Splicing plates, at \$15, 80
55,940 lineal ft. heart pine Rails, at \$45 p. 1000 ft., 2,517 30
5,594 Sills, at 40 cents, 2,237 60
11,183 Wedges, at 31 cents, 391 58
Carpenters' Work, Horse-path, &c., \$704 p. mile, 3,754 66

Total, \$32,347 67

Division IX.—From Station 1288 to Station 1406, on the Summit—4 miles, 2450 feet.

Excavation—67,531 cubic yds., at 9 cents per yd. \$6,077 79
Embankment—56,768 " at 10 " 5,676 80
71 Tons of Iron, at \$45 per ton, 3,195
Spikes, at \$118 80 per M., 529 84
Splicing Plates, at \$15, 66 90
7,140 lineal ft. heart pine Rails, \$45 per 1000 ft., 2,121 30
714 Sills, at 40 cents, 1,855 60

9,428 Wedges, at 31, 329 98
Carpenters' Work, Horse-path, &c., \$704 p. mile, 3,139 84
Total, \$23,023 05

Division X.—From the Summit to the Roanoke—7 miles, 4700 feet.

Excavation—11,460 cubic yards, at 9 cents, \$9,941 40
Embankment—117,978 " at 10 cents, 11,797 80
Truss Bridges and Stone Drains, 1,100
126 Tons of Iron, at \$15 per ton, 5,670
Spikes, \$118 80 per mile, 937 33
Splicing plates, \$15 " 118 35
53,320 lineal feet heart pine Rails, \$45 per 1000 ft., 3,749 40
8,332 Sills, at 40 cents, 3,332 80
16,664 Wedges, at 31 cents, 583 24
Carpenters' Work, Horse-path, &c., \$704 p. mile, 5,554 66

Total, \$42,784 88

Summary of the estimates of Excavation, Embankment, Bridges and Superstructure.

Division	Miles	Feet	Amount
Division I.	17		\$75,000 00
" II.	10		55,846 18
" III.	9		50,777 96
" IV.	5	2275 feet,	32,274 43
" V.	4	1665 "	19,741 60
" VI.	9	3000 "	42,770 27
" VII.	4	70 "	30,567 74
" VIII.	5	1570 "	32,347 67
" IX.	4	2450 "	23,023 05
" X.	7	4700 "	42,784 88
	59	5160 "	\$405,138 78

Add for contingencies, superintendence, land damages, the extension of the Road to the wharves in Portsmouth, warehouses, shops, water-stations, passing places, &c. \$69,866 22

Total amount, \$475,000 00

The foregoing aggregate amount, it is believed, embraces every item of expenditure that is likely to occur. The increased demand for labor, which may be occasioned by the commencement of the James River and Kanawha Improvement, and other works contemplated in Virginia and North Carolina, is the only contingency that can affect the cost of this road. This I have endeavored to provide for, by estimating the amount of work as exhibited on the profile; notwithstanding I am confident that the line is susceptible of modifications, by which the amount of excavation and embankment may be materially lessened, and the grade and direction at the same time considerably improved.

I am unable, at this time, to form any correct estimate of the revenue likely to be derived as a return for the capital expended. It may, however, be expected, that I should offer a few general remarks on a subject of so much importance. The direct communication which this railway, in connection with the Chesapeake Bay, and the French Town and Newcastle railroad, offers between the northern and southern cities, the speed, comfort, and perfect safety, with which passengers can be conveyed through this route, must certainly secure to this company a considerable revenue. The favorable point selected for the termination of this road on the Roanoke—the probable prolongation of a railroad from Weldon, southwardly, by the enterprising citizens of North Carolina—the certainty that to Weldon, as a place of deposit, the heavy and profitable products of that country, and of the valley of the Roanoke, must go—thence, most probably finding their way on your railroad to Norfolk, justify the most sanguine calculations of considerable and lasting revenue to your Company.

The importance of this communication to the whole district of country through which it passes, and especially to Norfolk and Portsmouth, is too well known and appreciated to be dwelt on here.

I have the honor to be, gentlemen, very respectfully, your obedient servant,

WALTER GWYNN, Engineer.

The stock of the Liverpool and Manchester Railroad Company sold in London on the 19th of November at £190 per share, £100 original cost.

The Stanhope and Tyne Railroad Company are proceeding rapidly in the formation of their line of way from Stanhope to South Shields. They have engaged to perfect their splendid undertaking by forming branches from below Bolden to Monkwearmouth and Heworth; the latter will join the intended continuation of the Carlisle Railway, affording a communication between Carlisle, Stanhope, the Hartlepool Railway, Monkwearmouth, Gateshead, and South Shields.—[Tyne Mercury.]

[From the *Mechanics' Magazine*.]

State of Manufactures in America—Evidence of Mr. James Kempson, of Philadelphia, Cotton Manufacturer. [From the Factory Commissioners' Report in Great Britain.]

Most of our readers, doubtless, have heard of the struggle that has been going on between capitalists in England and the friends of amelioration of the condition of the working classes in that country, particularly of those who have not arrived at maturity, and are in fact in a much worse condition than most slaves in any part of the world. The philanthropists succeeded so far as to obtain a parliamentary commission of inquiry, which was followed up by the introduction of a bill into the House of Commons, regulating the hours of work in factories for all boys and girls under fourteen years of age, we believe. That bill passed the House of Commons, but the *House of Incurables*, (the Lords,) as they have been so well termed, thought fit to reject it.

In the course of the investigation, Mr. Kempson, of Philadelphia, was examined, and his testimony we now insert, and we are sure it will be perused with feelings of pride by all our readers.

With what extent of manufactures have you been conversant in America?—I have been acquainted with the manner of conducting manufactures in most of the manufacturing states.

What number of workmen do you employ in your manufactory?—About four hundred.

What is the lowest age of persons in your employment? None under nine.

Have you many about nine years of age?—We have a great many between nine and twelve. About one-fifteenth of the persons employed in the United States are under twelve years of age.

What is the utmost extent of your daily working hours?—The actual number of working hours averages throughout the year twelve hours of actual work; at some seasons it is nearly fourteen, and at others it is little more than ten.

Is the labor for fourteen hours often continuous for many successive days?—We change the period by the light. We never night up in the mornings, nor in the evenings, from the 20th of March to the 20th of September; and from the 20th of September to the 20th of March following, we work until eight o'clock of the evening.

Do the children work during the whole hours of work?—Yes; we never make any difference on account of age.

Have any complaints been made in the United States as to the propriety of such extent of labor for children?—There have been newspaper complaints, originating probably from the workmen who came from this country to the United States; but among our workmen there is no desire to have the hours of labor shortened, since they see that it will necessarily be accompanied by a reduction of their wages.

What proportion of the persons employed are natives of the United States?—Throughout New-England, which are considered the manufacturing states, above eight-tenths of

the persons employed are natives of the United States.

Are many of the remaining two-tenths English workmen?—The greater portion of them; but, as a general rule, they do not like to take English workmen in the New-England factories.

Why do they not like the English workmen?—Because they are so dissipated and so discontented.

Is this their general character in the United States?—Yes; after they have been some time in the country, they are noted as the greatest drunkards we have. The wholesale price of whiskey is, with us, nine pence per gallon, and they appear not to be able to overcome the temptation. Our own workmen are *better educated, and more intelligent, and more moral, and refrain more from sensual indulgence.*

How does the discontent of the English workmen, of which you have spoken, usually manifest itself?—In the workmen becoming masters, in strikes, and demands for wages, almost always ill-considered, with which the master cannot comply, and which grievously interfere with his commercial operations; their ignorant expectations generate ill will and hostility towards the masters.

Are no jealousies entertained by the American workmen towards their masters?—In America we never hear the word master; they usually speak of the manufacturer by name, or as their employer, and view him rather as a tradesman to whom they dispose of their labor, than as a person having a hostile interest. There are no jealousies between American masters and workmen, of the nature of those which appear to prevail between the English workmen and their employers.

Are there no combinations to keep up wages in America?—None amongst the American cotton manufacturers.

Are there no combination laws?—None.

To what do you attribute this state of things among the American workmen?—To their superior education, to their moral instruction, and to their temperate habits.

Have you any national system of education?—We have public schools, supported partly by state funds, and partly by bequests. All children have the privilege of attending.

Do they, in point of fact, very generally attend in the manufacturing states?—They universally attend; and I think that information is more universally diffused through the villages and the whole community of the New-England states, than amongst any other community of which I have any knowledge.

What is the general view taken of these schools by the manufacturers and persons of wealth in America?—From their experience they deem them of the greatest importance to the welfare of the state. They are encouraged by the state governments and all the leading persons of the state.

How do the children whom they employ obtain education?—The manufacturers are always anxious that the children should absent themselves from the manufactory during two or three months of the year to attend the schools. The manufacturer very frequently suggests to the parents the necessity of the children being taken to school. The sending the child to school is generally an inconvenience to the manufacturer.

Is the inconvenience of the children going to school such as to increase the cost of pro-

duction?—I do not think it does increase the cost of production. The only inconvenience is in the trouble of getting other hands. We think the advantage of their being educated more than counterbalances that trouble.

What is the nature of this national education?—It consists in reading, writing, arithmetic, grammar, and geography.

Do the workmen read much?—Yes; we have frequently a difficulty in keeping books out of the hands of some of them when they should be engaged in their work.

What sort of books do they usually read?—Voyages and travels are the most favorite reading with them. They are also great readers of newspapers, and some of the workmen take two or three.

Then what is the cost of each newspaper?—Less than 2d.

What wages do you usually give?—We employ them by the year. A person ten years old would get 3s. a week; a person twelve years old, 4s. a week; fourteen years, 5s.; sixteen, 6s.; eighteen, 8s. Those more advanced in years would earn 10s. The smaller children in the carding room are those who earn 3s. a week; those attending the drawing frames earn from 5s. to 6s.; those who attend the roving frames earn 8s. a week; girls attending the throstle-frames earn from 5s. to 8s.; machine makers earn about 5s. a day; mule spinners earn about 5s. a day; overlookers earn from 5s. to 6s. a day; assistant overlookers from 3s. to 4s. a day.

What do the men pay for board when they board with families?—From 6s. to 7s. per week.

What do young women pay?—Five shillings per week.

And children?—They generally board with their parents.

What is the description of fare usually obtained by the American workmen?—Nearly the same articles as those used by the more wealthy classes. They have as much meat as they wish twice a day; they have fruit pies at every meal; in short, as I have stated before a committee of the House of Commons, I have paid eight shillings a week for board, lodging, and washing, and live as well as I could live in equal lodgings in a village in England for two pounds a week.

What is the difference in the effects between fourteen and ten hours' work on the health of the persons employed, so far as you have observed in America?—When they worked twelve hours, the thermometer stood at 103°, and they were then more unhealthy than when they were working twelve hours in the winter season; but I believe that those who were in the mill enjoyed better health, both during summer and winter, than those who worked at agricultural employments, or than those who were idle. I state this from my own observation. I resided at the house of a medical practitioner, who had the practice of most of the persons who were employed at the mill, as well as of most of those who were employed in agriculture, and my own observation was corroborated by his reports, as to the sickness prevalent. Thus I received my impression of the superior healthiness of those engaged in the factory.

Are the American children stronger or weaker than the children of the English operatives?—The youngest American children are, I think, rather the strongest. Since No.

vember last I have been engaged in visiting the manufactories here, and I should say, that, on the whole, the children are rather stronger in America than they are here.

Would you call the English manufacturing children, as a body, unhealthy?—No; I should almost think they are as healthy as the children in the agricultural districts. I have noticed that the children of a factory in a village usually look better than the children of a factory in a town. I should think this might be accounted for from the difference of the residences in the villages as compared with the residences in the towns, where they appear to work longer hours.

Does your experience in America of the short as compared with the long hours, enable you to form any judgment as to the probable effects upon the health or comforts of the workmen of a reduction of the working hours to ten in this country?—The climate is so different that I can form no judgment. The longest hours of our work are during periods of the most oppressive heat.

Do the children attend school at any particular period?—No; they attend during one period as much as another.

Do they select the times of the long or of the short hours?—I do not think they make any selection as to the hours of work. If they selected the time of the long hours they would have the night-work of the winter. They would, I think, as soon have the longer hours of the summer to avoid night-work.

What is the nature of your manufacture?—Spinning and weaving coarse yarn.

Is any of it for exportation?—Yes.

To what markets?—South America, West and East Indian markets.

Do you find that you can compete successfully with British manufactures of a similar kind in the same markets?—Yes; although we labor under some disadvantages that you do not.

What disadvantages?—One of our disadvantages is, that in the East India markets we have to pay a duty which you do not pay; and we have to pay six per cent. interest on the advance, which is considerably higher than you have to pay. A further disadvantage we labor under is, that whereas a large proportion of your manufacturers export their goods direct, and are therefore not subject to any commission on the shipment, our manufacturers never export on their own account, and the shipping merchant starts with a commission of five per cent. on the price which the manufacturer receives.

Have the goodness to explain the nature of the charge of five per cent. commission to which the article is subject prior to shipment?—The manufacturer sends his goods to a commission merchant at the shipping ports, who receives five per cent. for selling and guaranteeing.

And notwithstanding these drawbacks you can maintain the competition with us?—Yes; and not so only, but are gaining ground upon you, and have already excluded you from some markets.

From what markets?—Some of the Mexican and South American. Several of our largest establishments have large contracts pending for a long time forward for those markets, at prices which would not give a fair return to the British manufacturer, but are very profitable to our manufacturers.

You say this from having ascertained, du-

ring your visit to Manchester and other manufacturing districts in this country, the exact state of the relative prices?—Yes.

What are the present relative prices of yarn,—for instance, of No. 16?—No. 16, water twist, made entirely of good cotton, sells in the United States at 10½d. per lb.; in England, No. 16, yarn, made from a mixture of waste twists, and a small quantity of boweds, sells at 11d. per lb. The price of 10½d. in America is from the commission merchant, who receives 5 per cent. for sel-

	United States.	England.
Interest on dressing machine,	£2 11	£1 12
Do. twelve power looms,	8 6	4 10
Cost per annum of one horse power,	3 10	12 10, at 5 per cent.
Cost of dressing 3,756 pieces,	33 9	46 18
Cost of weaving,	125 4	156 10

American, 10½d. per piece, £163 0—England, 11d. £222 0

How do you account for the difference between £3 10s., which you state as the cost per annum of one horse power, and £12 10s. as the cost in England?—In America it is water power, which exists there in great abundance, at a very low rent, even in the best situations; whereas in this country it is mostly steam power, or, if water power, at a very high rent.

What do you reckon will be the effect on the cost of production of your manufacture, if the working hours of your mills were, by an act of your legislature, to be reduced from an average of 12 to 10 hours?—They would be increased in price about ten per cent.

Have you the means of showing how the reduced hours of work would operate on the cost of production?—Yes, by the following statement:

Estimated value of the cotton manufacture of the United States—Wages, £2,087,400; cotton, £1,800,000; profit and interest, £1,529,266; annual value, £5,416,666. Now, supposing a legislative enactment to limit the working hours to ten, and in consequence of foreign competition the value of the goods must not be increased, and in order to make the same quantity he must employ one sixth more hands, and the interest on this increased investment must be deducted from the wages, for no other item can be reduced; taking the interest, wear and tear, at 8 per cent. upon this further investment, the amount will be £112,819.

£2,087,400 wages, as before
112,819

£1,974,581 wages after.

The number employed previous to this supposed alteration was 62,157, receiving upon an average annually £33 10s. The number increased to 72,572 would receive £27 4s. Supposing the workmen not reduced in their wages, the amount would stand: Wages, £2,429,998; interest on the investment, £112,819; cotton, £1,800,000; interest and profit, £1,529,266; total, £5,872,073.

What, in your opinion, would be the effect of a compulsory limitation of the working hours in this country to ten instead of twelve, upon the manufactures of the United States?—It would tend much to their increase. I think we should not only be able to undersell you in markets abroad, but even in your home market.

Do you mean after paying the present import duty into this country of ten per cent?—Yes.

ling it on eight months' credit; and the price of 11d. in England is on three months' credit from a manufacturer.

Do you consider the price of 10½d. to be remunerative to the American manufacturer?—Decidedly so.

And do you consider that you have equal advantages in weaving?—Yes.

Have you the means of showing what is the comparative cost of weaving in the United States and in this country?—Yes, I can show it by the following statement:

Do you not think that we should be under the necessity, in such a case, of adopting your tariff system?—Most undoubtedly, if you wished to preserve even your home market.

ADVICE ON THE CARE AND MANAGEMENT OF TOOLS.—From a new edition of the Cabinet Maker's Guide, we quote the following:

"The goodness of saws, chisels, and other edge tools, depends upon the quality of the steel, which should be uniform throughout, and it is always better to have them tempered too hard than too soft, for use will reduce the temper. If at any time you wish to restore the temper, and to perform the operation yourself, the best method is to melt a sufficient quantity of lead to immerse the cutting part of the tool. Having previously brightened its surface, then plunge it into the melted lead for a few minutes, till it gets sufficiently hot to melt a candle, with which rub its surface; then plunge it in again and keep it there until the steel assumes a straw color, (but be careful not to let it turn blue,) when that is the case take it out, rub it again with the tallow, and let it cool; if it should be too soft, wipe the grease off and repeat the process without the tallow, and when sufficiently hot, plunge it into cold spring water or water and vinegar mixed.

"By a proper attention to these directions, and a little practice, every workman will have it in his power to give a proper temper to the tools he may use.

"If a saw is too hard, it may be tempered by the same means; if you are near a plumber's shop, you may repeat the process conveniently and without expense, when they are melting a pot of lead.

"In other cutting tools you must wait till the steel just begins to turn blue, which is a temper that will give it more elasticity, and at the same time sufficient hardness."

CENTRE OF GRAVITY OF A SHIP.—A discovery, which is likely to be attended with important results to the navy, has recently been made by Commander John Pearce, R. N., of Plymouth. This officer, from various circumstances, was led to doubt that the centre of gravity of a ship was the axis of rotation, as hitherto imagined, and that this was the cause of so many errors occurring in masting. He accordingly proceeded to ascertain the truth of his doubts, by experiments on different models, which he has continued for upwards of twelve months, and the result, we understand, cannot fail to render the science of ship-building more comprehensive and demonstrative, as well as lead to the cor-

rection of other errors in the theory equally worthy of consideration! The axis of rotation has been fixed, by Capt. Pearce's experiment, at some distance above the gravity of the ship, and in the point which is known by the name of the lacentre; and we understand he considers the complexity of the theory, and not having considered the subject in a sufficiently practical shape, to have led authors into the error of confounding the centre of gravity of the ship with the axis of rotation; and that this has led to the error of supposing the lateral effort of the water, or resistance to leeway, to produce effects contrary to truth, and from which proceeds the present imperfect system of masting. In fact, the discovery of the true axis of rotation will be a complete key to the improvement of naval architecture, as *all the forces*, which are so constantly and variously acting, are estimated by the distances from the axis of rotation to the points where they are applied.—[London paper.]

AGRICULTURAL.

Selected from the N. Y. Farmer and Gardener's Magazine.

Economy of Cutting Hay for Horses—Improved Straw and Hay Cutting Machine. By The Editor.

It is stated in the publications of Great Britain, that the economy of using cut hay and straw has been fully and generally tested, particularly by stage-proprietors, who, in consequence of the powerful competition from steamboats, were driven to contrive ways and means to lessen the expenses of keeping their horses, without diminishing their efficiency. They accomplished their objects in the substitution of cut hay for long hay. Similar circumstances have compelled the owners of stage horses in this country to adopt the same course.

Mr. Reeside, one of the largest mail contractors in the United States, has, we are informed, adopted the plan with very great saving in expense, and with much additional performance by his horses. It was the admirable condition of his stage horses that led the superintendent of the streets of this city, J. M. Bloodgood, Esq. to make inquiries, and to adopt a similar course of keeping the horses belonging to the corporation of New-York. On application to Mr. B. we were politely furnished with the following particulars:

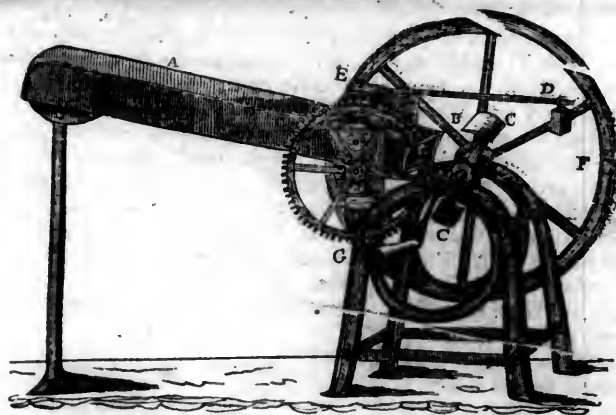
The number of horses employed in carting street manure is generally twenty, and sometimes one or two more, or less.

In six months of 1831, when the hay was not cut, the following quantities were bought for their consumption:

January, 4,480 pounds; February, 10,304; March, 2,240; April, 15,680; May, 6,200; June, 5,000. Total, 43,904 pounds.

In six months of 1833—January, 4,000 pounds; February, 5,000; March, 5,300; April, 2,000; May, 7,000; June, 5,000. Total, 28,300 pounds.

One bushel of cut hay is given three times a day, with 4 quarts of ship stuff, and 2 quarts of Indian meal, at each feeding. Oats are sometimes given once a day instead of the hay and meal. Under this feeding, which may be considered pretty high, the horses, though they labor hard, are kept in much better condition than when long hay and oats were given. The



present plan of feeding is considered to be a saving in expense at least one third.

One reason why the horses, on this system of feeding, are much more invigorated and in finer order, is that they are not obliged to labor all night in eating dry hay, but have time to obtain rest and sleep.

One thing is pretty evident—the time will soon come when cut straw and hay, packed in bags, &c. will be brought to this city from the "far west."

The cutting machine used at the corporation stables is that made by Mr. Johnson, of this city. The following drawing, which we take from the Edinburgh Quarterly Journal of Agriculture, is described as an improvement on that made by Mr. Johnson:

Some years ago, the straw or hay cutter took a new form, under the hands of a person who seems to have taken out a patent for the improvement. In this, the cutters are made to revolve, by being fixed upon a skeleton cylinder on the fly-wheel shaft, the hay being brought forward by a pair of feeding-rollers, as had been done on some former occasions; but in this case, the progressive motion of the hay was constant, which enabled the inventor to dispense with the machinery required for producing the intermitting progress of the hay. Immediately on passing through the feeding-rollers, the hay is protruded through a cutting-box, the face of which is worked off to an interior cylindrical surface. The cutters, which may be of any number from one to four or more, are placed diagonally upon the skeleton cylinder. The diagonal position is considered necessary for the cutters, as they thereby pass through the hay with an oblique cut, producing an effect resembling that of shears, and which prevents the shock that would attend the stroke of the cutters if the whole length of its edge were to come in contact with the hay at the same instant.

From experience, however, it is now found that the oblique position of the cutters is attended with considerable inconvenience to the workmen, arising from the difficulty of setting the cutters when they have been removed for sharpening, or for any other purpose. The difficulty attending this operation may be easily conceived, when we consider that the edge of the cutters, when in proper adjustment, must form part of the sections of a cylinder, or of an elliptic curve; and hence the difficulty of its adjustment, with sufficient accuracy to insure good performance; for, unless the edge of the cutter come into all but actual contact with the lower edge of the cutting-box, the lower stratum of hay will be left uncut.

The defective position of the cutters in the hay-cutting machine having been suggested to Mr. Slight, of the firm of Messrs. Slight and Lillie, engineers, and model and machine makers to the Highland Society of Scotland, he has rectified the defect, and has produced a machine possessing the property of having the edge of

the cutters parallel to the axis of the fly-wheel on which they are mounted; and in order to retain the advantages of an oblique passage through the body of hay, the cutting-box is elongated into a nozzle, which is twisted until the mouth of it assumes an angle of about 30°. The face of the nozzle is worked off as in former machines to an interior segment of a cylinder, concentric with the shaft of the fly-wheel. By this arrangement, which is just reversing the former position of the cutting parts, the entire efficiency of the machine is retained, while its construction is simplified, the price proportionally reduced, and the keeping it in order also rendered much simpler.

The annexed cut exhibits one of these improved machines, as manufactured by Messrs. Slight and Lillie, with the framing made entirely of cast iron. A is the feeding-trough, the rollers being only partially seen. B is the nozzle or cutting-box. C C, the cutter-bearers, with the cutters attached by their bolts. D is a lever and weight, which, through the medium of the bridge E, keeps a constant pressure on the feeding-rollers, to counteract any inequality of feeding. F is the fly-wheel for equalizing the motion; and G, the handle to which the power is applied. The small pinion on the fly-wheel shaft gives motion to the spur-wheel, which is mounted on the shaft of the lower feeding-roller, and carries also the lower feeding-pinion. This last pinion works into the pinion of the upper roller, and both being furnished with very long teeth, they thereby admit of a limited range of distance between the rollers, according to the quantity of feed.

With one of these machines, a man, assisted by a boy to feed in the hay or straw, can cut at the rate of eight stones per hour; and that quantity of cut hay is found to be sufficient for sixteen horses for twenty-four hours.

The machine, of which the above is a figure and description, combines, in an eminent degree, expedition and efficiency, with ease to the workman. We do not think it can be made of a simpler construction.

Cultivation of Peach Trees. By R. H. B. [For the New-York Farmer.]

Peach trees may be preserved, by good management, twenty, and probably forty or fifty years. They are destroyed from north latitude forty to thirty-six degrees, by a worm which feeds on the inner bark of the tree, at its root. This worm is said to be the offspring of a fly of the wasp kind, which deposits its eggs in the bark of the root of the tree while it is young and tender. The remedy consists in searching for the openings in the bark at the root, and taking them out. If this operation is repeated three or four springs, the worm never after can make a lodgement there. The bark of the tree by this time becomes so hard, that the fly cannot make the puncture, in order to deposit the egg, or if deposited it perishes. After the worm is cut out in the spring, draw the earth up around the

body six or eight inches above the other ground.

Of all the fruit trees produced in this climate, none bears pruning so freely as the peach; indeed, it should be treated very much as the vine is. All those branches which have borne fruit should be cut out, if there is young wood to supply their places. Proof—take a limb which has borne two or three crops of fruit, and notice its produce; take another on the same tree, which has never borne at all, and the fruit on this last will be twice the size of the former, fairer, and less liable to rot. In pruning, the branches should be taken or cut out of the middle of the tree: thus giving more air and sun to the fruit on the outer limbs.

The peach tree produces best fruit when the ground is not stirred about it while the fruit is on. When it has no fruit, it should be cultivated as carefully as a cabbage, or any other plant.

The above comprises the most important points in the rearing of peach trees, and good fruit; if attended to, I have never known them to fail,—and my experience has not been very limited.

I repeat what may, perhaps, be doubted, that the peach tree, if the worm is kept out of the root, will live, at least, twenty years; and that this may certainly be done by attacking them the first year of its growth, and continuing to extract them for three or four years in succession, not forgetting to draw the earth up as directed. Straw, chips, or trash of any kind, serve the purpose just as well.

Very respectfully, yours, &c. R. H. B.
Washington City, Nov. 26, 1833.

CURD-BREAKER FOR SEIM MILK CHEESE.—We have heard of many curious experiments adopted by housewives, and some of them highly ludicrous, to facilitate the breaking of curd. This simple instrument is a happy substitute for every sort of expedient. With it any boy or girl can break the curd arising from the milk of eight or ten cows in fifteen minutes. It is not intended for the making of sweet milk cheeses, the curd of which should be broken very gently. It was invented by Mr. Robert Barlas, Gilmour Place, Edinburgh, and has been in use on some farms for several years past.



a, fig. 1, is a hopper of wood, 17½ inches by 14 on the top, and 10 inches in depth: b is a cylinder of hard wood 6½ inches in length, and 3½ in diameter. It is studded with hard wood square pegs of a quarter of an inch in the side, cut square at the ends, and projecting three-eighths of an inch. There are eight teeth in the length, and fifteen in the circumference, of the cylinder, 120 teeth in all. It revolves on a round iron axle 12 inches in length, and is moved by the crank-handle d in fig. 2; c c are



two wedge-shaped pieces of hard wood, made to fill up in some degree the space between the side of the hopper and the cylinder. These pieces rest on a slip of wood nailed to the lower rim of the hopper, to keep them in their place. The face of these is studded with nine teeth of hard wood, similar to those on the cylinder, in a horizontal position, but so placed as to embrace those of the cylinder at opposite sides. The stand e, fig. 2, can be made of any length, to suit the breadth of the tub into which the curd is broken. The implement is used in this manner: place it over a tub, heap the hopper a with curd, and turn the winch d in either direction, and the curd will fall quite small broken into the tub. While one hand is moving the machine, the other can press the curd gently down into the hopper. As cleanliness is a matter of the greatest importance in cheese-making, the internal parts of this machine being loosely put together, can easily be taken to pieces to clean. The cylinder axle rests on two hard wood plumber-blocks, f, fig. 2, one on each side, which slip out of their groove. They are held in their working position by the thumb-catch g, sunk flush with the bottom of the stand e, one over each plumber-block. The wedge-shaped pieces c c, fig. 1, come out. To prevent the curd working out of the sides of the axle, the cylinder is set a little at both ends into the sides of the hopper. The dotted lines in fig. 2 will give an idea how the internal part of the machine is constructed. Only one tooth is represented on the cylinder by the dotted lines, to show the position of the whole.—[Edinburgh Quarterly Journal of Agriculture.]

The Farmer's Magazine, conducted by the Editor of the Mark Lane Express. London.

This is a cheap quarto publication, issued in eight weekly pages, and stitched and covered. Having just finished reading the greater part of the *Magazine* for the years 1832 and 1833, we shall now lay before our readers abridged notices and extracts that we deem of interest to our readers.

THE WELSH PONY is one of the most beautiful little animals that can be imagined. He has a small head, high withers, deep, yet round, barrel, short joints, flat legs, and good round feet. He will live on any fare, and can never be tired out.

WHEAT.—The red lammas wheat, red straw, or red ear, is reckoned by many farmers the best of all the sorts hitherto known, yielding the finest and whitest flour.

Velvet wheat yields also much white flour, is thin skinned, less subject to mildew and blight than other wheat, as the downy hull appears to protect it. It is grown much in the Isle of Thanet, on the sea-coast.

USE OF THE BRAMBLE.—This shrub, which we are in the habit of despising, and which is only used by the chance passenger, occasionally plucking its fruit, possesses, however, several advantages which deserve our attention. Its roots, when dried in the shade, cut into small fragments, and taken in the shape of a weak infusion, form one of the best specifics against obstinate coughs. Its long branches can in cases of need be used as cords, and its fruit produces an excellent wine, the mode of making which is as follows: "Five measures of the ripe fruit, with one of honey, and six of wine, are taken and boiled, the froth is skimmed off, the fire removed, and the mixture being passed through a linen cloth, is left to ferment. It is then boiled anew, and allowed to ferment in a suitable cask. In Provence, bramble-berries are used to give a deep color to particular wines."—[From the German.]

THE TURNIP FLY.—In an address before the Northamptonshire Farming and Grazing Society, we find it recommended to collect small heaps of rubbish around the turnip-patch, and

in two or three days after sowing, to set one or more of them on fire, first having sprinkled some sulphur on them. The wind will carry the smoke over the patch, and either kill or drive away the turnip fly.

FLESH COLORED CLOVER.—*TRIFOLIUM INCARNATUM.*—This grass, as an object of field culture, was, within a few years, brought to the notice of the British public by two English tourists reporting what they had seen in Germany. Two acres, sown on stiff red clay in the middle of April. "The spring was exceedingly dry, and yet it was fit for cutting in six weeks after it had been sown, and a most luxuriant crop it was."

M. Dombarle states in the *Annales Agricoles de Revier*, that he has had five years' experience in cultivating it, and considers it of the highest value. It is an annual, and gives only one cut, yet this one is equal to two of red clover. It is not fastidious as to soil—stands the winters of the North of France, and is usually sown in August and September. "The quantity of seed is about twenty-five ounces per acre." The British code of agriculture states, that "it produces two excellent crops in one year, the first of which should be cut as soon as it comes into flower, and the second will produce a considerable quantity of seed. From a communication in the *New-England Farmer*, of Dec. 4, 1833, by the Honorable John Lowell, we make the following extract. Speaking of seed presented to the Mass. Horticultural Society, by the Honorable Thomas H. Perkins, he says,

"I sowed it about the last week of April. It was in bloom and fit to cut in fifty days. It is not so coarse as Dutch red clover, better furnished with leaves, not liable to lodge or lose its leaves in drying. It furnished a fair second crop in the late uncommon dry season."

"From its rapid growth I think it of great value for an early crop, for soiling in summer, or for supplying food when other grasses are winter killed."

"It is only an annual grass, and therefore can be of no use but for these occasional purposes; but for milk farms to supply the market, or for small dairies on estates round great towns, I think it promises to be highly useful. I have requested my friend Mr. Perkins to import fifty pounds, for myself and a friend, and he has ordered a quantity for himself, which are now on their passage. We shall be able to make a more extensive trial next summer, the result of which will be made known."

The seed may be had of H. Huxley & Co. No. 81 Barclay street, New-York; and of W. R. Prince, Flushing, New-York. One of the writers remarks that care should be had to obtain good seed, and not to sow it too deep.

DRAFTING SHEEP.—Good management of sheep and lambs requires several drafts.

"The next drafting takes place among the fat sheep in Spring which had been fed on turnips. If they are to be sold on the ground to a dealer, a few of the worst should be drafted, and sold separately, otherwise they will assuredly be made the occasion of lowering the price of the rest; and if they are destined for a public weekly market, more care is necessary for the proper assortment of them. They will have to be put into lots of half a score, or a score, according to their strength or number, and each lot marked by a distinct mark on the wool with red or blue paint."

THRASHING.—In some of the parishes of England, flails are substituted for machines—supposing them, all things considered, cheaper.

SALT.—Fine particles of salt soften the most stubborn soils, and enable the farmer to till them in the driest weather.

CATTLE IN ENGLAND.—Our readers have an example in the following extract, of the great increase that is given to human sustenance by improvements in live stock :

A century ago, our cattle, from the inferiority of their food, were not one-half, sometimes even not one-third, of the present weight. It is computed that England and Wales now contain, at least, five millions of oxen, and a million and a half of horses, of which about a million are used in husbandry, 200,000 for pleasure, and 300,000 are colts and breeding mares. The number of sheep is about twenty millions, and eight million lambs. The number of long-wooled sheep is about five millions, their fleeces averaging 7 to 8 lbs.; and of short-wooled sheep fifteen millions, the weight of fleece averaging from 3 to 3½ lbs. The whole quantity annually shorn in England is from eighty to eighty-five millions of pounds. The Merinos were introduced about the beginning of the present century, and were imported in large numbers after our alliance with Spain in 1809. The great pasturage counties are Leicester, Northampton, Lincoln, and Somerset; and for butter and cheese, Cheshire, Gloucestershire, and Wiltshire. The import of butter and cheese from foreign countries is checked by duties, but these are important articles of Irish commerce with England.

Cultivation of Silk at Mansfield, Connecticut.

By B. STORRS. To the Editor of the New-York Farmer.

MANSFIELD CENTRE, Ct. Dec. 18, 1833.

DEAR SIR,—Yours of the 30th ult. has remained so long unanswered that you may think me indifferent to the subjects of your inquiry. Not so, sir; I feel a deep interest in the growing prosperity of our country, in its various and multiplied manufacturing establishments, which are constantly springing into existence, and in none more so than in the production and manufacture of silk; none which presents in my estimation greater encouragement, both to the agriculturist and the manufacturer—none which promises fairer to become of extensive utility and profit to this country.

With regard to the cultivation of the mulberry and the growing of silk in this place, it may not be generally known that the business has been successfully prosecuted here for more than seventy years; but, though gradually increasing during this period, there has been but very little improvements in the method of conducting the business, or in the application of the raw material to manufacturing purposes, any further than the production of sewing silk and twist, and this almost exclusively confined to the labor of the family, upon the domestic spinning-wheel. But one thing has been abundantly demonstrated; that is, that the white mulberry is easily cultivated, and that the rearing of the silk-worm, and the production of silk, notwithstanding all the particularity, minuteness, and mystery, with which the subject has been treated, and invested, may be profitably pursued, with but little more knowledge or care than is requisite for the successful rearing of pigs, or poultry. Shelter them from cold, storms and wind, and feed them when hungry, whether it be in a corn-house, barn, cider-mill house, or laboratory, built on purpose for the business, a profitable crop of silk may be produced. I would not by this remark be thought to undervalue enterprise and improvement, or to treat lightly particular attention to conveni-

ence and neatness in every branch of agriculture. I highly value all the associations and societies of the present day, formed for the advancement and improvement, in knowledge of the mechanic and agriculturist; but describe to a person entirely unacquainted with the manner in which wool is produced, the animal which produces it, and inform him how this animal must be reared, fed, housed, and treated, according to the practice of some of our most wealthy and scientific farmers, its peculiar habits, and liability to disease in case of neglect, and he would be very apt to conclude, that, being unable to sustain the necessary expense, he might as well not attempt to rear an animal that required so much care and labor. So with regard to the rearing of the silk-worm, there is reason to fear that the minute particularity and delicate attention to temperature, food, cleanliness, &c. &c. with which the subject has been treated by most writers, may have deterred many from engaging in it; but let them be told, and truly too, that without thermometer, hot-house, stove-room, or laboratory, the silk-worm may be, at the proper season, hatched by the usual warmth of the kitchen; and that with a rough board to lie on, and a corn-house or barn to shelter them from wind and wet, guarded also from the depredations of rats, mice, and fowls, and well supplied with the white mulberry leaf, will produce a profitable crop of silk, they may be induced to try; and having once engaged in the business and found it practicable, may then attend to all the improvements which experience and sound wisdom may dictate. Many persons in this town, who have been for twenty or thirty years successfully engaged in the rearing of silk-worms, should you talk to them about thermometers, hot-houses, and laboratories, would not know what you meant; yet, I doubt not, a due attention to these may be profitable.

With regard to the manufacture of silk in this country, much is yet to be learned; but I consider the experiment as favorably commenced, and nothing more is wanting than that some of our enterprising and ingenious mechanics should give the subject that attention which its importance demands; and with such improvements in machinery, and the art of manufacturing, as I think the business susceptible, we may soon compete in this, as we do in some of our wool and cotton fabrics, with any portion of the world. I believe it to be a well established fact, that no part of the world now produces a better quality of the raw silk than that which is produced in this country. Since the investigation of the subject by a resolution of Congress, and the encouragement presented by the Legislature of this State, in a bounty upon the propagation of the white mulberry, and upon raw silk, the business has received a new impulse.

The Piedmont reel has been introduced, and with some improvement in the application of a stop motion. was the last season used to some extent, propelled by water and by horse power, as well as by hand, and our ingenious and industrious females find that, without any further instruction in this branch, they can, with the exercise of a little more patience than the old reel required, produce a much handsomer and more valuable article than by the former method. I have now by me a sample of a few ounces, reeled by one of our ladies, which I designed to have presented at the New-York Fair, and which I

think in every respect would compete with the production of any country. Thus far, then, I think we may safely say, we can and do succeed. We have also two small silk manufacturing establishments in this town, propelled by water power, in successful operation, at which single thrown silk, organzine, tram, and every kind of silk, is prepared with ease, by persons bred to the business. The machinery is made in the manner of the most approved English machinery. At these establishments all the silk raised in this vicinity, and reeled on the improved reel as before stated, finds a ready market. Some broad goods have been made, but the business seems not yet to be sufficiently matured to go immediately into the higher branches of manufacture, but must for a time be confined to the smaller and more common articles of silk fabrics. A great proportion of the silk now prepared at our factories here is made use of in the manufacture of the Tuscan grass bonnets.

Having extended my remarks to a much greater length than I anticipated, I will mention as an apology, that having seen most of the publications on the subject which have been circulated in this country in answer to the call of Congress for information, and being well acquainted with the perfectly simple manner in which the business has ever been conducted here, I felt that a plain statement of facts, similar to those I have here given, was necessary, to counteract in some measure the influence of that scientific minuteness with which the subject was treated in those publications, and might be of public utility. Should it appear to you that I am correct in this opinion, you are at liberty to make such use of this communication as you may think proper.

Another subject of your inquiry is, whether silk-worm eggs can be procured here, in reply to which, all I can say is, I have heretofore, when applied to, found no difficulty in obtaining them, to any extent called for, and presume there would be none now. The price, from 6 to 8 cents per thousand; and as they are attached to papers, those papers may be folded and packed in small boxes and sent safely to any part of the country by stage or otherwise.

When at New-York, last spring, I purchased a small lot of the *Morus Multicaulis*, for the purpose of introducing them into this silk-growing region. They flourished finely last summer, and if our winter climate does not prove too severe for them, bid fair to be an important acquisition to our silk growers. As I am frequently applied to from a distance for information with regard to the value of cocoons, and of the raw silk, I will here state that we have not as yet any extensive reeling establishments, but from the success which attended the trial of the Piedmont reel the last season, I think there is encouragement to enter extensively into the business, and that probably, by another season, such preparation will be made as to afford a ready sale for cocoons, at a fair price, which is now estimated by the bushel—say \$2.50 per bushel, for fair, to \$3.00 for best. The worth of the raw silk depends much on its being reeled clean, level, and fine. For the former I have paid the above prices for several lots which I purchased the last season, and for the raw silk have paid mostly from \$3.75 to \$4.00.

Respectfully, your obedient servant,

ZALMON STORRS.

NEW-YORK AMERICAN.

JANUARY 18—24, 1834.

LATER FROM EUROPE.—The George Washington, from Liverpool, brings us London papers of the 24th, and Liverpool of 26th November—ten days later than our previous accounts, though themselves 54 days old—while the latest Liverpool paper, that of 26th, announces the arrival there, of the Napoleon, in 16 days from this port.

We give from the London Spectator of the 23d a good summary of the news of the day, and add to it some details.

The quarrel in Spain is losing its interest. Neither party seems capable of any great effort; and it will probably drag on into a sort of guerilla warfare. Don Carlos still keeps concealed. The paper rupture between the Queen Regent and Miguel signifies not much.

In Portugal the state of things is somewhat similar. Miguel, at Santarem, is so strongly posted that Pedro dares not attack him, though he has cut him off from some mills which supplied his forces with flour; but the whole country in his rear is open to him; that loss, therefore, will not be material; and if Pedro's troops are at all of the quality of those which formed a part of the detachment with which Captain Birt and his marines were acting, he shows his wisdom in not attempting any attack upon Santarem.

A quarrel, upon points of etiquette, is getting up between the self-made Soldier-King of Sweden, and the Citizen-King of the French. If in nothing else, than in the imitation of the follies of legitimacy—these new made Kings play their parts, as though they were born to them. The Bavarian Monarch, too, it seems, by the annexed article from Munich, is occupying his royal leisure in prescribing the etiquette of the road. When the universal German mind is fermenting with thoughts and projects of equal rights and liberal institutions—such conduct as this seems really that of infatuation.

MUNICH, NOVEMBER 11.—On the 7th instant, an ordinance was published here, founded on a Ministerial rescript of the 29th of October. The first article of this ordinance forbids all carriages, no matter to whom they belong, and all riders on horseback, to pass carriages in which their Majesties are; and, when the King is on horseback, it is forbidden to pass or remain before his Majesty. The second article orders all carriages and horsemen, who may meet their Majesties, to draw up immediately, and halt till they have passed by.

In England rumors of changes in the Ministry were frequent: Lord Grey desires, it is supposed, to retire, and wishes, it is added, to make his son-in-law, Lord Durham, his successor as Premier. To this Lord Brougham, who looks to that station himself, objects. O'Connell has recommenced agitation in Ireland, having, as we presume, lost all hope of office from the Ministry.

[From the London Courier of 21st November.]

We notice in the French Papers, too, a statement that the celebrated naturalist, M. Geoffroy St. Hilaire, the President of the Academy of Science, was disposed to concede to M. Raspail a prize of 10,000 francs for his new system of organic chemistry, on some condition of his confining his attention to science; but the Minister, M. Guizot, interfered, and prevented it, on account of M. Raspail being, politically speaking, a dangerous citizen.—The Academy submitted to the minister's decision, not to the judgment of the man of science.

[From the London Spectator of 23d November.]

PORTUGAL.—The war in Portugal is carried on with little spirit: there is a strong disinclination to fight, on both sides. The Miguelite army remains within the Walls of Santarem; and Pedro seems to be destitute of the means of attacking it with any probability of success. He ordered a portion of his force to be drawn up below the town, by way of bravado, or in order to ascertain whether the enemy would have the folly to leave their fortifications and fight in the open plain; but the Miguelite General only laughed at him; and his troops did not move a foot.

On the 2d instant, however, there was a little fighting at Alcaer de Sal, a small town near St. Ubes, garrisoned by a detachment of the Pedroite army, consisting of about 1,000 Lisbon Militia and 150 English and Portuguese Marines. The Miguelites, in number about 1,500, under the command of Colonel Lemos, made an attack upon them early in the morning. The following account of what then took place is extracted from a letter written to Admiral Napier by Captain Birt, who commanded the Marines.

"The English and Portuguese Marines under my command were stationed in front of the Constitutional troops as skirmishers, and kept the enemy at bay till the cavalry charged them in three squadrons; when we immediately formed into a square, and twice repulsed them with great loss. We then prepared to charge a column of infantry, who were advancing; but the Portuguese Volunteers and 9th infantry, who were stationed in our rear, seeing the determined manner in which we were attacked, betook themselves to rapid flight, without firing a shot, leaving my men with some of the Portuguese Marines to do the best we could; when, finding ourselves overpowered by numbers, we commenced our retreat, keeping the enemy at bay, and covering the flight of the Portuguese. I tried to persuade the Colonel commanding our troops (who asked my opinion) to retire to a convent, a strong position on our right, at which place we might have made a good stand. Instead of doing this, he led to the marshes beside the river; and here the scene was beyond description; the whole country was strewn with arms and accoutrements, which the Volunteers threw away in their flight, and the enemy's cavalry closing on them, hewed them down in all directions. I kept my men together, and made good my retreat to the side of the river, with the loss of only three men; but on coming to the river, for want of boats (the Portuguese troops having taken all) the men were obliged to throw away their arms and accoutrements, and swim across under a heavy fire of musketry, who lined the north bank in this place. I am sorry to say my loss was great, in consequence, I fear, of some of the officers and men breaking off to the right, and attempting to pass the river lower down. They were all cut off.

The Captain adds, that the Portuguese Colonel lost all command, and gave himself up to the enemy; that a great number of the volunteers also passed, crying "Viva Don Miguel!" And that the Pedroites loss in killed, and prisoners, could not be less than 800 men. Admiral Napier, in a letter to the Minister of Marine, recapitulates Captain Birt's account of the affair; and says, that of the troops engaged on the Queen's side, he hears that "200 are at Palmella, 100 are at St. Ubes, and as for the rest, God knows where they are."

If Don Pedro's army is composed to any extent of his Lisbon levies, it is not surprising that he hesitates to attack Santarem. He had better have treated his British recruits, who lately returned in the James Watt, full of disgust and without pay, with good faith and common humanity.

SPAIN.—Mr. Villiers formally presented his credentials to the Queen Regent at Madrid on the 6th instant. Until then, Lord William Harvey had figured as the official representative or Chargé d'Affaires. At Madrid, and throughout the Southern provinces of the kingdom, the Queen's authority is undisturbed. The partisans of the Pretender are treated with some harshness.

In the Northern provinces, Carlism seems to prosper: the insurgents have driven the Queen's troops from Irun; and have thus closed another line of communication to Madrid. General Saarsfield, of whose march upon Vittoria and expected demolition of the rebels so many reports have been current, was still at Burgos, when the latest accounts left Bayonne, seven days ago. Preparations are making to supply St. Sebastian with provisions, and a number of Constitutionals have arrived there, to augment the garrison, which is weak and not well provided. There has been a rising in Valencia; the principal town in the province, San Philippe, having proclaimed Don Carlos; but it appears to have been speedily suppressed.

General Quesada, who commands the Queen's troops, at Valladolid, has issued his proclamation to the inhabitants of Old Castile. "It breathes," says the Courier, "a fierce, uncompromising war against the denounced monks and their supporters. Such sentiments must make every man apprehensive that war in Spain, instead of being a mere contest for a throne, can be nothing less than a war of extermination."

FRANCE.—The French Liberals have altered their

tone respecting the interference of their Government in the affairs of Spain. A short time ago, they were eager for the despatch of an army to support the Queen and suppress the Carlists. But they have since discovered, that the support of the Queen may be a very different affair from the establishment of a Liberal government; and have a reasonable dread that French arms, if used at all, would be for the benefit of Absolutism, or at least, what they abominate nearly as much, the system of the Juste Milieu. Now, therefore, they would prefer to assist the Queen with a loan of money; which would probably answer her Majesty's purpose much better than an auxiliary army of Frenchmen. According to present appearances, Louis Philip will do neither one nor the other.

BELGIUM.—King Leopold's concerns proceed smoothly. The addressees in reply to his speech were passed unanimously by both Chambers; and it is said that the session is likely to be one of little speechifying and much business. Count Dietrichstein, the Austrian, and Count d'Arnheim, the Prussian Ambassador, have reached Brussels. The latter is already very active in his endeavors to form a commercial treaty, the real object of which is to exclude British manufactures from the Continent. Great inducements, it is said, will be held out to the Belgian manufacturers to become parties to the Prussian system.

TURKEY.—There is a solitary piece of news from Constantinople, but that is important if true: the combined English and French squadrons have entered the Dardanelles, in spite of the recent treaty between Russia and Turkey, by which such entry was forbidden. This is a proper and spirited proceeding, and we hope that the information of the Standard, from whom we copy the news, may prove to be correct. It is far better to show at once our perfect contempt for the treaty, in this way, than get entangled in the diplomatic net of endless negotiation with a view to alter it.

IRELAND.—Having completed our budget of foreign intelligence, we turn to the far more interesting and important affairs of the Sister Isle; where, after an interval of comparative calm, the storm which we have seen gathering for some weeks past, has at length burst forth, and promises to rage with the accustomed fury of the season. It is to be hoped that the pilots to whose guidance the state vessel is consigned, are blessed with steady hands and stout hearts, for verily they will need them.

Mr. O'Connell made his appearance at the Four Courts in Dublin on Saturday last; and, with the apparent determination not to lose a moment's time, walked to his old arena, the Corn Exchange; where he drew up and signed a requisition for a public meeting to petition against Tithes and for the Repeal of the Union. This is his first step of renewed agitation in Dublin; which he has declared shall be kept up with unusual energy; and there is every reason to believe that he will keep his word.

Lisbon, Nov. 16.—Very little has been done here in the military way for this last week. The contending parties continue nearly in the same positions. On the 10th instant about 6,000 men advanced towards Fernes, from Cartaxo, to destroy the mills in that neighbourhood, which supply Santarem with flour. The Miguelites, 800 in number, retired on their approach, and the Pedroites, after effecting their object, returned to their old quarters. They are drawing their line somewhat closer to Santarem; but the communication is still open with the country in the direction of Abrantes, Coimbra, and Alentejo, so that they get in provisions in abundance. Guerilla parties are going about in all directions, accompanied by a few soldiers, who forward whatever provisions they can collect to Santarem. Unless Don Pedro can send up near 10,000 men more he will not be able, effectually, to encircle the town, and of course it will be folly to calculate on starving them out, when almost the whole country is open to them.—On the 11th inst. the inhabitants came from Aldegalles, in a great hurry, as the Miguelites were drawing near the town; however, they did not enter it, as they were only in quest of cattle, and drove off about 400 head. The Miguelites who took Alcaer remain still in the neighbourhood; they did not venture to advance on St. Ubes, and the garrison is now so much increased that they will get a warm reception; had they pushed forward after the engagement at Alcaer, it was apprehended they might have effected an entry. Admiral Napier carried 400 men thither in a steamer, on the 12th, and the sailors were landed from the Donna Maria armed with pistols and boarding pikes. Napier has not since returned, and it is thought that he will take the command of an expedition to Algarve.

PURE AND WHOLESOME WATER.—This evening the Report of the Commissioners, and of their Engineer, Major Douglass, is to be canvassed by the Board of Aldermen. We hope this important topic will be approached in a proper and liberal spirit, and with an eye to the future demands, as well as present great and urgent wants of this city.

The careful and elaborate surveys made by Major Douglass, of the whole ground between the Croton river and this city, and of all the various sources whence, it was supposed, at different times, a supply of water might be derived, present the matter fully to the Board. To them it belongs to decide whether they will sanction a plan which is certain, permanent, and adequate to the future as well as present demands, and of which the utmost cost is fully set forth, and ascertained—or whether they will fritter away in doubtful experiments, and at eventually greater ultimate expense, both time and resources.

The noble aqueduct proposed by Major Douglass is, we are persuaded, the only effective, as it is the only worthy plan. We have heard no single objection to it but the apprehension that the stream might freeze. When, however, it is considered that by the descent obtained, the water at the passage of Harlem river, (the most exposed point) will run at the rate of 125 feet per minute, and in a stream varying from 4 to 6 feet in depth, there does not seem much to apprehend on the score of frost. As to the substitution of iron pipes, it is preposterous. No single line of pipes of any dimensions yet made, could supply even present wants, and the expense of several lines would be much greater than that of the aqueduct, with less certainty of result and durability. Our own thorough conviction is, that the plan of Major Douglass will, if carried out, both fulfil all expectations, and in the facilities which it will furnish to the city, not only pay for itself, but constitute a valuable source of municipal revenue.

Another Steamboat Accident.—It will be seen by the following extract from the report of the steamer Orleans, which arrived at New Orleans on the 31st ult., that the steamer Telegraph, trading from that port to Bayou Tunica, has been lost, together with the greater part of the cargo. The extract is furnished by the New Orleans Courier:

"On the night of the 27th instant, at 7 o'clock, in the bends near the Palmyra Islands, came in contact with the steamer Telegraph, Capt. Prior. The concussion was such that she sunk in 10 minutes in three and a half fathoms water, during which time all her passengers and crew were taken from on board by us. In about three hours afterwards, the Cincinnati and North Alabamian came alongside, affording an opportunity to the passengers to proceed; of which they all availed themselves, with the exception of a few who remained on board. Shortly after both boats left the wreck. In about six hours, with the assistance of Capt. Prior and his crew, we succeeded in saving a considerable quantity of the passengers' baggage, and some of the cabin furniture. The Cincinnati brought from a neighboring wood-yard, where she heard of the disaster, a good flat boat which was left with Capt. Prior for the purpose of attending on the wreck.

Great Gale at Buffalo.—A letter from Buffalo, dated the 13th inst., furnishes the following particulars of a gale of unprecedented violence at that place.

Between 4 and 5 o'clock yesterday afternoon commenced the severest gale of wind that ever visited the city, or that is known by the oldest inhabitants of Buffalo, and continued until near daylight this morning before it abated, blowing down chimneys, unroofing buildings, upsetting carriages, and blowing in windows, doors, &c. &c. It now blows a gale, and the water is 4 feet lower than it was at 3 o'clock this morning. The ice is within 10 rods of my house on Crow street. The following is a brief history of the damage:

The road is completely blockaded from the foot of Main street to the Ferry, with ice and wood and lumber. The stages have to go west through the Indian village. The water was six inches deep in Willard's store. The wharves are much injured the whole length of the creek. Some vessels broke loose from their moorings. The starboard wheel house of the steam boat N. York was blown off. A Eaton's wharf

is materially damaged. The chimneys and battlements of the Commercial Buildings are blown down, and the roofs broken in. The south end of the block on Main street is badly injured. A part of the balustrade on the Mansion House is gone. Taylor's and Hedgus on the Terrace, battlements and chimneys are gone. Elfers', on the corner of Main and Seneca streets, completely unroofed. Case's Farmer's Hotel, three chimneys and battlements down. The brick front of Wilgus', on the east side of Main-st. is gone. Chimney and battlements of L. H. Pratt and the Journal office, blown down, broke through the roof and two floors below. A. and A. Raynor's roof broke in and fell to the second story; where it was propped with timbers to the risk of many lives.

The battlements, chimneys and part of the roof of Rathbun's Cremlin buildings are blow off. Some of the windows of the Baptist church blown in. All the windows of the Congregationalist's church, broken in fronting the court house square, and some on the east side. On Seneca-street, Heywood's chimneys off and Doughty's house caved in. The county poor house is unroofed and about 50 inmates unprovided for, &c. &c.—[Albany Argus.]

[From the Albany Argus.]

CANAL TOLLS.—The Canal Board have had a special meeting for the purpose of regulating the Canal tolls, and the rates are published at this early day, for the information of those who are interested in the subject.

The rates of toll upon merchandise have been reduced 25 per cent.; upon flour, salted beef and pork, butter and cheese, beer and cider, the reduction is 10 per cent.; on timber, square and round, carried in boats, the toll is reduced 50 per cent.; sawed lumber, carried in boats, is reduced from 10 to 6 mills per 1000 feet per mile. Those who are familiar with the old rates will perceive that there has been a very general reduction in the rates of toll. On most articles, the produce of the country, as well as on merchandise, the tolls by the present reduction are brought within a fraction of the constitutional minimum.

The toll upon foreign salt has been reduced from 5 to 3 cents per 1000 pounds per mile. Previous to 1831, the toll upon foreign salt was one cent and four mills. In consequence of the reduction by Congress of the United States duty, the Canal Board, in 1831, raised the toll upon foreign salt from one cent, and four mills to ten cents per 1000 pounds per mile. The constitution having been altered so as to enable the Legislature to reduce the State duty upon each bushel of salt from 12 1/2 to 6 cents, the Canal Board have modified the rates of toll upon foreign salt.

RATES OF TOLL.

At a meeting of the Canal Board, at the Comptroller's Office, in the city of Albany, on the 13th January, 1834, the following rates of toll were established, in lieu of all rates heretofore established by this Board:—

No.	Provisions.	cts. m. fr.
1.	On flour, salted beef and pork, butter and cheese, beer and cider, per 1000 pounds per mile.....	0 4 5
2.	On bran and ship stuffs in bulk, per 1000 pounds per mile.....	0 4 5
<i>Iron, Minerals, Ores, &c.</i>		
3.	On salt manufactured in this state, per 1000 lbs. per mile.....	0 2 3
4.	On foreign salt, 1000 pounds per mile.....	3 0 0
5.	On gypsum, the product of this state, per 1000 pounds, per mile.....	0 2 5
6.	On brick, sand, lime, clay, earth, leached ashes, manure and iron ore, per 1000 pounds per mile.....	0 2 5
7.	On pot and pearl ashes, kelp, mineral coal, charcoal, pig iron, broken castings and scrap iron, per 1000 pounds per mile.....	0 4 5
8.	On stove, and all other castings, going to or from tide water, per 1000 pounds per mile.....	0 5 0
9.	On copiers and manganese, going towards tide water, per 1000 per mile.....	0 5 0
10.	On bar and pig lead, going towards tide water, per 1000 pounds, per mile.....	0 4 5
<i>Furs, Peltries, Skins, &c.</i>		
11.	On furs and peltry (except deer, buffalo and moose skins) per 1000 pounds per mile.....	1 4 0
12.	On deer, buffalo and moose skins, per 1000 lbs. per mile.....	0 7 0
13.	On ship skins and other raw hides of domestic animals of the United States, per 1000 lbs. per mile.....	0 4 5
14.	On imported raw hides of domestic and other animals, per 1000 pounds per mile.....	0 9 0
<i>Furniture, &c.</i>		
15.	On household furniture, accompanied by, and actually belonging to, families emigrating, per 1000 pounds per mile.....	0 5 0
16.	On carts, wagons, sleighs, ploughs and mechanical tools, necessary for the owner's individual use, when accompanied by the owner, emigrating for the purpose of settlement, per 1000 pounds per mile.....	0 5 0
<i>Stone, Slate, &c.</i>		
17.	On slate and tile for roofing, and stone ware, per 1000 pounds per mile.....	0 5 0
18.	On all stone, wrought iron unwrought, per 1000 pounds per mile.....	0 2 5
<i>Lumber, Wood, &c.</i>		
19.	On timber, squared and round, per 100 cubic feet, per mile, carried in boats.....	0 5 0
20.	On the same, if carried in rafts, per 100 cubic feet per mile.....	1 5 0
21.	On boards, plank, scantling, and sawed timber,	

reduced to inch measure, and all sliding, lath, and other sawed stuff less than 1 inch thick, carried in boats, (except such as is enumerated in regulations, Nos. 23 and 32,) per 1000 feet per mile.....	0 6 0
22. On the same, if transported in rafts, per 1000 feet per mile.....	2 0 0
23. On sawed lath of less than five feet in length, split lath, hoop poles, rowing cars and broom handles, per 1000 pounds per mile.....	0 2 5
24. On staves and heading, transported in boats, per 1000 pounds per mile.....	0 2 0
25. On the same, if transported in rafts, per 1000 pounds per mile.....	0 5 0
26. On shingles per M. per mile, carried in boats.....	0 3 0
27. On the same, if conveyed in rafts, per M. per mile.....	0 4 0
28. On split poles, and rails for fencing, per M. per mile, carried in boats.....	2 0 0
29. On the same, if conveyed in rafts, per M. per mile.....	8 0 0
30. On wood for fuel, (except such as may be used in the manufacture of salt, which shall be exempt from toll,) and tan bark, per cord per mile.....	1 0 0
31. On the same, if transported in rafts, per cord per mile.....	2 0 0
32. On sawed stuff for window blinds, not exceeding one fourth of an inch in thickness, per 1000 pounds per mile.....	0 5 0

Agricultural Productions, &c.

33. On cotton, per 1000 pounds per mile.....	0 4 5
34. On live cattle, sheep and hogs, per 1000 pounds per mile.....	0 5 0
35. On horses, (and each horse when not weighed, to be computed at 600 pounds, per 1000 pounds per mile.....	0 7 0
36. On rags per 1000 pounds per mile.....	0 4 5
37. On hemp and tobacco going towards tide water, per 1000 pound per mile.....	0 4 5
38. On hemp, going from tide water, per 1000 lbs per mile.....	0 4 5
39. On wheat and all other agricultural productions of the United States, not particularly specified, and not being merchandise, per 1000 lbs. per mile.....	0 4 5
40. On merchandise.....	0 9 0

Articles not enumerated.

41. On all articles not enumerated or excepted, passing from tide water, per 1000 pounds per mile.....	0 9 0
42. On all articles not enumerated or excepted, passing towards tide water, per 1000 pounds per mile.....	0 4 5

Boats and Passengers.

43. On boats used chiefly for the transportation of persons and navigating the Erie canal between Schenectady and Utica, per mile.....	11 0 0
44. On boats used chiefly for the transportation of persons, and navigating the Erie canal west of Utica, per mile.....	6 0 0
45. On boats used chiefly for the transportation of persons, and navigating the Champlain or Champlain and Junction canal, per mile.....	6 0 0
46. On boats used chiefly for the transportation of persons, and navigating the Oswego canal, per mile.....	6 0 0
47. On boats used chiefly for the transportation of persons, and navigating the Cayuga and Seneca canal, and the lateral canal to East Cayuga Village, or either of them, per mile.....	6 0 0
48. On boats used chiefly for the transportation of persons, and navigating the Junction canal, and not connected with regular lines of boats for the transportation of persons on the Erie or Champlain canals, per mile.....	50 0 0
49. On boats used chiefly for the transportation of property, per mile.....	2 0 0
50. On each person over eight years of age, transported in a boat used chiefly for the transportation of persons, per mile.....	0 2 0
51. On each person over 12 years of age, transported in a boat used chiefly for the transportation of property, per mile.....	0 2 0

Resolved, That the foregoing rates of toll be, and they are hereby established; and that the same be hereafter charged and collected on the several canals of this state, in lieu of all rates of toll heretofore established upon any or either of the said canals, or any part thereof.

STEPHEN VAN RENSSLAER,
SAMUEL YOUNG,
WILLIAM C. BOUCK,
JONAS EARLE, JR.,
MICHAEL HOFFMAN,
Canal Commissioners.

A. C. FLAGG,
JOHN A. DIX,
GREENE C. BRONSON,
A. KEYSER,
SIMON DE WITT,
Commissioners of the Canal Fund.

[COMMUNICATED.]

A pair of silver pitchers, to be presented by the citizens of Brooklyn to Commodore Chauncey, are just finished by Gardner corner of Broadway and Liberty street, where they will remain, and may be seen for two or three days.

Appointments by the Governor and Senate— TUESDAY, JANUARY 14.

Jonathan D. Stevenson, of the city of New York, inspector of leaf tobacco for said city, in place of Wm. Simpson, whose term of office has expired.

SATURDAY, JAN. 18.—Wm. C. Haggerty, of New York, to be auctioneer in the place of John F. Adriance, resigned.

Two of the buildings, connected with one of the Powder Mills, belonging to Loomis, Hazard & Co. in Manchester, Connecticut, were blown up on the 20th instant, (the cracking works and dry house.) Six men were killed, viz. John Rockwell, and Daniel Avery, of East Windsor; Mr. Giles, and

Mr. Bivins, of Hartford; Harry Fox, of Bolton; Mr. Allen, of New-York—loss of property small; cause of the explosion, unknown.—[Gazette.]

JACQUELINE.

"Death lies on her, like an untimely frost
Upon the sweetest flower of all the field."

"Dear mother—is it not the bell I hear?"

"Yes, my child: the bell for morning prayers. It is Sunday to-day."

"I had forgotten it. But now all days are alike to me. Hark! it sounds again—louder—louder. Open the window, for I love the sound. There: the sunshine and the fresh morning air revive me. And the church bell—oh, mother—it reminds me of the holy Sabbath mornings by the Loire: so calm, so hushed, so beautiful! Now give me my prayer-book, and draw the curtain back that I may see the green trees and the church spire. I feel better to-day, dear mother."

It was a bright, cloudless morning in August. The dew still glistened on the trees, and a slight breeze wafted to the sick chamber of Jacqueline the song of the birds, the rustle of the leaves, and the solemn chime of the church-bells. She had been raised up in bed, and reclining upon the pillow, was gazing wistfully upon the quiet scene without. Her mother gave her the prayer book, and then turned away to hide a tear that stole down her cheek.

At length the bells ceased. Jacqueline crossed herself, kissed a pearl crucifix that hung around her neck, and opened the silver clasps of her missal. For a time, she seemed wholly absorbed in her devotions. Her lips moved—but no sound was audible. At intervals the solemn voice of the priest was heard at a distance, and then the confused responses of the congregation, dying away in inarticulate murmurs. Ere long, the thrilling chant of the Catholic service broke upon the ear. At first it was low, solemn and indistinct; then it became more earnest and entreating, as if interceding, and imploring pardon for sin; and then arose louder and louder, full, harmonious, and majestic, as it wafted the song of praise to heaven, and suddenly ceased. Then the sweet tones of the organ were heard—trembling, thrilling, and rising higher and higher, and filling the whole air with their rich melodious music. What exquisite accords!—what noble harmonies!—what touching pathos! The soul of the sick girl seemed to kindle into more ardent devotion, and to be wrapt away to heaven in the full harmonious chorus, as it swelled onward, doubling and redoubling, and rolling upward in a full burst of rapturous devotion!—Then all was hushed again. Once more the low sound of the bell smote the air, and announced the elevation of the host. The invalid seemed entranced in prayer. Her book had fallen beside her—her eyes closed—her soul retired within its secret chambers. Then a more triumphant peal of bells arose. The tears gushed from her closed and swollen eye-lids; her cheek was flushed; she opened her dark eyes and fixed them, with a deep expression of adoration and penitence, upon an image of the Saviour on the cross, which hung at the foot of her bed, and her lips again moved in prayer. Her countenance expressed the deepest resignation. She seemed to ask only that she might die in peace, and go to the bosom of her Redeemer.

The mother was kneeling by the window, with her face concealed in the folds of the curtain. She arose, and going to the bedside of her child, threw her arms around her, and burst into tears.

"My dear mother, I shall not live long—I feel it here. This piercing pain—at times it seizes me, and I cannot—breathe."

"My child, you will be better soon."

"Yes, mother, I shall be better soon. All tears, and pain and sorrow, will be over. The Hymn of Adoration and Entreaty, I have just heard, I shall never hear again on earth. Next Sabbath, mother, kneel again by that window as to-day. I shall not be here, upon this bed of pain and sickness; but when you hear the solemn Hymn of worship and the beseeching tones that wing the spirit up to God; think, mother, that I am there—with my sweet sister, who has gone before us—kneeling at our Saviour's feet, and happy—Oh, how happy!"

The afflicted mother made no reply,—her heart was too full to speak.

"You, remember, mother, how calmly Amie died. Poor child, she was so young and beautiful!—I always pray, that I may die as she did. I do not fear death as I did before she was taken from us. But, oh—this pain—this cruel pain—it seems to draw my mind back from heaven. When it leaves me I shall die in peace."

"My poor child!—God's holy will be done!"

The invalid soon sank into a quiet slumber. The excitement was over, and exhausted nature sought relief in sleep.

The persons between whom this scene passed, were a widow and her sick daughter, from the neighborhood of Tours. They had left the banks of the Loire to consult the more experienced physicians of the metropolis, and had been directed to the *Maison de Sante*, at Anteuil, for the benefit of the pure air. But all in vain. The health of the suffering, but uncomplaining patient, grew worse and worse, and it soon became evident that the closing scene was drawing near.

Of this, Jacqueline herself seemed conscious; and towards evening, expressed a wish to receive the last sacraments of the church. A priest was sent for; and ere long, the tinkling of a little bell in the street announced his approach. He bore in his hand a silver vase containing the consecrated wafers, and a small vessel, filled with the holy oil of the extreme unction, hung from his neck. Before him walked a boy carrying a little bell, whose sound announced the passing of these symbols of the Catholic faith. In the rear, a few of the villagers, bearing lighted wax tapers, formed a short and melancholy procession. They soon entered the sick chamber, and the glimmer of the tapers mingled with the red light of the setting sun, that shot his farewell rays through the open window. The vessel of oil, and the vase containing the consecrated wafers, were placed upon a table in front of a crucifix that hung upon the wall, and all present, except the priest, threw themselves upon their knees. The priest then approached the bed of the dying girl, and said in a slow and solemn tone:

"The King of Kings and Lord of Lords has passed thy threshold. Is thy spirit ready to receive him?"

"It is, father."

"Hast thou confessed thy sins?"

"Holy father, no."

"Confess thyself, then, that thy sins may be forgiven, and thy name recorded in the book of life."

And, turning to the kneeling crowd around, he waved his hand for them to retire, and was left alone with the sick girl. He seated himself beside her pillow, and the subdued whisper of the confession mingled with the murmur of the evening air, which lifted the heavy folds of the curtains and stole in upon the holy scene. Poor Jacqueline had few sins to confess—a secret thought or two towards the pleasures and delights of the world—a wish to live, unuttered, but which to the eye of her self-accusing spirit seemed to resist the wise providence of God: no more. The confession of a meek and lowly heart is soon made. The door was again opened; the attendants entered, and knelt around the bed, and the priest proceeded:

"And now prepare thyself to receive, with contrite heart, the body of our blessed Lord and Redeemer. Dost thou believe that our Lord Jesus Christ was conceived by the Holy Spirit, and born of the Virgin Mary?"

"I believe."

And all present joined in the solemn response—"I believe."

"Dost thou believe that the Father is God, that the Son is God, and that the Holy Spirit is God—three persons and one God?"

"I believe."

"Dost thou believe that the Son is seated on the right hand of the Majesty on high, whence he shall come to judge the quick and the dead?"

"I believe."

"Dost thou believe that by the holy sacrament of the church, thy sins are forgiven thee, and that thus thou art made worthy of eternal life?"

"I believe."

"Dost thou pardon, with all thy heart, all who have offended thee, in thought, word, or deed?"

"I pardon them."

"And dost thou ask pardon of God and thy neighbor for all offences thou hast committed against them, either in thought, word or deed?"

"I do."

"Then repeat after me; O, Lord Jesus, I am not worthy, nor do I merit, that thy divine Majesty should enter this poor tenement of clay; but according to thy holy promises be my sins forgiven, and my soul washed white from all transgression."

Then taking a consecrated wafer from the vase, he placed it between the lips of the dying girl, and while the assistant sounded the little silver bell, said:—

"*Corpus Domini nostri Jesu Christi custodiat animam tuam in vitam eternam.*"

And the kneeling crowd smote their breasts, and responded in one solemn voice:—

"Amen!"

The priest then took from the silver box on the table a little golden rod, and dipping it in holy oil, anointed the invalid upon the hands, feet, and breast, in the form of the cross. When these ceremonies were completed, the priest and his attendants retired, leaving the mother alone with her dying child, who, from the exhaustion caused by the preceding scene, sunk into a death-like sleep.

"Between two worlds life hovered like a star,
Twixt night and morn upon the horizon's verge."

The long twilight of the summer evening stole on; the shadows deepened without, and the night-lamp glimmered feebly in the sick chamber; but still she slept. She was lying with her hands clasped upon her breast—her pallid cheek resting upon the pillow, and her bloodless lips apart but motionless and silent as the sleep of death. Not a breath interrupted the silence of her slumber. Not a movement of the heavy and sunken eye-lid—not a trembling of the lip—not a shadow on the marble brow told when the spirit took its flight. It passed to a better world than this.

"There's a perpetual spring—perpetual youth;
No joint-numbing cold, nor scorching heat,
Famine, nor age, have any being there."

LITERARY NOTICES.

No. XI.

MONROE, M. T., Dec. 3, 1833.

The ride from Detroit hither is dull enough at this season of the year. The road leads through almost dead level, and the muddy streams creep over the fat black soil as if they had gormandised upon its rich vegetation till grown too lazy for locomotion. Among others, the Huron river, from which—seeing that it rises in one of the brightest and most beautiful lakes in the Peninsula—better things might be expected, waddles on to the lake as little excited by the flocks which frolic on its bosom as an Alderman after dinner by the flies that disport upon his jerkin. Occasionally, indeed, some bright little rill will ripple across the road, and smirk over its yellow pebbles on its way to the big lake, with much the same air that the mill streams of Long Island dance over the level ground while hurrying to the sea. But a wet prairie soon intervenes, and the innocent rivulet, like a child that is snubbed, becomes at once silent and sulky.—But though some parts of Wayne county are thus unattractive, I am told that other sections contain much arable land of excellent quality, consisting of sand loam and some clay with heavy timber, and occasionally fine bottoms along the streams. The population is about 8000.

The village of Monroe, in the county of the same name, from which I now write, is situated on the banks of the river Raisin, and about two miles from its entrance into Lake Erie. It was incorporated two years since, and comprises a part of the old site of Frenchtown, celebrated, as you remember, in the annals of the last war. The place is said to be regularly laid out, but the most business part of it—and it is the fussiest little town in the world—looks as if the buildings had all been chucked from the other side of the river, and left to settle just where they might fall upon this. If the place continues to increase as rapidly, however, as it has during the last year—the population having doubled in that time—the inhabitants can afford to burn down the river side of the village and arrange it to more advantage. There are now about 150 houses, of which 20 or 30 are stone; some of them are wholesale establishments, and make a very handsome display of fancy goods. There are also two grist mills immediately in the town, a woolen factory, an iron foundry, several saw mills, a chair factory, a tannery, &c. And yet, notwithstanding the supply of water power affords every facility for the use of machinery, the demand for manual labor is very great, and mechanics of every kind may here, as in Detroit, find constant employment. Indeed, I am told, that the demand for mechanics in every part of Michigan, is excessive; and as for laborers, I have seen them repeatedly advertised for by written notices on tavern doors and elsewhere. The emigrants to the territory, I find, are generally people of a very respectable class, who have both the

disposition and the means to employ the services of others around them.

The "Bank of the River Raisin" is established at this place, with a capital of \$100,000; and though in its infancy, is said to be doing a very flourishing business. The notes are among the handsomest specimens of bank note engraving I have seen. There is also a Land Office established here, at which the sales of public lands since last April amount to upwards of \$22,000; the sales at Detroit and White Pigeon together a little exceeding this sum. The government price of land (\$100 for 80 acres) being the same in every part of the territory, this will give you some idea of the immigration into the Peninsula.

I must not forget to mention that with a population of only 1600 souls, five religious denominations are represented in their respective clergymen at Monroe, and that three of these, the Roman Catholic, Episcopal and Presbyterian, have each a neat Church of their own. I ought to add that a newspaper, with a good circulation, is printed here.

The advantageous position of Monroe, situated as it is at the head of Lake Erie, induced the government to make an appropriation for improving the harbor, which, except that of Maumee, is the only one at this part of the Lake. The lamented Major Maurice, of the Engineer Corps, (who, you may remember, fell down and instantly expired in the act of shaking hands with General Gratiot at Washington, last winter,) and whom the inhabitants of this place speak of with the tenderest remembrance—made minute surveys of the harbor and of the different channels of the river; and the bill which has been at various times introduced into Congress for their improvement was based upon his reports. A bill was passed at the last session of Congress appropriating \$8,000 for rebuilding the pier at the mouth of the river, and also appropriating the sum of \$20,000 for a road from La Plaisance bay, through which the Raisin debouches into Lake Erie, to intersect the Chicago road, which traverses the whole Peninsula, at a point about 40 miles from here; an improvement which will open a new market to Southern and Western Michigan, and contribute of course much to the prosperity of Monroe. A bill was also passed by both houses appropriating \$15,000 for a Canal connecting the waters of Lake Erie and the River Raisin by a cut across the bar at the mouth of the latter. The money has not been expended, however, in consequence of an oversight in the engrossing clerk, which from his omitting this important item, has prevented the bill as yet becoming a law. The monies appropriated for the pier and road have already been mostly expended, and those public works are now nearly completed under the active and efficient superintendence of Capt. Henry Smith, of the Engineer Corps. When all these improvements are completed, Monroe must come in for a large share of the immense trade and commerce which must flow through the three outlets of Eastern Michigan. The mouth of the Maumee can hardly compete with it on account of the extreme unhealthiness of that swampy region; but I am inclined to think that the enterprising inhabitants of this thriving little place are somewhat too vivacious in their expectations, when they think of not only rivalling, but outstripping, the ancient city of the Straits on the onward road to prosperity. Detroit, like every other point selected by the French on the Western waters of our country, is as commanding a position, whether for war or trade, as could be chosen.

The Monroites are however a driving people in their way. They are now building a steamboat of the largest class, which will cost not less than \$45,000, to ply directly between here and Buffalo, and this morning I saw launched a beautiful schooner, for the lake navigation. It was the first launch that had ever taken place at Monroe, and the occasion caused a general turn out of the inhabitants, who hurried to the spot a mile or two off upon horses of every variety of appearance. There was the bull-necked French pony and his scraggy looking Indian cousin, the sleek spongy looking Ohio horse and the clean-limbed quickly-gathering Kentuckian, galloping between the swift but shuffling Illinois pacer and the high-actioned tight looking New York trotter. Every one rode as if for a wager, and when we drew our reins the talk about horse-flesh superceding almost the interest in the schooner, showed that the Monroites, like Cataline and N. Purdy, deserve to be celebrated for their judgment in these matters. A very good and full band of Amateur Musicians composed of respectable private individuals of the village, came at last upon the ground, and changed the subject to the name of the new vessel which several wanted to alter before launching, from the hack-nied one of Diana to the more characteristic sound of *Tecumseh*, the spot being so celebrated in the

memory of that great chief. "You knew Tecumseh then sir," said I to an old gentleman, who, I was informed, had been field officer during the late war, and engaged in several battles. "I did sir, and he was as thorough a gentleman and as high toned an officer as any in the British service." The chief, you know, actually held his commission as a general officer immediately from the king. "What do you think then sir of his massacre upon this spot," I rejoined. "The barbarity of that act, sir, was only in accordance with Indian ideas of warfare. The disgrace of it attaches entirely to the English officer (Proctor) who permitted, perhaps sanctioned, the atrocity. The old officer's blood seemed to kindle anew as he dwelt upon that horrible slaughter of a force which had capitulated on honorable terms with a full reliance on the foe for protection. I asked him about the sick and wounded, who were burnt up in the hospital or shot to death as they ran shrieking through flames. "I saw their bones," he replied, when the ruins were still recent.—I came on with the corps of Kentuckians which advanced soon after into this country, and subsequently so eagerly avenged their countrymen at the battle of the Thames. I walked to the spot where the wounded met their fate, with several others. Richard M. Johnson was one of the number. We looked into the pit, and could see the charred bones and dismembered limbs and sometimes half burnt bodies, plainly below. The men muttered the deepest curses. Col. J. spoke not a word, but the tears rained from his eyes like water, and turning away, he exclaimed, "There lies the best blood in Kentucky, poured out like water." I have given as nearly as I can the very words of the veteran Colonel in describing this sad spectacle. Of the 700 young men murdered here, the greater part were students at law, young physicians, and merchants, and the sons of opulent farmers, and in short the very flower of the youth of Kentucky. The event threw the whole of that State into mourning. Speaking of the troops who were concerned in the early operations of these regions, I have heard a number of interesting accounts from different persons of the formation of the several corps. One of these, though I may very probably in trying to recall the particulars, confound them with the incidents of another, I will venture to repeat. A graduate of Williams's College, Massachusetts, who had been recently admitted to the bar, was riding through the State of Kentucky, perhaps with the design of finding some favorable point at which to fix his abode and commence the practice of his profession, when he was accosted near a village by a mounted traveller, who mentioning that he was a planter of the country, invited the young advocate with all the freedom of Western hospitality to dine at his house the following day. The invitation was accepted; and the Eastern gentleman arriving at the mansion of the unknown host, found a large party collected, the majority of which were well acquainted with each other, while many were strangers, like himself, and invited apparently in the same manner. The dinner however was got through with sociably enough; and by the time the glass began to circulate freely, all felt that easy confidence in the fellowship and good feeling of each other which is the soul of good society. The host then rising, described briefly the state of the Northwestern frontier, and produced a commission from his pocket to raise a corps and march at once thither. They enlisted to a man; their entertainer provided them on the spot with the necessary stores and munitions, and the band of volunteers started in a few hours on their march to the border.

The name of the noble host was not mentioned, but the Eastern adventurer, who was elected a Lieutenant upon the spot, and soon after became a Captain, was said to have been better known since as Colonel, General, Governor, and lastly Mr. Secretary Cass.

I regret now that I did not inquire into and note down the names and other particulars of a relation so striking, but you have the tale as it was told in my hearing, minus the admirable manner of the relation. But I am forgetting the Diana—that burst of music tells that she begins to move on her ways—calmly now she slides like a pair of Broqua's slippers through a quadrille, and now as that bottle of Champagne foams over her bow, her motion increases almost to the velocity of a gallop. She touches the water and the waves smoke like the pocket of Papa when his prettiest daughter is launched into society.—What a sensation does she make among the waves, and how do they coquet with her on every side. She bobs about till she seems as unstable as themselves. But now the sober Skipper, like a good husband, takes possession of her virgin charms, and placing himself at once at the helm, the unmeaning waters

cease their flirting, and sustain her above them without daring to attempt influencing her course. Diana, for one who has been "out" so short a time, may be said to have made "a good match," and become "a respectable member of society." To complete this truly Homeric parallel, I must add that she will "see company" at Buffalo in the spring.

The ride to these dock-yards is rather pleasant; But I have seen handsomer rivers than the Raisin. The banks for several miles around the village have been almost denuded of trees, and the limestone channel lets off so much of the stream through its crevices, that, like a tankard of liquor passed round at a tavern, it is half drunk up before it gets to its real owner, the lake. It would delight an eastern farmer though, to see the magnificent pear trees which, tall as the trees of the forest and containing a century of growth, extend through orchards for miles along the stream. Here, too, are apple trees, to the excellence of whose fruit I can testify, that were brought by the French to this country in 1731. The grape vines, too, from which the river takes its name, constitute a beautiful feature in the level landscape, as they hang in rich festoons along the banks of the stream, and climb wherever it is wooded to the tops of the loftiest elms.

There is now an application and great interest making to incorporate a company for the purpose of improving the navigation of the River Raisin and the Saline by a lock and dam navigation, an improvement which it is said can be now made at slight expense. The river flowing gently in its channel, with banks equally graded, seems ready to receive and freight upon its bosom the rich products of the country on its borders. By constructing a tow-path, the expense of which will not be heavy, an excellent canal can be easily made.

The subject of Canals and Railroads awakens at this moment the keenest interest in Michigan; and, after the route of the projected grand communication between Lakes Erie and Michigan, through the peninsula, shall be determined upon by the General Government, I have no doubt but that large and advantageous outlays of private capital upon similar works will be made at other points. Of the plans talked of as best worthy the attention of Government, that of a grand Railroad from Chicago to Detroit, with a lateral one perhaps to Monroe, seems to be considered as the least chimerical; though there are not a few who advocate a Canal immediately across the peninsula, in a direct line, from the mouth of the Maumee to Lake Michigan; and still a greater number who urge the construction of one from the mouth of the Raisin to that of the St. Joseph's, on the opposite side of the Peninsula—a route which would pass through a country acknowledged, I believe, to be the most fertile in Michigan. But another project still remains, as feasible, or perhaps more so, than either of these. It is to connect the Washtenong or Grand river—a noble stream, which waters half the territory, and is navigable nearly 240 miles in batteaux—with the Huron, a fine stream, which after rising within a few miles of the sources of the Washtenong, empties into Lake Erie on the opposite side of the Peninsula. You can hardly form an idea of the relative importance and feasibility of these projects, without more knowledge of the territory of Michigan than is common at the east, where people generally know about as much of it as they do of Timbuctoo. I have already been so fortunate in my opportunities of talking with well informed people here, that I might venture at once to give you a general view of the country; but I prefer that you should gather whatever information I have to give from my own actual observations made along the road. With regard to scenery, I do not think, from what I have yet seen, I can promise you much; but for agricultural and mineral resources and for manufacturing and commercial advantages, I think I can produce some data, which, if they do not astonish our good people at home in regard to Michigan, will at least account for the immigrants here pouring into the territory as they do, and believing it to be the garden of the Union. You must, however, pick up your information as I shall, by jogging along quietly with me through the country, and observing matters and things just as they come beneath our eyes. To-morrow I start for the interior. Farewell. H.

A TREATISE ON ASTRONOMY, BY SIR JOHN W. F. HERSCHEL, &c. &c: Philadelphia, CAREY LEA & BLANCHARD.—This is an admirable book. It is the work of a master, and a very thorough master, of his lofty science, using his vast attainments and great powers of mind, to simplify and explain to unlearned disciples, the wonders, the truths, and the certain.

of astronomy. It is not, strictly speaking, an elementary book, for it assumes, necessarily, a partial knowledge, on the part of the student, of plain and spherical geometry and trigonometry; yet such is the precision of the language, and clearness of the descriptions employed, that with attention, an intelligent mind, though not possessed of this previous knowledge, will, we are quite satisfied, find no difficulty in comprehending and profiting by the instruction of this—again we repeat it—admirable volume.

OBSERVATIONS ON THE METEORS OF NOVEMBER LAST, by DENISON OLMEYED, *Prof. Math., Yale College.*—This paper, prepared for the forthcoming No. of Prof. Silliman's Journal of Arts and Sciences, but which has kindly been put into our hands in a separate shape, presents in a connected form all the various accounts of that wonderful phenomenon—the falling stars—which, according to the temper and wisdom of hearers, excited the admiration or alarm of the people of this continent and the adjacent isles.

It is however not yet finished, and to its sequel we shall look with interest for some rational and plausible theory, explanatory of so striking and rare an occurrence.

EUPHROSIA OF MESSINA; A TRAGEDY. Translated from the Italian of SILVIO PELLICO. New York: MONSON BANCROFT.—The name of Silvio Pellico would alone suffice to give to this publication general circulation. When to that is added the fact, that his tragedy is rendered into English blank verse, by one evidently master of both languages, and capable of entering into, and fully appreciating, the original, the success of the translation cannot be doubtful. We presume we are indebted for it to the same skillful and tasteful hand, which, in the American Monthly Magazine, so successfully treated the subject of Italian Poetry and Literature. We conclude our necessarily brief and hasty notice to-day, with the annexed extract from the New York Mirror:

[From the New York Mirror.]

DESCRIPTION OF A BALL ON BOARD THE FRIGATE UNITED STATES: by N. P. Willis.

Trieste.—The guns were run out of the ports; the main and mizen-masts were wound with red and white bunting; the capstan was railed with arms and wreathed with flowers; the wheel was tied with rose-gays; the American eagle stood against the mainmast with a star of midshipmen's swords glittering above it; festoons of evergreens were laced through the rigging; the companion way was arched with hoops of green leaves and roses; the decks were tastefully chalked; the Commodore's skylight was piled with cushions and covered with red damask for an ottoman; seats were laid along from one cannon to the other; and the whole was enclosed with a temporary tent lined throughout with showy flags, and studded all over with bouquets of all the flowers of Illyria. Chandeliers made of bayonets, battle lanterns and candles in any quantity were disposed all over the hall. A splendid supper was set out on the gun-deck below, draped in with flags.—Our own and the Constellation's boats were to be at the pier at nine o'clock to bring off the ladies; and at noon every thing promised of the brightest.

First, about four in the afternoon, came up a saucy-looking cloud from the westernmost peak of the Friuli. Then followed from every point towards the north, an extending edge of a broad, solid black sheet which rose with the regularity of a curtain, and began to send down a wind upon us which made us look anxiously to our ballroom bowlines. The midshipmen were all forward, watching it from the fore-castle. The lieutenants were in the gangway, watching it from the ladder. The commodore looked seriously out of the larboard cabin port. It was as grave a ship's company as ever looked out for a shipwreck.

The country about Trieste is shaped like a bellows, and the city and harbor lie in the nose. They have a wind, that comes down through the valley, called the "bora," which several times in a year is strong enough to lift people from their feet. We could see by the clouds of dust on the mountain roads, that it was coming. At six o'clock the shrouds began to creak; the white tops flew from the waves in showers of spray, and the roof of our sea-palace began to

shiver in the wind. There was no more hope. We had waited even too long. All hands were called to take down chandeliers, sword-stars and ottomans, and before it was half done, the storm was upon us, the bunting was flying and flapping, the nicely chalked decks were awashed with rain, and strown with leaves of flowers, and the whole structure, the taste and labor of the ship's company for two days, was a watery wreck.

Lieutenant C—, who had had the direction of the whole, was the officer of the deck. He sent for his pea-jacket, and leaving him to pace out his watch among the ruins of his imagination, we went below to get early to bed and forget our disappointment in sleep.

The next morning the sun rose without a veil.—The "blue Friuli" looked clear and fresh; the south-west wind came over softly from the shore of Italy, and we commenced retrieving our disaster with elastic spirit. Nothing had suffered seriously except the flowers, and boats were dispatched ashore for fresh supplies, while the awnings were lifted higher and wider than before, the bright-colored flags replaced, the arms polished and arranged in improved order, and the decks re-chalked with new devices. At six in the evening every thing was swept up, and the ball-room astonished even ourselves. It was the prettiest place for a dance in the world.

The ship has an admirable band of twenty Italians, collected from Naples and other ports, and a fanciful orchestra was raised for them on the larboard side of the mainmast. They struck up a march as the first boatful of ladies stepped upon the deck, and in the course of half an hour, the waltzing commenced with at least two hundred couples, while the ottoman and seats under the hammocloths were filled with spectators. The frigate has a lofty poop, and there was room enough upon it for two quadrilles after it had served as a reception room. It was edged with a temporary ballustrade, wreathed with flowers and studded with lights, and the cabin beneath (on a level with the main ball-room) was set out with card tables. From the gangway entrance, the scene was like a brilliant theatrical ballet.

An amusing part of it was the sailors' imitation on the forward decks. They had taken the waste shrubbery and evergreens, of which there was a great quantity, and had formed a sort of grove, extending all round. It was arched with festoons of leaves, with quantities of fruit tied among them; and over the entrance was suspended a rough picture of a frigate with the inscription "Free trade and sailors' rights." The fore-castle was ornamented with cutlasses and one or two nautical transparencies, with pistols and miniature ships interspersed, and the whole lit up handsomely. The men dressed in their white duck trousers and blue jackets, and sat round on the guns playing at draughts, or listening to the music, or gazing at the ladies constantly promenading fore and aft, and to me this was one of the most interesting parts of the spectacle. Five hundred weather-beaten and manly faces are a fine sight anywhere.

The dance went gaily on. The reigning belle was an American, but we had lovely women of all nations among our guests. There are several wealthy Jewish families in Trieste, and their dark-eyed daughters, we may say at this distance, are full of the thoughtful levelness peculiar to the race. Then we had Illyrians and Germans, and, Terpsichore be our witness—how they danced! My travelling companion the count of Friuli was there; and his little Viennese wife, though she spoke no christian language, danced as feely as a fairy. Of strangers passing through Trieste we had several of distinction. Among them was a fascinating Milanese marchioness, a relative of Manzoni's the novelist, (and as enthusiastic and eloquent a lover of her country as I ever listened to on the subject of oppressed Italy,) and two handsome young men, the counts Neipperg, sons-in-law to Maria Louisa, who amused themselves as if they had seen nothing better in the little duchy of Parma.

We went below at midnight to supper, and the ladies came up with renewed spirit to the dance. It was a brilliant scene indeed. The officers of both ships, in full uniform, the gentlemen from shore, mostly military, in full dress, the gaiety of the bright-red bunting, laced with white and blue, and studded, wherever they would stand, with flowers, and the really uncommon number of beautiful women, with the foreign features and complexions so rich and captivating to our eyes, produced altogether an effect unsurpassed by any thing I have ever seen even at the court-fêtes of Europe. The daylight gun fired at the close of a gallopade, and the crowded boats pulled ashore with their lovely freight by the broad light of morning.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in lengths of 14 to 18 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do.	
40 do. 1 3/4 do.	
800 do. 2 do.	
800 do. 2 1/2 do.	
soon expected.	

250 dn. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

J. S. EWING & HEARTT, at the sign of the Quadrant, No. 55 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STAELER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1832.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same.

[FOR THE NEW YORK AMERICAN.]

GREENOUGH.

"With looks flung back and lips apart,
 "Like monument of Grecian art."
 In that hushed hour of deep suspense—
 Where soul is hanging on the tone,
 Rapt inspiration's notes dispense,
 We see thy hand upon the stone,
 Whose cold and formless mass must give
 The feelings of a nation's heart;
 The pride, the type, and bid it live
 A monument of deathless art?
 Well may thy modest head be bent,
 Though genius bids thee baffle fear;
 The blush she has thy features lent,
 Is not less graceful than the tear;
 For well thou know'st no borrowed aid,
 No Grecian chisel can be thine;
 Its bright creations all must fade,
 Before thy subject, truth divine;
 No fancy here may reckless dwell,
 Or bring cherubic forms to view;
 Its dreams to bright perfection swell,
 And demt gods once more renew.
 Still kindling memory whispers thee,
 Rule as this marble lay thy land,
 Ere waked to light and liberty
 By thy great model's sacred hand.
 Rest! then his spirit on the stone—
 Thy art must call from seeming death
 Its power, and beauty blend in oar,
 Our Hero's, and our Sculptor's wraith: M.

January 22, 1834.

DIED

Another Revolutionary Hero gone!—Died, at Raleigh, in North Carolina, on the 14th instant, deeply regretted, Colonel WILLIAM POLK, in the 74th year of his age. The deceased was amidst the band of Patriots who declared Independence in Mecklenburg county, in that State, on the 20th of May, 1775. At the commencement of the Revolution he was appointed a subaltern officer in the regiment of the South Carolina line, commanded by his father, General Thomas Polk, and at the close of the war he held the rank of Lieutenant Colonel in the North Carolina line, having, except during a nine months' confinement from a severe wound, been in active service during the whole of that memorable struggle. He was present at the battles of Camden, Eutaw, Brandywine, and Germantown, and in the last, was a second time severely wounded. At the battle of Guilford, which occurred during a short interval in which he was out of command, he was actively engaged as a volunteer. The Colonel was the sole surviving Field Officer of the North Carolina line. At the close of the Revolution, he became a member of the Society of Cincinnati; and in 1791 was appointed by General Washington, Supervisor of the Revenue for the District of North Carolina, which he held till the termination of the Excise System; and at the establishment of the State Bank of North Carolina, in 1810, he was appointed President of that institution, and, for ten years, presided over that Institution with great credit to himself, and usefulness to the State.

At the commencement of the late war, he was appointed by President Madison, a Brigadier General in the Army of the United States, which for reasons then well known to the public, he declined to accept.

The Colonel has left behind him, numerous family connections and friends to deplore his loss. He has left behind him a large property, principally in valuable western lands.

SALES OF REAL ESTATE AT AUCTION.

By JAMES BLECKEN & SONS.

Lot on the N W corner of Governor and Madison street, 20 by 59 feet \$1,600
 Three story brick house and lot 36 Carmine st, 18 by 80 ft. 3,300
 Three story brick house and lot No 4 Carroll place, Bleeker st. 16,000
 Three story brick house and lot No 460 Washington, near Wattet, 18 by 9 by 80 ft. 4,000
 4 lots corner 1st avenue and 84th st, each \$1024 410
 The two story brick house and lot No 22 Cliff st, between Fulton and John sts. 8,400
 Do do do do, No 24 Cliff st 8,500
 The three story brick house and lot No 12 Vesey st, and the three story brick house and lot No 6 Barclay st, adjoining, each 25 by 100 29,850
 House and lots Nos 189 and 191 Orange st, 50 ft 10 inches by 100 ft 7,000
 Store and lot No 187 Washington st, 25 by 87 ft. 13,000
 One lot N W corner of Bleeker and Charles sts, 25 by 100 3,900
 Do on Bleeker st, adjoining 2,900
 Do on do near Perry st 2,750
 Two story frame house and 17 years' lease of lot No 13 Duval st, 25 by 100 ft 1,300
 Two story house and lot No 78 Broome st, 25 by 87 ft. 3,400
 The house and lot No 47 Broad st, 21 ft 6 by 146, about 20,000
 Under the direction of David Codwise, Esquire, Master in Chancery—No 9 William st, belonging to the estate of Isaac Minard, S W corner of Beaver st, lot irregular 13,000
 No 7 William st, adjoining, lot larger 23,000
 The house and lot No 60 Beaver st 9,050
 Two lots on Greene street, near Spring, each 25 by 100 ft, each \$2,600 5,200
 Under the direction of S. Cambrings, Esquire, Master in Chancery—House and lot No 170 Fulton street, lot 25 by 77 ft 10,600

List of Subscribers to the Railroad Journal who have paid in advance to Jan. 1, 1835, continued from last week.

Alexander Thompson, jr., New-York City.
 Ramsay Crooks, Ditto.
 M. C. St. John, Ditto.
 J. L. C. Cozier, Lebanon, Madison co., N. Y.
 James Jackson, Boston, Mass.
 Woodville Hotel, Woodville, Missi.
 Judge Ogden, Baton Rouge, La.
 Canvass White, Princeton, N. J.
 R. H. Bradford, Washington City.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1 inch,
 200 do. 1 1/2 do. do.
 40 do. 1 1/2 do. do.
 500 do. 2 do. do.
 500 do. 2 1/2 do. do.
 soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 2 1/2, 3, 3 1/2, 3 3/4, and 4 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.
 Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
 No. 264 Elizabeth street, near Bleeker street,
 New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J25 1f

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane. J31 6f

INCOMBUSTIBLE ARCHITECTURE.

INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTIIGNIS, or incombustible Varnish, at one dollar per lb.

Apply to C. S. RAFFINESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 8th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushton & Aspinwall, Druggists. Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means. S1 R J M M & F

FOR SALE.

ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1833, with wood cuts, &c. dedicated to Historical and Natural Sciences, Botany, Agriculture, &c. at one dollar per annum.

MEDICAL FLORA OF THE UNITED STATES, in 2 vols. with 100 plates, containing also the economical properties of 300 genera of American plants. \$3.

MANUAL OF AMERICAN VINES, and Art of Making Wines, with 8 figures, 25 cents.

FISHES AND SHELLS OF THE RIVER OHIO. 1 dollar.

AMERICAN FLORIST, with 36 figures—price 36 cts.

Orders for these works, or any other of Professor Rafinesque's, received at this office. A9 1 J M & F

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroad now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

Troy, N. Y. July, 1831.

HENRY BURDEN, Agent.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes. J23 1am

H. BURDEN.

GRACIE, PRIME & CO. having this day taken into co-partnership JOHN CLARKSON JAY, will continue their business under the same firm.—New-York, 1st October, 1833.

TO STEAMBOAT COMPANIES.

PROFESSOR RAFFINESQUE, of Philadelphia, offers his services to render steamboats incombustible and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many lives, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and deserted by the public as unkindful of safety. Apply, post paid. S1 R J M M & F

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania. Hudson, Columbia county, New-York, }
 January 29, 1833.

ENGINEERING AND SURVEYING

INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes. WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.
 In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane-sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
 JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.
 For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
 ml 1y Germant. and Norrist. Railroad.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

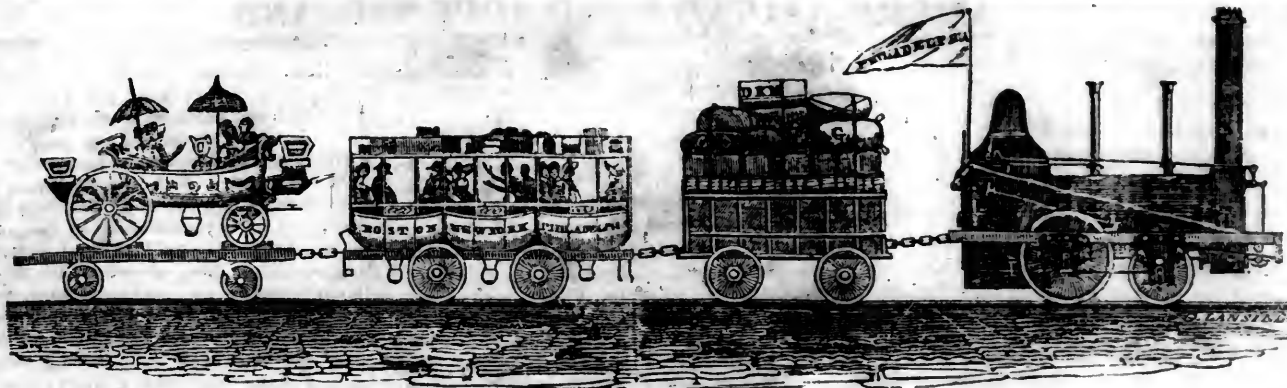
The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company. WILLIAM NORRIS, Secretary.

December 2d, 1833.
 For further information on this subject [see No. 49, page 72 of this Journal.] d6



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, FEBRUARY 1, 1834.

[VOLUME III.—No. 4.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, FEBRUARY 1, 1834.

Those of our subscribers to whom bills are enclosed, will do us a great favor by remitting the amount by mail, or by an *early* private hand, as prompt pay only, can sustain the Journal. Subscribers residing in the city will be called upon in the course of the ensuing week.

To those who have so promptly and liberally remitted for the present, or third, and in some cases for the fourth volume, and in almost every instance free of postage, we tender our thanks and best wishes.

We acknowledge our obligation to those who render us so much aid by frequent interesting communications; yet we wish them and others to recollect, that they are at the same time doing more for the public than for themselves, or for us. A continuance of their favors is earnestly requested. Communications on any of the various subjects treated of in the Journal, are respectfully solicited.

The Saratoga and Schenectady Railroad Company have declared a dividend of four per cent., payable on the 10th of February. For a particular account of that road, its cost, condition, &c., see page 51 of this number.

The following evidence of the value of lime as a preservative of timber exposed to the weather, or embedded in the earth, is from an Engineer of great experience. It affords additional evidence, if any were necessary, of the correctness of the theory of our esteemed correspondent G., as published in

our last. As the preservation of timber used for railroads is a matter of so much importance, we would recommend that a thorough test should be made by some of our railroad companies, where their rails come in contact with the earth. It might be used to great advantage, we think, in the construction of railroads on the plan of ELISHA JOHNSON, Esq., as adopted on the Buffalo and Black Rock railroad—a description of which will be given in our next. This plan is, we think, peculiarly adapted to many parts of this country, especially where timber is cheap, and where it is essential to accommodate the inhabitants of the country through which it passes, and who would be best accommodated by using their own teams upon the road—a measure which would render railroads a convenience to individuals, and neighborhoods through which they pass, as well as profitable to the stockholders; and at the same time remove one of the greatest objections, in the minds of many, to railroads—*monopoly*.

The plan of Mr. Johnson, as explained to us, consists in two longitudinal sills of, or about, twelve inches diameter, with one side made flat, embedded in, and the worked side even with the surface of the earth, which is made level between, and on the outside of, the sills; upon which is to be placed a covering of 2½ inch plank, 7½ feet in length; and upon the plank, and over the centre of the sills, is to be laid a 4 inch scantling to receive the iron, 2½ by ½ inch, which is to be secured by spikes passing through the iron, scantling and plank into the sill beneath, thereby connecting and securing the whole by the same operation.

This plan will undoubtedly find favor, if any mode can be devised, at small expense, to preserve the timber; and time, we have good reason to believe, will be found to answer that purpose. If so, we may have railroads at small cost, and in many places where they are not now even anticipated.

A plank covering, properly laid down, may be made water tight, so as to preserve the earth beneath always in a dry state, which will, of course, according to McAdam's theory, render it competent to sustain any burthen that ordinary business, either with animal or steam power, may bring upon it.

To the Editor of the American Railroad Journal :

SIR—I am induced to communicate a fact corroborative of the opinion of your correspondent G., in the 3d number of the 3d volume of your Journal, that lime is a preserver of tim-

ber. Some fifteen years ago a friend of mine removed a decayed mill trunk in order to replace it with a new one. The trunk had been laid under ground, and when it was covered with earth, a few scattered lumps of lime were accidentally thrown upon it. On its removal, it was discovered that every part of the wood which was in contact with lime was as perfectly sound as it was when it was first laid, whilst every other part was more or less decayed. Indeed, those parts exhibited a freshness and soundness which were truly remarkable.

XENOPHON.

Capt. Davis Embree, of Cincinnati, Ohio, has furnished us with the following description of an improvement in low water boats, that he is about to put in operation on the Ohio. He says he can lessen the draught of water at least *one-fourth*, while he retains the usual strength, speed, and convenience for freight and passengers. He says he will at the same time introduce the principle of the *life-boat*, and render it almost impossible to sink the boat by snags, rocks or waves.

The boat he is about to build will be 155 feet in length, and 24 feet wide; the hull will be 3 feet 3 inches deep. The beam of the boat will be shaped like the bowl of a table spoon, so as to rise over the water. Twenty-six feet from the stern there will be a recess on each side, of 6 feet for the wheels to work in. The boat will be reduced there to 12 feet wide. Aft of the wheels there will be a clean run, and transom stern. This narrow part is intended to bear up the wheels and other machinery, and to furnish room for a stern castle, with its capstan, anchors, and other rigging, so essential on that part of the boat, as well as on the bow, when a boat is run in low water. By this arrangement, the wheels of the boat can be thrown out of gear, as well as other side wheels; they have all the advantage of working in eddy water, or a counter current, of the stern wheels. They have not the propensity to *break down* the stern of the boat, which is always attendant on wheels placed *behind* a boat. That part of the hull, which would otherwise be weak, in consequence of the recesses, will be supported by the cylinder timbers, and the bulk-heads under them.

The hull of the boat will in the first place have three main bulk-heads, running nearly

its whole length, which will divide it into four parts: these bulk-heads will be made of 1½ inch pine; they will be notched over the floor timbers and be fastened to the bottom plank; they will extend to the deck: there will then be ten cross bulk-heads, made of inch pine, placed 9 feet apart, made also water-tight, which will make forty water-proof rooms, 6 feet wide, 9 feet long, and 3 feet 3 inches deep. There will be in each of these rooms two stanchions, placed 3 feet apart, and 3 feet from the bulk-heads, upon the floor timbers, and under the beams. Thus there will be a bearing at every 3 feet in every direction throughout the boat, between the bottom and deck. Then, to secure it more firmly, there will be 160 tie-bolts passed through the bottom, along side of the bulk-heads, and through the deck. This arrangement will give such great strength, that the timbers may be small; they will be made of selected young white ash, as tough as whip stocks. The floor and upright timbers will be but 3½ inches square. The beams (except for the boilers and wheels) will be 2½ inches thick and 4½ wide, bent over the main bulk-heads, and made to extend about 1 foot over the sides of the boat, to form a narrow guard. The bottom plank will be 2 inch oak; the side plank the same; the deck will be 1½ pine; the timbers or scuppers, to drain the bilge water to the pump, will be made by grooves in the bottom plank, so as not to weaken the timbers. The floor or bottom of the boat will be nearly flat, the nuckle nearly square, the sides will flare but 4 inches outwards. There will be small hatches into each room of the hull, to go into it, to stop scuppers or leaks, when required, so that if a snag run through the boat in any direction, so as even to destroy ten of these rooms, there will be still thirty left to buoy up the boat. She cannot sink but by great negligence. This is perhaps the most important feature presented by the plan; but when, in addition to this, we have a boat of full strength and speed, and containing all the usual convenience for freight and passengers, improved from 25 to 30 per cent. in draught of water, we have all that could be reasonably looked for. The boat is supposed to draw but 15 or 16 inches of water with her wood and water aboard, and then it will take nearly six tons to sink her one inch.

The hull will not be suitable or convenient to carry engine, freight, or passengers, within its body. It will be a single buoyant mass, made of light and strong materials; it will be a mere float. The first or lower deck will be appropriated for engine and freight, the upper deck for passengers; the cabins will be 16 feet wide, with an outer guard on each side 4 feet wide; the ladies' cabin will be 18 feet long; the main cabin will be 33 feet; the office and pantry 6 feet, and the room for crew and deck passengers 30 feet, with a guard in front. The engine will be of common construction; the boilers will be placed near the middle of the main bearing part of the hull. There will be two boilers, 40 inches diameter, 19 feet long; two flues, each, 15 inches in diameter; the cylinder will be 16 inches diameter, with 4½ feet stroke of piston: it will have a slide valve and puppet cut off. The water wheels will be 13 feet in diameter, with a bucket 6 feet long.

Report of Ephraim Beach, Esq., Civil Engineer, to the President of the Great Au-Sable Railroad Company.

To JOHN T. NORTON, Esq., President, &c.

Sir,—I beg leave to state, that on a late excursion to Port Kent and Keeseville, at the solicitation of several gentlemen of great respectability, my attention was called to an examination of the importance and practicability of a railroad communication from Port Kent into the interior, along the Valley of the Great Au-Sable River. The importance of the object being consequent upon the resources of the country to be accommodated, I gave to that subject such attention as time and circumstances permitted; the result of which may be briefly stated as follows:

From an official statement of the situation of that district in 1831, it appears that there were then in operation, and in a state of forwardness near completion, in and near the valley of the Great Au-Sable and on its tributary streams, about 70 forges, (each fire being considered a forge,) 2 furnaces, 4 grist mills; together with extensive rolling and slitting mills, chain-cable factories, nail factories, breweries, tanneries, &c., besides numerous smaller mechanical establishments appendant to, and the necessary and natural concomitants of, the larger operations.

The extensive forests, especially within the range of the State road, abound with all the various kinds and qualities of timber characteristic of the country; but that which predominates, and is most valuable for timber, is the Norway and white pine.

I cannot better describe the extensive minerals of this prolific mineral region, than by the following extract of the official report of 1831:

"Within three miles of the Au-Sable River, there are two extensive iron ore beds; from one of which the ore is raised by a steam engine. At the other, the ore is separated by Browning's Patent Machine. These ore beds sell from 30 to \$40,000 worth of ore annually."

It is stated that there are also numerous other ore beds near, and accessible to the Great Au-Sable River; as also the Port Kent and Hopkinton State Road, some of which are in partial operation, with strong indications of being inexhaustible in quantity, and not exceeded in quality by the best in the world; which has been abundantly established at various establishments, especially at the Eagle Furnace in Albany. In a word, almost every mountain furnishes indications of iron ore in this peculiar region, some interspersed with other valuable mines in partial development, abounding with correspondent mill sites, affording an ample supply of water power to any extent commensurate with the growing interests of the country. To communicate an idea of the growing industry of the country, I am enabled to state, from the most respectable authority, that, in the district intended to be embraced in the report referred to above, there are now in successful operation more than one hundred forges; and that saw mills and other manufacturing establishments have increased in proportion; and it is probable that Agriculture will follow in the train, and keep pace with the openings made by the collier and lumberman. Mercantile establishments are also interspersed through the country, co-extensive with its growing prosperity. From the foregoing premises, the estimate of business for a railroad will be nearly as follows, viz.:

100 forges, averaging 50 tons each per annum—500 tons; 42 saw mills, at 2 tons lumber each per day, 300 days—25,200; wood, and other incidental transportation—10,000; iron ore, for exportation, say—5,000; ascending trade, merchandize, plaster paris, &c. &c. 1-8th of descending—5,650; total—50,350 tons.

From the other manufacturing establishments procuring their raw materials from the products of the country, but little additional revenue can be expected upon the road terminating at Keeseville.

In examining the route, accompanied by

the Hon. Richard Keese and William R. Peters, Esq., I traversed the ground selected for the railroad between Port Kent and Keeseville. I again examined the route more extensively and minutely, accompanied by Col. C. M. Watson. And thirdly, with John N. Macomber, Esq., the engineer, who had made a previous survey, examined all the points with his levelling instruments; and with him and Richard Keese, Esq. measured the depth of the chasm between the rocks through which the River passes, below the village of Birmingham, which, instead of 250 feet to the surface of the water (as has been erroneously stated), we found it at the table rock, a short distance above the celebrated high bridge, a great natural curiosity, to be only 105 feet; which satisfactorily demonstrated the correctness of the account given by Mr. Macomber in his survey of the elevations from Port Kent to Keeseville. I am therefore enabled to state, from my own personal observation, that a route can be obtained from Port Kent to Keeseville, on which a railroad may be constructed with great facility and economy, and upon a grade which, after leaving Port Kent, need not in any case exceed an ascent of 25 feet to a mile.

In the plan of construction. I would recommend ascending the hill at Port Kent to the level of the Pine Plane above, (which is about 80 feet above the level of the wharf), by an inclined plane at an angle of elevation not exceeding five degrees from the horizon, which should be graded for; and upon which should be laid a double track railway, with a drum at the head; from which to suspend and take down, and up, the descending and ascending trade; which drum must be connected with a brake to regulate the speed.

From the head of the inclined plane to Keeseville, the route should be carefully surveyed, and properly located; the timber upon the line cut off or grubbed, as the case may require, and cleared 33 feet wide; and all tall trees (which by falling might injure the road,) should be cut down—the ground graded fifteen feet wide for a single track, except near the high bridge and at Birmingham, where the grade should be widened, and a double track laid for the accommodation of those, who, from business, or curiosity to examine the sublime scenery and cataracts in the immediate vicinity, may be induced to stop—as well as turnout places for cars meeting to pass each other. Timber being the staple commodity of the country, and can be procured of an excellent quality, at a reasonable price, should by all means be preferred for the superstructure.

The inclined plane at the commencement of the road at Port Kent, cannot be objectionable; inasmuch as there can be no doubt of there being at all times sufficient descending trade to draw up the ascending—of course, the plane will be self-acting, dispensing with all expensive and hazardous machinery; and if at any future period, the ascending trade should increase to the extent, that the descending shall be insufficient to preponderate, a small but durable stream of water, which passes near the contemplated location of the head of the plane, can with a trifling expense be introduced upon it, and made available in propelling the descending train.

Estimate of Cost of Construction.—For grading the first three miles from Port Kent, at \$2000 per mile, \$6000; 4th mile, passing high bridge and Birmingham, and crossing the river, 4000; 5th mile, from Birmingham to Keeseville, 3000. Total, \$13,000.

Cost of one mile of superstructure, viz. 10,560 lineal feet white pine sets, 6 by 8, at 3 cents a foot, \$316 80; 1760 cedar ties, 8 feet long, 6 in diameter, 6 cents, 105 60; 3520 wedges, one cent, 35 20; 10,560 lineal feet Norway pine, 6 by 6, 3 cents, 316 80; 18 tons iron rail plates, 2 by 1-2 inch, at \$45, 810 00; half ton spikes, \$80; half ton connecting plates, \$60, 140 00; labor putting down superstructure, 960 00. Total, \$2684 40

Cost of 5 miles of superstructure, \$13423 00.
For double and lateral tracks, add half a mile superstructure, \$1342 20.

Cost of railroad from Port Kent to Keeseville, \$27,764 20; for engineering, superintendence, &c. &c., 15 per cent., 4164 63; 20 transportation cars, at \$100, is 2000 00; 2 passenger cars, at \$500, 1000 00. Cost of road and vehicles of transportation, ready for operation, \$34,928 83.

From the account of the resources of the annual tonnage to and from the navigable waters for the Au-Sable Valley, is 50,850 tons; but as it is probable that some portion of the business will be transacted through other channels, and to guard against possible errors, we will assume only one half as a safe calculation for the business of the railroad—say 25,425 tons, at the low rate of 6 cents per ton per mile, \$7,627 50; 40 passengers per day (20 each way) 312 days, at 25 cents a passenger, 3,120 00. Total, \$10,745 50.

Suppose the perishable materials of the superstructure to require renewing once in ten years, and the cars once in five years, is equal to an annual expense of \$1,597 92; superintendents, horses, drivers, &c., 2,000 08. Total, \$3,597 92—leaving for the nett annual proceeds of the road, \$7,149 58, applicable to the payment of dividends to the stockholders, or upwards of 20 per cent. per annum on their investment.

It will be perceived that the transportation cars (could they be kept in constant employment, would be competent to do four times the business calculated, should they be loaded but in one direction. And one passenger car would do six times the business calculated; yet I think it would be proper to make such provision, to be prepared for any emergency.

Although a railroad from Port Kent to Keeseville would alone be a profitable investment, it would also be an entering wedge to an extension up the valley of the Au-Sable, at least to the Forks (15 miles from Port Kent), which would greatly increase the business on the lower part of the road, and be of incalculable advantage to the manufacturers, in addition to conveying their products to market, by increasing the facilities for the delivery of wood, coal, ore, and other materials, to their establishments; and probably at no distant period form an important link in the contemplated chain of railroad communication between Boston and Ogdensburgh. I am, respectfully, your humble servant,
EPHRAIM BEACH,
Civil Engineer.

Newark, Nov. 23, 1833.

Report of the Committee on the Affairs of the Saratoga and Schenectady Railroad. Presented 4th December, 1833.

The following report of the condition, prospects, &c. of the Saratoga Railroad Company, was furnished us several weeks since, but was accidentally omitted.

To the President, &c.

The Committee appointed by a Resolution of the Board of Directors, held the 29th of September, 1833, to investigate, &c., the affairs of the Company, submit the following Report:

That soon after their appointment, two of your Committee, accompanied by an intelligent gentleman, who has acted in the capacity of Secretary, repaired to the spot, and after several weeks of unremitting attention to the important trust confided to them, have at length been enabled to bring their labors to a close, so far as relates to the present administration of the Road, and also in reference to its future prospects. The Committee, in order to lay before the stockholders a faithful and correct expose of the present condition of the concerns of the Company; together with a prospective view, have carefully and thoroughly examined the various points which the Report embraces, and have the satisfaction to believe that the

results will prove gratifying to all those having an interest in the welfare of this incorporation.

The duties of the Committee, as they conceive, were necessarily divided into two distinct parts. Firstly: The actual condition of the Road, the examination of the accounts for moneys received and disbursed in conducting its active operations from the opening, the appointment of suitable agents, &c., regulating the affairs of the Road in all its various branches, and estimating its present and future resources.

Secondly: In relation to the contracts for completing the different sections of the whole line of Road, their fulfilment, the expenditures for construction, examination of vouchers, and every thing touching the faithful performance of the duties assigned to the agents, engineers, &c. As this part of the investigation would, from the great mass of papers to be examined, consume more time than was at first anticipated by the Committee, they have confined themselves, in their present Report, to the first branch of the inquiry.

The Saratoga and Schenectady Railroad Company was incorporated in February, 1831, with a capital of \$150,000, with the privilege of increasing it to \$300,000. The amount was soon subscribed, and the company organized the same year. The road was commenced about the 1st of September, 1831, and was so far constructed by the 12th of July, 1832, as to be opened for the partial transportation of passengers: the whole line of the rail, however, was not laid till late in the spring of this present year. At the time of applying for the charter, it was contemplated that a cheap structure would have answered the purposes required, but it was subsequently determined, from the prospect of a greater amount of business than was at first anticipated, that a more permanent and substantial one was advisable, both on the score of economy as well as utility. By a report of John B. Jarvis, Esq. chief engineer of the Company, presented at a meeting of the Board of Directors, held on the 16th of May, 1832, containing an estimate of the probable cost of the Road, it appeared that the farther sum of \$100,000 would be required over and above the amount of the capital at that time, to complete the Road, including the necessary appendages to put it into active operation. It was accordingly resolved, at a subsequent meeting of the Board, held 18th of May, that the capital stock of the company should be increased that amount, which was all subscribed for, making the entire capital at that time, \$250,000, and subsequently, in the fall of last year and spring of this, the capital was increased to \$285,000. This sum was considered amply sufficient to place the Road in the most perfect condition; but unforeseen circumstances have caused some farther expenditures to complete the Road; and procure the necessary means to conduct its future operations to advantage. The aggregate amount of expenditures for constructing the Road, appears to be \$297,237. The Committee have the pleasure to announce its entire completion, and that it is now in excellent order, and hereafter will only require for ordinary repairs, according to the estimate formed, the annual expenditure of \$3,000.

The Road commences at Schenectady, where it joins the Mohawk and Hudson Road, at its termination on the western inclined plane, passes the canal over a bridge, through the city of Schenectady, then over the Mohawk river, through the towns of Glenville, Clifton Park, Ballston, and the village of Ballston Spa, and terminates in the central part of the village of Saratoga Springs. The route is almost an uninterrupted level, there being no greater inclination than sixteen feet in a mile.

The Committee, in order to be made thoroughly acquainted with the state of the Road, employed a respectable mechanic of this city to inspect all the masonry, walls, culverts,

bridges, &c., and to furnish the Committee with his views in relation thereto. His report is presented. Since then, the unfinished work mentioned therein has been completed.

The Company are now amply supplied with every thing necessary for transporting, the ensuing year, three times the number of passengers that have passed over the Road the present year, and also for transporting, when the contemplated increase of wagons are provided, 20,000 tons of merchandize and produce.

The receipts of the Road, from its commencement to the 30th of November, inclusive, amount to \$16,990 92.

The Committee, in the progress of their duties, were desirous to place the affairs of the Company on such a solid footing as would best secure the interests of stockholders, and have therefore adopted such measures as they believed calculated to produce so important a result. Their attention was particularly called to the imperfect regulations that existed in conducting the active operations of the Road, and also in relation to its financial concerns; they considered an improvement would be effected by having but one general agent or superintendent over the whole line of Road; in the place of two that were then acting with equal powers, and have accordingly appointed Mr. John Costigan, recently of this city, a gentleman disengaged from all other business, and willing to devote his whole time and attention to the concerns of the Company, possessing, in the opinion of your Committee, all the requisite qualifications to fulfil the duties of that office.

In adverting to the financial department, the Committee would observe, that although the funds of the Company were intrusted in the hands of those of unquestionable responsibility, yet it was believed a change might be made that would be more in conformity to what is adopted by other incorporations in relation to this subject, and prove more satisfactory to stockholders.

The Committee have accordingly concluded an arrangement with the Schenectady Bank to receive the gross amount of moneys belonging to the Company, (from whatever source they may be derived,) to be drawn for according to the regulations that may be hereafter adopted by the Board.

The Committee, believing that a system of collections, differing from that which has been hitherto pursued, might be formed, that would prove more beneficial, have adopted it accordingly.

In deliberating on the foregoing subjects, your Committee were led to consider the advantages that would result by establishing a set of by-laws, to govern the proceedings of the Company, which they herewith submit for the consideration of the Board.

The attention of the Committee was next turned to the subject of the future prospects of the Company, which occupied a considerable portion of their time; and they are gratified to find it presents a very encouraging aspect. In addition to the summer and local travel, there is, in the opinion of your Committee, a wide field opening in the direction of the North and West, for extensive business in the transportation of passengers and freight. There have been various estimates formed as to the amount of northern business travel; but it has been ascertained, from authentic sources, that at least 30,000 persons pass each way, in the course of the year, during the opening of navigation on Lake Champlain, who have heretofore taken what is termed the "River Route;" and, from the measures already pursued by the Committee in order to secure this travel, it is confidently believed that a large proportion of this number will in future select the route of the Railroad. The ordinary time to perform the journey, by the stage route, from Whitehall to Albany, is from 12 to 14 hours. By the Railroad, it could be easily accomplished in 10 hours, including the necessary stoppages; fur-

nishing a much more easy and expeditious mode of conveyance.

The Committee have given publicity to the permanent arrangements of the Road for the transportation of passengers, &c., by advertising in the newspapers in the northern and western parts of this state, and in Vermont and Canada; which means of making known to the public the facilities offered by the Railroad appear to have been heretofore, in a great measure, overlooked. The Utica and Schenectady Railroad, now about being constructed, it is believed, will materially add to this branch of business. The Committee have received a written communication from the Commissioner of that road, expressive of his views on the subject.

An arrangement has been completed with the Mohawk and Hudson Railroad Company for a continuous line of transportation, for passengers and freight, between Albany and the Springs; thereby avoiding the inconvenience and loss of time heretofore experienced in changing the carriages and baggage cars at Schenectady. The utility of this arrangement will be duly appreciated by those who have passed this route previous to this regulation: it has given very general satisfaction, and the beneficial results have been already witnessed by your Committee.

The transportation of merchandize and produce has also claimed particular notice and attention. It appears to be divided into two branches, viz.: the exports, consisting principally of the products of the forest, sawed timber, and other articles enumerated, which gives the amount of 19,150 tons; the imports, consisting of foreign merchandize for the consumption of the surrounding country, and of products from the west, the most important item of which is plaster, amounting itself heretofore to at least 3000 tons per annum. This will be augmented in a very great degree; as previous to the construction of the Railroad, this article, from its heavy cost of transportation, was introduced but to a limited extent. From the facilities now afforded, many proprietors are induced to cut the wood and clear the land for the purposes of culture; and the time is not far distant when this portion of the country, hitherto almost secluded from participating in the benefits of commerce and agriculture, will rise into notice.

Already the transportation of goods from the Hudson river has commenced under the most favorable auspices, being conveyed in much less time, and at a cheaper rate, than via canal. Within the last month, freight destined for Saratoga, which was formerly conveyed in the canal to Schenectady, and then placed in freight wagons, is now taken from the foot of the eastern inclined plane of the Mohawk and Hudson road, at the wharf, and conveyed to Ballston and Saratoga in the same wagons; and is also returned in the same manner. It is to be observed, that a considerable portion of the line of this Railroad is distant 12 miles from any canal, which gives it a decided advantage in the transportation of freight, particularly in the article of wood for fuel, which hitherto could only find a home market to a limited extent, the cost of the ordinary mode of conveyance precluding it being sent to a more distant one.

The Committee do not consider it as any exaggeration to say, that the receipts from transportation of freight alone, which has heretofore received but little attention from the Company, may be made to pay all the expenses of the general operations of the Road; leaving the receipts from passengers as net profits.

The Committee were gratified to see, on the 21st ultimo, the article of anthracite coal conveyed from the Hudson river, at the foot of the inclined plane, over the two Railroads to the vicinity of Ballston Spa, to be used for manufacturing purposes, for which large quantities will be required.

(To be concluded in our next.)

THE GENESEE AND ALLEGANY CANAL.

[Continued from page 4.]

Report from the Canal Commissioners, pursuant to the act entitled "An act to provide for the Survey of certain Canal Routes therein mentioned." Made to the Assembly March 6, 1826.

To the Legislature of the State of New-York:

The Canal Commissioners, in obedience to the provision of an act entitled "an act to provide for the survey of certain canal routes therein mentioned," have caused surveys and examinations to be made of the most eligible routes for navigable communications, in the following places, to wit:

From the Seneca lake to the Chemung river.

From Syracuse to Port Watson.

From Chennango point, by the town of Norwich, to the Erie canal.

From the valley of the Unadilla to the Erie canal.

From the Cayuga lake to the Susquehannah, near Owego.

From the Erie Canal in the county of Herkimer, to the St. Lawrence.

From the Erie canal at Rome, by Boonville, to Ogdensburgh.

From the Erie canal at Rome, by Camden, to Ogdensburgh.

*From Rochester to the Allegany river, by various routes.

*From the Erie canal to the Allegany, by Batavia.

*From the Erie canal to the Allegany, by the valley of the Conawanga.

*From Portland on lake Erie, to the head of Chataque lake.

From the Champlain canal to the Vermont line, by various routes.

From Gravesend Bay, through the bays on the south shore, to the east end of Long Island.

From Schoharie creek to the valley of the Catskill.

Messrs. Geddes, Roberts, Thomas, Hutchinson, Young, Whippo, and Sargent, were the engineers employed to survey the above mentioned routes; their reports, maps and estimates, are herewith transmitted, and will furnish the legislature with the necessary information on the subjects to which they respectively relate.

The foregoing surveys, and the one submitted a few days since, of the route from "Sharon or near thereto, to the tide waters of the Hudson," are all the routes comprised in the above mentioned act, excepting a short route from Rochester to lake Ontario.

SAMUEL YOUNG,
HENRY SEYMOUR,
WILLIAM C. BOUCK,

6th March, 1826.

GENESEE CANAL.—A Canal from Rochester to Genesee will pass over a country so favorable to the making one, that notwithstanding the valuable river navigation now used between these places, an artificial canal will undoubtedly be accomplished. The route of a canal may follow a track almost as direct as a road along the river.

From the upper end of the feeder to Genesee, will be about 27 miles, the making of which will cost less perhaps than any 27 miles of canal ever did, exclusive of lockage. The rise from the Erie canal to Squawkey hill is 68 feet, to Genesee feet.

At Squawkey hill, a smooth surface gives place to the narrow defile, the deep chasm, and the frowning precipice.

From below Smith's mills in the town of Nunda above the great falls, the river enters at country of tremendous gulfs, passing down cataracts, and through rapids, falling 453 feet to Gardeau flats, thence running rapidly to Squawkey hill with a fall of 70 feet more.

To make a canal which will have in it this 529 feet of lockage, it must pass the first falls below Smith's mills in the river bed, defended by masonry until it gains the table land immediately below, where the face of the country

will admit of its leaving the brow of the gulf below, and by some deep cuttings through points of hills, pass on to a very smooth faced country of clay soil, over which a canal can be conducted down the hill to the river near Mount Morris.

Sixty-six locks, of 8 feet lift each, will have to be placed in a space not exceeding nine miles, allowing something more than a furlong to each lock.

Following up the river from Smith's mills to the mouth of Black creek 22 miles, the valley is free from high precipitous rocky shores, but some obstructions by slip banks of clay occur in several places. To secure against those slips is sometimes difficult, and great disasters are often occasioned by them. Excepting these threatening slips, the valley is favorable to the making a canal in it. The lockage in this 22 miles is 162 feet, not quite an eight feet lock to a mile.

Following up the valley of Black creek, another rapid rise takes place. In three miles there will be 17 eight feet locks: some rocks on the falls on Black creek, but they are of a loose texture, and their removal will not be expensive. They are a yellow sand stone, in which shells of numerous varieties are embedded.

From these falls seven miles to the summit, the surface is smooth, but the earth is filled with loose stones, producing most unpleasant roads along the valley.

The whole rise from the Erie canal to the summit is 981 feet. On this summit, between Genesee and Allegany waters, there lies a swamp, about two miles in length. This swamp, which is in some places open, and in some places timbered, drains into Black creek, and into Oil creek. It will be profitable to cut down this summit eight feet in the deepest place, and the lockage is so calculated.

This summit pound must be extended down the north side of Oil creek valley to its junction with Ishua creek, where, from a feeder of two miles in length, the whole of the Ishua creek can be received into the summit level.

The length of the summit will be eight miles; it will pass down the Oil creek valley with facility, not running much on the face of the steep hill, although the junction of the streams is 41 feet below said summit level.

The whole fall to Allegany at the mouth of Olean creek, is 78 feet—whole lockage ascending and descending, 1,050 feet.

The length of canal to be made from the upper end of the feeder near Rochester to Olean, will vary little from 100 miles. The lockage is equal to 132 eight feet locks on this canal of 103 miles, measuring from the Erie canal to Allegany river. The Union canal, now making in Pennsylvania, between the Susquehannah and Schuylkill, is 75 miles long, with 90 locks. As 75 is to 90, so is 103 to 123, exceeding the proportion to the Union canal by 9 locks.

A passage from the Ohio valley to the Genesee valley is here 1488 feet above tide level, and is less elevated than any passage that has been examined, either to the Potomac or to the Susquehannah valleys. The canal proposed from the Conamau to Juniata, through a tunnel four miles long, is (taking "the level that has been assumed" 1831 feet above the tide,"* an elevation of 343 feet more than the pass to Genesee valley, which will be without tunnel or deep cutting.

But from examinations made by Mr. Whippo, there is a passage found up the Conawanga valley, the summit 724 feet above the level of lake Erie. Add 570 feet, the elevation of lake Erie above the ocean, and said summit stands but 1294 feet above tide level—194 feet lower than that of Oil creek and Genesee. Mr. W. gives the fall to Warren, in Pennsylvania, in 24 miles, 132 feet. Pittsburgh being 756 feet above tide level, it results, that there is but 406 feet rise from Pittsburgh to Warren. The length of a canal from Buffalo to Warren he

* See report, &c. of the commissioners, &c. printed at Harrisburgh, 1825, page 40.

makes 89 miles. In this 89 miles the lockage will be 724 feet up, and 132 down, equal 856 feet, making 107 eight feet locks in 89 miles. The lockage on the canal here proposed, when compared with its length, bears a remarkable comparison with the Union canal—as 75 miles is to 90 locks, so is 89 miles to 107 locks. This summit pound can be fed from the Chataque lake, which was styled by Mr. Gallatin "an extensive and important elevated reservoir."

The Oil creek and Black creek summit has some peculiar features. At the mills of Cady and Baldwin, on Oil creek, which is the highest point from which arks and rafts have been sent, the high floods flow over the intermediate ground, (a marsh,) and pass to the gulf of St. Lawrence instead of the gulf of Mexico. Permanent streams of each pass in the marsh within twenty chains of each other.

The Oil creek descends with a moderate current to the Ishua, in which distance are three saw mills that would lose all their water by a canal.

Lime, which abounds at Batavia and a small distance south, has been found lately south of Perry village, but a little west of the Genesee river, on a very high level. The earthy lime is found in many places near the proposed canal line, particularly at Lime lake, which is proposed to be brought into the Ishua, to feed the upper level of this canal.

A summit pound here would be abundantly supplied with water. The drainage of 180 miles of surface can be turned into it. See map No. 10, where this tract is marked out by a red dotted line. Mr. Roberts gives the following account of the capacity of the streams in October last.

Ishua creek at Farewell's mills—cubic feet per minute. 750

Lime lake, Beaver lake, and Peacock lake, which can be brought through feeders into the Ishua, (see map No. 5.) 400

Oil creek,† 450

Together per minute, 1600

The four feeders shown on map No. 5 are, together, 11 miles long, which may be valued as so much canal.

Estimates then will be on

111 miles canal, at \$5000 per mile, \$555,000

1059 feet of lockage, at \$150 per foot rise, 158,850

Extras for passing Genesee falls, 30,000

Deep cutting on the summit two miles long, deepest eight feet, 12,320

Deep cutting on Lime lake feeder, one mile ten feet, 10,560

To secure against slips on Genesee river, 30,000

Aqueduct over Canaskruga, 10,000

Dams at Conesus and Honeyoe outlets, 2,000

Dam on Genesee river at the mouth of Black creek, 2,000

Amounting to \$810,730

For superintendence and engineers, add 8 per cent, 64,858

Total amount, \$875,588

* Gallatin's report, &c.

† Mr. Roberts made Oil creek at its mouth 551 feet; about 100 feet perhaps cannot come into the summit pound.

[To be continued.]

GREAT RAILROAD MEETING.—At a meeting of citizens of the counties of Ontario, Livingston and Genesee, held at Haxton's Hotel, in the village of Caledonia, on Wednesday the 15th day of January, 1834, for the purpose of taking into consideration the propriety of making application to the legislature of this state, now in session, for an act of incorporation to authorize the construction of a Railroad from Buffalo, through Batavia, Le Roy, Caledonia, Avon and Canandaigua to Geneva, the Hon. MOSES ATWATER, of Canandaigua, was called

to the chair, and GEO. W. CLINTON, of Canandaigua, and LANSING B. MIZNER, of Geneva, were appointed Secretaries.

The object of the meeting having been briefly stated by H. J. Redfield, Esq. it was, on motion.

Resolved, That a Committee of five be appointed to prepare resolutions for the consideration of the meeting. Whereupon David Hudson, of Geneva, Heman J. Redfield and Jacob Le Roy, of Le Roy, George Hosmer, of Avon, and William Blossom, of Canandaigua, were appointed said Committee.

The Committee having retired for a short time, returned, and after a few brief and pertinent remarks from their chairman, presented the following preamble and resolutions, which were fully considered and unanimously adopted.

Whereas, in the construction of the Erie canal, insurmountable obstacles were presented to locating that invaluable improvement along the great thoroughfare between Geneva and Buffalo, whereby a very large and most valuable portion of western New-York has been, in a great measure, deprived of the immediate advantages resulting from the completion of that work;

And whereas those natural obstacles which are presented to the formation of canals, are not met with in the construction of Railroads, and it being manifest from the examinations and surveys already made, that a Railroad may be laid down from Buffalo, on a line passing through Batavia, Le Roy, Caledonia, Avon and Canandaigua, to Geneva, at an expense within the means of those who are interested in the proposed measure;

And whereas the construction of the said road, on the line aforesaid, will very greatly advance the agricultural and manufacturing interests of this part of the state; therefore,

Resolved, That it is expedient to take measures immediately for applying to the legislature, now in session, for an act incorporating a company to construct a Railroad from Buffalo, through Batavia, Le Roy, Caledonia, Avon and Canandaigua, to Geneva, as nearly on the great western thoroughfare as may be practicable.

Resolved, That a Committee of three be appointed to take the necessary steps for carrying into effect the foregoing resolutions.

Whereupon, Heman J. Redfield, of Le Roy, Jared Wilson, of Canandaigua, and George Hosmer, of Avon, were appointed said Committee.

Upon motion, it was also

Resolved, That Henry Morris, of Buffalo, Ethan B. Allen, of Batavia, Heman J. Redfield, of Le Roy, Robert McKay, of Caledonia, Curtis Hawley, of Avon, M. W. Brown, of Lima, G. W. Clinton, of Canandaigua, and L. B. Mizner, of Geneva, be appointed a Committee of Correspondence.

Resolved, That the proceedings of this meeting be published in the newspapers at Buffalo, Batavia, Le Roy, Canandaigua and Geneva, and in the Albany Argus.

MOSES ATWATER, Chairman.

GEO. W. CLINTON, } Secretaries.

L. B. MIZNER, }

RAILROAD FROM LONDON TO PARIS.—In the *Journal des Debats*, of Wednesday, we find a very able article, written by a native of France, resident in London, upon the important advantages likely to result from the formation of a railroad between London and Paris. In the estimate of the effects likely to arise from facilitating the communication between the two countries, the writer chiefly takes into consideration those that will be produced in France; and among the benefits which his country will derive from the speedy and cheap conveyance afforded by railroads, he places particular stress upon the commercial education which it will be the means of bestowing upon his countrymen. "If," he observes, "there were a railroad from

London to Paris, we Frenchmen, who scarcely know what business is, would go to learn it in London, where the spirit of business seems to be born with the people. Our speculators would there see how great undertakings are conducted simply and without diplomacy. Our retail venders and purchasers would learn from the English, that to buy and sell well it is not necessary to charge exorbitantly and to haggle for lower prices. Our capitalists and merchants would find that there is no durable commercial prosperity and no security for capital where credit is not well founded; they would see the operations of the Bank of England and its branches, and perhaps they might be disposed to introduce into their own country similar institutions, which are so advantageous both to the public and to the proprietors. We should see there in what comfort consists, so essential to the tranquillity of life, and how it may be attained. As we are a people abounding in self-love, we should return from England ashamed of the condition of our agriculture, of our modes of communication, of our schools of elementary instruction, and we should endeavor to equal our neighbors in these respects. The railway from London to Paris would thus become an institution for public education. It would constitute a commercial establishment of the first order, and it would also become a political institution, and form the elements of a close and indissoluble alliance between France and England."—[London Courier.]

RAILWAYS.—We are glad to find that the directors of the Liverpool and Birmingham railway are proceeding in the formation of their works with a degree of promptitude and activity which augurs well for their speedy completion. In the adjoining county of Chester, the cutting of the line has commenced at several points; and in that part of the line which lies between Knutsford and Mere, considerable progress has already been made; and we perceive that the directors are advertising for tenders for the erection of a viaduct over the river Weaver, in the township of Dutton, which, when completed, will be, perhaps, the most magnificent structure of the kind in the United Kingdom. It is to consist of 18 arches, each of 60 feet span, and 60 feet high; so that the Sankey viaduct will appear insignificant in comparison with it.—[Manchester Guardian.]

Application is to be made in the ensuing session of Parliament, for powers to extend the line of the Grand Junction Railway, and by means of a tunnel to connect it with the London and Birmingham Railway, at the termination of the line of the latter railroad in Nova Scotia Gardens.

NOVEL SPECIES OF STREET PAYMENT.—

A gentleman lately from St. Petersburg describes a new and ingenious mode of paving streets, successfully tried in that capital. Instead of wrought stones or Macadam's gravel (both of which are in use there) the Russians have employed blocks of wood, we presume hard wood, set on end. They are about a foot long, by eight or nine inches broad, and are cut into hexagons, which are closely joined and fitted to each other. When seen from a window in the second or third story, they present a regular and beautifully tessellated surface, like the inlaid oak floors seen in old houses. The droskies, which, from their heaviness and the smallness of their wheels, make an intolerable noise on the wrought stone pavement, pass over the blocks of wood as quietly as if they rolled on a carpet.—[Liverpool Albion.]

A correspondent of the United States Gazette says that an arrangement has been made by our enterprising fellow-citizen, Colonel Reeside, with the Camden and Amboy Rail Road Company, for the conveyance of three mails daily, between this city and New York. This arrangement, for which Colonel Reeside is entitled to the thanks of the public, is to go into operation in a few days.

MILL-WORK.—Under this head we purpose noticing the simplest combinations of wheel-work which are employed in the construction of mills, and, under the articles **WIND** and **WATER MILLS**, complete views, both graphic and descriptive, will be given of their construction.

The business of a millwright is usually combined with the practical part of engineering, and much of the wind and water power formerly employed in giving motion to machinery is now superseded by the introduction of the steam engine. Indeed, without the agency of steam power, this country could in no shape compete with other manufacturing nations; so that, on account of the great importance of the steam engine as a prime mover, it will be advisable to devote a commensurate space to its illustration.

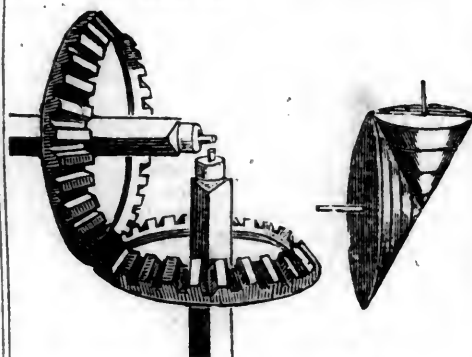
Various are the methods by which motion may be communicated from one part of a machine to another; and much of the skill of the millwright consists in his adapting certain methods to his particular purposes. Sometimes a simple cord, or a cord with pulleys, may be used. Levers, either simple or combined, are employed to communicate and also change the direction of the motion. Rods also are employed, which may be carried to a great distance by being connected together. But of all the modes of communicating motion, that by means of wheels is the most frequent. Wheels may be made to turn each other even by the simple contact of their surfaces when pressed together; or their circumferences may be formed into brushes with short thick hair, which enable them to turn each other with considerable force; or they may have cords, or straps of leather, or chains, passing from one to another; and at other times there are points or protuberances on the rims of the wheels. The most usual method, however, of making wheels drive each other, is by means of teeth. These are either cut into the substance of which the wheel is composed, when it is of metal; or formed at the same time as the rest of the wheel, when it is cast.

The proper method of shaping the teeth of wheels, so as to communicate the motion equally, and with as little friction as possible, is a matter of very great nicety, and has given rise to much study among mechanics. The ends of the teeth should be curves, but not parts of complete circles. They may be formed of the curve called the epicycloid, or of the involutes of circles, which are curves described by a point of a thread, which has been wound round the wheel while it is uncoiled.

A wheel which has teeth cut upon the circumferences, so as to project out in the plane of its face, is called a spur wheel; and, when the projection of the teeth is at right angles to the face of the wheel, and parallel to the axis, the wheel is called a crown or contrate wheel. Sometimes the faces of the two wheels are in the same plane, and consequently the axes parallel; and at other times the axes are at right angles to each other, one being a spur and the other a contrate wheel.

There is a mode of placing the teeth frequently resorted to, which consists in leveling the edge of the wheel, and cutting the teeth on the bevel, by which they may turn in each other, though variously inclined, and the teeth have also great strength. The principle consists in the cones rolling on

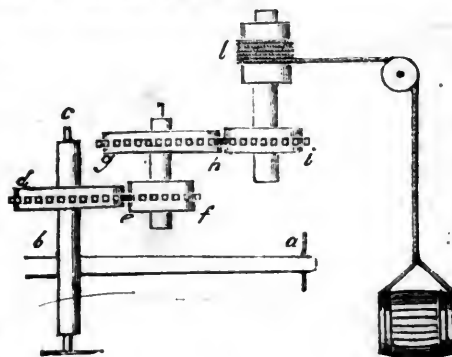
the surface of each other, as in the annexed right-hand engraving; if their bases are equal, they will perform their revolutions in one and the same time.



If the cones are fluted, or have teeth cut in them diverging from the centre, they are then called *bevel gear*. The teeth may be made of any dimension, according to the strength required; and it is of great use to communicate a motion in any direction, or to any part of a building. The bevel gear represented in the left-hand figure must be supported by a frame at the point where the pivots intersect each other. The frame is usually formed of iron or wood, and when the latter is employed the pivot-hole is of brass. The perpendicular shaft should always be made to revolve on a sharp point in the centre.

Hook's universal joint, (described at page 154, vol. ii,) may be applied to communicate motion instead of bevel gear, where the speed is to be continued the same, and where the angle does not exceed thirty or forty degrees and the equality of motion is not regarded; for, as it recedes from a right line, its motion becomes very irregular. This joint may be constructed by a cross, or with four pins fastened at right angles upon the circumference of a hoop, or solid ball. It is of great use in cotton mills, where the tumbling shafts are continued to a distance from the moving power.

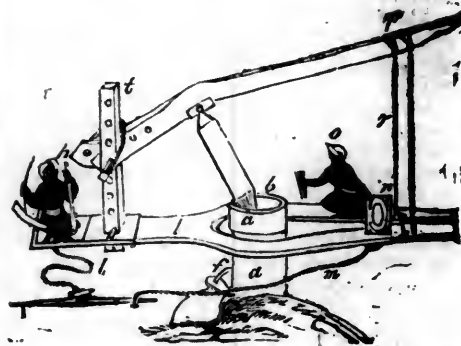
The employment of animal power in the simplest species of mill-work may be well illustrated by the accompanying sketch, in which a horse may be attached to a long lever, and thus made to raise a weight by a train of wheels and pinions.



The weight to be raised is suspended by a rope or chain which winds round the drum, *l*. On the same axis is placed a wheel, *i*, actuated by another wheel, *g h*. The wheel, *d c*, gives motion to the whole, by the intervention of the small wheel at *f*. A horse at *a* may be considered as the prime mover, as the lever *a b* is on the axis *c*. Now, in this apparatus, there is a loss of power, but a gain in velocity.

The various modes of constructing mills

for domestic, as well as manufacturing processes, will be explained hereafter, and we now purpose confining ourselves to a single example of the mode of employing animal power, in a way which, from its simplicity, might be adopted to a great extent in this country. There is a mill of a cheap and effective kind used in many parts of the East, which appears to have suggested the use of the ordinary snuff-mill. Indeed, it is, in some respects, superior to it. This mill, which is employed in the preparation of sugar, consists of a mortar, beam, lever, pestle, and regulator, as represented in the engraving beneath:



The mortar, *a a*, is a tree about ten feet long and fourteen inches over, which is sunk in the earth, so as to leave about two feet above ground. At the top is formed a conical cavity like a funnel, which ends in a hollow cylinder, with a hemispherical projection at the bottom, in order to allow the juice to run freely to the small opening that conveys it to a spout, *f*, from which it runs into an earthen pot. Round the upper mouth of the mortar is a circular cavity, *b*, which serves to collect any of the juice that may run over from the upper end of the pieces of cane. A channel is cut to convey this juice down the outside of the mortar to the spout, *f*.

The beam, *i*, is about 16 feet long and 6 inches thick, and is cut from any large tree that is divided by a fork into two arms. A hollow circle is made in the fork for the mortar, round which the beam turns horizontally; the surface of this excavation is secured by a semi-circle of some strong wood; the other end of the fork is left quite open, in order that the beam may be changed without any trouble. The bullock driver sits on the undivided end, to which the cattle are yoked by a rope, *l*, from his end of the beam, and they are kept in the circular tread by another rope, *m*, which passes from the yoke to the forked end of the beam. A basket, *n*, is placed upon the forks to hold the cuttings of the cane, and the man, *o*, who feeds the mill, sits between this basket and the mortar. He takes care to place the pieces of cane sloping down the cavity of the mortar, just at the time that the pestle comes round; and after the pestle has passed, he removes those which have been squeezed.

The lever, *p*, is a piece of timber nearly as long as the beam. The thickest end, which is also the lowest, is connected with the undivided end of the beam by means of a regulator, *t*. A little way from the place where it is joined to the regulator, a piece of very hard wood is morticed into the lower side of the lever, and a smooth conical hollow is made in this piece, to receive the head of the pestle. The end of the lever

furthest from the regulator is fastened by two ropes to the two arms of the beam.

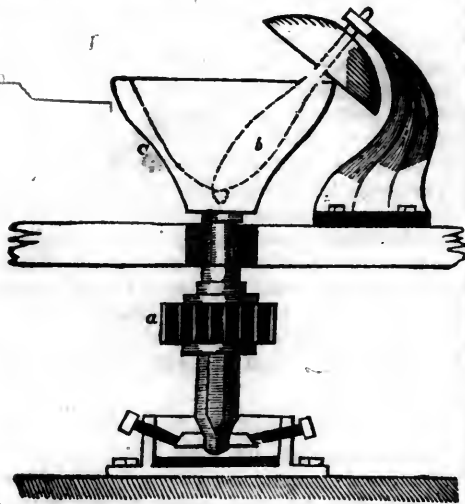
The pestle is a strong cylindrical piece of timber, cut to a point at each end. The upper end is a smooth cone, the lower end a pyramid of 12 to 15 sides, at the point of which is a strong cylinder. As the pestle is placed obliquely, it rubs strongly against the sides of the mortar as it passes round; and its cylindrical point rubs also on the top of the hemispherical projection, *d*, which is in the bottom of the cavity of the mortar.

The regulator, *t*, is a strong square of timber, which passes through the undivided end of the beam, and is secured below it by part of its circumference being left for cheeks. It is pierced by eight holes, and a pin is placed in the lowest hole, to prevent the regulator from falling when the strain is removed.

The canes with which the mill is supplied are cut into pieces six inches long. The mill goes night and day during crop time, and presses about fifty-six pots, or 218 gallons of juice, in that time. Two bullocks are used at a time, and as they are driven very fast, they are changed every time three pots of juice are expressed, and work no more that day.

In the manufacture of snuff in this country, the grinding is performed by a loaded pestle, made to turn round as it rubs against the sides of a cast iron mortar, the pointed lower end of the pestle being retained in its place by a hole at the bottom of the mortar. In large manufactories, a number of these mortars are placed in a circle, having a large toothed wheel in the centre, surrounded by as many upright spindles, with pinions to work in the wheel.

Mr. Gill has proposed an improvement on this plan, which is represented beneath :



The mortar, *c*, is in this arrangement made to revolve, and the pestle, *b*, is supported by a bracket firmly attached to the beam beneath. The pinion, *a*, rests on a conical axis, and communicates, as in the old arrangement, with the principal driving wheel.

Water-mills are of three kinds: *Breast-mills*, *undershot-mills*, and *overshot-mills*, according to the manner in which the water is applied to the great wheel. In the first, the water falls down upon the wheel at right angles to the *float-boards*, or bucket, placed to receive it. In the second, which is used where there is no fall of water, the stream strikes the *float-boards* at the lower part of

the wheel. In the third, the water is poured over the top, and is received in buckets arranged round the wheel.

A less quantity of water will turn an overshot mill (in which the wheel has buckets instead of float-boards) than a breast-mill, where the fall of water seldom exceeds half the height of the wheel; so that, when there is but a small quantity of water, and a fall great enough for the wheel to lie under it, the bucket, or overshot-wheel, is always used; but, where there is a large body of water, with a small fall, the breast or float-board must be used. Where the water runs only upon a small declivity, it can act but slowly upon the under part of the wheel, in which case the motion of the wheel will be slow; and therefore the floats ought to be very long, that a large surface of water may act upon them, so that what is wanting in velocity may be made up in power; and then the cog-wheel may have a greater number of cogs in proportion to the rounds in the *trundle*, in order to give the mill-stone a sufficient degree of velocity.

It was the opinion of Smeaton, that the powers necessary to produce the same effect on an undershot-wheel, a breast-wheel, and an overshot-wheel, must be to each other as the numbers 2.4, 1.75, and 1.

Wind, which we may consider as the next substitute for animal power, appears to have been first employed to give motion to machinery in the beginning of the 6th century. The use of this species of mechanical force is, however, principally limited to the grinding of corn, the pressing of seed, and other simple manipulations, the great irregularity of this element precluding its application to those processes which require a continued motion.

A windmill with four sails, measuring seventy feet from the extremity of one sail to that of the opposite one, each being six feet and a half in width, is capable of raising 926 lbs. 232 feet in a minute, and of working on an average eight hours per day. This is equivalent to the work of 34 men, 25 square feet of canvass performing the average work of a day laborer. A mill of this magnitude seldom requires the attention of more than two men; and it will thus be seen that, making allowance for its irregularity, wind possesses a decided superiority over every species of animal labor.

The following very important errors have frequently been made by mathematicians and practical mechanics, in the estimation of the force of the wind or the water on oblique surfaces; they have generally arisen from inattention to the distinction between pressure and mechanical power. It may be remonstrated that the greatest possible pressure of the wind or water, on a given oblique surface at rest, tending to turn it in a direction perpendicular to that of the wind, is obtained when the surface forms an angle of about 55° with the wind; but that the mechanical power of such a pressure, which is to be estimated from a combination of its intensity with the velocity of the surface, may be increased without limit by increasing the angle of inclination, and consequently the velocity. The utmost effect that could be thus obtained would be equal to that of the same wind or stream acting on the float-boards of an undershot-wheel; but, since in all practical cases the velocity is limited, the effect will be somewhat smaller than this: for example, if the mere velocity of

the sails or float-boards be supposed equal to that of the wind, the mechanical power will be more than four-fifths as great as that of an undershot wheel; that is, in the case of a windmill, more than four-fifths of the utmost effect that can be obtained from the wind. In such a case Maclaurin has shown that the sails ought to make an angle of 74° with the direction of the wind: but in practice it is found most advantageous to make the angle somewhat greater than this, the velocity of the extremities of the sails being usually, according to Mr. Smeaton, more than twice as great as that of the wind. It appears, therefore, that the oblique sails of the common windmill are in their nature almost as well calculated to make the best use of any hydraulic force as an undershot-wheel; and, since they act without intermission throughout their whole revolution, they have a decided advantage over such machines as require the sails or fans to be exposed to a more limited stream of the wind during one half only of their motion, which is necessary in the horizontal windmill, where a screen is employed for covering them while they are moving in a direction contrary to that of the wind: and such machines, according to Smeaton, are found to perform little more than one-tenth of the work of those which are more usually employed. The sails of a common windmill are frequently made to change their situation, according to the direction of the wind, by means of a small wheel with sails of the same kind, which turns round whenever the wind strikes on either side of it, and drives a pinion turning the whole machinery; the sails are sometimes made to furl or unfurl themselves, according to the velocity of the wind, by means of a revolving pendulum, which rises to a greater or less height, in order to prevent the injury which the flour would suffer from too great a rapidity in the motion, or any other accidents which might happen in a mill of a different nature. The inclination of the axis of a windmill to the horizon is principally intended to allow room for the action of the wind at the lower part, where it would be weakened if the sails came too nearly in contact with the building, as they must do if they were perfectly upright. When it is necessary to stop the motion of a windmill, a break is applied to the surface of a large wheel, so that its friction operates with a considerable mechanical advantage.—[Partington's Scientific Gazettee.];

SINGULARITY OF RECORDS.—There is, perhaps, no one principle in human nature that leads to greater consequences, than the concentration of application to singular research.

But this, like every other principle, has occasionally strange and useless terminations, that may be called *lusus nature* in mortals. As an instance of this, I will present you with the result of a man's labor for three years, eight or nine hours in a day, Sundays not excepted, to determine the verses, words, and letters, contained in the Bible.

Verses	-	-	-	31,173
Words	-	-	-	773,692
Letters	-	-	-	3,566,480

The middle and the least chapter is the 117th Psalm.

The middle verse is the 8th verse of the 171st Psalm.

Jehovah is named 6,855 times. The middle of these Jehovahs is in second Chronicles, fourth chapter and 16th verse.

The word *and* is found in the Bible 46,227 times.

The least verse in the Old Testament, is in first Chronicles, 1st and 10th verses. The least in the New Testament, 11th chapter of John, 35th verse.—[London paper.]

Animal Mechanics, or Proofs of Design in the Animal Frame. [From the Library of Useful Knowledge.]

INTRODUCTION.

To prepare us for perceiving design in the various internal structures of an animal body, we must first of all know that perfect security against accidents is not consistent with the scheme of nature. A liability to pain and injury only proves how entirely the human body is formed with reference to the mind; since, without the continued call to exertion, which danger and the uncertainty of life infer, the development of our faculties would be imperfect, and the mind would remain, as it were, uneducated.

The contrivances (as we should say of things of art,) for protecting the vital organs, are not absolute securities against accidents; but they afford protection in that exact measure or degree calculated to resist the shocks and pressure to which we are exposed in the common circumstances of life. A man can walk, run, leap, and swim, because the texture of his frame, the strength and power of his limbs, and the specific gravity of his body, are in relation with all around him. But were the atmosphere lighter, the earth larger, or its attraction more—were he, in short, an inhabitant of another planet,—there would be no correspondence between the strength, gravity, and muscular power of his body, and the elements around him, and the balance in the chances of life would be destroyed.

Without such considerations the reader would fall into the mistake that weakness and liability to fracture imply imperfection in the frame of the body, whereas a deeper contemplation of the subject will convince him of the incomparable perfection both of the plan and of the execution. The body is intended to be subject to derangement and accident, and to become in the course of life more and more fragile, until, by some failure in the frame-work or vital actions, life terminates.

And this leads us to reflect on the best means of informing ourselves of the intention or design shown in this fabric. Can there be any better mode of raising our admiration than by comparing it with things of human invention? It must be allowed, that we shall not find a perfect analogy. If we compare it with the forms of architecture—the house or the bridge are not built for motion, but for solidity and firmness, on the principle of gravitation. The ship rests in equilibrium prepared for passive motion, and the contrivances of the ship-builders are for resisting an external force: whilst in the animal body we perceive securities against the gravitation of the parts, provisions to withstand shocks and injuries from without, at the same time that the frame-work is also calculated to sustain an internal impulse from the muscular force which moves the bones as levers, or, like a hydraulic engine, propels the fluids through the body.

As in things artificially contrived, lightness and motion are balanced against solidity and weight, it is the same in the animal body.

A house is built on a foundation immove-

ble, and the slightest shift of the ground, followed by the ruin of the house, brings no discredit on the builder; for he proceeds on the certainty of strength from gravitation on a fixed foundation. But a ship is built with reference to motion, to receive an impulse from the wind, and to move through the water. In comparison with the fabric founded on the fixed and solid ground, it becomes subjected to new influences, and in proportion as it is fitted to move rapidly in a light breeze, it is exposed to founder in the storm. A log of wood, or a Dutch dogger, almost as solid as a log, is comparatively safe in the trough of the sea during a storm—when a bark, slightly built and fitted for lighter breezes, would be shaken to pieces: that is to say, the masts and rigging of a ship (the provisions for its motion) may become the source of weakness, and, perhaps, of destruction; and safety is thus voluntarily sacrificed in part, to obtain another property of motion.

So in the animal body: sometimes we see the safety of parts provided for by strength calculated for inert resistance; but when made for motion, when light and easily influenced, they become proportionally weak and exposed, unless some other principle be admitted, and a different kind of security substituted for that of weight and solidity: still a certain insecurity arises from this delicacy of structure.

We shall afterwards have occasion to show that there is always a balance between the power of exertion and the capability of resistance in the living body. A horse or a deer receives a shock in alighting from a leap; but still the inert power of resisting that shock bears a relation to the muscular power with which they spring. And so it is in a man: the elasticity of his limbs is always accommodated to his activity; but it is obvious, that in a fall, the shock, which the lower extremities are calculated to resist, may come on the upper extremity, which, from being adapted for extensive and rapid motion, is incapable of sustaining the impulse, and the bones are broken or displaced.

The analogy between the structure of the human body and the works of human contrivance, which we have to bring in illustration of the designs of nature, is, therefore, not perfect; since sometimes the material is different, sometimes the end to be attained is not precisely the same; and, above all, in the animal body a double object is often secured by the structure or frame-work, which cannot be accomplished by mere human ingenuity, and of which, therefore, we can offer no illustration strictly correct.

However ingenious our contrivances may be, they are not only limited, but they present a sameness which becomes tiresome. Nature, on the contrary, gives us the same objects of interest, or images of beauty, with such variety, that they lose nothing of their influence and their attraction by repetition.

If the reader has an imperfect notion of design and providence, from a too careless survey of external nature, and the consequent languor of his reflections, we hope that the mere novelty of the instances we are about to place before him may carry conviction to his mind; for we are to draw from nature still, but in a field which has been left strangely neglected, though the nearest to us of all, and of all the most fruitful.

Men proceed in a slow course of advancement in architectural, or mechanical, or optical sciences; and when an improvement is made, it is found that there are all along examples of it in the animal body, which ought to have been marked before, and which might have suggested to us the improvement. It is surprising that this view of the subject has seldom, if ever, been taken seriously, and never pursued. Is the human body formed by an all-perfect Architect, or is it not? And, if the question be answered in the affirmative, does it not approach to something like infatuation, that possessing such perfect models as we have in the anatomy of the body, we yet have been so prone to neglect them?

We undertake to prove that the foundation of the Eddystone lighthouse, the perfection of human architecture and ingenuity, is not formed on principles so correct as those which have directed the arrangement of the bones of the foot; that the most perfect pillar or kingpost is not adjusted with the accuracy of the hollow bones which support our weight; that the insertion of a ship's mast into the hull is a clumsy contrivance, compared with the connections of the human spine and pelvis; and that the tendons are composed in a manner superior to the last patent cables of Huddart, or the yet more recently improved chain-cables of Bloxam.

Let us assume that the head is the noblest part; and let us examine the carpentry and architectural contrivances exhibited there.

But before we give ourselves up to the interest of this subject, it will gratify us to express our conviction, that the perfection of the plan of animal bodies, the demonstration of contrivance and adaptation, but more than these, the proof of the continual operation of the power which originally created the system, are evinced in the property of life,—in the adjustment of the various sensibilities,—in the fine order of the moving parts of the body,—in the circulation of living blood,—in the continual death of particles, and their removal from the frame,—in the permanence of the individual whilst every material particle of his frame is a thousand times* changed in the progress of his life. But this is altogether a distinct inquiry, and we are deterred from touching upon it, not more from knowing that our readers are not initiated into it, than from the depth and very great difficulty of the subject.

CHAPTER I.

ARCHITECTURE OF THE SKULL.—It requires no disquisition to prove that the brain is the most essential organ of the animal system, and being so, we may presume that it must be especially protected. We are now to inquire how this main object is attained?

We must first understand that the brain may be hurt, not only by sharp bodies touching and entering it, but by a blow upon the head, which shall vibrate through it, without the instrument piercing the skull. Indeed, a blow upon a man's head, by a body which shall cause a vibration through the substance of the brain, may more effectually deprive

* The old philosophers gave out that the human body was seven times changed during the natural life. Modern discoveries have shown that the hardest material of the frame is changing continually; that is, every instant of time from birth to death.

him of sense and motion, than if an axe or a sword penetrated into the substance of the brain itself.

Supposing that a man's ingenuity were to be exercised in contriving a protection to the brain, he must perceive that if the case were soft, it would be too easily pierced; that if it were of a glassy nature, it would be chipped and cracked; that if it were of a substance like metal, it would ring and vibrate, and communicate the concussion to the brain.

Further thoughts might suggest, that whilst the case should be made firm, to resist a sharp point, the vibrations of that circular case might be prevented by lining it with a softer material; no bell would vibrate with such an incumbrance—the sound would be stopped like the ringing of a glass by the touch of a finger.

If a soldier's head be covered with a steel cap, the blow of a sword which does not penetrate will yet bring him to the ground by the percussion which extends to the brain; therefore, the helmet is lined with leather, and covered with hair, for, although the hair is made an ornament, it is an essential part of the protection: we may see it in the head-piece of the Roman soldier, where all useless ornament, being despised as frivolous, was avoided as cumbrous.

We now perceive why the skull consists of two plates of bone, one external, which is fibrous and tough, and one internal, dense to such a degree that the anatomist calls it *tabula vitrea* (the glassy table).

Nobody can suppose this to be accidental. It has just been stated that the brain may be injured in two ways: a stone or a hammer may break the skull, and the depressed part of the bone injure the brain; whilst, on the other hand, a mallet struck upon the head will, without penetrating, effectually deprive the brain of its functions, by causing a vibration which runs round the skull, and extends to every portion of its contents.

Were the skull, in its perfect or mature state, softer than it is, it would be like the skull of a child; were it harder than we find it is, it would be like that of an old man. In other words, as in the former it would be too easily pierced, so in the latter it would vibrate too sharply and produce concussion. The skull of an infant is a single layer of elastic bone; on the approach to manhood it separates into two tables; and in old age it again becomes consolidated. During the active years of man's life the skull is perfect: it then consists of two layers, united by a softer substance; the inner layer is brittle as glass, and calculated to resist any thing penetrating; the outer table is tough, to give consistence, and to stifle the vibration which would take place if the whole texture were uniform and like the inner table.

The alteration in the substance of the bones, and more particularly in the skull, is marvellously ordered to follow the changes in the mind of the creature, from the heedlessness of childhood to the caution of age, and even the helplessness of superannuation.

The skull is soft and yielding at birth; during childhood it is elastic, and little liable to injury from concussion; and during youth, and up to the period of maturity, the parts which come in contact with the ground are thicker, whilst the shock is dispersed towards the sutures (the seams or joinings of the pieces,) which are still loose. But when,

with advancing years, something tells us to give up feats of activity, and falls are less frequent, the bones lose that nature which would render concussion harmless, and at length the timidity of age teaches man that his structure is no longer adapted to active life.

We must understand the necessity of the double layer of the skull, in order to comprehend another very curious contrivance. The sutures are the lines of union of the several bones which form the *cranium**, and surround and protect the brain. These lines of union are called *sutures*, (from the Latin word for *sewing*;) because they resemble seams. If a workman were to inspect the joining of two of the bones of the cranium, he would admire the minute dovetailing by which one portion of the bone is inserted into, and surrounded by, the other, whilst that other pushes its processes or juttings out between those of the first in the same manner, and the fibres of the two bones are thus interlaced, as you might interlace your fingers. But when you look to the internal surface, you see nothing of this kind; the bones are here laid simply in contact, and this line by anatomists is called *harmonia*, or *harmony*. Architects use the same term to imply the joining by masonry. Whilst the anatomists are thus curious in names, it is provoking to find them negligent of things more interesting. Having overlooked the reason of the difference in the tables of bones, they are consequently blind to the purpose of this difference of the outward and inward part of a suture.

Suppose a carpenter employed upon his own material, he would join a box with minute and regular indentations by dovetailing, because he knows that the material on which he works, from its softness and toughness, admits of such adjustment of its edges. The processes of the bone shoot into the opposite cavity with an exact resemblance to the foxtail wedge of the carpenter—a kind of tenon and mortice when the pieces are small.

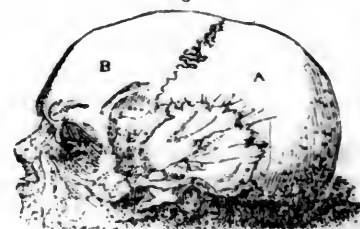
But if a workman in glass or marble were to inclose some precious thing, he would smooth the surfaces and unite them by cement, because, even if he could succeed in indenting the line of union, he knows that his material would chip off on the slightest vibration. The edges of the marble cylinders which form a column are, for the same reason, not permitted to come in contact; thin plates of lead are interposed to prevent the edges, technically termed *arrises*, from chipping off or splitting.

Now apply this principle to the skull. The outer softer tough table, which is like wood, is indented and dove tailed; the inner glassy table has its edges simply laid in contact. It is mortifying to see a course of bad reasoning obscure this beautiful subject. They say that the bone growing from its centre, and diverging, shoots its fibres between those which come in an opposite direction; thus making one of the most curious provisions of nature a thing of accident. Is it not enough to ask such reasoners, why there is not a suture on the inside as well as on the out?

* *Cranium*, from a Greek word, signifying a helmet. The cranium is the division of the skull appropriated to the protection of the brain; it consists of six bones—the *frontal* (or forehead); two *parietal* (walls or side bones); the *occipital* (back of the head); and two *temporal* (or temple) bones.

The junction of the bones of the head generally being thus exact, and like the most finished piece of cabinet work, let us next inquire, whether there be design or contrivance shown in the manner in which each bone is placed upon another.

Fig. 1.



A, the parietal bone; B, the frontal bone; C, the occipital bone; D, the temporal bone; E, the sphenoid bone.

When we look upon the side of the skull thus, the temporal suture betwixt the bones A and D is formed in a peculiar manner; the lower or temporal bone laps over the superior or parietal bone. This, too, has been misunderstood: that is to say, the plan of the building of the bones of the head has not been considered, and this joining, called the squamous* suture, which is a species of scarfing, has been supposed a mere consequence of the pressure of the muscle which moves the jaw.

Dr. Monro says, "the manner how I imagine this sort of suture is formed at these places, is that, by the action of the strong temporal muscles on one side, and by the pressure of the brain on the other, the bones are made so thin that they have not large enough surfaces opposed to each other to stop the extension of their fibres in length, and thus to cause the common serrated appearance of sutures; but the narrow edge of the one bone slides over the other."

The very name of the bones might suggest a better explanation. The *ossa parietalia*† are the two large bones in a regular square, serving as walls to the interior, or room of the head, where the brain is lodged. (See A, in the foregoing figure.)

* From *squama*, the Latin for a scale, the thin edges lying over each other like the scales of a fish.

† From the Latin word *paries*, a wall.

‡ In the second Treatise on Heat, the reader will find an account of the manner in which the expansion of iron by heat, and its subsequent contraction on cooling, is used in order to cog great buildings.

(To be continued.)

AGRICULTURE, &c.

[From the New-York Farmer.]

DRAINING.—In low lands, where furrows are substituted for under drainings, it is calculated that the loss of seed in the furrows, and the superiority of the crops, would, in two years, pay the expense of the draining.

SUGAR FROM BEETS.—A writer in Goodsell's Farmer, who has been engaged in constructing machinery for the manufacture of this sugar in Europe, proposes to commence business at Rochester. He makes the following calculation:

Cost of producing an acre,	\$20 00
Cost of manufacturing do.,	40 00
	60 00
Amount of sugar produced,	151 20
Value of pulp remaining,	6 00
	157 20
Nett profit per acre,	\$97 20

The Farmer's Magazine, conducted by the Editor of the Mark Lane Express. London.

[Continued from page 42.]

TURNIPS TO THE ACRE.—London, in his late tour of Scotland, says, the cultivation of turnips in rows is carried to so high a degree of perfection in Scotland, that 30 tons of Swedish turnips are calculated on to the statute acre.

BET ROOT SUGAR.—The decrees of Bonaparte brought a hundred thousand acres yearly under cultivation of beets for sugar. A great oversight of the French government was to compel every farmer to devote a portion of his land to this root, without fixing some obligation on the manufacturers to pay a remunerating price. The consequence was, that the farmers were wholly at the mercy of the manufacturers.

"To the manufacturer, we are told, the profit was ample; an equal quantity of sugar with that of the West Indies—which at that time sold for five shillings a pound, could be produced on the spot from mangel wurtzel at less than one shilling per pound! and to such perfection had the sugar thus made arrived, that the prefect, mayor, and some of the chief persons of Bruges, who were invited by a manufacturer to witness the result of his experiments, allowed the specimens which he produced to exceed those of the foreign sugar!"

"The British people are really of opinion that Napoleon's novel project entirely failed, and that our continental friends are still indebted to their colonies for the immense supplies of sugar they annually consume. They will be surprised to know, that not only does the manufacturer continue to thrive, but that the produce is abundantly ample to satisfy all the wants of the people, independently of any supplies from abroad, and that the French Minister of Commerce has deemed the time to have arrived, when beet-root sugars shall be made subservient to the fiscal necessities of the State."

"In 1823, it seems, 58 establishments for the manufacture of sugar in France were known to be in activity, and 50 more in process of construction; and it was these ascertained facts that induced the Government to reflect whether the time had not come for making the domestic sugars bear a part of the burden before laid exclusively upon the exotic ones."

"In the inquiry that was instituted in 1828, when it was attempted to remove the difficulties which attended the fixing a tariff on sugars, it was stated, that 'if the tariff is not changed, and no extraordinary event happens, five years will be enough to enable the beet-root establishments to produce enough for the whole consumption of France! and in ten years to compete with the colonies on equal terms! or rather the colonies will not be able to contend with them; for the kilogramme of domestic sugar can then be afforded at 60 cents, i. e. the price which the sugar from the cane necessarily costs in the colony itself, and to which must be added freight, insurance, and commission."

"The manufacture of sugar from the beet-root is concentrated principally in the three departments of le Nord, la Somme, and le Pas-de-Calais, where the land is well fitted for the kind of culture which it requires. The worst produces 12,000 kil.* of beets per acre, (query hectare, 2 a. 1 r. 30 p.); the best, 60,000! There are some establishments in other departments, even in the South, but they are not in the way of increase, since the beets are in general in that part of France watery and barren of sugar."

"As an useful auxiliary to agriculture, this branch of manufacture is justly extolled for the excellent means which it offers for improving the soil; bringing it from the fallow, un-

productive state; and (in the opinion of a distinguished French agriculturist) as being about to produce, in the national economy, one of those happy revolutions whose importance is not always felt at the time, but which posterity will note as the cause of the greatest commercial and agricultural prosperity."

NEW-ZEALAND FLAX, *Phormium Tanex*.—This plant stands the winter of England. In 1828 only 60 tons, valued at 2,600 pounds sterling, were imported from Sydney into Great Britain. In 1830 there were 841 tons, and in 1831 1,062 tons. Its price in London is 15 to £25 per ton. The flax is prepared by the natives, and in strength and whiteness of fibre is superior to any analogous material.

FOOD FOR HORSES.—We often hear such and such food recommended, because it contains much nutritive property, chemically ascertained, without any regard to the bulk, or its adaptation to the digestive powers of the animal. One reason why oats are so much esteemed as food for horses is, that they have more bulk than most other grains. We make an extract from Mr. Dick's opinion.

"Under this view of the subject, it will be seen that a moderate proportion of nutritious food is only required, and that it is advisable to present it in as small a compass as will suit the nature of the digestive organs. But it would appear that a certain proportion of bulk is also necessary to the quantity of nutritious matter to keep up the proper action of the bowels. If the food is too rich and too much concentrated, it deranges the stomach and bowels, and produces disease; if too poor and bulky, it yields not the proper degree of support to the animal, while its bulk impedes respiration, and its weight detracts by its burdensomeness from the capability of the animal exerting himself. From these remarks, it will appear obvious that the grand desideratum is to give food containing as much nutriment, and in as small bulk, as is consistent with the economy of the animal."

CULTIVATION IN THE UNITED KINGDOM.—The following statement will be found interesting, as exhibiting the number of acres in cultivation in the United Kingdom, and the different purposes specified, for which they are employed in England and Wales, as well as the number of farms, and the annual amount of property derived from agriculture:

	Cultivated Acres.	Uncultivated Wastes. Capable of Improvement.	Barren and uncultivable.	Total.
England,	25,632,000	3,454,000	3,256,400	32,342,400
Wales,	3,117,000	530,000	1,105,000	4,752,000
Scotland,	5,965,000	5,950,000	8,523,930	19,738,930
Ireland,	12,523,280	4,500,000	2,416,664	19,441,944
British Isles,	383,600	166,000	569,469	1,119,139
Total,	46,922,970	14,600,000	15,871,463	77,374,433

In England and Wales it is calculated that there are 3,250,000 acres employed in the cultivation of wheat; 1,250,000 acres in that of barley and rye; 3,200,000 acres in that of oats, beans, peas; 1,200,000 acres in that of clover, rye grass, &c.; 1,200,000 acres in that of roots and cabbages, cultivated by the plough; 2,100,000 acres in that of fallows; 47,000 acres in that of hop grounds; 18,000 acres in that of pleasure grounds; 17,300,000 acres in that of depastured by cattle; 1,200,000 acres in that of hedge-rows, copses, and woods; 1,300,000 acres in that of ways and water courses, &c.; 5,029,000 acres in that of common and waste lands. Total of England and Wales, 37,094,000 acres.

SUBSTITUTION OF INANIMATE FOR ANIMATE POWER.—This is an important subject, and will, in all human probability, effect much change in the value of horses. The Journal of Elementary Locomotion estimates, on the cal-

culation that £216,817,624 is the value of the agricultural produce of Great Britain, the saving of upwards of 120 millions yearly, by the substitution of inanimate for animate power.

It is calculated that out of the 1,800,000 horses in the United Kingdom, that the horses used *bona fide* for husbandry amount to 852,863. To these we will add 88,512, being the half or the number estimated as not wholly used for the same purpose.

The annual keep of ditto at £29 14s. per head, amounts to	£24,097,837 10 0
Duty upon ditto	725,433 5 0
Interest upon these items, at £5 per cent.	1,241,163 0 14
Add the 14th part of £10, 818,296 13s. 4d. the capital sunk in the above horses, at the average of £13 6s. 8d. each, for average loss of life annually	772,730 9 64
Farmery and other incidental expenses, £1 pr head	811,385 0 0

Total, £27,648,539 4 8

We might add to this also the horses kept by small farmers, calculated to amount to 38,010, the annual approximating expenditure upon which would make the grand total equal to £83,000,000; which sum, at the least, would be saved to the growers by the cheaper mode of agriculture which the substitution of inanimate for animate power will effect.

This, perhaps, is greatly undervalued. Mr. Dupin, founder of the Mechanic Institute of France, in a comparative estimate of the amount of animate and inanimate force, applied to agriculture, in France and Great Britain, states the latter as follows:

Human race, 5,000,000, equivalent to 2,132,446 effective laborers.

Horses of full growth 1,250,000, equivalent to 8,750,000.

Whilst an authority of the highest consideration at home makes the brute labor employed in our husbandry to be ten times more than the human. In either case, allowing that a horse will do the work of six men, the suppression of brute force will, upon an approximating calculation, save nearly two-thirds of the annual expense of raising the food of the country.

The Farmer's Register. Edmund Ruffin, Editor and Proprietor. Richmond, 1833.

This is a monthly periodical of sixty-four closely printed large octavo pages, at five dollars per annum—principally devoted to southern agriculture, but more especially to that of Virginia.

The relative wealth and influence of the 'old dominion' have not been sustained, owing to the improvements in agriculture in the more Eastern States, to the virgin fertility of the Western, and to the internal improvements and prosperity of manufactures in all these States. Besides these causes of comparative decline, there has been an actual diminution of resources, arising principally from an exhausting system of cultivating the soil. We could scarcely believe that a section of our country so distinguished for intelligent and eminent men, could have pursued a course of cropping so wretched—founded on no higher philosophy than that it was the custom of forefathers. Field after field was cleared and kept under the plough without a single ameliorating crop, until from three to ten bushels of wheat were considered, on many estates, a crop equal to expectation. The exhausted condition of the soil compelled thousands to bid farewell to their native fields

* The kilogramme is 2 lbs. 3 oz. 5 drachms and 38 grains over. It is usual in speaking of 100 kilogrammes, to estimate them at 222 lbs.; or, in reference to approximate numbers, to consider the 100 kilogrammes as 2 cwt. English.

and vales, and seek those in the far West that were under the culture of nature. Thus farm after farm was left to be overgrown with weeds, and to serve as monuments of a deficiency in agricultural science. In this state of general depression of landed property, Mr. Ruffin steps forth and calls the attention of Virginians to calcareous manures. This is succeeded by the publication of his *Farmers' Register*—the old dominion begins to awake—innumerable localities and inexhaustible quantities of marl are discovered east of the mountains—and now thousands are on the march of improvement. This ancient and renowned State is destined once more to rise in its strength and vigor. If Mr. R. continues to persevere and prosper, he will, in less than twenty years, be acknowledged as one of Virginia's greatest benefactors.

We shall proceed to make a few abridged notices and extracts, that will give our readers an idea of the work.

CLOVER AND THE FOUR-SHIFT SYSTEM.—The following may serve as one of the many excellent examples that the *Register* is bringing to the light of open day.

In the year 1816, Mr. James M. Selden took charge of Woods' farm, of 250 acres of arable land, the remaining 300 acres being all swamp land, subject to the inundation of the tides. Previous to his taking charge of the estate, it had been managed by overseers for a great number of years, under this disastrous system of three fields. To those who are acquainted with the character of the soil in the neck, it would be superfluous to say much. I shall therefore only state, that it possesses all the qualities of our best loam lands, only perhaps to a greater degree than any other within my knowledge: and probably would bear this harsh and bad treatment to a greater extent than most other soils. Under this three-field rotation, the crops on this estate were never more than 3 or 400 bushels of wheat, and from 100 to 120 barrels of corn. He at once saw that to persevere in this system of cultivation was to work for nothing, and finally to be left in utter poverty, so he resolved on a change to the four-field and fallow system. The crops, after the adoption of this change, were in every rotation increased to double, and in a very few years to five or six times the quantity.

THE WEEVIL.—There is a long communication in the November number on this subject. The preventive found most successful was to thrash the wheat early, and to spread it where it may not heat so much as to hatch the insect.

ORNAMENTAL TREES.—Of this class, deciduous trees are preferable to evergreens—because they preserve our dwellings from the solar heat in summer, but admit it in winter, when it adds to our comfort. The variety caused by the change of the seasons in the foliage of trees, from the first budding to the fall of the brown and golden leaves of autumn, also serves to relieve the mind from the dull uniformity of the cone-bearing and resinous ever greens.

TO SAVE THE SHOULDERS OF HORSES FROM BEING CHAFED BY THE COLLAR.—Some of the gentlemen of South Carolina are in the habit of making long journeys by land in their own conveyances, and are obliged to resort to every method of affording relief to their horses. From one of these I derived the following simple expedient for preventing the shoulders of harness horses from being chafed by the collar. The shrewd practical sense of the gentleman referred to, is a strong guarantee of the value of his suggestions. A short trial of my own has fully convinced me of the utility of what is classically denominated the sweater.

This simple and effectual contrivance is made of two pieces of leather, which, for an ordinary horse, may be about 5½ inches wide at the top, 6 at the bottom, and 9 at the greatest protuberance, the front edge being straight, the posterior curved with a gradual swell adapted to the shape of the collar behind. These pieces must be sewed together at the bottom, and connected at top by two small straps and buckles, so as to be let out or taken up at will. The lower part must be so shaped as to fit the throat of the horse. A strap passes from the bottom of the sweater between the legs to the girth, by means of which it is kept in place. The strap should not be too tight, lest it might incline a balking horse to stop, when ascending a hill; and the buckle at the end near the girth, if it chafe, may be covered. The leather should be tolerably stout upper, rendered pliant by the occasional application of tallow to the outside. The inner side should be kept clean and smooth.

The sweater is in fact a sheath for the shoulders, and the collar rests on it instead of the skin of the animal. H.

Waynesborough, Va. Oct. 4th, 1833.

PREPARATION OF SEED WHEAT.—When I am about to commence seeding, I have two barrels prepared, one of which I have filled about two-thirds full with brine, strong enough to bear an egg, into which I have the seed poured very slowly, until the brine rises nearly to the top, which will be covered with the light grains of wheat, cheat and garlic, which are skimmed off with the hands, and the wheat at the bottom stirred once or twice to free it from any remaining impurities, which are again skimmed off. An old basket without a handle is then placed on the top of the empty barrel, through which the brine is poured from the wheat by two men taking the full barrel by its bottom on opposite sides. The wheat is then emptied into a large box, and the same process repeated from one barrel to the other alternately, until a sufficient quantity is washed for the day's seeding, and as much gypsum is then stirred into the whole mass as will adhere to the grain. Water is added occasionally, and a sufficiency of salt to maintain the strength of the brine, which is tested by an egg kept at hand for the purpose. The whole process is completed in the morning, by the time the teams are ready to proceed to their work. I suppose a bushel of salt would probably suffice for one hundred bushels of seed, which would, by reason of its invigorating qualities, be very well bestowed in that way, independently of its aid in freeing the wheat from its impurities.

F. H.

N. B. If the wheat is infected with smut, it will be effectually destroyed, by stirring in a portion of quick-lime before the gypsum.

BUCKWHEAT.—In a translation of an article from Rozier's *Cours Complet*, we make the following extract:

Besides the common buckwheat of which we have spoken, there is a species considered preferable, which is known by the name of buckwheat of *Tartary*, or of *Siberia*, and which was in 1782 much extolled by M. Martin. This variety, which has been brought from Siberia by a missionary of Low Maine, is especially suitable to the north of France: it is more hardy than the common kind; it is less inclined to lodge, and produces more. The grain is smaller, the stalk more yellow, and more solid. According to M. Curant, who calls this grain *Martin-Corn*, (in honor of M. Martin, of whom we have spoken,) the Siberian buckwheat fears neither hot winds nor white frosts; it gives for one seed sown, nearly two thousand in rich soils—and elsewhere, from fifty to three hundred and more; it makes a better meal, and can be kept as well and as long as that from wheat. These incontestible advantages are accompanied by some inconveniences: in the first place, the Siberian buckwheat shatters in reaping still more easily than the common, and consequently demands an increase of precau-

tions; then it grinds almost as slowly as rye, and it ought not to be sowed until July, a time when the hay harvest draws so heavily on the labor of the farmer.

MAGNESIAN MARL.—Among the numerous beds of Marl, a correspondent of the *Register* gives an account of one which Mr. Ruffin found to contain 50 per cent. of carbonate of lime, and 31 of carbonate of magnesia. Magnesia in lime is considered by many as injurious to vegetation. Mr. R. has collected much, both *pro* and *con*. When used in moderate quantities, the testimony appears to be in its favor. On richer soils it will be used in greater quantities. Sir H. Davy explains this on the fact that magnesia has much less affinity for carbonic acid than lime has; and, consequently, as long as any caustic lime remains, the magnesia will not combine with carbonic acid, and thus remain, caustic, and poisonous or hurtful to plants. For a rich soil more carbonic acid gas is disengaged, and unites with it.

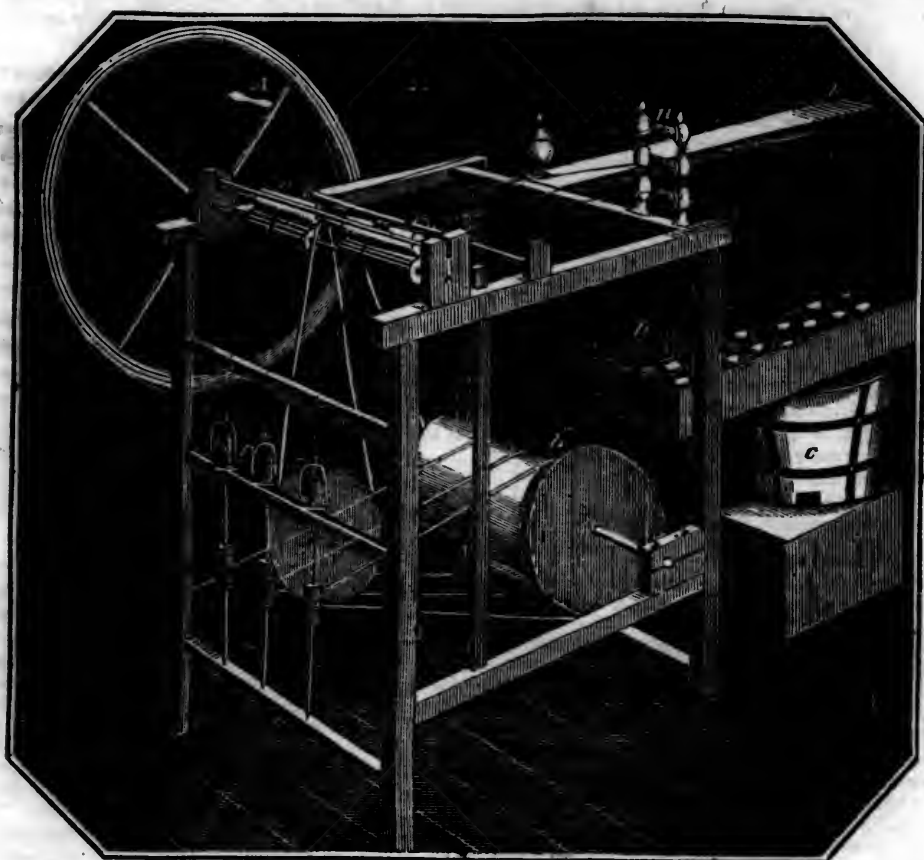
EASY METHOD OF SOWING GRASS SEEDS.—I had a piece of sheet iron about four feet long and twenty inches wide, punched with small holes at distances of about half an inch or three quarters each way, and then made into a cylinder similar to a stove pipe. An axle passes through the cylinder, on each end of which is attached a wooden wheel of double the diameter of the cylinder, and on each end of the axle-tree are fixed the handles or frame, by which the machine can either be pulled after, or rolled before the seedman, as he may prefer. A cylinder four feet long and six inches diameter will hold rather more than a half bushel of seed, and will sow about a bushel to the acre.* Here let me observe that the seed should be very nicely sifted—for if there be much filth or chaff left in the seed, they will not be sowed thick enough. The seed may be put into the cylinder either by taking off one wheel or by having a door cut in the cylinder, after the manner of the barrel churn.

Since using this grass sower, (if I may so call it,) I find the grass is sowed more regularly—that much time and labor is saved, and it is almost impossible for the wind to affect the seed at all, since they are nearly touching the ground by the time they are out of the box.

* The holes should be about the size of those commonly punched in tin for safes.

SALT A MANURE FOR COTTON.—Alexander Jones, M. D., recommends, in the *American Farmer*, the use of salt as a manure to improve the staple of cotton. He says, if sea island cotton be planted for several years in succession in the interior of the country, it degenerates into the short staple cotton. In support of the benefit from salt, it is said that cotton in the vicinity of salt springs and licks is of a larger staple.

INDIAN MEAL BREAD.—Take as much corn meal as is wanting for use, sift it through a hair sifter, put it in an iron pot, and pour on it boiling water; stir it with a spatula or ladle till it becomes well mixed and quite thin; this being night, let it remain in the same vessel till morning, and if kept warm it will be well fermented, (which is necessary.) Then put it in what is called a Dutch oven, it being hot before the dough is put in it; apply good live coals on the lid of the oven and under it, being careful not to burn the bread. When thus prepared, if done carefully and according to this recipe, more wholesome and better bread cannot be used for breakfast. I think it an antidyspeptic, as no lard or butter is used in preparing the bread, though after it is cooked, good fresh butter adds to its flavor.—[American Farmer.]



Manufacture of Silk—Reeling, Twisting from the Cocoon—Description and Drawing of Brooks' Silk Machine. [From the New-York Farmer.]

The manufacture of silk is so likely to become an important branch of national industry, that we deem it important to lay before our readers all the information that we can obtain.

On the present occasion, we shall simply state the particulars of an experiment with Mr. Adam Brooks' machine.

REFERENCES.—A, the handle of the crank, giving motion to the machine. There is a band around the large wheel, passing around a small wheel attached to the axis of the cylinder or drum. B, the drum or cylinder, around which the bands giving motion to the spindles pass. C, the furnace for heating to blood heat the water in the pan D, containing the cocoons. E, the rollers regulating the supply of thread given to the spindles. F, the two spindles for twisting the single threads. G, the spindle for the double twisting or sewing silk. H, the two upright pillars supporting the bobbins containing the single thread to be double twisted. J, a projecting slat, containing the leading wires to receive the threads from the cocoons in the pan D.

After considerable inquiry for cocoons in this section of the country, we were enabled to obtain a bushel that had been, two years ago, sent on to this city, from one of the Southern States, for a market. In consequence of there being no demand for them, they had been put aside as a worthless article. They were in a box rendered tight by paper pasted over the openings at the joinings of the boards. Some of the cocoons were perforated by an insect not unlike the common moth; but generally they were in excellent order.

All the practical information we had had, was from seeing Mr. Brooks exhibit his machine in operation a few times. In connection with another person, whose opportunities of practical knowledge were no greater than our own, we took a peck of the cocoons, 485 in number, and weighing ten ounces. Without assorting them, as we should have done, we put a handful of some 20 or 40 into water about boiling hot—took a small broom and pressed them into

the water—found the floss silk adhering to the broom—gathered the silk from the broom, and kept drawing the silk until a fibre ran off singly and evenly from each cocoon—lifted these running cocoons from the water with an instrument not half so convenient as a skimmer, and placed them in a winding basin partly filled with heated water—served other cocoons in the same manner until we acquired two threads of about 100 fibres or cocoons, and carried the threads through the guide wires, between the rollers, to the bobbins. Thus prepared, we began to wind by turning the wheel, keeping up the thickness of the thread by supplying additional cocoons, and collecting and attaching the ends of those that had broken. After a sufficient quantity was on the bobbins, took them and placed them in the upright posts, and carried the ends through the guides and rollers to the bobbin, for the purpose of doubling and twisting. Replacing the bobbins with two more, we then, by turning the wheel, wound, doubled, and twisted the silk at one operation. Thus continuing, we obtained from the peck 1½ ounces of fine sewing silk, which, when deprived of the gum, by being several times boiled in soap suds, weighed one ounce. Besides this, there were 4½ ounces of floss silk obtained from the gathering of the silk from the broom, from cocoons that would not wind, and from those that had been injured by insects, or imperfectly formed. These 4½ ounces, after having been cleansed in soap suds, weighed 3 ounces. This floss silk is to be carded and spun for stockings and other purposes.

The sewing silk being very fine, did not, owing to the improper adjustment of the machine, give a sufficient twist; in other respects it was pronounced a fair, saleable article. When it is considered that we were entirely green at the business, were several times obliged, as soon as we got into operation, to omit our labors for another day, and were not in possession of the conveniences for producing a good article, our readers will perceive that the manufacture of silk for common domestic purposes is not more difficult than to spin flax or wool, which was formerly done by the females of almost every farmer's family in the country.

Our lowest estimate of the value of the bushel

when made into sewing and floss silk, is \$4.50. Our information, however, relative to its price, is derived from books and personal inquiries, and is extremely varied, and often contradictory. One thing is very certain, that if \$2.50 to \$3.50 per bushel for the cocoons is a remunerating price to the farmer, the manufacture of them into silk in his own family must be very profitable.

The machine, the drawing of which accompanies this article, is the invention of Mr. Adam Brooks, of Scituate, Mass. It is admirably adapted for families, when sewing silk is intended to be made. The one we used is a beautiful machine, made of mahogany, in a substantial and workmanlike manner. It cost \$28. Those of hard but less costly wood, and thoroughly made, are \$25. With an additional bobbin, \$30 and \$26.

Machines made by the inventor may be had of the agents, H. Huxley and Co. 81 Barclay street.

RELATIVE CLAIMS OF AGRICULTURE.—Mr. Whitaker's views correspond so well with our own that we cannot refrain from giving another extract.

"But agriculture," says he, "contributes liberally to the constant demands, and not to the occasional wants of society—to the indispensable and never varying necessities of mankind at large, and not simply to the incidental and extraordinary calls of individuals. In this point of view, therefore, Agriculture prefers claims to a far higher consideration than either Law or Medicine. And if the question were put, which is best calculated to enlarge and liberalize the mind, the decision, I imagine, must again be in favor of Agriculture—of Agriculture, however, not degraded to a despicable rank, but raised to that high elevation where good sense and a just philosophy would place it. Even its humblest duties, I maintain, are performed under circumstances favorable to the development of a refined enthusiasm:

Ask the swain

Who journeys homeward from a summer day's
Long labor, why, forgetful of his toils,
And due repose, he lingers to behold
The sunshine—gleaming as through amber clouds
O'er all the Western sky: full soon I ween,
His rude expressions and untutored airs,
Beyond the power of language, will unfold
The form of beauty smiling at his heart.
How lovely! how commanding!"

NEW-YORK AMERICAN.

JANUARY 25—FEBRUARY 1, 1834.

HOME INTELLIGENCE.

NAVY APPROPRIATION BILL.—We publish this as a bill of general interest and which has become a law.

AN ACT making appropriations for the naval service for the year one thousand eight hundred and thirty-four.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress Assembled, That the following sums be appropriated for the naval service for the year one thousand eight hundred and thirty-four in addition to the unexpended balances of former appropriations for similar objects, viz.

For pay and subsistence of the officers of the navy and pay of seamen, one million four hundred and eighty-seven thousand two hundred and forty-four dollars and twenty-one cents.

For pay of superintendents, naval constructors, and all the civil establishments at the several yards, sixty-one thousand one hundred and eighty dollars.

For provisions, four hundred and fifty thousand dollars.

For the repairs of vessels in ordinary, and the repairs and wear and tear of vessels in commission, five hundred and ninety thousand dollars.

For medicines and surgical instruments, hospital stores, and other expenses on account of the sick, forty thousand dollars.

For the improvement and necessary repairs of the navy yard at Portsmouth, New Hampshire, forty thousand seven hundred dollars.

For the improvement and necessary repairs of the navy yard at Charlestown, Massachusetts, eighty-six thousand three hundred dollars.

For the improvement and necessary repairs of the navy yard at Brooklyn, New York, fifty-seven thousand five hundred dollars.

For the improvement and necessary repairs of the navy yard at Philadelphia, six thousand five hundred and fifty dollars.

For the improvement and necessary repairs of the navy yard at Washington, twenty-nine thousand five hundred dollars.

For the improvement and necessary repairs of the navy yard at Gosport, Virginia, one hundred and eight thousand two hundred and fifty dollars.

For the improvement and necessary repairs of the navy yard at Pensacola, twenty-six thousand dollars.

For ordnance and ordnance stores, ten thousand dollars.

For defraying the expenses that may accrue for the following purposes, viz:

For freight and transportation of materials and stores of every description; for wharfage and dockage, storage and rent, travelling expenses of officers, and fuel and candles, to officers other than those attached to navy yards and stations, and for officers in sick quarters where there is no hospital, and for funeral expenses; for commissions, clerk hire and office rent, stationary and fuel, to navy agents; for premiums and incidental expenses of recruiting; for apprehending deserters; for compensation to judge advocates; for per diem allowances to persons attending courts martial and courts of inquiry, and to officers engaged in extra service beyond the limits of their stations; for printing and stationary of every description, and for books, maps, charts and mathematical and nautical instruments, chronometers, models and drawings; for purchase and repair of fire and steam engines, and for machinery; for purchase and maintenance of oxen and horses, and for carts, timber wheels, and workmen's tools of every description; for postage of letters on public service; for pilotage and towing ships of war, for cabin furniture of vessels in commission, and for furniture of officers' houses at navy yards; for taxes on navy yards and public property; for assistance rendered to vessels in distress; for incidental labor at navy yards, not applicable to any other appropriation; for coal and other fuel for forges, foundries, and steam engines; for candles, oil, and fuel, for vessels in commission and in ordinary; for repairs of magazines and powder houses; for preparing moulds for ships to be built, and for no other purpose whatsoever, two hundred and ninety five thousand dollars.

For contingent expenses for objects not hereinbefore enumerated, four thousand dollars.

For pay of the officers, non commissioned officers, musicians and privates, and for subsistence of the officers of the marine corps, including arrearsages and increased pay under the act, second of March one thousand eight hundred and thirty-three, one hundred and thirty-five thousand eight hundred and eighty dollars, and twenty-five cents.

For subsistence of non commissioned officers, musicians and privates, and washerwomen of said corps, serving on shore, nineteen thousand two hundred and thirty-one dollars and eighty cents.

For clothing, twenty-nine thousand three hundred and fifteen dollars.

For fuel, nine thousand and ninety-eight dollars.

For contingent expenses, including arrearsages, nineteen thousand dollars.

For transportation and recruiting, five thousand dollars.

For medicines, hospital stores, and surgical instruments, for officers and men serving on shore, two thousand three hundred and sixty-nine dollars and seventy-one cents.

For balance due Lieutenant Colonel Anderson, nine hundred and fifty-four dollars and twenty-two cents.

For the erection of barracks for the marines stationed at the Navy Yard, Brooklyn, New York, thirty thousand dollars.

For carrying into effect the acts for the suppression of the slave trade, including the support in the United States, and for a term not exceeding six months after their arrival in Africa, of all persons removed from the United States under the said acts, five thousand dollars.

That so much of the sums appropriated by the act of the twenty-eighth May, eighteen hundred and thirty, for the relief of Alexander Claxton, as still remains due and unpaid, and which has been carried to the credit of the surplus fund, shall be, and the same is hereby, reappropriated.

DESTRUCTIVE FIRE AT HERKIMER!—The Herkimer county Court House and Jail, together with the Rev. Mr. Spinners' Church, in the village of Herkimer, were entirely consumed by fire on Sunday night. The fire took place in the prisoners' room by accident, but was not discovered in season to arrest its progress.—[Albany Daily Advertiser.]

DESTRUCTIVE FRESHET.

Extract of a letter from a gentleman residing in Charleston, Kanawha county, to his friend in this city, dated January 15th, 1834.

"I wrote the above several days ago—but owing to an unusual freshet in the Kanawha River, the mail did not leave our office. On Saturday, the 11th instant, it commenced raining, which continued until Sunday night, and our whole country was inundated with water. The Kanawha was within four feet of the rise of 1822, which was the greatest freshet ever known in the river. Many of the bridges are swept away, and all have sustained damages. I understand that the water was four feet deep on the floor of the Coal River Bridge, but it is said did not move it. The new bridge at Campbell's Creek was taken up the creek (by back water.) I have understood that they have been attempting to tow it back, and let it settle down, as the water falls, in its original place, and that they have hopes of succeeding. The embankment has also been injured. You will know where the water was in Charleston, when I tell you it was 18 inches deep on the floor of the dining room of Captain Wilson's tavern.

"Two negroes went into Mr. L. Ruffier's coal bank. The entry is somewhat lower than the interior, where they worked. The water rose over the mouth of the bank, before they were aware of its approach. They attempted to escape, but found that the long entry, of more than one hundred yards, was closed, and the water still advancing on them: They returned to their room, and got on a pile of slate in the highest part thereof, and in more than mid-night darkness, awaited the sure approach of death. In this situation they remained two days and nights. As soon as the water fell enough to let a craft enter the bank, one was sent in, but it could not pass the lowest point. The steersman called to them; they answered, and were requested to be patient—"the river was falling." What pen could describe the feelings of these poor fellows, when they first heard the sound of human voices! It is supposed, that the air, which was confined in the room by the mouth's closing first, prevented the water from filling it. But it is not certain that is the fact; or that the room, in which they were, was not above the water level.

"A considerable quantity of salt has been lost. Mr. B. sat and watched the approach of the water to within three or four inches of his salt-house, in which he had 30,000 bushels, that he could not remove. But the Dove returned with the Olive Branch. The waters began to recede."—[Rich. Enq.]

La Normandie is the name of a new packet ship of the Havre line, which is now preparing to sail on Saturday next, 1st proximo. This vessel was built during the past summer, at Hartford, in Connecticut, under the superintendence of Mr. Isaac Bell. She is between 5 and 600 tons, of fine model for both speed and burden, and of great strength. Her main cabin is on deck, and it is finished with remarkably good taste. The whole is painted white, very highly varnished, with a light gilt moulding around the panneling. The state rooms are large and commodiously arranged; and from the after part of the cabin designed for ladies, a private stairway descends into another smaller cabin between decks, admirably adapted to one or two families that might desire to be together on the voyage. One of the most striking novelties in this ship is the arrangement for the helmsman. The wheels are sunk in the quarter deck, constituting the roof of the main cabin, so that by throwing up a leathern covering, in the shape of a gig top, the man at the wheel is completely protected from the weather. His position too is behind, instead of beside, his wheel, as is generally the case; and hence he has more control over it. Upon the whole, it is difficult to conceive of more, or more ingenious arrangements for comfort—if such a term can be predicated of any thing belonging to the sea—and safety, than is to be found in *la Normandie*—and so God speed her!

Great Sale.—The Company owning the "Old Line" of Liverpool packets, have sold six of the ships to a new Company, the Agent for whom are Messrs. Goodhue & Co. The ships sold are the Britannia, Caledonia, North America, South America, Europe, and Hibernia. The price is \$36,000 each. They are comparatively new. The Pacific and New York, the oldest of the fleet, are not included in the sale. The Agents on the other side are Baring, Brothers & Co. That great house, we understand, are making arrangements to extend their business in this country, where they say—they have made more money and lost less in comparison with the whole amount, than in any other country.—[Jour. of Com.]

The old line of Liverpool packets, we are desired to say, will be completed by the addition of the Orpheus and the new ship Columbus, now building, by Messrs. Webb & Allen, under the direction of Captain Cobb. These ships will take the place of the Pacific and New York.

The arrangement of the Line, which will take effect on the 1st of March, will be announced by the middle of next month.

The annual report of the Inspector of Pot and Pearl Ashes for the city and county of New York, was made to the Senate on Friday. Whole number of pounds inspected, including scrapings, 18,692,945; estimated value, \$823,383 31; inspector's fees, deducting expenses, \$4,304 85. The inspector adds that he does not know of any legislative provisions that would have a tendency to improve the quality or increase the quantity.—[Alb. Argus.]

APPOINTMENTS—Saturday, Jan. 18.

NEW YORK—Isaac Sayre, measurer of grain, in place of Aaron Howell, resigned; D. C. Colden, notary public, in place of Thomas Shankland, resigned; Jesup Jermon, notary public, in place of Evert A. Banker, resigned; Theodore Allen, commissioner of deeds, in place of John L. Creger, deceased; Thomas Frost, measurer of grain, in place of Wm. Frost, resigned; Henry H. Orrington, public notary, in place of Wm. Orrington, resigned; Edward M. Luther, culler of staves and heading, in place of James Rauvenc, removed; Daniel Deitrick, inspector of sole leather, in place of Henry Leek, resigned; Edward Hueston, for pilot by way of Hell Gate, in place of Samuel Leaycraft, removed; John H. Bell, notary public, in place of Thomas McCready, jr. deceased; Richard W. Blatchford, a commissioner of deeds, in place of Mitchell Sanford, resigned; Jas. Rogers, measurer of grain, in place of Samuel Bleecker, removed.—[Albany Argus.]

[From the Baltimore American of Saturday.]

DESTRUCTION OF THE WARREN FACTORY.—A little before 12 o'clock on Thursday night the extensive Cotton Mill belonging to the Warren Manufacturing Company, about 15 miles from the city, was discovered to be on fire. The flames first appeared in the highest story of the building, near the belfry, about twenty minutes after the watchman had taken his regular half-hourly round through the rooms. He immediately attempted to give the alarm to the workmen by ringing the bell, but the second pull of the rope caused it to sever at the place where the fire had already reached it. This circumstance created some little delay in rousing the workmen, but they were nevertheless at the premises in a comparatively short time, and using every possible exertion to check the fire, but without, we regret to add, being able to accomplish it. In a short time the whole building, with all its valuable machinery, was reduced to a heap of rains. None of the adjoining buildings were injured.

The cause of the fire cannot be traced. It broke out in a garret room containing nothing combustible, and but little used, and the watch clock indicated the regular half-hourly presence of the watchman until the alarm was given. The fire was discovered at an early stage, but the combustible nature of the building, rendered still more so by the quantity of oil used on the machinery, baffled all efforts to subdue it. By far the most distressing circumstance connected with the event, is the fact that between seven and eight hundred persons derived, directly or indirectly, their support from this establishment, and are thus suddenly deprived of employment at this very inclement season.

We understand that the building and machinery were insured to the amount of sixty-three thousand dollars in several offices in the Eastern States. The property destroyed, however, could not be replaced for \$100,000.

LITERARY NOTICES.

No. XII.

MONROE Co. (M. T.) DEC. 5, 1833.

I write to you from a log cabin on the banks of the river Raisin, about 30 miles above Monroe. The worthy farmer, upon whose premises I am quartered for the night, sits with his child on his knee, in the chimney corner, with a prosing visitor, pipe in mouth, opposite, while the good woman is engaged doing some "chores" at the further end of the apartment, which is of course the chief cooking, eating, sitting, sleeping and smoking chamber in the house. My dormitory, I have a shrewd suspicion, is to be in a loft, from which a lad is at this moment descending by a ladder with some corn for my horse. The black walnut stand, upon which I am writing, occupies the centre of the room; and as I am at this moment keeping up my share in a desultory sort of conversation going forward around me, and at the same time trying to check the undue familiarity of a large bull-dog—who, like other individuals, has become troublesome from being admitted too rapidly into my intimacy—you must not expect me to be very coherent in detailing the impressions of the day.

It was a gloomy, lowering morning, with occasional flakes of snow driving through the harsh atmosphere, when I started from the village of Monroe, well mounted on a stout roan, whose figure and action would command thrice the sum in New York that the animal cost me here, and whose performance to-day speaks well of the dependence I may place upon him to carry me through my arduous route into the interior of the Peninsula. It was with a feeling of almost boyish pleasure that, after the slight taste I have had of stage travelling from Pittsburgh to Cleveland, and from Detroit to Monroe, I found myself once more in the saddle, with the full privilege of regulating my motions as I choose. The delightful mode in which I travelled with S—from New York to Wheeling, in a barouche, with two led horses under the saddle, was indeed, both for pleasure and solid comfort, not to be surpassed. But now, though I have neither the agreeable friend, the attentive groom, nor the luxurious carriage, to enhance the gratification and relieve the weariness of travelling, the feeling of independence still remains. And though I confess I could not suppress a sigh this morning, when packing up the linen and books which, with my trunk, I shall not see for a month to come, yet that pair of saddlebags beneath my feet, though conscious only of a shirt apiece, flanked as they are by my light fowling-piece, which that weather-beaten worthy is at this moment curiously examining, and my leggings, which are drying upon those andirons, make me feel as rich as did that famous soldado Dugald Dalgetty himself, with his single change of chambray leather and iron overcoat, while handling his arms and surveying his compact appointments from the back of the doughty Gustavus.

My road led, from the moment of leaving the village, along the banks of the Raisin, whose serpentine current flowed fuller and clearer the further I advanced into the country. The land at the same time gradually rising, and though never hilly, yet leaving the stream, far enough below to form a bluff of some 10 or 15 feet, where the timber land rose from the rich bottoms on its margin. After riding thus for about 20 miles along the river, where the log cabins gradually became fewer and farther between, I struck through a wood so dense that it seemed to terminate the settlements in this direction, and then at a sudden turning of the path, I came at once upon the "oak openings." It would be difficult to convey an idea of the pleasing effect of such a surprise. Imagine yourself emerging from a New Jersey swamp, and coming at one bound upon one of the English Parks which Puckler-Muskaw so admirably describes. Clumps of the noblest oaks with not a twig of underwood, extending over

a gently undulating grassy surface, as far as the eye can reach; here clustered together in a grove of tall stems supporting one broad canopy of interlacing branches, and there rearing their gigantic trunks in solitary grandeur from the plain. The feeling of solitude I had while in the deep woods, deserted me the moment I came upon this beautiful scene, and I rode on for hours, unable without an effort to divest myself of the idea that I was in a cultivated country. Towards evening I found myself in the thick forest again, and was glad as the night closed in darkly over a road where at every step my horse would either sink to his knees in mud, or trip over the stubs of the newly cut saplings, to be overtaken by a mail-rider, with his leathern charge, on horseback. The lonely lad was as glad of company through the forest as I was of a guide; and he willingly taking the lead, I flung my bridle on my horse's neck, as the skies became blacker and blacker, and touching him smartly with the spur, away we went through the woods together. "Take care of that tree, sir; look out for the mud-hole!"—called my goblin usher at each moment, as we tramped and splashed along, where I would have defied the Evil One himself to have seen any thing but the impenetrable dark. I heeded him not; but bending low in the saddle to avoid the boughs, and glueing my knees to the surcingle, I surrendered myself to my destiny, and attended to nothing but keeping my horse as close to the heels of his file-leader as possible. At length we reached a clearing, and a few yards of better road brought us to a log-cabin. The family were at supper when I entered; and sitting down with the rest, I helped myself with an iron spoon from a dish of suppawn, and fishing up a cup from the bottom of a huge pan of milk, I poured the snowy liquid over the boiled meal that rivalled it in whiteness. The corn from which it is made, my host tells me, grew to the height of 16 feet, the stalks being of a blackish green color. From the same soil, a black sandy loam of easy tillage, wheat as high as a man's head has been raised; the produce from a single grain being from 300 to 400, and in one instance one thousand and twenty-six. I see symptoms of sleeping in those around me; and having no right to monopolize this important apartment, will conclude this elsewhere to-morrow.

TECUMSEH, LENAWEE Co., DEC. —.

The cockloft, as I expected, was my place of rest. I stumbled over a pile of corn, and struck my head against the roof, almost as soon as I had got my body fairly above the trap-door. I found a clean bed, however, and it was a very sociable place, after all; for there were four persons besides myself stowed away in the different corners. So soundly did I sleep on my straw pallet, that the night seemed to me but just begun, when the red glare of a tallow candle flashing over my eyes, with the tap of the mail rider on my shoulder, told me that dawn was breaking, and that we must be gone. The landlord brought out a lantern for me to mount by, and we had proceeded far on our journey before the faintest streak in the East indicated the waking of the sun.

It was about 7 o'clock, when stopping to water at a little shantee, I found several laboring people at breakfast within; and the mail carrier consenting to wait for me, I sat down to table at once with the rest. The fare consisted of hot rolls and tea, with large pieces of pork swimming in its own gravy, with a plate of noble potatoes, that pulverized when you touched them. My plate was heaped at once with all, while each one present vied with the other in civility to me. They were talking of a horse, for which \$100 had been paid, when I entered; and an English poaching gun I have with me, not worth a fifth of the sum, caught the fancy of the owner. He insisted upon "swapping with me on equal terms," and seemed much hurt when I refused not only to "trade," but expressed no inclination to see

his favorite steed. I replied, however, so good-humoredly to his entreaties to trade, that he still persisted in them until taken aside by one or two of those present. He then came up to me in an altered manner—"I hope, sir, that I don't insult you by wanting to buy that curiosome gun, for I don't mean to be uncivil not at all in the least." Upon assuring him that I had taken no offence, he rejoined that if his horse was not worth \$300 he would eat him, but he had set his heart upon that gun and must have it. I did not like to expose myself to the temptation of seeing the horse though of course I did not think for a moment of taking advantage of the honest yeomans caprice, but had it not been a present from a friend abroad I should certainly have given my ardent acquaintance the toy which caught his fancy after what followed. "I say mister, said he musing for a moment "do you want a farm, eh! a house, eh! I'll trade you as good a tavern stand two miles from this as there is in this county." I got away at last as he followed me to the door and held my reins to mount, by promising to leave him the object of his desires in my will.

The character of the country continued for some miles much the same as that passed over yesterday, though the river gradually degenerated into a narrow muddy stream. The log cabins which always occurred in the heavily timbered district, had nothing to distinguish them from each other, and the openings were as silent as if man and beast had deserted them; though I saw a couple of deer in one instance feeding afar off and met a settler who was carrying a wolf, just caught in a trap by the road side, on his shoulders. I was struck too at seeing no less than three pet fawns near different houses, within a few miles of each other. In one instance a tall hound was sitting erect beside one of these gentle creatures, who was licking the ears of the enemy of his race. The incident reminded me of an anecdote I heard told by an old hunter in one of the wild districts of New York. His favorite hound one morning, when the deer were in the red coat and not fit to hunt, came to him while chopping, and made signs for his master to follow to a thicket not far off, where the woodman discovered a fawn so entangled that it could not escape. It was so small and feeble that he carried it away with ease in his arms, while the doe, which was near at hand, followed her bleating offspring. The dog accompanied him with great apparent joy, and, though one of the keenest of his kind, would drive off the grown deer only a few rods and then return at once to keep an eye on his master's movements. The fawn was taken home, and, being fed continually by the children, soon went tame about the house. The dog, however, insisted upon sleeping with it, and could scarcely be separated from his long eared friend, and when it met with the usual fate of pets and died prematurely, a month or two after, poor Ring was inconsolable. The worthy English settler, who had been a game-keeper in the "auld country," in his day, added, that he had the curiosity to dress a piece of the venison, which, fond as hounds are of that food, was rejected with disgust by the canine mourner.

One of the other fawns which I saw, would, with the group attendant, have made a pretty subject for Fisher's pencil. He had thrust his head into a bevy of rosy little girls, who were making "sand pies" on the bank of the river, and as his delicate hoofs threatened to demolish the rural substitutes for the card houses of parlor bred urchins, one of the little architects, covering her work with her hands, kept the intrusive animal at bay with her head; the long yellow locks of which streamed over his bluish crest while the perverse beast twisted his snout under and insisted upon licking her face.

It was still early in the afternoon when I arrived at this place, and my surprise was not slight after coming through a region where every mile seemed to lead me further from oi-

villization to light suddenly upon a pretty village laid out with broad streets, and having an excellent tavern on a public square in the centre. I entered the town through an oak opening. When a few hundred yards from the village, I passed a half dozen graves, apparently dug at random among the trees, though each was ornamented with a handsome head stone. I have since learnt that the towns people, with a degree of consideration which might well be emulated in larger cities, are already making arrangements to lay out and plant a public cemetery for the use of every religious denomination in the place. At Monroe I believe they have already done the same thing. There, indeed they had an ample number of guests for the narrow house, before even the abodes for the living were built. The bones of the butchered Kentuckians bleached till within a few years on the banks of the Raisin, and a gentleman of the place told me that he had often walked over the execution ground and handled skulls that were cloven with the tomahawk. There is also an Indian cemetery about 12 miles from Monroe, where the skeletons of the dead can be plainly seen through the crevices of the stone pile heaped above them. I am told that they are wholly unmolested by the white inhabitants; partly from feelings of decency, creditable to themselves, and partly, perhaps, from fear of the roving relatives of the deceased, who return yearly and observe the condition of the spot, with a jealous eye. Not far from this place, resides an old settler, who has killed a half a dozen Indians with his own hand. Three or four of them he shot with his rifle from his cabin, when they surrounded it to capture him; and the stories told of his encounters with the others, might better be detailed by a novelist than a letter writer. I have seen nothing of the natives yet, except a couple of Wyandott squaws, though the French settlers with their elf locks and blanket capotes, might at a distance be well taken for aborigines. I think a little of starting at once for the rapids of the Grand River, and spending a week or two among the Ottowas, who, I am told are still there in considerable numbers, and preserving enough of their original habits to make them fair specimens of the Michigan Indians. They tell me however that a guide will be indispensable, and having already offered one in vain a fair compensation, I may be compelled to give up the attempt.

The Grand river or Washtenoug is, as I have before mentioned, the largest stream in the Peninsula, being 270 miles in length, while the country watered by it consists of about 7,000 square miles. It has a good harbor at its mouth, on Lake Michigan, for vessels drawing 8 feet water, and it is navigable for those drawing 4 feet for more than 30 miles from the Lake; while further inland it traverses a country represented, by my informant who has recently returned from surveying in that distant region, as of immense fertility. There are also beds of gypsum and lime, with sound stone quarries and mines of iron and with indications of the existence of copper, to be found on its tributaries, while a hundred mineral springs—which seem to abound in this country, for I have already seen a half a dozen—enrich the central region where its branches interlock with the bright waters of the Huron on the eastern, and the myriad of streams and lakes which form the sources of the Keweenaw on the western, side of the Peninsula. They tell me here that it would be in vain for me to attempt to cross the country from Chicago to St. Louis alone at this season of the year, when, if the vast prairies are covered with snow, I should be lost beyond a certainty, and as I am now compelled to remain until the new mail contracted for commences running on the first of January, I shall employ the intermediate time in seeing as much of Michigan as possible. I find myself among the most intelligent population of the middle class (the bone and sinew of a community) I ever mixed with, and every one seems so contented, I may even say delighted, with his adopted home, that I am catching a little of the spirit of those around me, and am eager to visit more intimately scenes which one would suppose were Elysian, by the way in which people talk of them. I find myself as yet only 35 miles from Monroe by the new U. S. road, though the route I travelled was 65. When you next hear from me I shall be father in the

interior, and hope to be able to tell you that I have seen a hill or a rock, the sight of either of which would, I confess, be refreshing in spite of all the charms of oak openings, vine hung streams, and grassy bottoms. H.

PETER PARLEY'S BOOK OF POETRY.

PETER PARLEY'S BOOK OF BIBLE STORIES. Boston: LILLY, WAIT & Co. Agent in New York, J. WILEY.—These are two little volumes, in the usual style of Peter Parley, adapted for children and youth, and adorned with wood-cuts. The Book of Poetry is composed chiefly of short and well selected pieces. The Bible Stories, is made up of two little English books, "Bible Letters" and "Gospel Stories," with some few alterations and omissions.

DENTOLOGIA, A POEM; by SOLYMAN BROWN, A. M. with Notes Practical, Illustrative, Historical, &c. By ELEAZAR PARMLEY, Dentist. New York: PEABODY & Co.—A poem "on the diseases of the teeth, and their proper remedies." Was ever Muse invoked in such behalf before? This may well seem a very natural exclamation, and yet, when one goes beyond the first blush of the subject, it will be found that inspiration is sought, and found, too, by the poet, in lovely woman's face, of which two rows of pearl form not the least lovely feature. In serious truth, Mr. Brown has here treated a subject, unpropitious certainly, with no common talent, while, in the notes of the friend to whom he dedicates his poem, there is much that may be read with both profit and pleasure, by the admirers of, and those admired among, the fair sex.

LIFE AND WRITINGS OF MAJOR JACK DOWNING, &c. written by himself: 2d edition, 1 vol. Boston, Lilly Wait, Colman & Holden.—This volume contains capital humor and satire; though much of it, from its local application, referring to quarrels in the Maine Legislature, will be less relished here than in New England. There are appended to it—and that, considering they are denounced as spurious, seems unfair—several letters of our Major Jack Downing. The whole of these—which, bearing on general affairs as they do, and revealing with such intimate knowledge, the doings of both cabinets at Washington, and of the interior of the General's palace, are universally acceptable—will, we are glad to hear, soon be published here.

MECHANICS' MAGAZINE, for January.—Among the diversified and truly interesting contents of this number, we remark a drawing and description of Dr. Church's Steam Carriage for ordinary roads, now in practical operation in England; and a clever paper on Mr. Burdon's steamboat. Mr. Verplanck's address, too, before the Mechanics' Institute, is given at length, and will, we hope, be generally read and meditated.

Accompanying this No. we have received a large and handsome 8vo. volume, comprising all the numbers of the past year. It is a volume which working men in all departments, and men having any turn for mechanical or scientific enquiries, should possess.

HEATH'S BOOK OF BEAUTY FOR 1834.—We have just seen this beautiful volume, which W. A. Colman has received by the George Washington. It is in all respects of engraving and printing, worthy of its name. He has also vol. 1. of "A Miscellany of Natural History," containing the history of Parrots, and giving all their varieties in colored engravings; a well executed work.

FOR SALE.

ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE.—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1832, with wood cuts, &c. Dedicated to Historical and Natural Sciences, Botany, Agriculture, &c. at one dollar per annum.

MEDICAL FLORA OF THE UNITED STATES, in 2 vols. with 100 plates, containing also the economical properties of 500 genera of American plants. \$3.

MANUAL OF AMERICAN VINES, and Art of Making Wines, with figures. 25 cents.

FISHES AND SHELLS OF THE RIVER OHIO, 1 dollar.

AMERICAN FLORIST, with 36 figures—price 25 cts.

* * * Orders for these works, or any other of Professor Rafinesque's, received at this office. A. S. J. M. & F.

NOVELTY WORKS.

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nutt's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without aplice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer, Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania. Hudson, Columbia county, New-York, January 29, 1833.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subcommittee, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 24, 1833.

For further information on this subject see No. 49, page 772 of this Journal. d6

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes. WM. J. YOUNG.

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested. Bakimory, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repair, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to labor at angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying out rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STADLER, Superintendent of Construction of Baltimore and Ohio Railroad. Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind now in use, and as such most cheerfully recommend it to Engineers and Surveyors. G. M. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable in any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germantown and Norristown Railroad.

m17

At the commencement of the last year I offered to send the American *tri-weekly* instead of *semi-weekly*, together with two of my periodicals, in exchange to those who would publish my advertisements of the different periodicals. In consequence of this notice, our exchange list was increased to 165—to all, or nearly all, of which I sent the American *three times* a week and also *two* of my periodicals. I soon found that the expense would be greater than I had anticipated, as the *paper alone* for this number of exchanges would cost me over \$500 for the year, yet I had made the offer, and would of course continue it through the year—as I have done. I however find it *too expensive* to continue to send as heretofore. The circulation of my *PERIODICALS*, (upon which the expense falls,) will not warrant it, and I must, therefore, notwithstanding the uniform kindness with which they have been treated by those to whom they have been sent, materially *reduce* their exchange list.

The *semi-weekly* American will hereafter be sent in exchange as *formerly*, (or until January, 1833,) to those who will publish the following advertisements for me to the amount of the difference of price. *New-York, January 20, 1834.*

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in *semi-monthly* form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, for the price of putting them up, 25 or 75 cents per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It has, thus far, been received by those for whom it is designed, in a manner highly complimentary to its projector and proprietor. It will be continued by him in a manner not only equal, but altogether superior to that of the first year. It has drawn forth many valuable correspondents, with the assistance of whom and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged, and has been, for the last 10 months, as Editor of this work, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Office 35 all st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE is now in its seventh volume, or second volume of the new series. It is published once a month, in quarto form of 32 pages to each monthly number, or 40 pages to each number, to those who pay \$3 in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Published at No. 35 Wall street, N. Y.

Jan. 22, 1834.

D. K. Minor also publishes the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly. Also, the PLOUGH-BOY, once a week, at \$1 50 per annum.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages. Price, \$5 per annum, in advance.

All Letters and Communications for the above publications, may be addressed, free of postage, to D. K. MINOR.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.
J31 61

TO RAILROAD COMPANIES.

PROFESSOR RAPINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level or level roads. They will save millions of money to be wasted on 1000 miles of iron rails to be laid in the United States within a few years and dispense with tracks and double tracks. These CARS may be drawn by horses or steam. He claims to have discovered them ever since 1823, by his caveats filed in the Patent Office. Apply, post paid.
81 R J M N & F

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J35 11

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.
J8
ROGERS, KETCHUM & GROSVENOR.

INCOMBUSTIBLE ARCHITECTURE.

INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.
For sale, 10,000 lbs. of ANTONIS, or Incombustible Varnish, at one dollar per lb.

Apply to C. S. RAPINESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 5th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanical Magazine; Messrs. Rushon & Aspinwall, Druggists. Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means.
81 R J M N & F

RAILWAY IRON.

Ninety-five tons of 1 inch by 1 inch,	Flat Bars in lengths of 14 to 15 feet counter sunk holes, ended cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. do.	
40 do. 1 1/2 do. do.	
800 do. 2 do. do.	
800 do. 2 1/2 do. do.	
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 3 3/4, and 4 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment.
A. & G. RALSTON.

9 South Front street, Philadelphia.
Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.
J71 meowr

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish Irish and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wutzell, Yellow Locust, Kusa Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORNBURN,
347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

Mr. Thornburn is also Agent for the following publications, to wit:

NEW YORK FARMER and American Gardeners' Magazine.
MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the
NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

G. LANSING, Engraver on Wood,
35 WALL STREET.

All kinds of Machinery correctly drawn, and neatly engraved.
J4

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.
D. K. MINOR, 35 Wall street.
New-York, August 14, 1833.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833.
A29 if RM&F



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

ERWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Erwin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustment.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

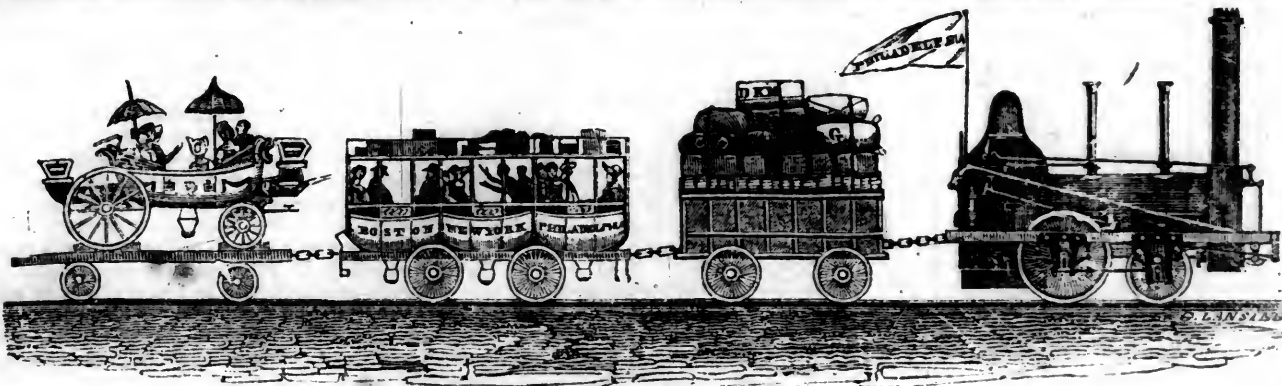
To Messrs Erwin & Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use.

The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, FEBRUARY 8, 1834.

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[COMMUNICATED]

New-York, 1st Feb., 1834.

HON. STEPHEN ALLEN,
Chairman Water Com. :

SIR,—By a note recently received from Mr. Ogden, one of the assistants on the water survey, I regret to learn that the arrangement of his name, second in order, in the roll of the party annexed to my report, is considered by him as reflecting invidiously upon his professional standing and character ; and as nothing was further from my purpose than to make any reflection of that kind, I cheerfully accord to his wishes in submitting the following explanations.

Mr. Ogden and Mr. Cartwright were the heads of two co-ordinate branches of the service ; the former having charge of the leveling operations, and the latter that of the traverse work : but as both performed their duties in immediate relation to myself, as the head of the party, they acted without any particular relations of responsibility or subordination with respect to each other.

In drawing up the roll referred to, the name of Mr. Cartwright was placed first, in consideration of his age and general respectability of character, without intending to imply, by any means, that he was the official superior of Mr. Ogden. In fact, the duties of the latter, according to the routine of the service, necessarily preceded those of the former, and in point of professional responsibility, were second only to those of the principal engineer.

Presuming that these explanations will remove any unfavorable impressions of the kind alluded to, I remain, very respectfully, your obedient servant,

D. B. DOVLASS,
Chief Engineer on the late Water Survey.

Economy in the Use of Steam. [Communicated for the American Railroad Journal, and Advocate of Internal Improvements.]

It has been for several years past, to the writer, an important object, and a favorite study, to effect, if possible, a saving in the use of steam ; and after a great variety of experiments on the subject, he has arrived at the conclusion, and believes he can demonstrate clearly to every rational mind, by actual experiment, a saving of nearly one-half, by the use of double cylinder engines. In order to illustrate the fact, he has fitted up a small model, so arranged as to give every possible chance to test fairly the correctness of his theory. The machine above mentioned is constantly in operation at Wm. T. James' foundry and steam engine factory,

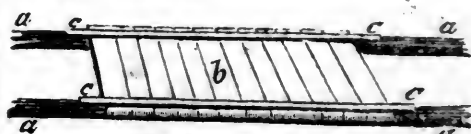
No. 40 Eldridge street, where those interested in such matters are respectfully invited to call and satisfy themselves.

The following is the plan of Mr. E. JOHNSON for constructing railroads, referred to in our last. It is a plan upon which we should like to have the opinion of experienced engineers.

Mr. Johnson will also oblige us by communicating the probable expense of such a railroad in ordinary situations.

A New Plan for the Construction of the Wood Work of Railroads. By ELISHA JOHNSON. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

SIR,—Having introduced a new plan for the construction of the wood work of railroads, which is adopted by the directors of the Buffalo and Black Rock Railroad Company, I wish, through your valuable Journal, to give a brief description of the same, in answer to inquiries that have been made.



Place longitudinal sills, *a a*, of round timber one foot in diameter, hewed on one side, even with the surface of the grade ; cover the road bed with plank, *b*, two and one-half inches in thickness, and seven feet long, resting upon the grade and sills ; over the sills place two by four inch scantling, *c c*, on which are placed the iron plates ; all of which parts are secured by eight-inch spikes, terminating in the sills.

The plan is proposed for new districts of country, where the location of the line of road is through low table lands, or the rich farming lands of secondary formation, which are retentive of moisture, or light sand soils ; all of which would require expensive preparations of the grade by rubble or gravel blind drains, &c., to prepare for the reception of the timber work.

In the usual form of timber constructions, it has a superficial bearing of twenty-nine feet upon the grade, to the rod. In the above form, there is one hundred fifteen and one-half feet

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, FEBRUARY 8, 1834.

NEW-YORK AND ERIE RAILROAD.—This important public improvement seems to attract less attention at this moment of pressure and despondency, than it merits. The great question now seems to be how to pay old, rather than to contract new, liabilities ; and so it should be : yet such a measure as that of opening a more direct, easy, and expeditious communication between this city and the great west, should not, for a moment, be lost sight of. Every preliminary measure for immediate action, when the sun of prosperity shall again arise, should be adopted, and every man who has an interest in the prosperity of either the country at large, that through which the road is to pass, or of this city, should be ready to aid in its accomplishment. We have often referred to this contemplated railroad, as a measure in which the state, as a state, ought to take an interest. It would be to the southern what the canals are to the northern part of the state ; and by whom were those constructed ? Were they not built by the state ? If they were, why should the state hesitate to confer equal benefits on other parts of the state, where the public at large would be equally benefitted ? The people of the southern part of the state are equally entitled with those of the northern part, to public improvements, if those improvements will contribute equally to the general prosperity of the country ; and therefore the legislature cannot, in justice, withhold the aid of the state from this important improvement.

of bearing per rod, increasing the strength of road in proportion to its bearing, on unprepared grades, and ample strength for locomotive power with heavy trains, on alluvial soils.

The expense of materials is about the same in either plan, where suitable timber for rails can be obtained in the vicinity of the line of road.

The improvement proposed consists in saving the expense of a prepared grade and horse path, varying in cost from one to two thousand dollars per mile; also, a saving of the item of suitable rails, when they have to be obtained at great expense of transportation, as well as the mechanical work connected with them.

The plan proposes other advantages, viz.: the admission of the use of such timber as is most convenient to obtain near the line of road; a material saving of expense in passing water-courses, bridges; and the construction of turnouts and crossings by a continuous floor, which forms a roof to the grade; when by use and the effect of rains, the joints of the timber are filled with earth, the water passing off through triangular apertures Δ , at the meeting at the ends of the supports to the iron; greater security from the effect of frost, by reason of the form of construction and a dry grade; the spike that secures the iron, secures the different parts of the timber work; a dry horse-path, which is proposed to be protected by the use of a thin coating of sand over the floor—this will protect the timber from the effects of the sun, and preserve a more uniform moisture, aiding the preservation of the timber.

In reference to objections that may be urged against proposed improvements, it is not practicable to answer them fully, except by the test of experiment. In the construction and use of such a form of road, it is suggested that it may be inconvenient to repair an imperfect embankment, which is remedied by the ease which the wood work may be taken up and put down again, or by having movable plank at every three or five feet, to be drawn out from between the spike or every other plank moveable, if screwed six inches in width.

The wear of the plank and the effect upon the horse at a speed of ten miles per hour, are proper questions of inquiry. In answer, the wear of the plank: by comparisons made without protection, as proposed, it is satisfactorily ascertained that the wear will be less than the decay for the amount of horse power required on railroads, if locomotive power is not used. The effect upon the horse is believed to be more favorable than upon a compact gravel road in dry weather or frozen earth, ice, or stony roads, if not relieved by the sand covering.

A question may arise, of comparative effect upon the decay of the timber. In the common form, parts of the work, such as the tenants of the cross timber or sleepers, are believed to be in the most exposed situation they can be placed; when in the proposed form, by a continuous bearing upon the grade, the timber can be used in an advanced state of decay.

The simple form of construction removes a prominent cause of expense in the details of the management of laborers and mechanics necessary in completing the several parts in the common form of construction: if connected with the contracts for grading, the sills are put into the grade as a part of the contract. Twelve days, with one superintendent, one mechanic, and six laborers, will complete a mile of road, with the materials delivered on the line; tested by experiments that have been

made; the time required is the time necessary to drive the spike.

In adopting the aforesaid principle of transferring the strength of rail to the sill, and obtaining strength of grade by increasing the superficial feet of bearing, will admit of many variations from the above described form, in the size, quality, and quantity of timber, in different descriptions of grade, and in the use of red cedar, with many other particulars not proposed to be entered upon in this communication.

The experiment that has been made in the completion of three-fourths of a mile on the Buffalo road, have been favorable in the results; and in the experiments of loaded cars on the track, a favorable effect was noticed by reason of the continued bearing and direct connection with the grade, particularly on a part of the grade that was loose clean sand, which, from its confined position, had the apparent effect of a stone foundation: the grade receiving all of the action of a moving heavy body.

If these remarks should contribute to useful inquiry, and an improvement made in the form of construction, adapted to the age and circumstances of our country, where capital bears a high rate of interest, and the present limited business of different sections not warranting expensive constructions, would be all that could be expected from these imperfect remarks.

ELISHA JOHNSON, Civil Engineer.

Rochester, Jan. 24, 1834.

Report of the Committee on the Affairs of the Saratoga and Schenectady Railroad. Presented 4th December, 1833.

[Continued from page 51.]

There being no farther occasion for an engineer of the Road, the services of the person heretofore filling that office have been dispensed with; a saving of the salary of \$1500 per annum is thereby effected. It is believed that, by establishing a carpenter's and blacksmith's shop at one of the stations of the line of road, and employing a skilful workman in each department, by the year, whose duty it shall be to attend to all the repairs of the Company's wagons, the laying of timbers on the Road, shoeing horses, &c., a great saving will result to the Company, and facilitate the operations of the Road. Heretofore the work has been done at different places, and the highest prices uniformly paid. The Committee are strongly impressed with the necessity of making such an arrangement, and thereby securing the advantages of having at all times the necessary hands to conduct the business of the Road.

The Committee, after having very carefully examined into the relative expense and advantages of steam and horse power, are fully convinced that the former is to be preferred, both as it regards economy and usefulness.

The engine now owned by the Company was constructed by Messrs. George Stephenson & Co., of Newcastle, England, and put in operation on the Road on the 2d July last. Its performance has given entire satisfaction. The Committee, viewing the importance of procuring another locomotive engine, and that any longer delay would be detrimental to the interests of the Company, have already ordered one from England, and availed themselves of the services of Mr. John Hampson, the Company's engineer of the locomotive, who embarked for Liverpool on the 1st instant, in order to examine the various improvements in this branch of business. He will suggest to the manufacturers some slight alterations from the one already in use; submitting it, however, to the better judgment of Messrs. S. & Co. to adopt such suggestion or not, as they may deem expedient.

The expediency of laying down turn-outs, each about 100 feet in length, was a subject to which the attention of the Committee was directed. From estimates made, it appears that a turn-out of 150 feet will cost about \$80, as the materials are already at hand. After a careful survey of the whole line of Road, the

Committee have come to the conclusion that it will be expedient, in addition to those already laid, to establish them at the following points, viz:

1st. At a distance of about 3 miles south of Saratoga Springs.

2d. Two miles south of Ballston Spa.

3d. At some convenient point between Schenectady and what is termed the "Half-way House."

Independent of the convenience those would afford to cars coming in opposite directions, they would also be found useful as stations for loading and unloading freight cars, either with materials for the use of the Road, or merchandise, wool, &c. to and from the adjacent neighborhood.

Although it is believed that the Company are furnished with sufficient horse and steam power to extend their freight business to the amount of exports and imports already mentioned in another part of the Report, yet as the present number of wagons can only conveniently transport from 10 to 12,000 tons, they would suggest the expediency of adding 12 more; making, in the aggregate, 30 wagons. As respects the passenger cars, it is believed that the present number will be sufficient, making due allowance for the anticipated increase of travel the next season.

The business of the Road has yielded, from the opening up to this date, as will be seen in the Appendix, the gross amount of \$42,666 79. The expenses in conducting its operations during the same period, have amounted to \$16,990 92; leaving a net profit of \$25,675 89: to which is to be added the sum of \$811 50 premium on the sale of stock made last April, making the sum of \$26,487 37. From this amount, the sum of \$14,250 was paid last September, being 5 per cent. on the capital, to stockholders, for the first regular dividend declared in August, leaving at this time a clear profit of \$12,237 37; to which may be added \$2,200, a moderate estimate for net proceeds for December and January: there will then be applicable for the next semi-annual dividend in February, the sum of \$14,437 37.

The Committee, taking into view the increase of business, and the ample means of the Company to carry into effect the arrangements recently completed for next season, and also the improvements in various branches of the administration of its affairs, together with the impulse given to the village of Saratoga, evinced by the erection of buildings for the farther accommodation of visitors, are of opinion that the gross income to be derived from passengers may be estimated, for the ensuing year, at \$50,000, and the freight at \$15,000; from which deduct, for ordinary expenses, \$6,000, and \$3,000 for repairs, together 49,000, will leave the net proceeds of \$46,000.

In making this calculation, it is confidently believed the resources of the Company are not exaggerated; and a general calamity only, by which all public incorporations of this nature must suffer, can curtail the receipts. It may be farther remarked, that the past season was unpropitious, on account of the coolness of the summer; and the great number of visitors to the Springs is to be attributed mainly to the safety, facility, and expedition, afforded by the railroads.

It appears that the number of passengers that have travelled over the Road, since the opening of the same to the 30th November, 1833, amount to 53,018; but the Committee have not been able to ascertain the proportion that have passed to and from the several points on the Road, nor have they been able to distinguish the number that have gone for the purpose of visiting the Springs from the business travel.

As the Committee have adopted a system of collection, with regular checks from one point to another, they will be able hereafter to satisfy stockholders in this particular. They are, however, fully convinced, that the receipts for the business travel, with the receipts from

freight, will secure to stockholders, without calculating on the summer travel to the Springs, a fair income for their investment. Although public notices of the permanent operations of the Road were only given in the North and West late in October last, the increase of business travel has been great. By the comparative view taken in the Appendix F, the business carried on in October and November last year and this present year, in which months there is no pleasure travelling, it will be seen by the returns of October, last year, that \$939 96 were received; in the month of November, \$483 44 were received; and that in October of the present year \$1,574 89 were received; and in November, \$1,704 25. The present month of December promises yet better results. The Committee, therefore, in advancing their opinions of the future prospects of the Company, have founded their calculations upon positive data. This improved state of things may be ascribed, in a great degree, to the recent arrangements, and the regular system introduced for conducting the operations of the road, and proper publicity having been given to such arrangements.

The Committee, after examining the several statements exhibited by agents, for construction of the Road, have found that, according thereto, it appears that \$297,237 have been expended; and that a farther expenditure is required of \$11,920, making a total of \$309,057; from which is to be deducted \$6,541 27, for property the Company have on hand, at present useless, and which has been already paid for; leaving the sum of \$17,515 73 more than the present capital.

No part of this amount, which, in the opinion of your Committee, is required to place the Company in the attitude of carrying the general operations of the Road on the most extensive scale, and in the most successful manner, will be wanted until the ensuing spring and summer. To provide for this sum, whenever it becomes necessary, the Committee suggest two modes: one, the increase of capital to the extent already authorized and provided for by the charter: in this case, the Committee recommend to distribute the same among the stockholders, in the ratio of the stock they represent. The other mode is, to resort to a temporary loan. The latter mode, with deference to the opinion of the Board, is recommended by your Committee; as a loan for this small sum could be easily obtained on the most favorable terms, payable by instalments out of the abundant means of the Company.

In conclusion, the Committee would briefly remark, that during the progress of their investigation, they have acted under a sense of the importance of the duties devolved upon them. If they have succeeded in placing the affairs of the Company in their true light, and contributed in any degree to secure the interests of stockholders, they will feel a rich and ample reward.

JOHN B. LASALA, } of New York.
HENRY H. LAWRENCE, }
JOHN TOWNSEND, of Albany.

New-York, December 4th, 1833.

Total amount of moneys expended in the construction of the road, purchase of lands, locomotive engine, cars, waggons, horses, and all the various items of property belonging to the Company, appears by the abstracts furnished to the Committee to be \$297,237 00

The amount of unsettled claims against the Company, (which are yet to be substantiated before they are paid,) is estimated not to exceed \$2,000 00

Cost of an additional locomotive engine, 5,500 00

Twelve additional waggons, to extend the transportation of merchandize, produce, &c. 3,000 00

Four turn-outs to be constructed on several points of the road, the materials being on hand, will not cost above \$80 each 320 00

Two shops for blacksmith's and carpenter's work 1,000 00

Capital 11,920 00
309,057 00
285,000 00
24,057 00

The Company have the following property to dispose of, which is now useless, viz. mansion house and lot at Ballston Spa, taken to avoid paying heavy damages, which cost the Company \$3400 2,700 00

5,000 stone blocks, and 1,000 cubic yards rubble stone; estimated 2,250 00

House and Furniture at the junction of Mohawk Railroad, which cost the Company \$1,250 750 00

Drawback to be received from U. States for Railroad iron 344 88

Due to the Company for iron plates and Railroad iron 246 39

A quantity of pine wood 250 00
6,541 27

Amount that will be required above the present capital of \$285,000 to place the establishment on the footing recommended by the Committee, \$17,515 73

ESTIMATE FOR KEEPING THE ROAD IN ORDER, PER ANNUM.

Six steady laborers, at \$25 per month, \$1,800 00

Barrows, spades, picks, &c. 50 00

Two horses, with rubble wagon to convey stone, slate, earth, &c. 200 00

One man to drive wagon, 300 00

Timber and iron to repair rails, 650 00
\$3,000 00

Saratoga Springs, Oct. 29, 1833.

The subscriber, at the request of the Committee of the Saratoga and Schenectady Railroad Company, has examined the mason work on the whole line of Road. The following is the result of his observations:

The walls at Schenectady are in good condition, and may stand for several years, with the exception of about thirty feet, between the second and third street bridges, from Railroad office, which stands in need of some repairs, the cost of which will not exceed the sum of twenty-five dollars.

The culvert at Saunders's Flats, now rebuilding, can be completed in two or three weeks; from the plan on which it is now constructing, it will be a permanent and substantial work. The temporary support of the Road at that place will answer the Company for the transportation of passengers and freight, during the construction of the culvert, and longer if it were necessary.

The mason work at the Kayaderoseras bridge is executed in a good and substantial manner, and the bridge itself is well braced, and abundantly strong for all the purposes of the road.

All the other culverts and drains on the line of Road appear to have been well built, and are now in good order and condition.

All which is respectfully submitted,
JAMES VANDENBURGH.

Exhibit of the Operations of the Saratoga and Schenectady Railroad, since its opening, 12th July, 1832, up to 30th November, 1833.										
1832.					1833.					
	Number of Passengers.	Amount of Expenditures.	Receipts for Passengers.		Number of Passengers.	Amount of Expenditures.	Receipts for Passengers.	Receipts for Freight.	Total.	Increase.
January,	457	\$486 "	\$345 82	\$205 30	\$551 12		
February,	208	713 21	161 06	49 07	210 13		
March,	376	838 46	301 38	42 47	343 85		
April,	1165	822 56	1007 33	165 39	1172 72		
May,	2285	915 64	1709 04	190 72	1899 76		
June,	4541	1113 50	3343 92	358 06	3701 98		
July,	11759	1667 59	8486 78	414 35	8901 13	\$8352 48	
August,	3219 64	2153 05	10192 96	396 97	10589 93	7370 29	
September,	10822	\$4989 58	1446 34	4137	1378 33	3226 80	375 49	3602 29	2155 95	
October,	859 96	1756	987 "	1357 04	217 85	1574 89	684 83	
November,	483 44	1453	976 "	1076 "	628 25	1704 25	1220 81	
December,	951 71	"	"	"	"	"	"	"
	10322	\$4989 58	\$7539 74	42696	\$12001 34	\$31208 13	\$2043 92	\$34252 05	\$19784 46	

Recapitulation.		
Number of Passengers that travelled on the Road from 12th July up to 31st December, 1832,	10822	
Do. do. from 1st January up to 30th November, 1833,	42696	
Total,	53918	

Amount received for passengers in 1832, from 12th July up to 31st December,	\$7539 74
Do. do. in 1833, from 1st January up to 30th December,	31208 13
Do. do. for freight,	3043 82
Amount due to the Company, for freight previous to the 1st November, to be collected,	350 00
Amount to be received from U. S., for carrying the mail in 1833, due 1st January next,	525 00
Gains on the sales of Stock in April, 1833,	811 50
Total expenditures for conducting the operations of the Road,	\$16990 02
Net profits,	26487 37
Paid to the Stockholders in September, 1833, the first regular dividend, 5 per cent. on the capital,	14250 00
Balance	12237 37
Estimate of net profits (chiefly from freight) in December and January,	2200 00

There will be on the 1st February,

Exhibit of the Operations of the Saratoga and Schenectady Railroad, since its opening, 12th July, 1832, up to 30th November, 1833.

towards the second regular semi-annual dividend, - - - - - \$14437 37

Note.—By looking at the above dates, it will be perceived that the receipts of the Company, for the months of July, August, September, October, November, and December, 1832, exceed the disbursements by \$2550 16, and that the receipts of the Road for the months of January, February, and March, of this present year, fell short of the disbursements for that period, by \$932 57, so that deducting this last amount from the profits on the 31st December, 1832, those profits are reduced at the end of March, 1833, to \$1617 59, or about half of one per cent. on the capital; so that all the profits of the Road, with the exception of this \$1617 59, have been made since 1st April, of the present year, 1833.

THE GENESEE AND ALLEGANY CANAL.

(Continued from page 53.)

To the Honorable Canal Commissioners of the State of New-York.

GENTLEMEN—

Agreeably to a request communicated to me by the Hon. William C. Bonck, I have examined three of the canal routes authorized to be surveyed by an act of the legislature of the winter of 1825, to wit: One from Portland, Chataque county, to the head of the Chataque lake; one from Lake Erie to Allegany river, through the valley of the Conawango; one from Scottsville, by the way of Lodi, to the upper falls of the Genesee river; and a part of the route from Rochester to Allegany at Olean, through the valley of Genesee river. These I shall take up in the order in which they are mentioned.

1. Route from Portland to the head of Chataque lake. I arrived at Portland on the 20th of September. The harbor here is of considerable importance, as it is becoming a principal landing place, not only for the goods which are consumed in its immediate neighborhood, but also for much of the merchandise that is designed to go down the Allegany river. It is situated on Lake Erie, in Chataque county, about sixty miles above Buffalo, and is formed on the west by a bar of sand and gravel, which extends into the lake about eighty rods, and upon which a pier and store house are already erected. From this point, the bar turns at an angle of about ninety degrees, and takes an easterly direction until it meets the shore, leaving a space or entrance of about one hundred feet in width, a short distance east of the angular point, as is represented in the subjoined map and plan.

A pier of proper height commenced at this opening and opposite the one on the west side and extending in an easterly direction along the bar seventy-two rods, thence turning at an angle of about eighty degrees and running to the shore, would make a very commodious and cheap harbor, giving an area of six hundred and sixty square rods of six and a half feet of water, and an area of two thousand seven hundred and seventy-two square rods of three and a half feet water. After a cursory examination of the country between Lake Erie and Chataque, I judged the route to be practicable, and commenced taking levels at the harbor, and proceeded to the last mentioned lake. The difference of elevation between the two is 723.9 feet, which is the amount of lockage on this route. The distance between the two points is about ten and a quarter miles, the first seven and a half of which are remarkably favorable; the surface of the ground is very smooth and regular, the soil an easy sandy loam, and the grubbing and clearing light. The remaining distance will be a deep and expensive cut through a ridge, rising in the distance of twenty-one chains to fifty-two feet above our level; thence gradually descending to the level again, in the distance of one hundred and ninety-nine chains, making an average cutting of twenty-six feet. The soil is a clayey loam, and there are no indications of rock even in the bottoms of deep wells; and as a further proof of this,

we found no rock in the ravine formed by the Little Chataque, which winds round the foot of this ridge, and which within two miles is at least two hundred feet below our level.

This route must be supplied with water from the Chataque lake, which I think will be adequate. I gauged its outlet on the 3d of October last, during a very severe drought, and it then furnished 2295 cubic feet of water in a minute.

Estimate of expenses.

7½ miles at \$4000, including contingencies,	\$30,000 00
24 miles deep cutting, at \$114.322,	314,355 00
724 feet lockage, (timber locks,) at \$75 per foot,	54,300 00
	\$398,655 00

Second Route from Lake Erie to Allegany, through the Valley of the Conawango.

I commenced taking levels at the head of the first rapid on the Chataque* outlet, near the village of Jamestown, and proceeded down its valley to Warren on the Allegany river. This outlet is remarkably serpentine, but as the flats are wide, the canal will not require to follow its windings, but may be carried across from bend to bend, as designated on the subjoined map.

The distance, as we collected it from maps of actual surveys, is about twenty-four miles, and the whole descent is one hundred and thirty-two feet. We found no obstructions in this route, with the exception of about three-fourths of a mile of steep banks; but as these are not high or rocky, and the soil an easy loam, we did not consider them formidable.

About four and a half miles of this distance, from the heads of the first rapids, where we commenced taking levels, must principally be fed by the waters of the outlet, taken directly from this point; below which the Cassadaga and several other streams come in sufficient for a supply.

By using wood for locks, the whole expense of constructing a canal down this valley, including these and every contingency, will not much exceed three thousand five hundred dollars per mile, as will be seen by the following estimate:

Grubbing and clearing 24 miles, at \$400 per mile,	\$9,600 00
Excavating 4 feet deep, \$2,121 per mile,	50,976 00
Lockage 132 feet, \$75 per foot, average cost per mile \$112.50,	9,900 00
Contingencies at \$564 per mile,	13,533 00
	\$84,012 00

On our return from these examinations, we commenced at the mouth of the Conawango, where it comes into the Chataque outlet, and ran a level up to its source, making the summit at this place only six feet higher than the Chataque lake. We had been led to believe that we should find a sufficiency of water here to supply this level and the locks, as far as Cattaraugus creek, and also down the Conawango as far as necessary: but in this we were disappointed.

The streams in this quarter, during the dry season of the year, furnish very little water, and cannot therefore be depended upon. We ran a level to the south branch of the Cattaraugus, with a view of ascertaining the practicability of bringing it in as a feeder; but it was too low, and there was no longer any hope of finding water on this summit, except by the way of Chataque outlet, which I was satisfied could be easily effected, by maintaining the level along the south side of the ridge between Lake Erie and the valley of the Conawango, in a westerly direction, until it terminated at the point proposed, as delineated on the map.

* Chataque lake, as I was informed by Mr. William Peacock, agent for the Holland land company, contains by actual survey 16,000 acres, and is 18 miles in length. The depth in its middle will not vary from 30 to 100 feet. I gauged its outlet on the 3d day of October last, during a severe drought, and it then furnished 2295 cubic feet of water in a minute.

Besides the water which would be here supplied for the use of this level and the lockage, from the summit at the head of the Conawango to Cattaraugus creek, (say 470 feet,) we shall be able to command several other considerable feeders, amongst which are Cherry and Clear creeks; the one furnishing about four hundred and the other about six hundred cubic feet of water per minute, even in the driest times.

The route, so far as I am able to judge from actual observation, and from the concurrent information of several intelligent persons, I have no hesitation in saying is practicable, and a considerable part of it favorable. The soil is easy, and unencumbered with rock: there will be no deep cutting, and but one considerable embankment, which will be at the Cassadaga outlet.

We did not run a level so as to ascertain where it would be necessary to cross the stream, and could not therefore determine as to the cost, but presume it would not vary much from \$15,000, including the culvert.

The other expenses may safely be put at \$4,500 per mile.

Distance 30 miles; amount of expense,	\$135,000
Embankment and culvert,	15,000

\$150,000

The face of the country from the summit at the head of the Conawango to Cattaraugus creek, is considerably cut up with ravines; but as they generally run parallel with the line which we wish to pursue, (especially if the southern summit be adopted, which we also examined, and which is probably the best of the two,) no very important inconvenience will be sustained on account of them, and we shall be enabled to choose our ground, in reference to the most direct and feasible route. The expense upon this part of the line, exclusive of lockage, may very properly be compared with that last above mentioned, except in relation to the culvert and embankment of Cassadaga creek.

Distance 5 miles, at \$4,500 per mile,	\$22,500
Lockage, 474 feet, at \$75 per foot,	35,550

\$58,050

I assume 474 feet of lockage at this place, knowing that the whole amount is 724 feet, and believing, from information, that the bed of the creek at Lodi is 250 feet above the surface of the lake. As the ground will be equally as favorable, or nearly so, and materials for the construction of locks as convenient, no great difference of expense will grow out of any error which may be committed in this calculation.

The point at which the Cattaraugus* can be most conveniently crossed, I think, is at Lodi: and this can best be effected by means of a dam. From this point we can easily wind out of its valley, and command its waters, which are amply sufficient to feed towards Buffalo.

Between the summit at the head of the Conawango and Buffalo, I did not deem it expedient to take any levels, as we had already ascertained the heights of the summits and the amount of lockage.

In proceeding from Lodi to Buffalo, we pass down upon the flats of Cattaraugus creek, which are often extensive, and always wide enough for the passage of the canal without any extra expense. In the distance of about six miles, we wind completely out of its valley on to the bank of the lake, which descends very gradually, and presents an even, regular surface. This continues all the way to Buffalo, with the exception of two ravines, one formed by the Eighteen-mile creek, the other by Clear creek, which must be passed by culverts and embankments with considerable expense. This, however, will not exceed, in my opinion, \$20,000 at each place. The excavation simply on this portion of the line will not cost above \$1900 per mile; but as there will be more culverts, bridges and embankments, here than on any preceding portion, I think the expense, exclusive of lockage and the two heavy embankments, may be estimated at \$5000 per mile.

Distance 30 miles, at \$5000 per mile,	\$150,000
Two culverts and embankments, at \$20,000 each,	40,000
Lockage 250 feet, at \$75 per foot,	18,750
Dam at Lodi,	2,500

\$211,250

* This is a large and durable stream, and at all seasons of the year will afford not less than 5000 cubic feet of water in a minute.

Third Route from Scottsville, by the way of Le Roy, to the Upper Falls of the Genesee River.

In regard to this route, it must be observed that it pursues the same course, passes the same summit, and depends upon the same streams that the Genesee river route does, until it unites with the river. And as this summit and these streams were examined by Mr. Geddes last summer, I did not extend my examinations further up than Raymond's mill dam, a little above the mouth of Black creek, in the township of Belfast, Allegany county.

From this point it was proposed by the advocates of the route to begin to wind out of the valley of the Genesee river, maintaining the same level along its banks; so as to use its waters for the canal, and finally to gain such an elevation as to cross over the summit at the head of Allen's creek, thence to run down the valley of this creek to the river again, and so to the Erie canal at Rochester.

I was induced to believe, from a bird's-eye view of the country, and also from some rough levels which had been taken by the inhabitants of Warsaw, that the summit was low, and that if the banks of the river were favorable, we should find no difficulty to contend with. We accordingly commenced our level, and run down about six miles, but in this distance we found many obstacles. The bank was extremely broken; steep, high points of ridges running quite to the river with wide flats between, receding far back, and so low as to require heavy embankments; and in the rear of these flats we often saw deep ravines, that appeared to have been worn out of the rock by violent floods, which indicated the necessity of large and expensive culverts.

After spending several days in this quarter, and finding that every step we advanced presented more and more difficulties, we resolved to abandon this project so far as related to this part of the route, and to go further down the river, hoping to find a place where the water could be taken out with less inconvenience.

The mouth of Cole creek appearing most favorable to this place, we commenced here and ran down as far as Wiscoy creek, near where it enters into the river, having descended about 30 feet. At this place we learned from the inhabitants that this stream had a perpendicular fall in it of fifty feet, within a mile of its mouth, and that it was very rapid all the way to its source.

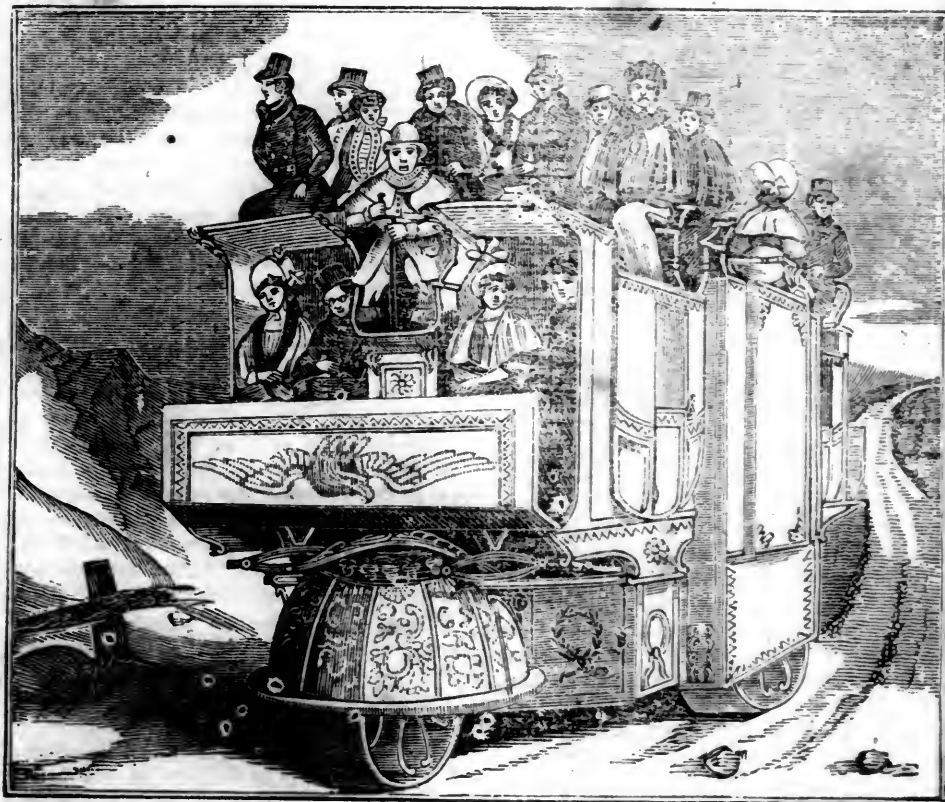
From these circumstances, and perceiving that it arose near the head of Allen's creek, I concluded that the summit must be much higher than we had at first supposed. I therefore went directly to it and ran a level to the river, which decided the question at once, by proving that it was too high even for our first level, and that to bring the river across it, it would be necessary to go as high at least as Angelica, which is seven miles above the mouth of Black creek. We came at this conclusion by knowing that the descent in the river did not vary much from eight feet in a mile. We therefore abandoned this route, and proceeded to the Canasaga and Cushequa.

(To be continued.)

STOCKS OF GREAT BRITAIN.—It is a subject of some interest to be acquainted with the different Canal, Railway, Water-Works, Bridges, Mining, and other Stocks in England, and the amount of Dividend paid. We have, therefore, collected the sum from the London Price Currents embracing, as we believe, the whole.—[Dai. Adv.]

	Number of Shares.	Price.	First.	Present.	Div'd p. ann.
CANALS.					
Ashton and Oldham	1,766½	97½	150	6	
Ashby-de-la-Zouch	1,482	113	74	4	
Barnsley	720	160	290	13	
Brecknock & Abergay	1,005	150	85	4	
Birmingham & share	4,000	17½		12½	
Birmingham & Liv. Junc.	4,000	100	36		
Bolton & Bury	472	250	105	6	
Bridgewater and Taunton	600	100	70		
Chester and Blackw.	400	100	102	5	
Coyventry	500	100	610	32	
Croydon	4,545	31½	1½		
Dudley	2,060½	100	60	2½	
Ellemere & Chester	3,575½	133	80	3½	
Forth and Clyde	1,297	400½	500	25	
Grand Junction	11,600	100	241	12	
Grand Union	2,849½	100	23	1	
Grand Surrey	1,540	100	25		
Grand Debentures	120,000	100		5 p.c.	
Grand Western	3,096	97	17½		
Glamorganshire	600	172½	290	13½	
Glantham	749	150	202	10	
Huddersfield	6,239	57½	32½	1	
Kennet and Avon	25,328	39½	28½	1½	
Lancaster	11,699½	47½	27	1	
Leeds & Liverpool	2,879½	100	452½	20	
Leicester	540	140	185	13	
Leicester & Northam.	1,997	83½	82	4	
Loughborough	70	142½	1820		
Macclesfield	3,000	100	49		

	Number Shares.	Price.	First.	Present.	Div'd		Number Shares.	Price.	First.	Present.	Div'd
Monmouthshire	2,409	100		10		Liverpool & Manchester	5,100	10½	210	\$74 p.c.	
Montgomeryshire	711	100	86	4		Ditto	5,100	25	51½		
Melton Mowbray	250	100	190	9		Ditto	6,375½	25	51		
Mersey and Irwell	500		720	40		London and Birmingham	25,000	5	154½	14	
Oxford	1,786	100	5	32		Severn and Wye	2,762	35	16½		
Peak Forest	2,400	78	71	3		Stockton and Darlington	1,000	106½	297½	0	
Portsmouth and Arundel	2,520	50				Warrington and Newton	545				
Ditto New	2,000	25				Wigan Branch	650				
Regent's	21,418	33½	17	13½	6d	WATER WORKS.					
Rochdale	5,669	85		4½		Birmingham	4,451	24	25½		
Shropshire	500	100	136	7½		East London	4,433	100	185	5	
Somers & Coal	800	150		10		Grand Junction	5,500	Av 42½	53½	2½	
Ditto Lock Fund	3,600	12½	13	6½		Manchester and Salford	4,456	30	44	1	
Staffords. and Worcesters.	700	140	603	34		BRIDGES AND DOCKS.					
Shrewsbury	500	125	255	11		Waterloo Bridge	5,000	100	3		
Stourbridge	300	145	200	8		Do. Old Ann. S.E. span	5,000	60	22½	13½	2d
Stratford on Avon	3,647	79½	34	1½		Do. New do. 7½ do.	5,000	40	50½	15½	2d
Stroudwater	200	150	525	24		Do. (Bridg.) var. ann.	5,000	vc. am.		51 p.c.	
Swans-a	533	100	220	11		Commercial Docks	{ 2,000 and }	100	67	4 p.c.	
Thames and Severn, blk.	1,300	100	27½	1½		{ 1,065 & sh }					
Do. do. red	1,150	100	33	1½		East India	433,750	stock	43	4 p.c.	
Front and Mersey, & sh.	2,600	50	660	37½		London	2,114,000	do.	55½	3 do.	
Charns and Midway	8,149	19½				St. Katherine	1,252,751	do.		3 do.	
Warwick and Birming.	1,000½	100	290	16		MINES.					
Warwick and Napton	980	100	210	12		West India	1,330,000	do.	94	5 do.	
Worcester and Birming.	6,000	73½	87½	4		Real del Monte	1,000	65	512½	4½	
Wilts and Berks.	20,000	16½	5½	5s		Bolton	2,000	15½	12½	2½	
Wyrley & Essington	800	125	115	6½		Anglo Mexican	10,000	100	19½	2	
Wey and Arun.	905	110	22½	1		United Mexican	30,000	40	11½	12½	
RAILWAYS.						Mexican	5,723	4½	10		
Clarence (Durham)	2,000	100	100			Brazilian	10,000	5	61½	2½	5
Forest of Dean	2,500	50	25	11½		Colombian	8,500	5	62½		
London and Greenwich	20,000	4	4			Mining Co., Ireland	20,000	5			
Leicester & Swannington	1,500	50	57½			Petrole (old) 12sh	1,020	12			



[From the Mechanics' Magazine.]

DR. CHURCH'S STEAM CARRIAGE.—We introduce to the notice of our readers a view of a carriage in actual operation in England, with the following remarks from the London Mechanics' Magazine:

In the able article on "Inland Transport," in the Edinburgh Review, said to have been written by Dr. Lardner, Dr. Church's carriage is spoken of as one of the likeliest to be attended with success.

In the cases of Gurney, Heaton Brothers, and also, I believe, Sir Charles Duncie, there is one carriage to carry the engine, and another the passengers. These locomotive machines, in short, are *drags*, merely meant to be used in the same way as Jonathan Hall in the infancy of steam navigation proposed to use steam tugs. Dr. Church, on the contrary, has but one carriage for both machinery and passengers. The one represented

in the drawing is built to carry fifty passengers. The wheels are about six inches broad in the tire and eight feet in diameter.

The crank shaft, worked by the cylinders, is connected by endless chains with the axles of the hind wheels of the carriage, and each wheel has a separate axle. The spokes of the wheels are so constructed as to operate like springs to the whole machine—that is, to give and take according to the inequalities of the road. The boiler consists of a series of double tubes, one within the other, placed in a vertical position around a circular fire-place, and communicating with it; the heated air passes through these tubes, which are every where surrounded with water. The tubes are in the form of syphons, to counteract the injurious effects of unequal expansion. The draught is produced by a fan, worked by the engine, and the furnace is made to consume its own smoke.

In conclusion, I have only to add, that, if there be any thing to boast of in the patronage and support of a public company, Dr. Church has more to say for himself in this respect than the Messrs. Heaton; for whereas they have but very late issued proposals for such a company, while it is a considerable time since a company was actually formed for the purpose of working Dr. Church's carriages, not only on the road between London and Birmingham, but between Birmingham, Manchester, and Liverpool.

I remain, sir, your obedient servant,
IMPARTIAL.

Birmingham, Oct. 3, 1833.

On the Microscope—Method of Constructing, &c. [From Partington's British Cyclopaedia.]

The history of this instrument is veiled in considerable obscurity, and among the moderns the discovery of the microscope has been claimed by several individuals. The ancients appear to have been acquainted with it in one of its forms; for Seneca says, "Letters, though minute and obscure, appear larger and clearer through a glass bubble filled with water." In the middle ages this knowledge was lost. The invention of the modern instrument is attributed by the celebrated Dutch mathematician, Huygens, to a countryman of his, named Drebbel, who constructed them about 1621, or 31 years after the invention of the telescope. Borelli attributes it to Jansen, the reputed contriver of the telescope; Viviani to Galileo. The first compound microscope, consisting of two double convex lenses, seems to have been made by F. Fontana, a Neapolitan, who dates his invention from the year 1618.

The numerous forms of microscopes may be included under the heads of single, compound refracting, and compound reflecting microscopes. The theory of the *single microscope* may be thus explained: We all know that at a small distance we see more distinctly than at a large. If we look at two men, one 200 feet distant, the other 100 feet, the former will appear only one half the height of the latter, or the angle which the latter subtends to the eye of the observer will be twice that subtended by the former. Hence we must conclude that the nearer we can bring an object to the eye the larger it will appear. Now if, to render the parts of a minute object distinguishable, we bring it very near the eye, (suppose within one or two inches,) it will become very indistinct and confused, in consequence of the great divergence of the rays of light from the object, and the power of the crystalline lens of the eye not being sufficient to collect the rays whereby an image of the object may be formed on the retina at the proper distance on the back of the eye. Now, if we employ a single microscope, which consists of a convex lens, usually made of glass, (though any other transparent substance would have the same power in a greater or less degree,) and mounted in a brass setting, and place it between the object and the eye, the former being in the focus of the glass, the diverging rays from the object will be refracted and rendered parallel by the lens, and thus we shall obtain a distinct and near view of the object. The increase of apparent magnitude obtained by the employment of lenses is proportioned to the difference of the distance of an object from the lens and the dis-

tance when seen without its assistance. This latter distance, (the distance of distinct vision of minute objects with the naked eye,) varies in different persons, and at different periods of life. Some measure, therefore, must be assumed as a standard, before we can express the amplifying power of a lens, so as mutually to have the same idea of the magnitude of an object. Some authors adopt ten inches as the standard of the focus of the eye, under ordinary circumstances, and its decimal character makes it a convenient multiplier or divisor. With this decimal standard we can determine the magnifying power of lenses of any focal length, or formed of any substance (media). Thus, if we have a lens which requires for distinct vision the object to be one inch from its centre, (in a double convex,) we must divide the standard ten by one, which will give ten as the magnifying power. If the lens require the object to be $\frac{1}{2}$ of an inch distant, its magnifying power will be 250. We have called the magnifying power in the first instance ten, because the length of the object is increased ten times; but, as its breadth is also increased ten times, the real magnifying power of the lens is ten times ten, or 100. The common form of the magnifiers employed for microscopes is double convex, and they should be made as thin as possible; for the wandering or spreading out of the rays proceeding from an object when refracted by a lens with spherical surfaces, whereby an indistinctness is produced in its image, will be decreased as the square of the thickness of the lens employed, and the loss of light in passing through the lens is less in proportion as it is thin.

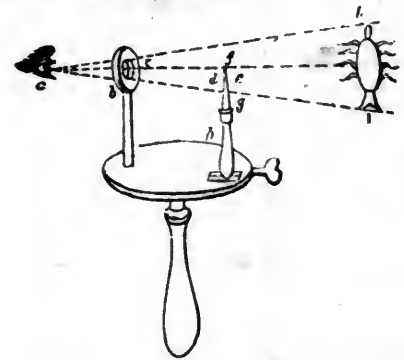
Within a few years diamonds have been formed into lenses in consequence of their high refractive power, whereby we can obtain lenses of any degree of magnifying power with comparatively shallow curves; and, as the dispersion of color in this substance is very low, the lens is nearly achromatic. Next to the diamond the sapphire possesses all the powers requisite for the formation of perfect magnifiers, and presents less difficulty in their construction; hence the expense of employing it is considerably less.

A *compound refracting microscope* is an instrument consisting of two or more convex lenses, by one of which an enlarged image of the object is formed, and then by means of the other, employed as an eye-glass, a magnified representation of the enlarged image is obtained. The distance at which the two lenses of a compound microscope are placed from each other must always exceed the sum of their focal lengths, in order that the image may be formed by the object-glass in the anterior focus of the eye-glass. Compound microscopes have been constructed of almost all possible dimensions, from a few inches in length to twenty feet; but from experience it appears that whenever their magnitude is augmented beyond a certain point the effect is diminished, though we suppose the amplifying power of both microscopes the same.

The *solar microscope* consists of a common microscope connected with a reflector and condenser, the former being used to throw the sun's light on the latter, by which it is condensed to illuminate the object placed in its focus. This object is also in the focus of the microscopic lens on the other side of it, which transmits a magnified image of it to

a wall or screen, (sometimes a combination of two magnifying lenses is used.) The magnifying power will be greater in proportion as the focal distance of the object-glass compared with the distance of the wall or screen from the object-glass is less. The principle of the *lucernal microscope* is the same, except that a lamp is used instead of the sun to illuminate the objects; this lamp is enclosed in a lantern, to screen the light from the observers.

Having thus given a general outline of the arrangement of the microscope in its various forms it will now be advisable to furnish our readers with such graphic and descriptive particulars as will enable any ingenious workman, reading this article, in conjunction with our treatise on OPTICS, (which will be inserted hereafter,) to construct the instrument. To render this systematic and intelligible, it may be advisable to commence with the most simple form.



A very convenient form of microscope is shown in the preceding engraving, where *b* is a circular piece of brass or ivory, in the middle of which is a small hole, one-twentieth of an inch diameter: in this hole is fixed, with a wire, a small lens, whose focal distance is *c d*. At that point is placed a pair of pliers, *g h*, which may be adjusted by means of the sliding screw, as in the figure, and opened by means of two little studs. The object may be viewed with the eye placed in the other focus of the lens at *a*; and, according to the focal length of the lens, the object, *f*, will appear more or less magnified, as represented at *i l*. If the focal length be half or one-fourth of an inch, the length, surface, and bulk, of the object will be magnified in a similar proportion. This small instrument may be put into a case for the pocket. Those lenses whose focal lengths are three-tenths, four-tenths, and five-tenths of an inch, are the best for common use.

Since the nearer the eye can approach to an object the larger it appears, it is plain, a double and equally convex lens magnifies more than a plano-convex lens; because, if the sphere or convexity be the same, the focal length of the former is but half that of the latter; and, since the double convex consists of two segments of a sphere, the more an object is to be magnified, the greater must the convexity be, and therefore the smaller the sphere; till at last the utmost degree of magnifying power will require that these segments become hemispheres, and, consequently, the lens will be reduced to a perfect spherule, or very small sphere.

If the radius of the spherule be one-tenth of an inch, the eye will have distinct vision of an object by means thereof, at the distance of $1\frac{1}{2}$ radius, (that is, three-twentieths

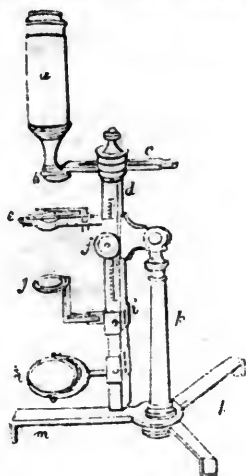
of an inch,) and, as this is but the fortieth part of six inches, the length of an object will be magnified forty times, the surface 1600 times, and the solidity 64,000 times, by such a small sphere.

If the radius of a spherule be but one-twentieth of an inch, then will the eye have distinct vision of an object at the distance of three-fortieths of an inch, and as this is but the eightieth part of six inches, the length of objects will appear eighty times greater, the surface 6400 times, and the bulk 512,000 times greater, to the naked eye at six inches distance.

In using these spherule microscopes, the objects are to be placed in one focus and the eye in the other; and since the focus is so exceedingly near the glass, it is impossible to view any but pellucid bodies; for, if any opaque object were to be applied, the eye being, as it were, just on the spherule, would entirely prevent any light falling on it, and it would be too obscure to be viewed.

To remedy this inconvenience, the focal length should be increased and a concave mirror substituted for the plate *b*. The object, *f*, being placed in the focus of the mirror, is illuminated by reflected light, and the most opaque insect may thus be seen with advantage to the naturalist. If the instrument thus arranged be directed towards the sun, the effect will be very materially improved; and when this cannot be accomplished, a sheet of white paper should be placed beneath the instrument.

The compound microscope, as made by Messrs. Jones, of Holborn, is shown in the engraving beneath. The body of the in-



strument, *a*, is screwed to the horizontal sliding arm, *c*. At *b* is a circular plate, containing a series of glasses, varying in their magnifying power. The objects to be magnified are placed in the stage, *e*, and the proper focus obtained by moving the rack at *f*. The lens *g* is employed to concentrate the light of a lamp, or that of the sun, on the object to be examined. The reflector at *h* has two mirrors, the one concave, the other flat. The whole instrument is supported by the pillar, *k*, and the triangular stand, *l*.

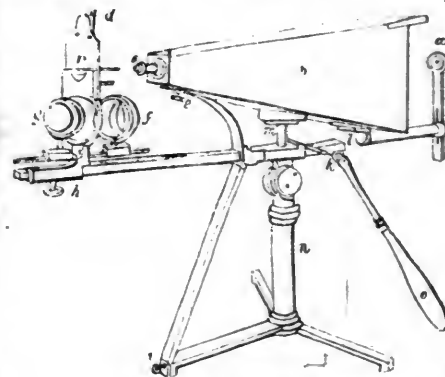
The great facility with which objects can be represented on paper, or a rough glass, in the camera obscura, and copies drawn from them by any person, though unskilled in drawing, evidently suggested the application of the microscope to this instrument. The greatest number of experiments that appear to have been made with this view, were by Mr. Martin and Mr. Adams, the former of whom frequently applied the micros-

cope to the portable camera, and with much effect. But these instruments being found to answer only with the assistance of the sun, Mr. Adams directed his experiments to the construction of an instrument of more extended utility, which could be equally employed in the day and by night. He accordingly succeeded so far as to produce, by candle-light, the images of objects refracted from a single magnifier, upon one or two large convex lenses (of about five inches, or upwards, in diameter,) at the end of a pyramidal-shaped box, in a very pleasing manner, so as to give opaque objects, as well as transparent ones, the utmost distinctness of representation; but still the light of a candle, or lamp, was found generally insufficient to throw the requisite degree of illumination on the objects. The invention of the Argand lamp offered a complete remedy for this defect, by the intensity and steadiness of its light.

The advantages of this excellently-conceived instrument are numerous and important. "As the far greater part of the objects which surround us are opaque," says Mr. Adams, "and very few are sufficiently transparent to be examined by the common microscopes, an instrument that could be readily applied to the examination of opaque objects has always been a desideratum. Even in the examination of transparent objects, many of the fine and more curious portions are lost, and drowned, as it were, in the light which must be transmitted through them; while different parts of the same object appear only as dark lines or spots, because they are so opaque as not to permit any light to pass through them. These difficulties, as well as many more, are obviated in the lucernal microscopes, by which opaque objects of various sizes may be seen with ease and distinctness, the beautiful colors with which most of them are adorned are rendered more brilliant, without changing in the least the real tint of the color, and the concave and convex parts retain also their proper form. The facility with which all opaque objects are applied to this instrument is another considerable advantage, and almost peculiar to itself: as the texture and configuration of the more tender parts are often hurt by previous preparation, every object may be examined by this instrument first as opaque, and afterwards (if the texture will admit of it) as transparent. The lucernal microscope does not in the least fatigue the eye; the object appears like nature itself, giving ease to the sight and pleasure to the mind: there is also, in the use of this instrument, no occasion to shut the eye which is not directed to the object. A further advantage peculiar to this microscope is that by it the outlines of every object may be taken, even by those who are not accustomed to draw; while those who can draw well will receive great assistance, and execute their work with more accuracy, and in less time, than they would otherwise have been able to have performed it. Transparent objects as well as opaque may be copied in the same manner. The instrument may be used at any time of the day, but the best effect is by night; in which respect it has a superiority over the solar microscope, as that instrument can be used only when the sun shines.

"Transparent objects may be examined with the lucernal microscope in three or

four different modes, from a blaze of light almost too great for the eye to bear to that which is perfectly easy to it; and, by the addition of a tin lantern to the apparatus, may be thrown on a screen, and exhibited at one view to a large company, as by the solar microscope."



In the above engraving we give a view of this instrument, mounted to examine opaque objects. *b* is a large mahogany pyramidal box, which forms the body of the microscope; it is supported firmly on the brass pillar, *n*, by means of the socket, *m*, and the curved piece, *c*. *a* is a guide for the eye, in order to direct it in the axis of the lenses; it consists of two brass tubes, *l*, one sliding within the other, and a vertical flat piece, at the top of which is the hole for the eye. The inner tube may be pulled out, or pushed in, to adjust it to the focus of the glasses. The vertical piece may be raised or depressed, that the hole through which the object is to be viewed may coincide with the centre of the field of view; it is moved by a milled screw, which could not be shown in this figure. At *l* is a dove-tailed piece of brass, made to receive the dove-tail at the end of the tubes, by which it is attached to the wooden box. The tubes may be removed from this box occasionally, for the convenience of packing it up in a less compass. At the small end of the cone is placed a tube, which carries the magnifiers, one of which is represented at *e*; the tube may be unscrewed occasionally from the wooden body. Beneath the cone is placed a long square bar, which passes through and carries the stage or frame that holds the objects; this bar may be moved backward or forward, in order to adjust it to the focus, by means of the pinion, *k*. A handle furnished with a universal joint, for more conveniently turning the pinion, is shown at *o*. When the handle is removed a nut may be used in its stead. The stage, *h*, for opaque objects, fits upon the bar by means of a socket, and is brought nearer to or removed further from the magnifying lens by turning the pinion, *k*; the objects are placed in the front side of the stage. The two upper pieces of brass, *r*, are moveable; they are fixed to a plate, which is acted on by a spiral spring, that presses them down, and confines the slider with the objects: this plate, and the two upper pieces of brass, are lifted up by the small nut, *d*.

At the lower part of the stage there is a semi-circular lump of glass, *g*, which is designed to receive the light from the lamp, and to collect and throw it on the concave mirror, *f*, whence it is reflected on the object. The upper part of the opaque stage takes out, that the stage for transparent objects may be inserted in its place.

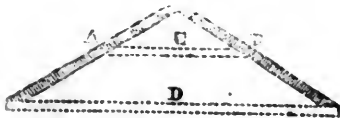
Animal Mechanics, or Proofs of Design in the Animal Frame. [From the Library of Useful Knowledge.]

(Continued from page 57.)

Did the reader ever notice how the walls of a house are assisted when thin and overburdened with a roof?

The *wall plate* is a portion of timber built into the wall, to which a transverse or tie-beam is attached by carpentry. This *cogging*, as it is termed, keeps the wall in the perpendicular, and prevents any lateral pressure of the roof.† We sometimes see a more clumsy contrivance, a clasp, or a round plate of iron, upon the side of a wall; this has a screw going into the ends of a cross-beam, and by embracing a large portion of the brick-work, it holds the wall from shifting at this point. Or take the instance of a roof supported on inclined rafters, A B:

Fig. 2.

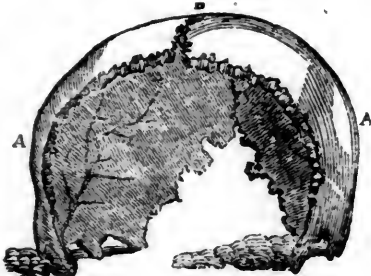


Were they thus, without further security, placed upon the walls, the weight would tend to spur or press out the walls, which must be strong and heavy, to support the roof; therefore the skeleton of the roof is made into a *truss*, (for so the whole joined carpentry is called.) The upper cross-beam, marked by the dotted lines C, is a collar-beam, connecting the rafters of the roof, and stiffening them, and making the weight bear perpendicularly upon the walls. When the transverse beam joins the extremities of the rafters, as indicated by the lower outline, D, it is called a *tie-beam*, and is more powerful still in preventing the rafters from pushing out the walls.

Now, when a man bears a burden upon his head, the pressure, or horizontal push, comes upon the lower part of the *parietal bones*, and if they had not a tie-beam, they would in fact be spurred out, and the bones of the head be crushed down. But the temporal bone, D, and still more, the sphenoid bone, E, by running across the base of the skull, and having their edges lapping over the lower part of the great walls, or the parietal bones, lock in the walls as if they had iron plates, and answer the purpose of the tie-beam in the roof, or the iron plate in the walls. But the connection is at the same time so secure, that these bones act equally as a *straining piece*, that is, as a piece of timber, preventing the tendency of the sides of the skull to each other.

It may be said, that the skull is not so much like the wall of a house as like the arch of a bridge: let us then consider it in this light.

Fig. 3.



We have here the two parietal bones, separated and resting against each other, so

as to form an arch. In the centering, which is the wooden frame for supporting a stone arch while building, there are some principles that are applicable to the head.

We see that the arch formed by the two parietal bones is not a perfect semi-circle; there is a projection at the centre of each bone: the bone is more convex, and thicker at this part.

The cause assigned for this is, that it is the point from which ossification begins, and where it is, therefore, most perfect. But this is to admit a dangerous principle, that the forms of the bones are matter of chance; and thence we are left without a motive for study, and make no endeavor to comprehend the uses of parts. We find that all the parts which are most exposed to injury are thus strengthened: the centre of the forehead, and the projecting point of the skull behind, and the lateral centres of the parietal and frontal bones. The parts of the head which would strike upon the ground when a man falls are the strongest, and the projecting arch of the parietal bone is a protection to the weaker temporal bone.

If we compare the skull to the centering, where a bridge is to be built over a navigable river, and consequently where the space must be free in the middle, we find that the scientific workmen are careful, by a transverse beam, to protect the points where the principal thrust will be made in carrying up the masonry. This beam does not act as a tie-beam, but as a straining-piece, preventing the arch from being crushed in at this point.

The necessity of strengthening certain points is well exhibited in the carpentry of

Fig. 4.



roofs. In this figure it is clear that the points A A will receive the pressure of the roof, and if the joining of the puncheons* and rafters be not secure, it will sink down in the form of the dotted line. The workmen would apply braces at these angles to strengthen them.

In the arch, and at the corresponding points of the parietal bones, the object is attained by strengthening these points by increase of their convexity and thickness; and where the workman would support the angles by braces, there are ridges of bone in the calvaria,* or roof of the skull.

If a stone arch fall it must give way in two places at the same time; the centre cannot sink unless that part of the arch which springs from the pier yields; and in all arches, from the imperfect Roman arch to that built upon modern principles, the aim of the architect is to give security to this point.

In the Roman bridges still entire, the arch rises high, with little inclination at the lower part; and in bridges of a more modern date, we see a mass of masonry erected on the pier, sometimes assuming the form of ornament, sometimes of a tower or gateway, but obviously intended at the same time, by the perpendicular load, to resist the horizontal

* The puncheons are the upright lateral pieces; the rafters are the timbers which lie oblique, and join the puncheons at A A.

pressure of the arch. If this be omitted in more modern buildings, it is supplied by a finer art, which gives security to the masonry of the pier, (to borrow the terms of anatomy,) by its internal structure.

In what is termed Gothic architecture, we see a flying buttress springing from the outer wall, carried over the roof of the aisle, and abutting against the wall of the upper part, or *clerc-story*. From the upright part of this masonry, a pinnacle is raised, which at first appears to be a mere ornament, but which is necessary, by its perpendicular weight, to counteract the horizontal thrust of the arch.

AGRICULTURE, &c.

DRILL MACHINE—IMPORTANT IMPROVEMENT.—Last year Mr. John Geddes, farmer and joiner, Cargen bridge, who some time ago received, from the Highland Society of Scotland, a handsome premium for the best turnip drill-machine now in use, invented an apparatus for sowing and harrowing, which weighs 50 lbs., may be purchased for the same number of shillings, and is so exceedingly handy that it can be attached in five minutes to a common plough, and set in motion to the astonishment of the sheeted seedsman, and his friend the harrower, who foresee in this invention their occupation gone, with the exception of oats, and that too in the course of a few years. In the first instance, our friend drilled a field of barley, at the rate, not of 5, but 1½ bushels of seed per acre, and reared, notwithstanding, a full and fair average crop, and the calculation is that 12 shillings per acre for wheat and 10 shillings for barley may be saved on all the arable land in the country, placed under these descriptions of crop. Something, too, is gained in appearance: a succession of rows beautifully straight has a pleasing effect, and the opinion gains ground, that wheat thus raised will be easier reaped, and less liable to be lodged during wet weather. It is difficult to describe machinery in the absence of cuts; and all we say is, that the weight of the plough, by pressing on a wheel connected with the seed chest, causes it to revolve, and opens the valves with the greatest regularity. A small coulter cuts the soil to the proper width and depth, and no more; and two iron teeth, like the teeth of harrows, cover up the tiny drill, and complete the operation. From the position of the seed-box, nothing is trodden under foot: by reason of the wheel below the plough, the task of the horses is not harder than in ordinary cases, and a man, or even a lad, can plough, sow, and harrow, at the rate of one acre per day, or more. From the great breadth of oats planted, and the necessity which exists of breaking the stubborn glebe during winter, broadcasting this description of crop must still remain the favorite mode of husbandry; while, on the other hand, wheat and barley, from the success of the experiments already made, must, ere long, be drilled almost universally. By modifying the seed-chest and substituting one for another, according to the nature of the operation, potatoes may be planted, and beans and peas sown on the same principle. By means of an index, the quantity of seed required to be sown is regulated with mathematical accuracy, and can be increased or diminished according to circumstances.—[Dumfries Courier.]

[From the New-York Farmer.]
Suggestions relative to Farmers' Work for February. By the EDITOR.

Those of our subscribers who have the volume for 1833, will find an article on this subject at page 40. Its perusal may produce some good effect on the mind.

TAKING AN ACCOUNT OF STOCK.—During the last month a great number of the merchants in this city have been busy taking an account of their goods, debts and credits. By this practice they are enabled to ascertain whether they have made a profit or a loss. Let the result be as it may, the information is of much service in regulating their future course. Those farmers who have neglected to follow the example of the merchants should immediately set about it. The effect of taking an account of stock, and of keeping regular books, is very beneficial, causing the farmer to be more economical, more discriminating, more industrious, and more rational in his enjoyments.

MANURE.—Those who are in favor of fermented manure, and those who have greater facilities for carting into the fields in winter, should embrace favorable opportunities to cart it out from the yard, and deposit it in regularly formed heaps, where its juices will not wash away. In this state it will gradually ferment, and by the time it is wanted for use will be in a good condition. Manure should be collected into large heaps in the yard, and every kind of litter, ashes, pomice, &c. should be collected and deposited in alternate layers with the manure. If it is stirred once or twice and more litter added, it will be in a fine condition for use in the spring. Those who adopt this practice will find themselves paid in various ways. [See N. Y. Farmer, vol. 6, pages 327, 360.]

CUT HAY AND STRAW.—The advantages in using cut hay for horses, as well as cows and oxen, are the saving of one-third of the expense, and improving the condition of the stock, particularly those in years. [See N. Y. Farmer, vol. 7, pages 6, 11.]

SHEEP AND LAMBS.—But comparatively few farmers may be said to be very successful in sheep husbandry. There must be a cause for this, and every farmer, from public and private considerations, should make both observation and experiment. The inquiry should be made, are they less liable to diseases in summer than in winter and spring? At which season do they obtain food most adapted to their natures? In the season of vegetation they are fond of short, sweet pasture. In winter they generally get long dry hay, and often nothing else. This is sufficient to derange the system—to make the demands on the salivary and digestive powers too great. It would seem, therefore, that cut hay, mixed with a little bran, and occasionally salted a little, would be a more natural food. This, together with a few turnips, or other succulent food, would undoubtedly tend to invigorate them, and enable them to bring forth and sustain a more healthy progeny. Good covering, dry, warm, and spacious yards, are important. Some kind of condiment, too, is probably serviceable. [See present number, page 56.]

Cows.—Exposed to cold storms, when we have not an opportunity to stir sufficient to keep up animal heat, the human frame suffers much, and undergoes so great a derangement that death follows, if not soon relieved.

When cows are confined in a yard where they do not stir about as they would in a state of nature, they must certainly become greatly chilled, and consequently their appetites and digestive functions must suffer more or less. It seems unnatural that cows thus treated would bring forth healthy, vigorous calves. We are too apt to think that warm houses, thick clothing, and downy beds, were made for man, but the bleak heavens and the pelting storms for our domestic animals.

FREQUENT PLOUGHINGS.—When green crops or manure are turned under, it is evident that they should remain to ferment. If, however, the manure is fermented, it cannot be commingled too much. In an address before the South Carolina Agricultural Society, by Daniel K. Whitaker, we find reference to Mr. Tull's system.

A farmer, in that State, planted a field of Rye of seven acres, which he worked in the following manner. He ploughed one acre of the land; this he re-ploughed and ploughed another acre. He then ploughed the two acres already ploughed and ploughed a third acre, and proceeded in this manner, ploughing continually the land already ploughed, and adding an acre at each successive ploughing, till the whole field was completely ploughed. When this was done, the first acre had received seven ploughings, the second six, the third five, the fourth four, the fifth three, the sixth two, and the seventh one ploughing. He then cast in the grain, and harrowed it in, in the manner usually practised in the Eastern States. The result, as communicated to the Agricultural Society, was, that the product of grain harvested from each respective acre, was in exact proportion to the number of ploughings each acre had received; that which had received seven ploughings producing the most abundant crop, that which had received six ploughings, the next most abundant crop, and so on to that which had received only one ploughing, which produced the least of all. There is no doubt that by minutely pulverizing and frequently stirring the earth, and stirring it deeply, the product of a field may be greatly increased. But something more than this is necessary for him who would reap a succession of crops, in perpetuity, from the same land. He must give the plant food. He must supply it with a due portion of decayed animal or vegetable manure. It is a mistake to suppose that there is any principle of fertility in the primitive soils whatever, and this was the fatal error that lay at the foundation of Mr. Tull's system. Not all the pulverization which could be effected in the soil by a nine month's constant ploughing, would enable the planter to gather a crop of Cotton from a tract of barren sand.

FERMENTED AND UNFERMENTED MANURES.—Practical Agriculturists, (says Mr. Whitaker,) who have tried both the new and the old, prefer the old method. They find that the unfermented application creates too powerful a stimulus for healthy action in the plant, induces disease, and frequently kills, where it was only intended to nourish.

FOREIGN INTELLIGENCE.

FROM HAVANA, by the ship Moro Castle, we have papers of the 21st ult. They furnish no news. Our boatman, however, reports, upon the authority of a passenger, Capt. Trenor, of the United States Army that two days before sailing, he was informed by a merchant of Havana, that the intelligence had been received there from Spain, via Lisbon, that Mexico had called upon Spain to acknowledge her independence, threatening in case of refusal, a declaration of war against Spain. The inhabitants of Havana,

it is added, were in great dread lest the Queen should refuse, and war be the consequence. We see nothing of this in the *Diario*.

Barbadoes papers to Jan. 9th, received by the Savannah Georgian, contain the annexed intelligence, which possesses considerable interest:

Insurrection at Martinique.

BRIDGETOWN, Jan. 6.—By an arrival from Martinique, private letters have come to hand, which state that an insurrection had taken place amongst the slaves in that colony, and that in a skirmish between them and the military on the 24th ult., between 50 and 60 were killed, and 180 taken prisoners, with arms in their hands.

[The French brig *Adele*, Capt. Barron, at this port, left Martinique on the 29th Dec. Capt. B. informs us that the above account is much exaggerated. The slaves had no agency in the affair. Some free persons of color opposed themselves to the military; but before Capt. B. left, news was received that they had surrendered.—Eds. J. C.]

Yesterday morning the *Rosa*, a Spanish schooner of 75 tons burden, came into this port, a prize to H. M. brig *Despatch*, having on board 292 African negroes, consisting of 116 males and 176 females, between the ages of 10 and 18 years. The *Despatch* fell in with her on Christmas day, in lat 4, 30, N., lon. 39, 16, W., bound, as she stated, to Havana.—On their arrival here, the captives were in excellent health, and seemed quite cheerful and contented.—The *Rosa* sailed last evening for Havana, under charge of an officer of the *Despatch*, to abide the decision of the mixed commission, when they will probably be declared free, and apprenticed out to whomsoever proposes for them, and the fortunate captors will be allowed £10 sterling per head for each—that is, provided they ever arrive there, which, from the leaky condition of the *Rosa*, on leaving this, is very questionable.

Latest from Africa, and Landers' Expedition.

BRIDGETOWN, JAN. 9.—By Captain Ellis, of the barque *Boddingtons*, which arrived here in distress on Sunday last, 70 days from Fernando Po, we have been politely favored with intelligence from the Coast of Africa, and with a corroboration of some facts which we had previously been made acquainted with. This vessel left Fernando Po on the 28th of October; her cargo consisted principally of palm oil, which, being put up in casks, some of which have proved to be unserviceable, leaked to such an extent as to create alarm for the safety of the vessel, a considerable quantity being pumped out every day. Capt. Ellis, accordingly, about three weeks since, found it necessary to steer for this island, as the nearest port he could fetch. The cargo, we understand, is being landed, for the purpose of the packages being repaired. We are happy to learn by this gentleman, that the health of Mr. Richard Lander, since he joined the steamer up the Niger, has greatly recovered. The *Columbine* sailed for Liverpool, with a cargo of palm oil, on the same day that the *Boddingtons* left, having on board as passenger Mr. Laird, one of the proprietors concerned in Landers' expedition. Mr. Laird has proceeded home for the express purpose of taking out another cargo to the interior, as the former goods were not adapted to the trade of the country. The mate of the *Columbine*, who succeeded to the command on the death of Captain Mitchell, had met with the like fate, had fallen a victim to the pestilence of the climate.—While Capt. Ellis was lying in the Cameroons river, six of the piratical crew belonging to the late schooner *Panda*, which was blown up, applied to King Agua, saying that they had been wrecked in a vessel bound to his river, and claimed his protection. The Chief believing their tale to be true, received them with kindness.

On the second day, four of them applied to Capt. tain Ellis and expressed their wish to get a passage to Bonny, Calabar, or New Calabar, and asked, if he could devise any means of getting there. Capt. Ellis having no suspicion of them, wrote a note to the sub-superintendent of Fernando Po, then at Bimbia, stating circumstances as they had related them; but the superintendent having been apprised by the Captain of His Majesty's ship *Curlaw*, of the circumstances connected with the capture and the destruction of the *Panda*, and the escape of the pirates, and a liberty sailor recognizing one of them as a notorious freebooter, they were immediately put in irons; upon which one of them offered to turn King's evidence against the others. A reward had been offered for the apprehension of the Captain of the *Panda*, in consequence of which he was taken, and with the other men sent to Sierra Leone for trial.

See Summary, page 76.

NEW-YORK AMERICAN.

FEBRUARY 2-8, 1834.

LITERARY NOTICES.

No. XIII.

SALINE, (Washtenaw Co., M. T.) DEC. 7.]

I have just spent an hour with Mr. Ridsen, the Surveyor of a great part of Michigan, at whose public house I am now staying, in talking over the district with which he is familiar, and I shall avail myself of the information thus acquired, in filling up hereafter my notes upon the country. The conversation turning upon the healthfulness of Michigan, there was not one out of several residents present, who did not allow the existence of bilious fevers, and fever and ague in every part of the country; but they spoke of passing through these diseases as merely a slight process of *acclimating*, which in the general health of the country, was hardly to be considered. They asserted too, what I have before heard stated by more than one physician in the Territory, that Michigan is exempt from many of the diseases most fatal to human life at the East. Consumption, for instance, which a reference to the bills of mortality* will show, destroys as many in New York, take year and year together for several in succession, as does the yellow fever in New Orleans, is here unknown. Not only, I am told, do no cases originate here, but many persons from New York are pretended to have been cured of the complaint by coming to reside in Michigan. The most unhealthy points are in the vicinity of milldams, and of marshes, near both of which the settlers take particular pains to "locate." The first for the convenience of grinding and sawing, and near the last for the rich grass they afford with only the trouble of mowing. Health, indeed, is the last thing a settler seems to think of, by the way in which he chooses a site for his house. In a country so abounding with lakes and streams of the purest water, and filled with fish, that you may pass a dozen in a ride of as many miles, you but seldom find a house on their banks; while the purchaser of a new possession neglects alike the tempting looking oak opening, and erects his dwelling in the thick forest, provided only a road or trail passes within three feet of his door. A trail, by the way, I must tell you, is an Indian foot-path, that has been travelled perhaps for centuries, and bears here the same relation to an ordinary road, that a turnpike does to a Rail road in your State. He chooses, in short, the most fertile spot on his acres, in order to have a garden immediately around his house, which he places plump upon the road, in order to have it "more sociable-like, and see folks passing." His garden grows from almost nothing. The first year the hog pen and cow yard occupy the place designed for its commencement. They are moved further from the house the second year, and a few cabbages occupy the place which they have enriched by their temporary situation upon it. They move again on the second year, and the garden, which can now boast of a few currant bushes and a peach tree, expands over the place they have ceased to occupy. And now our settler having built a fine barn, and "got things snug about him," begins to like the look of the woods again, which he has so industriously swept from every spot that can be seen from his door. He shoulders his pick axe, he goes out into the woods, and selecting two of the straightest maple saplings he can find, they are at once disinterred, their heads chopped off to make these tall awkward things look civilized, and the pair of poles thrust into the ground within two feet of his door, are white-washed and called trees.

Dexter, Washtenaw Co., Dec. 12.

I have been here two or three days; but so occupied in riding about looking at the country, that I have not till now attempted to finish this letter. Far different is the appearance of the cottages here from those described above, as the common residence of

new settlers. They build almost altogether in the oak openings; and as the country is now undulating, I have seen some cabins very prettily situated in clumps of oaks, a gun shot from the road, with fields of young wheat extending in every direction around them. The soil, when first turned up, is a kind of yellow gravel, very unpromising in its appearance; but it rapidly undergoes a chemical change, becoming almost black in fields of two years cultivation, and improving every season without the aid of a particle of manure. I have now got among the rolling land, in a region full of lakes and oak openings, of which hitherto I had only a taste. I need hardly say how much more grateful such a country is to my eye, than the level-thick timbered lands about Detroit and Monroe.

I came hither by way of the pretty village of Anne Arbor, which contains, I should think, seven or eight hundred inhabitants, many of whom, I am told, are very respectable English immigrants. I stopped at a farm house, about five miles from here, to dine. A white-headed boy of six or seven years old, was turning a grindstone before the door, while a couple of Indians sharpened their knives. Near them a miserable poney, with his wooden saddle covered with a freshly flayed deer, and a brindle wiry-haired dog, with the head of a wolf and the crest of a boar, skulked around the slaughtered game, and snarled in its protection, when, after dismounting, I approached it. His swarthy masters and myself entered the house together. *Tenepe keen chenowaka* now? ("Where is the white man?") said the oldest of the two to a very pretty Connecticut girl, who had recently followed her husband out to this country. She replied by pointing to him, working at a distance in a field, and the Indians sat down patiently till the farmer entered. The venison was then laid on a table, and a bargaining scene commenced, which lasted full half an hour. *Cau-nee-shiu che-nacomon*. "No good, white man?" said one of the red barterers, turning to me, as the white trader offered him what he thought too little for a whole deer. The bargain was struck, however, before a bystander could interpret the appeal for me. The skin still remained with the Indian, and I was not a little surprised to see produced from it a variety of articles of Indian produce, among which were large cakes of deer's tallow, about the size of an ordinary cheese. These were all traded away in succession, and a small cask produced by the Indian, was filled with whiskey on the spot; and the eldest mounting the poney, they both shook me by the hand, and soon disappeared with their poisonous burden, behind a turning of the road. They were of the Ottawa tribe, well-made men, though slightly built, and with aquiline noses and fine shaped heads, and each when I saw them, had the freest and most graceful step I ever saw, whether on the sod or in the ball-room. How complete was the metamorphosis when I overtook them half an hour afterward in the woods! The eldest, who could not have been more than five-and-thirty, was barely sober enough to guide his horse, and sitting with both arms around the barrel of whiskey on the pommel before him, he reminded me of an engraving of Bacchus in a very vulgar and not very witty book, called *Homer Travestie*. The Indian gravity which had before been preserved amid all the nervousness incident to a trading operation had now thoroughly deserted him, and toddling from side to side, he muttered a sort of recitative, which combined all the excellencies of the singing and spouting of a civilized toper. His companion, a youth of but seventeen, seemed perfectly sober, and stopping only occasionally to pick up the whip of the fumbling rider, he stepped so lightly by his horse's side, that the leaves scarcely rustled beneath his mocassin. I was somewhat pained, of course, at the exhibition, though I confess I was not a little diverted, while riding along for miles in the silent woods, with such grotesque company. The pedestrian continued as reserved and respectful as ever, but my fellow cavalier, after talking a quantity of gibberish to me, which was of course perfectly unintelligible, seemed to be at last quite angry because I could not understand him; then, after again becoming pacified, he found a new source of vehemence in urging me to "*schup pasische gun*," (trade my gun, to which he took a great fancy) for his "*papooshe pascoacache*," as he called a colt that followed the forlorn poney on which he rode. I could not help blaming myself, however, for having been so long diverted with the frailties of this hospitable Silenus, when at parting about nightfall where he struck into the forest, he gave me an invitation to his wigwam, 20 miles off, signifying the distance by raising all his fingers twice, at the same time using the words *hoheo keen marchec neen wigwam*, (come to my wigwam.) How strangely are we constituted

that one should derive amusement in the woods from an exhibition which in a city would only excite pain and disgust. I have never seen a half-intoxicated Indian before without the deepest feelings of commiseration. As for the alleged crime of selling Indians whiskey, it is impossible to prevent it. The love of spirituous liquors is a natural craving of the red man, which is irrepressible, and as such I have heard the most humane and intelligent persons speak of it—people who have passed their lives among the Indians, and have done their best to snatch them from this perdition. The haughtiest Chief will travel a hundred miles for a pint of whiskey, and get drunk the moment he receives it, wheresoever he may be. Providence seems to have designed that this mysterious race should not continue upon the earth, and fate has infused a fatal thirt into their bosoms, which is hastening their doom with fearful celerity. But six years ago and the woods around me were alive with Indians, now they are only traversed by a few such stragglers as these. You may talk of civilizing them—but that too is impossible. You may more easily civilize the stupidest African than the most intelligent Indian—and yet who for a moment would compare the erect port and manly tread, the air, the blooded look of the one, with his keen sagacity and rare instincts, to the mishapen form, the shuffling gait and stupid bearing of the other? Where then lies the difficulty? The African is an imitative animal—the Indian is not. He will copy the form of your weapons, for he has felt their edge, and he will make himself ridiculous by wearing a cocked hat, because he conceives it to be an emblem of authority. Rings and bracelets he may wear, for they recommend him to his own tribe; but the forms and fashions of civilization he despises. The negro furnishes the best raw material for a dandy that can be had: he learns at once how to wear his hat and adjust his shirt collar according to the last mode of the white man. The Indian, if a fop, departs even further than usual from the costume of a European. He comes from nature's hands all that she ever intended him to be—the wild man of the woods. To the fleetness of the deer in traversing the forest, he unites the instinct of the hound in finding his way; and when you add to these the mental gift of a certain wild eloquence, wholly unimprovable by cultivation, you have nearly summed up the intellectual qualifications of the American savage—the genuine child of nature—the untamed—the untamable.

I had a long conversation on this subject yesterday, with a middle aged gentleman of high intelligence and character, for many years settled in the territory, and who has availed himself of unusual opportunities of studying Indian life and manners. We had been all day in a canoe paddled by ourselves, exploring a chain of small lakes in this vicinity; and the perfect stillness of the woods around, while floating at sunset over the transparent water, induced him to remark upon the rapid disappearance of the inhabitants; who, but six years since, when he first visited this part of Michigan, kept their canoes upon every stream in the country. The observation suggested the discussion, already alluded to, upon the feasibility of civilizing the Indians; and he told me a variety of anecdotes about a young chief with an unpronounceable name, whom, on various accounts he had once thought the fittest subject for social life he had ever met with among the aborigines. The conclusion of his relation was so whimsical and strikingly characteristic, that I will finish this letter with the details precisely as I took them down in my note book from the lips of my informant—our canoe, the while, being allowed to float as she listed along the placid bosom of one of those beautiful lakes into which the river Huron expands a few miles from its sources.

"As we came one day to the Indian encampment, Ketchewau-doug-enink caught me by the hand as usual, with his shrill exclamation of welcome, and my party proceeded at once to pitch our tent near his, before a blazing fire of logs. After affording us what assistance he could, the young chief left us; but in the evening he called in again at our tent, and brought his father and mother, his wife and three sisters with him. They all looked quite solemn, and in his manner, particularly, there was something altogether unusual. Young Ketchewau-doug-enink had been quite my friend, always appeared glad to see me, and was generally sociable in his way; but now he was grave and reserved, almost to severity. My familiarity with Indian character induced me to suppress every thing like surprise at such an extraordinary change of deportment, and we sat thus; I should think, for at least half an hour. At last the young Indian rose up in a formal way, and taking a position full in the light of the fire, began a speech abounding with gesture and vehemence. The amount of it was this: 'Listen, my friend; I see that you are wiser than any

of your white bretheren." ["I must interrupt my story," said my companion, "to remind you that believing that my young Indian friend, who was a fine looking fellow, had some relish for civilization, and half a mind, indeed, to turn white man, I anticipated that some proposition to that effect would be the purport of his speech."] He continued—"I am glad to see that you love the Indians; that you are not ashamed of our mode of life. Let me tell you what I presume you already know, that the life of the white man is one of care and trouble. The Great Spirit has blessed his red children in a peculiar manner. We have no care. We are as *Sher-manitou** made us. We have not degenerated, but are still his favorites. You never see a wrinkle on the brow of an Indian. Look, my brother, at the forehead of my old father. It is as smooth as my own, though sixty winters have whitened his head. His days have glided on as undisturbed as the smooth stream before you." [We were on the banks of the Shiswasse, interrupted the narrator.]—"Do you see, my brother, those pebbles in the bottom of the clear stream as it throws back the light of your fire? It is thus that every thought can be seen that dwells in the mind of the Indian. He has no disguise—no cause for it—the troubles of the white man disturb not the clear stream of his soul. Come with us—share with us the gifts of *Sher Manitou*—think no more of those distant lands of your childhood where men live but to harass each other, and gather riches that eat the soul up with care—come—here you will build your wigwam—I will help you—you shall have my sister for your wife—she shall weave your mats, and raise your corn, and dry your venison, which we will kill together in the woods. You have lived long enough a life of wretchedness; come and be happy with us."

I was curious to learn how the rest of the family, and especially the fair member of it particularly designated in this singular harangue, behaved while her brother was pronouncing it; and more than all, how the object of it himself received the address. I will endeavor to give you the exact replies of my interesting companion, without repeating the various questions from me which elicited them.

"My young friend sat down. Throughout his speech, the family observed the utmost silence. The lady in question was as indifferent as an Indian could be, at least in manner. They all looked at me for my opinion—the lady excepted. I will confess that I felt embarrassed, tho' I had but half a dozen Indians for my audience. An answer however was necessary. 'I thank you, my friend,' said I, 'and needed not this new proof of your friendship. I am sensible *Sher Manitou* has smiled upon you; that you are his favorite children. But we white men have been spoiled by education; we have been taught to think many things necessary that you red men can do well without; and inferior as our mode of life is to yours, it is not the least of its evils that it has unfitted us for the simple pleasures that *Sher-Manitou* every day gives you. I have friends and a mother far away to the rising sun. She does not know the red men, and might not be a mother to your sister. Your sister, if I should take her to the rising sun with me, would pine for her green woods and wigwam by the *Shiswasse*. She will doubtless be happier as she is. She will take for her husband some red man like yourself, who will love her, and prize the blessings which *Sher Manitou* yields you. I again thank you, my friend, and your sister. I must, after a few days, leave this country; but I shall bear my friends in my heart, and in the crowded city where the white men live, I shall often sigh for these green woods, and lament the absence of my red friends.'" H.

FANATICISM; by the author of the *Natural History of Enthusiasm*. 1 vol., N. Y.: JONATHAN LEAVITT.—What a magnificent and yet what a fearful subject is presented to an able, learned, and philosophical writer, in the single word which constitutes the title of this remarkable volume? Fanaticism! what of evil has it not accomplished, what of mighty, impassioned, and irresistible in our nature has it not been the means of developing? To write its history, to understand and appreciate its motives, to judge its deeds, good and evil, with impartiality, and to deduce from the wildest excesses of this universal passion—universal as having had existence in all time and among all peoples, civilized and savage—conclusions not wholly discouraging to, or dishonoring, the immortal longings of our nature, is the task undertaken in this work. The former book of the author on the

Natural History of Enthusiasm, prepossessed us in favor of this one, and we have been in nowise disappointed in our anticipations. A profound, philosophical, and withal charitable and Christian spirit, pervades the whole work. The heart of man is depicted with a firm and skilful hand; and the disguises which self love interposes to prevent each one from classing himself with those where his character and propensities should in truth place him—from seeing himself, in short, as others see him—seem to be penetrated with a searching eye; and the workings of the passions are portrayed with startling fidelity.

The style is vigorous, rugged, and sometimes overstrained, yet always forcibly arresting the attention. The divisions of the work are somewhat arbitrary; and such as they are, they are designated by odd and fantastic titles. On this head, the writer thus explains himself:—

"It will be better to seize upon certain leading varieties of our subjects, as marked by broad distinctions, easily traced in every age, and such as may be recognized, whenever they may recur, without hazard of mistake. These conspicuous varieties may be brought under four designations, of which the first will comprehend all instances wherein malignant religious sentiments turn inward upon the unhappy subject of them: to the second class will belong that more virulent sort of fanaticism which looks abroad for its victims: the third embraces the combination of intemperate religious zeal with military sentiments, or with national pride, and the love of power; to the fourth class must be reserved all instances of the more intellectual kind, and which stand connected with opinion and dogma. Our first sort then is *Austere*; the second *Cruel*; the third *Ambitious*; and the fourth *Factionous*.

Or, for the purpose of fixing a characteristic mark upon each of our classes, as above named, let it be permitted us to entitle them as follows—namely, the first, *The Fanaticism of the SCOURGE*; or of personal infliction: the second, *the Fanaticism of the BRAND*; or of immolation and cruelty: the third, *the Fanaticism of the BANNER*, or of ambition and conquest; and the fourth, *the Fanaticism of the SYMBOL*; or of creeds, dogmatism, and ecclesiastical virulence.

After these four divisions each treated at considerable length, follows the conclusion that "the religion of the Bible is not fanatical." This occupies two long sections, one devoted to the Old, the other to the New Testament—the whole written in the spirit of a pure, pious, and earnest Protestant.

It should be added, that this is the republication of an English work; and we see with satisfaction that the cognate topic of *Superstition* is next to be touched by the same vigorous hand.

THE SELECT JOURNAL OF FOREIGN LITERATURE.—No. V.—BOSTON, CHARLES BOWEN.—Sound judgment and discriminating taste continue to characterize the selections for this excellent periodical.—The *Life of Pym*, from the Westminster—a description by *Raoul Rochette*, translated from the *Journal des Savants*, of the large, and very remarkable mosaic found at *Pompeii*; and an original article, well done, on *Hamilton's Men and Manners in America*; are among the most interesting articles of this number. The critical notices, too, are instructive and various, while under the head of "Intelligence" a bird's-eye view is given of the movement of mind throughout Europe. To crown all, this Magazine is well printed.

CICERO, composing Vols. VIII, IX, and X, of the *Classical Family Library*, New York, HARPER & BROTHERS.—We are glad, after a long intermission, to find that this classical library is going on. It could not resume its progress under better auspices than those of Rome's great orator. The first two volumes contain the *Orations*, translated by Prof. *Duncan*. The third includes the *Offices*, translated by *Cockman*; and the *Essays on Old Age and Friendship*, translated by *Melmoth*. An accurate biographical sketch precedes the work; and at page 45 of it, is a letter from *Brutus* to *Cicero*, urging him to resent the tyranny of *Octavius*, just begin-

ning to bestride the Roman Empire, of which the sentiments might not be meditated in vain at this day.

IRELAND, A Tale by HARRIET MARTINEAU.—No. IX.—Philadelphia, E. LITTELL & T. HOLDEN.—A story of deep and thrilling interest, told with all the admirable writer's powers, is here produced to exemplify the silent miseries, which bad government, oppression, and ignorance entail on the Irish cottier, from generation to generation. It would be well for Ireland that both government and people would profit by the instructions of this well wrought tale.

YOUTH ADMONISHED—by J. THORNTON, author of *Bereaved Parents consoled*. New York: D. APPLETON & Co.—A well printed little pocket volume this, which in a brief view of the parable of the prodigal son, inculcates by modern instances, and much earnest discourse, the certainty that the paths of virtue are the paths of peace.

LITTELL'S MUSEUM OF FOREIGN LITERATURE, &c. for January. Philadelphia: E. LITTELL and T. HOLDEN.—We have only to speak in praise of this miscellany as embodying always a large proportion of well selected and amusing matter. The present number is ornamented with a fine engraving of a striking picture of the Deluge.

NORTH AMERICAN REVIEW, No. LXXXII. Boston: CHARLES BOWEN. New York: G. & C. & H. CARVILL.—The *Life of Cowper*, which is the first article in this number, is of itself sufficient to stamp it as an able and attractive one. It is written with a genuine admiration of the genius of this remarkable man, and a beautiful sympathy with the fearful trials to which his fine intellect and whole moral nature were subject. The admirers of Cowper will feel that justice is here done to his talents, and all gentleness exercised towards his infirmities. A good paper on botany and a capital one on *Story's Constitutional Law* precede a truly characteristic and interesting account of the *American Whale Fishery*—that hardest school of our hardy and adventurous seamen. Art. V, on the *last moments of eminent men*, is very pleasant reading—grave as the subject is. There is industry and good taste in the collection and arrangement of much anecdotal fact respecting the conduct of distinguished individuals, at the moment of entering upon the fearful passage to the grave. We have marked several interesting extracts, but with little hope of finding, for the present at least, any room for them in our crowded columns. Passing over other articles, we come to the concluding one, on *Hamilton's Men and Manners*, which is more bitter than able or well considered, save towards the close, when a better and higher tone is assumed and preserved.

THE TREASURY OF KNOWLEDGE AND LIBRARY OF REFERENCE, Parts IV, V and VI. New York: CONNER & COOKE.—This is truly what it purports to be—in a small compass a most abundant treasury of knowledge, on a vast variety of subjects. Part IV is a dictionary of quotations—V, *Sir Rich'd Phillips's Million of facts*, of which, if some few are apocryphal, the immense mass are correct—and VI is an *American biography*, brief but comprehensive.

LA REVUE FRANCAISE, for February: New York, HOSKINS & SNOWDEN.

LA FRANCE LITTERAIRE, No. : New York. BIBLIOTHEQUE CHOISIE DE LITERATURE FRANCAISE; Philadelphia, Carey Lea & Carey.—Here we have three French periodicals, each aiming to disseminate a knowledge of and taste for French literature. They are all comparatively cheap; well printed; and as to their contents well selected. We like the language well enough to wish that all may have abundant patronage.

It has been said, that *La France Littéraire* is got up to put down *La Revue Française*. The facts we believe to be pretty much these: the chief attrac-

* *Sher-Manitou*, God; *Micom-Manitou*, the devil.

tion to the mass of American subscribers to the *Courrier Francais*, is its literary character and extracts; and this, it was obvious, would be materially diminished by any publication which, in the more convenient and durable form of a monthly pamphlet, should give matter of the same character. Hence, in self defence, the literary extracts of the *Courrier* were thrown into the same form; and as they are longer, *la France litteraire* is published once a fortnight instead of once a month, as *la Revue Francaise* is. It is, too, cheaper than *la Revue*, because the matter which composes it, serves for the two publications. In all this we see nothing but the proper regard, which every one feels, for his own interest; nor can it add to or derogate from the merit of either publication that it has a rival: on the contrary, each thereby will become more zealous to excel, and the reading public will be benefited by the competition.

THE FOREIGN QUARTERLY REVIEW; No. XXIV; American edition No. IV: Philadelphia, T. W. Usick. — A good number—and then how cheap! three dollars per annum for a work that enlists such various talent. The article here upon the *Prussian System of Education*, that upon the *History of modern Italian freedom*, and that upon *Animal Magnetism*—in which the really surprising results supposed to have been accomplished by this revived *charlatannerie*, are most acutely examined—will recommend this periodical.

ENGLISH HISTORY ADAPTED TO THE USE OF SCHOOLS AND YOUNG PERSONS—by the author of *American Popular Lessons*. New York: R. Lockwood. — This is, with some modifications, omissions and additions, a republication—with what skill executed we confess we have not had time to examine; but we are willing to take it on trust, from the character and services of the lady, who presents it to the American public.

SUMMARY.

The Naval Lyceum is forming a collection of autographs of men of revolutionary fame. Among them they have obtained the following altogether remarkable letter addressed by John Hancock to Robert Morris:

COPY—"ON PUBLIC SERVICE."
Baltimore, January 24, 1777.

SIR—The Marine Committee, judging it of the utmost consequence that the *Frigate Virginia* should be got to sea as soon as possible, and finding it impracticable to procure here the necessary articles for the ship, without which she cannot proceed to sea; have determined to send to Philadelphia for them, and have sent the bearer, an officer of Capt. Nicholson's, to expedite the business; and I am now, in the name of the Marine Committee, to request you will immediately order such of the articles as are mentioned in the enclosed Memorandum, and can readily be got in Philadelphia, to be forwarded here without loss of time, in such manner as you shall judge best. The bearer will afford every aid in his power. I should think it would be no disservice in taking an Anchor and the Cables from one of the Frigates in Philadelphia, as you can with more ease replace them there, than we can procure them here; and all your Frigates are not in the readiness the *Virginia* is, and indeed she only waits for these articles. I submit it to you to conduct as you think best for the public service, but with respect to the Anchor and Cables, and Rigging, it is of the utmost importance they should be sent. *Two carta* put together would easily effect this, let the expense be ever so great; but care should be taken to prevent the Cables from chafing, by matting the turns, or putting canvass round the parts liable to rub against the wagon. But I need not give you any hints of this kind. I wish we may have as many of the articles as can be got, and I know you will exert yourself to effect this business.

I am, in behalf of the Marine Committee, Sir, your most obt. servt,

JOHN HANCOCK, Chairman.

ROBERT MORRIS, Esq.

Member of the Marine Committee.

P. S.—The enclosed letters to Com. Hopkins I leave open for your perusal; please to seal and forward by 1st good op'ty.

GREAT FIRE AT ROCHESTER.

Correspondence of the *Journal of Commerce*—Rochester, Jan. 26.

We were visited this morning with a more calamitous fire than has ever before occurred in this village. About 5 o'clock it broke out in the Market, and before any effective exertions could be made by the firemen, the Market, which was of wood, and the block of wooden buildings extending from the Market on the west, to the Globe Buildings on the east side of the Genessee river, were enveloped in flames. From this block, it entered the Globe Buildings, an immense pile, near 100 feet square, six stories high on the west, and four on the east side, built of stone, which in less than two hours was burnt to the ground. The loss may be safely estimated at from 50 to \$60,000, a large part of which falls on Messrs. Newell & Stebbins, who owned the south half of the Globe Buildings, in which they had a Dry Goods Store and a Carpet Manufactory. They had no insurance. The other half of the Buildings was owned by R. B. Post of New York, on which I believe there was some insurance. The other occupants of the Globe Buildings, were Edward Roygen, Wareroom for Wool and Skins, loss \$3000. Richard Van Kleek, Hat Store—property saved. Williams & Merrill, Leather Store—loss \$1000. Jennings & Keeler, Leather Store—loss \$800. Quincey S. Odard, boot and shoe store—and about a dozen others occupying rooms for manufacturing purposes. The wooden block was of little value comparatively. It was occupied by J. O'Donoghue, auctioneer; Charles Smith, Reuben Leonard, E. S. Curtis, and one or two other grocers, and E. W. Collins, dry goods store. But a small part of the property was insured—probably, from what I have learnt, not to exceed \$10,000. The fire originated in a grocery under the market.

[From the *Quebec Gazette*, Jan. 24]

DESTRUCTION OF THE CASTLE OF ST. LEWIS BY FIRE.

This building, the residence of the Governors General of British North America for the last 150 years, and so prominent an object in the view of the city of Quebec from the harbor, as it surmounts the bank of the precipice between the Lower Town and the citadel, has fallen an entire prey to the flames. The fire broke out yesterday about noon, in a room at the south end of the building, in the third story, occupied by Capt. McKinnon, A. D. C.; and though early discovered, and every means taken to arrest its progress, it flew with astonishing rapidity through the upper story, and continued to burn downwards, in spite of all the exertions of the troops and about a dozen fire engines, until this moment. It now presents its hundred openings, all bare chimneys, and its sooty and ruined walls—a couple of engines still struggling to subdue the flames in the south wing.

It was originally built by the French at a time not exactly ascertained, and though somewhat altered in form and improved—particularly in Sir J. Craig's administration, at an expense of about £10,000 to the Province—the walls, we believe all remain, having successively escaped with trifling damage the sieges of 1759 by Wolf, of 1775 by the Americans, and the bombardment of Sir William Phipps in 1690. Its site, since the earliest discovery of the country, had been successively the head quarters of the whole French possessions, at one time extending over the present British North American possessions, including Louisiana and the Territories on the Mississippi: and between 1759 and the American Independence in 1778, was the seat of the principal command of the whole continent of North America.

It was tenanted, when the fire broke out by lieutenant Lord Aylmer, governor-in-chief, and Lady Aylmer; capt. McKinnon, Grenadier Guards, and capt. Devie, 24th regt., aides-de-camp, and Lieut. Paynter, extra aide-de-camp; with the different domestics of the establishment. The military secretary (capt. Airay) occupied apartments in what is called the Old Chateau, a building erected by the English after the conquest, and chiefly used as dancing and dining halls. The public documents belonging to the Administration were early removed, as was the plate, and by much the greater part of the furniture, but the latter was damaged. His Excellency had £3,000 insured on the furniture, (which is purchased from the preceding Governor on every change) at the Quebec Office.

The thermometer on the morning of the fire had marked 221 below zero, and, during the whole time it lasted continued from 2 to 8° below zero, with a strong piercing wind from west to south-west. Many of the engines were soon frozen up, and the hose, and every thing connected with them, could only be

kept in any thing like order by the use of warm water, which was generously furnished from the breweries of Messrs. Racey, McCallum, and Quirouet, and by the religious communities. The citizens and troops distinguished themselves by their services; but from the impossibility of reaching the part of the building overlooking the precipice, it soon became apparent that any successful attempt to arrest the progress of the flames was hopeless.

It will probably cost £25,000 to £30,000 to erect a new building, but the beauty of the situation, and the extent of the grounds will afford an opportunity of erecting one of the most ornamental and prominent public buildings in the city, of which Quebec is really lamentably deficient. The site belongs to the Military Government.

Lord and Lady Aylmer remained for some time yesterday with Colonel and Mrs. Craig, where her Ladyship, we understand, slept last night. Lord Aylmer is at present at the residence of the Hon. Col. Gore, Deputy Quarter Master General to the Forces.

The fire raged with considerable violence during last night, and frequent alarms were given, some fear being felt that the houses in Champlain and Mountain streets, immediately at the foot of the precipice on which the Castle is built, would be set on fire by the embers carried over by the wind, or by the falling and blazing timbers, which descended down the steep declivity on the tops of buildings or into yards. Fortunately, the snow on the houses protected them, and no further accidents have occurred. Had the fire taken place in the summer, there must have been a great destruction of property in the lower town.

[From the *Frederick (Md.) of Saturday, Feb. 1*]

WAR ON THE CANAL.—The account of the battles on the line of the Canal, published in another column, is said to be a little exaggerated, particularly as to the number of persons killed. Since the reception of these details, we have learned that a kind of guerilla war was carried on until Tuesday last, when a treaty of peace was formally entered into and signed; and are gratified to state, that lettees were received in town yesterday, stating that the different parties had returned to their respective sections, and peaceably gone to work. This, we hope will be the end of this affair. If however, a disposition is manifested to disturb the public peace, means will be at hand, promptly to chastise the offenders. For, in obedience to the requisition of the governor of this State, the President has ordered two companies of U. S. Troops to the line of the Canal, with orders promptly to suppress all violent proceedings. One of the companies from the Fort of McHenry, under the command of Capt. Mackey, fully equipped, with fixed ammunition, magazine, &c. passed through this city, via the Rail Road, on Tuesday. They are a body of fine looking men, and excited much admiration. They arrived at Williamsport yesterday, and will remain as long as their services are deemed necessary.

Nearly thirty of the riotors were apprehended in the vicinity of Berlin and lodged in the jail of this county on Thursday last.

[Correspondence of the *Journal of Commerce*.]

ROYAL GAZETTE OFFICE, BERMUDA, JAN. 3.—The derelict vessel mentioned in the last *Gazette* as having been found amongst the rocks off the West End of these Islands, and towed into El's Harbor, has since been righted, bailed out and discharged of her cargo, which consisted of pork, flour, sperm candles, brandy, and plank, almost the whole of which is spoiled. Even the pork is very much damaged. The name of the vessel, where from or where bound has not been ascertained; for there were no papers discovered on board, and the vessel's stern was washed away. But little doubt seems to be entertained that she belonged to the United States of America. The pork bears the brand, "Boston, Oct. 1832." She must have been many months in the state in which she was found, for her deck was almost destroyed by worms. In her cabin the bones of human beings were found, and some wearing apparel having the names "M. Sevor" and "C. Sevor." The articles taken from her are in safe keeping.

The Boston papers, referring to a similar account received there, identify the vessel as the *Schooner Eliza Ann*, which sailed from Boston on 11th December, 1832, for Guayama, and had never been heard of. She was owned by Mr. James Brown, of that city, and on him the loss falls peculiarly heavy, having two sons on board of her, and Capt. B. his nephew. The cargo of the *Eliza Ann*, we under-

stand, corresponds with the statement, and the clothing undoubtedly belonged to Mr. Joshua Seaver, formerly an officer in the Boston Custom House, who took passage in the Eliza Ann, for the benefit of his health.

[From the Philadelphia Gazette.]

Disasters at Sea.—Extract of a letter from Capt. Curtis, of the packet ship John Wells, dated Cape Henlopen Roads, Jan. 30, 1834.—“I arrived here this morning. I have had one of the hardest passages I ever made, westerly gales all the passage—I was 15 days in the channel. In lat 48 06, lon 27 30, on the 22d Dec. boarded the British ship Asia, from Quebec, bound to London, water logged and a complete wreck. Capt. Stevenson and five of the seamen were drowned when the ship capsized, and Capt. Humbleton of the army. I took off the 1st and 2d officers and 11 seamen, they had been living seven days on a few beans. The men lost every thing when the ship capsized and are quite destitute.—[The Asia cleared at Philadelphia 23d Sept. for Quebec.]

U. S. brig Casket, Delaware Breakwater, Jan. 29.
Sir—I am sorry to inform you that the brig Amantes took fire, while at anchor in this harbor yesterday. Immediately after discovering the fire I proceeded to the brig, with all hands from this brig, that could be spared, with buckets—on boarding her, found her to be on fire, fore and aft, below decks—finding it would be out of the question to put the fire out, I proceeded to the pilot boat Wm. Price for assistance, got the pilots Messrs. Edwards and Fuller, with some of their barges, went with me on board the brig. Immediately the pilots seeing her situation, thought most advisable to slip her cables, which was done, and run her on the beach, when she burnt down in a short time.

Had it not been for the assistance which this brig rendered, she would no doubt, have gone down, at her anchorage in the harbor. But little of any thing has been saved, the most saved is some sails and rigging—she may be considered nearly a total loss. The wind is now blowing hard from northward, and quite cold.

The brig Benj. Ruggless, and schr. Harriet; also, the pilot boats Wm. Price, and Mary Ann, are in this harbor. Respectfully yours

JNO. BURTON.

Very Distressing.—The Ship Brunette, which arrived at Boston on Saturday, on the 28th Jan., in lat 51 25, lon 68, fell in with schr. Chancellor Ross, from Portland, for Boston with wood. Took off the Capt. and crew, all of whom were badly frozen; the eldest son of the captain died in an hour after being brought on board the ship, and Capt. Ross died on Saturday morning at 2 o'clock. Two others remain badly frost bitten, one of whom, the youngest son of Captain Ross, it is supposed, cannot recover. The schr. sailed from Portland, 21st and struck on a ledge the same night, received much injury, and was driven to sea nearly full of water. When the crew were taken on board the Brunette, the water was three feet deep on the schooner's cabin floor.

Melancholy Accident.—On Wednesday morning the 15th ult., the steamboat Westchester, while on her passage from Bridgeport to Norwalk, and when within a short distance of the latter harbor, fell in with a boat adrift. Captain Brooks immediately despatched his boat for the purpose of picking it up. On reaching which, it was ascertained that a young man dangerously wounded and nearly lifeless was lying in her. It proved to be Mr. Charles White, of Norwalk. He had left Old Well early in the morning on a gunning excursion, and had with him a double barreled gun, which it is supposed he fired once, and in the act of re-loading the empty barrel, the contents of the other were discharged into his right arm near the shoulder. When taken on board, he was unable to speak; but after reaching home he articulated a few words. He died about 4 o'clock in the afternoon. Mr. White was an exemplary and worthy young man, and has left an affectionate wife to whom he had been married but a few months, and a large circle of relatives and friends, to mourn his untimely end. He was a son of Mr. Samuel White.—[Danbury (Ct.) Gazette.]

Boston, Feb. 4.—A check from the General Post Office, for \$7000, upon the Commonwealth Bank of this city, was presented at the counter of the Bank on Saturday, and protested for the want of funds: probably not for want of custom-house, but of Post Office deposits. The great deficiency in the Post Office Department has been a matter of notoriety for some time.—[Traveller.]

Large Organ.—The Organ, recently erected by Mr. Henry Erben in St. Philip's Church, is 26 feet in height, 16 feet in width, and 10 feet in depth. It contains three distinct rows of keys and pedals. The Great Organ contains ten stops, viz. Open Diapason, Stopped Diapason, Principal, Twelfth, Fifteenth, Tierce, Sesquialtra of four ranks, Cornet of five ranks, Flute, Trumpet. The Choir Organ contains five stops, viz. Stopped Diapason, Dulciana, Principal, Flute, Fifteenth. The swell contains seven stops, Open Diapason, Dulciana, Violano, Cornet of three ranks, Trumpet and Hautboy.

The Pedals of two stops. Double Open, Diapason and Open Diapason. The largest wooden pipe is 17 feet long and 16, 14 inches wide; the largest metal pipe is 13 feet long, and 10 inches in diameter, being the largest metal pipe in the United States. Total number, 24 stops, 1483 pipes. cost \$4000. Compass of the keys, from Double G. in the Bass, to Fin Alt. Compass of the Pedals, from double, double C. to one octave above. The case of the Organ is of the Corinthian Order, to correspond with the architecture of the Church, and is of elegant mahogany.

This Organ is the largest instrument of the kind in the Southern States. It combines with its great powers, stops of the most dulcet tones, and has been pronounced by competent musical men in New York and in this city a very superior instrument.—[Charleston Courier.]

[From the Albany Argus.]

NORTH RIVER BANK.—We will give below a statement of the condition of this institution on the 27th ult. as contained in a report made to the Senate on Saturday, verified by the oath of the President and Cashier, pursuant to a resolution of that body. It exhibits the affairs of the bank as being in a sound and prosperous condition.

Cr.	
Real estate, consisting of banking house and property in the Eighth Ward,	\$ 34,106 21
Bills discounted,	903,935 49
" protested (a part of which will be recovered,)	4,928 78
Notes of city banks,	71,680 82
" country	11,309 51
Specie,	72,094 34
Due from city banks,	74,612 52
" foreign,	32,917 05
Plates and paper	2,989 35
Expense account,	142 67
	\$1,208,015 74
Dr.	
Capital stock paid in,	\$500,800 00
Notes in circulation,	181,514 00
Unpaid dividends,	2,535 75
Profit and loss	42,009 41
Discount received since 1st Jan. inst.,	4,031 44
Due to city banks,	159,827 68
" foreign	13,790 11
" insurance companies	7,654 20
" individuals,	297,243 15
	\$1,208,715 74

Florida Steamboat.—The new boat built in Savannah by Mr. John Gant, has been some time launched. She is intended for the southern trade, and is called the Florida. Her engine has arrived in the brig Lela from New York, and we understand, will be put up with all despatch.

When she commences running, the line of Steam Navigation from Maine to Florida will be complete. A line of stages from Jacksonville, on the St. Johns River, to St. Marks, a distance of only 140 miles, and a steamboat between St. Marks and New Orleans, would render it the grand travelling route from New Orleans to the north. Starting from New Orleans in a steamboat, and disembarking at St. Marks, and taking a stage across to Jacksonville, E. F. the passenger could there embark on board this steamboat, and having arrived at Savannah, he could take his choice of going on in one of our fine packets, or continuing his route by steam to Charleston and thence northward. In this way a traveller could reach New York from New Orleans, with only one hundred and forty miles of land carriage!—We understand that such a connection between Jacksonville and St. Marks, is in contemplation.

The brig Draco, Bangs, at Boston from Cronstadt, reports having sailed, November 12th, from Elsinour, in company with ship Mount Hope for New York, and having passed her ashore on the Lapsand, having drifted on by the current, but supposed she got off next day.

[From the Norfolk Herald of Monday.]

ARRIVAL OF THE U. S. SHIP JOHN ADAMS.—The United States ship John Adams, P. F. Voorhees, Esq. Commander, arrived in Hampton Roads on Friday evening last—officers and crew all well. The John Adams sailed from Gibraltar, 1st November and arrived at Mogadore on the 5th; sailed thence on the 7th, and hove to off Madeira for several hours on the 10th, and sailed for Teneriffe, where she arrived on the 16th; sailed thence on the 20th, and arrived at Cape Messurado 10th Dec., where they boarded the American brig Whim; sailed 14th December for Martinique, and arrived there on the 6th January—7th, boarded brig Sarah, 25 days from Bath, (Me.)—arrived 8th, brig Caroline, 13 days from Portland; 9th, schr. Pilot, of New York, 15 days from Newbern, (N.C.)—Sailed from Martinique January 12th—28th, in lat. 37, 06, lon. 71 min. 18, spoke Whale ship Pindus, bound to New Bedford, and schr. Ocean, bound to Boston.

The John Adams left at Athens, 13th Sept. U. S. ship United States, Captain Nicholson, with Commodore Patterson, and family on board, bound to Constantinople; and at Port Mahon, 21st Oct. U. S. ship Constellation, Capt. Read, from Marseilles—all well. Spoke off Cape de Gatt, a few days previous to 1st Nov. U. S. ship Delaware, Capt. Ballard, from Gibraltar bound to port Mahon.

A French Corvette had arrived at Messurado, charged with presenting the thanks of its Government, for the hospitality, and kindness of the Colonial Cruiser towards the officers and crew of a French vessel which had been wrecked on the coast near Goree.

The John Adams came up yesterday morning and anchored off the Naval Hospital, where she fired a salute, which was returned from the Navy Yard.

Passengers in the J. A.—Capt. J. H. Conkling, late of brig Admittance, of New York, sold at Gibraltar; Mr. P. S. Fish, of New York, late Captain's Clerk of Frigate United States, and Mr. Warren, of Boston.

List of officers attached to the United States ship John Adams, 1st Feb. 1834.

PHILIP F. VOORHEES, Esq. Mast. Comdt.
Thomas Pettigrew, 1st Lieutenant.
Edmund Byrne, 2d do
Chs. H. McBlair, 3d do
Neal M. Howeson, 4th do
G. R. B. Horner, Surgeon.
Edward T. Dunn, Purser.
James F. Schenck, Act. Sailing Master.
J. Vaughan Smith, Asst. Surgeon.
Midshipmen.—F. V. Dilbergh, W. S. Ringgold, W. L. Hernden, C. Watkins, James Anderson, R. B. Pegram, N. G. Bay, J. H. North, F. E. Barry, B. F. Anderson.
William Waters, Boatswain.
David Taggart, Gunner.
Daniel Bane, Carpenter.
Madison Wheeldon, Sail Maker.
Frederick Farlie, Captain's Clerk.

Arrival of the Hon. Mr. Hamm, from Chili.—The brig Lady Adams, of Baltimore, anchored in Hampton Roads on Saturday evening last, in the remarkably short passage of 70 days from Valparaiso, via Coquimbo. Among the passengers in the L. A., was the Hon. John Hamm, Charge d'Affaires of the U. States to the Republic of Chili, who came up to this place last evening in the steamboat Hampton, and will leave this morning in the steamboat Pocahontas, for Baltimore, via Annapolis. We have been obligingly favored with the following extract of a letter from a passenger on board the Lady Adams:

“Mr. Hamm is the bearer of the Treaty of Commerce and Navigation which he concluded with the Chilean Government some time ago, and which was duly ratified by the President and Senate of the United States; but the time limited for the exchange of ratifications at Washington having expired, and sundry amendments having been proposed by the Chilean Congress, it became necessary, as I learn, to enter with the Plenipotentiary of Santiago into an explanatory convention, and to have again the whole matter submitted to the Chilean Congress for their approbation. These preliminary arrangements were all satisfactorily settled in November last, by the ratification of the Treaty, as well as the explanatory Convention, and an envoy was appointed to proceed directly to Washington, for the purpose of exchanging the ratifications, and reside near our Government. Senhor Don Manuel Carvalho, the Chilean Envoy, is also a passenger in the Lady Adams, and will proceed to Washington with Mr. Hamm, for the purpose of laying the whole matter before our Government, he being the bearer of the Treaty and Convention in the Spanish language.

MINT OF THE UNITED STATES.

Philadelphia, 1st Jan., 1834.

Sir: I have the honor to submit a Report on the general transactions of the Mint during the last year.

The coinage effected within that period, amounts to \$3,765,710; comprising \$979,550 in gold coins, \$2,759,000 in silver, \$28,169 in copper, and consisting of 10,307,790 pieces of Coin: viz.

Half Eagles,	193,630	ps, making	\$968,150
Quarter Eagles	4,160	"	10,400
Half Dollars	5,206,000	"	2,603,000
Quarter do.	126,000	"	39,000
Dimes	485,000	"	48,500
Half Dimes	1,370,000	"	68,500
Cents	2,739,000	"	27,390
Half Cents	154,000	"	770

10,370,790 \$3,765,710

Of the amount of gold coined within the past year, about \$85,000 were derived from Mexico, South America, and the West Indies; \$12,000 from Africa; \$368,000 from the Gold Region of the United States, and about \$13,000 from sources not ascertained.

Of the amount of Gold of the United States, above mentioned, about \$104,000 may be stated to have been received from Virginia; \$475,000 from North Carolina; \$660,000 from South Carolina; \$216,000 from Georgia; and about \$700 from Tennessee.

The annexed statement exhibits the quantity of gold received from the several districts of the United States which have thus far produced it in sufficient quantities to be an object of regard, commencing with the year 1824. Previously to that period, gold had been received at the mint only from North Carolina, from which quarter it was first transmitted for coinage in 1804. During the interval, however, from that date to 1823, inclusive, the average amount had not exceeded \$2,500.

STATEMENT of the Amount of Gold produced annually from the Gold Region of the United States, from the year 1824 to 1833 inclusive.		1824	1825	1826	1827	1828	1829	1830	1831	1832	1833
Virginia.											
N. Carolina.											
S. Carolina.											
Georgia.											
Tennessee.											
Alabama.											
Total.											

In the report of 1st January, 1833, it was remarked that the quantity of gold of the United States brought to the mint in the year 1832, was regarded, according to estimates entitled to great respect, as not much exceeding one half the quantity produced from the mines within that year; nearly an equal amount, being supposed to have been exported uncoined, or consumed in the arts. Nothing has since occurred to create a doubt of the correctness of

that conjecture. It is altogether probable, that the remark is equally true in regard to the last year, and that the amount of gold derived from the United States, within that period, has exceeded one million and a half of dollars. This sum, it is believed, is not less than about one fifth of the amount of gold produced within the same period, from all other sources, in Europe and America, estimated according to the best authorities.

I have the honor to be, with great respect, your obedient servant,

SAMUEL MOORE,
Director of the Mint of the United States.
To the PRESIDENT of the United States.

Seamen's Bank for Savings.—The annual report of this institution, located in the city of New-York, was made to the Senate yesterday, showing the following result of the transactions of the year 1833, and the state of its funds:

Am't of deposits rec'd from 569 dep.	\$74,288 74
" Interest	4 255 16
" Stock redeemed	7,200 03
" in treasurer's hands at close of 1832	22,367 19
	\$188,111 12
Of this am't there was paid to depositors	\$70,625 61
Invested in U. S. Stock	8,590 99
Expenses	1,040 40
Balance in treasurer's hands	27,857 12
	\$108,111 12

The total amount invested in stocks is \$66,165 28, and the trustees state that since closing the accounts for the year, they have been enabled to credit a rate of 5 per cent. per annum to each account not exceeding \$500, and to each account of larger sums, 4 per cent. per annum.

We understand that orders were yesterday received at the Navy Yard, to fit out the frigate Brandywine for sea immediately. It is not known where she is to go, but we presume the intention is to send her out to England with a new Minister, (Mr. Stevenson, probably,) and then to proceed to the Mediterranean station, to relieve the Constitution.—[Gazette.]

Mechanics' Bank of Patterson.—In consequence of the circulation of some unfounded reports abroad, in relation to this institution, added to the pressure of the times, a run has been made upon it for some days past. It has, however, promptly met every demand, and we are satisfied is in a perfectly sound condition; as a corroboration of which, from a source and of a nature that must command confidence, we are enabled to annex the following, from the Governor of the Society for Establishing Useful Manufactures.—[Patterson paper.]

We have about \$90,000 due to us in Patterson, for Lots sold. I will take Mechanics Bank Notes at the rate of ten per cent. premium for said debt—that is, every man indebted to us, who will pay one hundred dollars in Mechanics' Bank Notes of Patterson, within one month, we will credit him on his contract, one hundred and ten dollars. Yours, truly,

ROSWELL L. COLT,
Patterson, January 27, 1834.

RIOTS ON THE OHIO AND CHESAPEAKE CANAL.—The President of the United States, as we learn from the National Intelligencer of yesterday, has, on the resolution of the Legislature of Maryland, calling upon the General Government for aid in suppressing the riots referred to in the annexed article, ordered two companies of United States artillery to proceed forthwith to the scene of disturbance, and report themselves to the civil authority for orders.

RIOTS ON THE LINE OF THE CANAL.—We regret to have to inform our readers that the account of the pacification of the riot among the laborers upon the Chesapeake and Ohio Canal, above and below Williamsport (in Washington county, Md.) turns out to be premature. Since the return of the Hagerstown volunteers, with a number of men under arrest, fresh and fatal hostilities have broken out, in the course of which, as appears by the following account, a number of lives have been lost.—[National Intelligencer.]

Williamsport, (Md.) JAN. 18.
Since the foregoing event, great commotion has existed among the hands. Very little work has been done, and a state of alarm and warlike preparation has taken its place. On Thursday last, we are informed, a party of *Corbians* committed excesses along the line above this place. Yesterday morning a small party were seen approaching this place from above, and were met on the Aqueduct and driven back by an opposing party of their countrymen in the

town. In this affray one man was very seriously beaten and wounded. The citizens of the town, with commendable alacrity, soon put themselves in military order, under arms for the protection of the peace, and remained under arms for the balance of the day and the greater part of the night.

This scene was soon followed by another which resulted in a disastrous battle and several deaths. A party of Fardouns or Longfords, consisting of about three hundred men, headed by intrepid leaders, were announced as approaching from below. Their design they stated to be to pass up the line of the canal to the upper dam, for the purpose of exhibiting their strength, and not to commit a breach of the peace, unless attacked. They were armed in part with guns, but principally with helves, clubs, &c. They passed up quietly over the aqueduct, and on their way, as we learn, three or four hundred more of the same party fell into their ranks. At the upper dam, in a field on the other side of Miedlekauff's, they met the enemy in battle array, drawn up on the top of a hill, about three hundred in number, and armed, in part, with military weapons.

The information we have is, that the attack or at least a challenge to the combat, was made by the latter party. Volleys of shot were exchanged; some men were seen to fall, and the party above began to fall back and disperse before the superior forces of their enemy. A pursuit ensued through the woods, where frequent firing was heard, and no doubt many lives were taken. Persons who traversed the field after the battle was over, observed five men in the agonies of death, who had been shot through the head; several dead bodies were seen in the woods, and a number wounded in every direction. Those who observed the battle describe it as one of great rage and most deadly violence. All the deaths and wounded are reported to have been of the *Corbians*.

About ten o'clock last night the victorious party returned, and passed quietly through this place, after halting a few moments in one of the public streets, to their respective sections and shanties below the town. Quiet was restored for the balance of the night.

We have thus attempted merely a sketch of the horrid barbarities committed in this neighborhood through the past week. The public peace has been outraged, and the civil authorities contemned. It remains for the officers of justice to take the necessary steps to repair these gross violations of the law.

POSTSCRIPT.—Since writing the above, a principal leader of one of the parties has been arrested for examination. The volunteer companies have arrived from Hagerstown, commanded by Col. Wm. H. Fitzhugh, who is also Sheriff of the County, and are now in readiness to aid the civil authority. An express has been dispatched to the Seat of Government for a sufficient regular force, to be sent on and stationed here, or at other suitable points along the line of the Canal, to preserve order among the laborers, and for purposes of general protection.—[Banner.]

A Bank Blow-up!—We understand that there has been a blow up of a domestic Bank (not under the Safety Fund) at the village of New London, Oneida County. In other words, one of the most extensive gang of counterfeiters ever discovered in this State, has just been broken up at that place. Sixteen of the counterfeiters have been apprehended. Among this precious lot, we are informed that there is a lawyer, a tavern-keeper, and a constable.—[Albany Evening Journal.]

LOVE ME!

Love me—Love me—like the stars
That love to shine at night,
With sparkling eyes
In joy arise
To kiss the gloom and make it bright.
My heart—My heart is a gloomy veil,
That time has darkened o'er;
But come with the light
Of thine eyes, star-bright,
And darkness shall be no more.
Love me—Love me—like the sun
That warms while it lightens too;
Brings flowers to life
With sweetness rife,
I care not for life without flowers to view.
My heart—My heart's a garden wild,
Its flowers are left to perish;
But come like the sun,
And smile upon
The heart's garden roses, and cherish.
Love me—Love me—like the moon,
For the moon is chaste and bright;
And Love to endure,
Must, like moonlight, be pure,
And holiness be in its light.
My heart—My heart's like a placid brook

That lies in a garden fair;
And the sun-rays at noon.
And the stars and the moon,
Must beam on and brighten there.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored; and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, **WILLIAM NORRIS, Secretary.**

December 22, 1833.

For further information on this subject see No. 49, page 772 of this Journal. 46

INCOMBUSTIBLE ARCHITECTURE.

INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTONIS, or Incombustible Varnish, at one dollar per lb.

Apply to **G. S. RAFFINQUE**, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 8th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics Magazine; Messrs. Rushton & Aspinwall, Druggists. Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means. 81 R J M M & F

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,		Flat Bars in length of 14 to 16 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.	
200	do. 1 1/2 do.	do.	
40	do. 1 1/2 do.	do.	
900	do. 2 do.	do.	
800	do. 2 1/2 do.	do.	

soon expected.

350 dp. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 3 3/4, 4, and 4 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. 471meowr

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated. Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wutzell, Yellow Locust, Ruta Bags, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN.

247 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

Mr. Thorburn is also Agent for the following publications, to wit:—

New York Farmer and American Gardeners' Magazine. Mechanics' Magazine and Register of Inventions & Improvements.

American Railroad Journal and Advocate of Internal Improvements; and the New-York American, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 247 North Market street, Albany.

TO RAILROAD COMPANIES.

PROFESSOR RAFFINQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M^d Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. No claims to have discovered them ever since 1825, by his caveats filed in the Patent Office. Apply, post paid. S1 R J M M & F

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads

No. 264 Elizabeth street, near Bleecker street,

New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J251f

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8

ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Noth's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Ropes of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. K. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, }
January 29, 1833.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 154 Water street, corner of Maidenlane. J31 8t

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his professional warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to the inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLEN, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as much most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
German, and Norrist. Railroad

m1 ly

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.

D. K. MINOR, 35 Wall street.

New-York, August 14, 1833.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 URM&F



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTY, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branch, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Hartly.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLEN,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of Construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Hartly.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by my self, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserves the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of examining the same.

* At the commencement of the last year I offered to send the American tri-weekly instead of semi-weekly, together with two of my periodicals, in exchange to those who would publish my advertisements of the different periodicals. In consequence of this notice, the exchange list was increased to 165. I soon found that the expense would be greater than I had anticipated, yet I had made the offer, and would of course continue it through the year—as I have done. I however find it too expensive to continue to send as heretofore. The circulation of my PERIODICALS, (upon which the expense falls,) will not warrant it, and I must, therefore, notwithstanding the uniform kindness with which they have been treated by those to whom they have been sent, materially reduce their exchange list.

The semi-weekly American will hereafter be sent in exchange to those who will publish the following advertisements a few weeks for the difference of price. New-York, January 20, 1834.

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in semi-monthly form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor. Jan. 22, 1834.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published.

D. K. Minor also publishes the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

Also, the PLOUGH-BOY, a cheap agricultural publication, of eight quarto pages, is issued once a week, at \$1 50 per annum, in advance. It contains much interesting reading upon agriculture, &c.

All Letters and Communications for the above publications, may be addressed, free of postage, to

D. K. MINOR.

TO STEAMBOAT COMPANIES.

PROFESSOR RAFFINESQUE, of Philadelphia, offers his services to render steamboats incombustible, and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and derided by the public as unkindful of safety. Apply, post paid.

31 R J M M & F

ALMANAC FOR THE YEAR 1834.

	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	
Janu'y	5	6	7	8	9	10	11	3d Q. 2 11 17 M
	12	13	14	15	16	17	18	New 9 6 14 E
	19	20	21	22	23	24	25	1st Q. 17 9 46 E
	26	27	28	29	30	31		Full 25 5 17 M
Feb'y								3d Q. 31 8 20 E
	2	3	4	5	6	7	8	New 8 0 5 E
	9	10	11	12	13	14	15	1st Q. 16 4 44 E
	16	17	18	19	20	21	22	Full 23 4 5 E
	23	24	25	26	27	28		
March								
	2	3	4	5	6	7	8	3d Q. 2 7 21 M
	9	10	11	12	13	14	15	New 10 6 22 M
	16	17	18	19	20	21	22	1st Q. 18 8 5 M
	23	24	25	26	27	28	29	Full 25 1 20 M
	30	31						3d Q. 31 8 32 E
April								
	6	7	8	9	10	11	12	New 8 11 46 E
	13	14	15	16	17	18	19	1st Q. 16 7 21 E
	20	21	22	23	24	25	26	Full 23 9 42 M
	27	28	29	30				3d Q. 30 11 38 M
May								
	4	5	6	7	8	9	10	New 8 3 28 E
	11	12	13	14	15	16	17	1st Q. 16 2 59 M
	18	19	20	21	22	23	24	Full 22 6 7 E
	25	26	27	28	29	30	31	3d Q. 30 4 0 M
June								
	1	2	3	4	5	6	7	New 7 5 0 E
	9	10	11	12	13	14	15	1st Q. 14 8 6 M
	16	17	18	19	20	21	22	Full 21 3 26 M
	23	24	25	26	27	28	29	3d Q. 28 9 3 E
	30							
July								
	6	7	8	9	10	11	12	New 6 4 17 E
	13	14	15	16	17	18	19	1st Q. 13 0 19 E
	20	21	22	23	24	25	26	Full 20 2 22 E
	27	28	29	30	31			3d Q. 28 2 13 M
August								
	3	4	5	6	7	8	9	New 5 1 38 M
	10	11	12	13	14	15	16	1st Q. 11 5 17 E
	17	18	19	20	21	22	23	Full 19 3 17 M
	24	25	26	27	28	29	30	3d Q. 27 6 52 M
	31							
Sept'br								
	1	2	3	4	5	6	7	New 3 9 53 M
	8	9	10	11	12	13	14	1st Q. 10 0 32 M
	15	16	17	18	19	20	21	Full 17 6 24 E
	22	23	24	25	26	27	28	3d Q. 25 10 10 E
	29	30						
Octob'r								
	5	6	7	8	9	10	11	New 2 6 4 E
	12	13	14	15	16	17	18	1st Q. 9 11 7 M
	19	20	21	22	23	24	25	Full 17 11 32 M
	26	27	28	29	30	31		3d Q. 25 11 31 M
Nov'br								
	2	3	4	5	6	7	8	New 1 3 11 M
	9	10	11	12	13	14	15	1st Q. 8 1 35 M
	16	17	18	19	20	21	22	Full 16 5 54 M
	23	24	25	26	27	28	29	3d Q. 23 10 38 E
	30							New 30 1 51 E
Dec'br								
	1	2	3	4	5	6	7	1st Q. 7 7 47 E
	8	9	10	11	12	13	14	Full 15 11 59 E
	15	16	17	18	19	20	21	3d Q. 23 7 52 M
	22	23	24	25	26	27	28	New 30 2 16 M
	29	30	31					

MOON'S PHASES.

SOLAR AND LUNAR ECLIPSES IN THE YEAR 1834.—First, a small eclipse of the sun, on the 7th day of June, at 5 h. 2 m., invisible at New-York.

Second.—A total eclipse of the moon on the 21st day of June, in the morning, visible at New-York, as follows:

Beginning of the eclipse, at 1 h. 58 m.

Beginning of the total darkness, at 3 h. 1 m.

Middle of the eclipse, at 3 h. 43 m.

Ecliptical conjunction, at 3 h. 46 m.

End of total darkness, at 4 h. 25 m.

End of the eclipse, at 5 h. 28 m.

Digits eclipsed, 17½ from the south side of the earth's shadow.

Third.—A large eclipse of the sun on the 30th of November, in the afternoon, visible at New-York, as follows:

Beginning of the eclipse, at 1 h. 6 m.

Greatest obscuration, at 2 h. 29 m.

Apparent conjunction, at 2 h. 30 m.

End of the eclipse, at 3 h. 47 m.

Digits eclipsed, 10° 36' on the southern limb of the sun, as represented in the following figure; the dark curved line represents the moon's centre across the sun from west to east.



The sun will be centrally and totally eclipsed on the meridian in latitude 40° 16' north, and longitude 23° 33' west from New-York.

The sun will be totally eclipsed at Charleston, South Carolina, and at Augusta, in Georgia, and many other places in the states of South Carolina, Georgia, Alabama, Tennessee, and Missouri, &c.

Fourth.—Of the moon, on the 15th day of December, in the evening, visible as follows at New-York:

Beginning of the eclipse, at 11 h. 4 m.

Middle of the eclipse, at 0 h. 20 m.

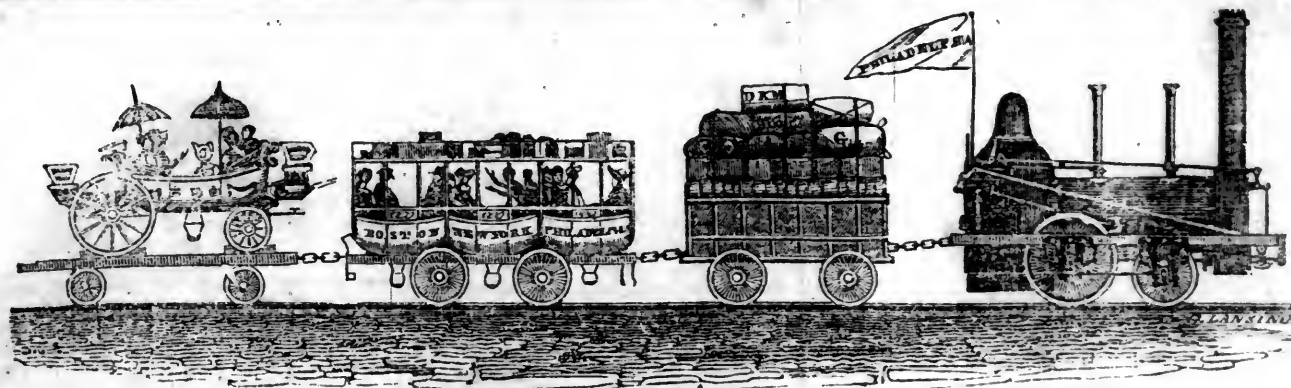
End of the eclipse, at 1 h. 30 m.

Digits eclipsed, 7° 40' on the moon's southern limb.

List of Subscribers to the Railroad Journal who have paid in advance to Jan. 1, 1835, continued from January 25, 1834.

W. Darlington, Westchester, Pa.
J. M. Fessenden, Boston, Mass.
Arthur Hoyt, Boston, Mass.
Morrell Wyman, Boston, Mass.
Edwin Schenck, Newton, Mass.
Thomas Gardner, Hackensack, N. J.
Stephen Gough, 2 copies, Leonardtown, Md.
P. Gough, St. Inigoes, Md.
A & G. Ralston, Philadelphia, Pa.
C. S. Matthews, Aquackanonk, N. J.
Tindall Madison, Richmond, Ind.
E. Martin, Bordentown, N. J.
G. T. Olmsted, Princeton, N. J.
B. Provoost, Jersey City.

Elisha Johnson, Rochester, N. Y.
Charles Carson, Pleasant Garden, N. C.
J. McElrath, Brindleton, N. C.
E. B. Stickney, Watervliet N. Y.
Henry Jones, Fort Gratiot, M. T.
G. W. Weaver, Frederick, Md.
J. B. Jervis, Utica, N. Y.
Troy House, Troy, N. Y.
Lt. Burnet, West Point, N. Y.
A. J. Comstock, Adrian, M. T.
F. Zimple, New Orleans, La.
J. P. Kirkwood, Stonington, Con.
W. D. Cushman, Albany, N. Y.
John Strunk, jun., Olean Point, N. Y.
Alexander Parris, Boston, Mass.
Charles Loss, Camden, N. J.
James Leffel, Springfield, Ohio.
P. A. Sprigman, Ditto.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 33 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, FEBRUARY 15, 1834.

[VOLUME III.—No. 6.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, FEBRUARY 15, 1834.

In this volume of the Journal, we conclude the publication of the report made by the Canal Commissioners upon the survey of the route for a canal from Rochester to Olean Point, on the Alleghany river. This report, although occupying much space, will be found well worth an attentive perusal.

NEW METHOD OF APPLYING STEAM POWER.—Mr. Brown, of Keeseville, has stated that he has invented a plan by which he proposes to dispense altogether with the use of an engine, thereby not only saving the important item of fifteen thousand dollars in the expense, but moreover the cumbersome bulk and ponderous transportation of an engine. He has entire confidence in the perfection and utility of this discovery, having tried the experiment "on a small scale;" and is taking measures to patent his invention, and to demonstrate its capacity early the coming season. Mr. Brown is an ingenious mechanic and worthy citizen of our village. Thus, with Burden's boat, Rutter's process of generating steam, and Brown's application of its power, we may soon expect to ride from Troy to New-York and back in twelve hours, and at an expense less than we could stay at home in "these hard times."—[Keeseville Argus.]

COAL STEAM BOILERS.—The construction of steam boilers of such a form as to admit of the use of anthracite coal for fuel, instead of wood, has long been a desideratum. In the engine and apparatus of the steamboat Novelty, it was first designed to use coal, but from some imperfection or obstacle then yet unsurmountable, in the arrangement and adaptation of the furnace and boilers, that design was abandoned. It is now understood that Dr. Nott has persevered in his experiments for the construction

of a boiler and furnace, in which coal may be used to greater advantage than wood, till success has crowned his efforts. But what the form or fashion of his contrivance is for this purpose, we are not informed.

We see it stated in a New-York paper, that a Mr. Disbrow, already favorably known to the public as an ingenious and enterprising mechanic, has likewise succeeded in constructing a "Lackawana coal boiler," one of which is in operation on board the steamboat Delaware, and of which an individual who witnessed its operation says, "it accomplishes all the anticipations of the inventor."

Specification of a Patent for a New Manufacture of Wheels for Locomotive Engines and Cars, to run upon Railroads, granted to MATTHIAS W. BALDWIN, city of Philadelphia, June 29, 1833. [From the Journal of the Franklin Institute.]

To all whom it may concern, be it known, that I, Matthias W. Baldwin, of the city of Philadelphia, have invented a new and useful manufacture of wheels for locomotive engines and cars, to run upon railroads, and that the following is a full and exact description of my said invention.

Instead of making the wheels for the carriages of locomotive engines, and of other cars, or carriages, to be used upon railroads, of cast iron, or of a combination of cast and wrought iron, or of wood combined with cast or wrought iron, or with both, as they have been heretofore made, I cast the rims of such wheels, as well as in most instances the spokes and hubs, or naves, in one piece with the rims, of a composition of metal known to workmen under the name of hardened brass, or gun metal. It is not necessary for me to designate the proportions in which the respective metals are mixed which form the hardened brass or gun metal, as these will vary with the degree of hardness desired in the rim, or tread, of the wheel, in a manner well known to those conversant with the casting of brass and its compounds. Where it is desirable to increase the adhesion between the rail and the wheel, it may be found necessary to make the wheel proportionably softer, by decreasing the quantity of tin entering into the composition of them, or even to cast them of soft brass or of copper entirely.

I do not intend to confine myself to any particular form for the tread of the wheel, or for the spokes and hub; but to modify it in such way as experience may suggest to be the best adapted to the particular carriage or road to which the wheel is to be applied. I intend sometimes also, to cast the rim of the wheel of such metal without spokes, but furnished with

such flanges, lodgments, or projections, as shall enable me to attach thereto, spokes of wood, iron, or other material.

My claim to an exclusive privilege I rest entirely upon a new manufacture of such wheels, by substituting for their rims, or for every part of them, a new material as hereinbefore set forth, the utility of which consists in its being better adapted to the purposes which they are intended to answer in running upon railroads.

MATTHIAS W. BALDWIN.

On Saxton's Improved Method of Propelling Carriages. By A READER. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

In your number of 16th November last, you furnished your readers with the specification of a patent obtained in England by Joseph Saxton, for an improved method of propelling carriages. On reading it, I was very much pleased with the result promised, and at the same time rather incredulous, doubting whether the inventor had not deceived himself. I could not see through the principle, but did not think that any argument against the truth. I find I was not singular, for it is stated that "Many able engineers had found a difficulty in comprehending the principle." So, thinking it highly curious, and to put an end to my doubts, I made a small model. It works to admiration, and is the delight of every one who has seen it. It is a beautiful mechanical toy, but I am persuaded can never be used advantageously on so great a scale as railroad transportation would require. I had no intention of troubling you—it is the first time I have done so; but the subject has acquired new interest in my view, by the announcement, in a London paper, of some steps taken towards introducing the principle into practice.

I send inclosed the communication referred to, and I am, sir,
New-York, 3d Feb., 1834.

A READER.

EXPERIMENTAL RAILWAY.—A lecture was given, or rather a conversation was held, yesterday noon, at a temporary building and railway, situate in Park street, near the Gloucester gate, Regent's Park, on the "Economical, rapid, and safe travelling upon railways by means of Mr. Saxton's patent locomotive differential pulley; by which simple invention (the placard states) a horse, walking at the rate of

two or three miles an hour, will be able to propel a carriage at the rate of thirty miles an hour."

It appears that a few civil engineers and gentlemen being desirous of trying this invention, a piece of ground is formed into a railway of a quarter of a mile in extent, for the purpose of trying experiments, and yesterday the introductory lecture was given, and several models exhibited.

A Mr. Hawkins, who officiated, addressed the few gentlemen present, by observing that the railway was not in a sufficient state to try any experiments then, and he hoped no gentleman had come there under that impression; if so, his money should be returned. What he contemplated on the present occasion was to explain the principles on which Mr. Saxton's invention was founded, and to elucidate the same by models. This invention was calculated to propel a carriage at the rate of one mile in two minutes; the railway before them when completed would be a quarter of a mile in length, which distance and back, being half a mile, he anticipated performing in one minute. Ultimately he considered the distance from London to York might be performed in about six hours, and he did not despair of achieving in the same way a journey from the metropolis to Edinburgh in the space of one open day. The present invention was a new application of leverage, and one which was rather difficult to be understood, unless put in operation. Many able engineers had found a difficulty in comprehending the principle; but he would use his best endeavors to make himself clearly understood, and should feel happy in answering any question put to him. It consisted of having ropes, one mile in length, extending along the railway, and by means of Mr. Saxton's differential pulley, it was calculated that, with the power of one horse, a carriage, containing passengers to the weight of about one ton, could be propelled at the rate already stated of thirty miles an hour. It would require one horse to each mile, but whilst the carriage proceeded at the rate of thirty miles, the horse would only perform a distance of 150 yards; at the end of each mile fresh ropes were applied to the carriage, a fresh horse worked the second pulley, and thus it proceeded on the journey, a person being stationed at the end of each mile to effect the change of gearage. By these means, it was asserted, the greatest acclivity might be ascended, and the experimental railway would be so formed as to show its effect in this particular, part of it being on the same scale of declivity as Shooter's Hill, or one foot in ten. He next proceeded to show, by means of diagrams and models, the mode in which the propelling force was acquired by the newly invented pulley, and then proceeded to state that it was not his intention to run heavy carriages on the railway. One ton, he thought, would be quite sufficient, because, when they could send ton after ton at the rate of thirty miles an hour, and without any delay between, carrying great weights was unnecessary. On the present plan of locomotive engines, it was indispensable that they should be formed to carry heavy weights, because the locomotive engine generally weighed ten tons; and that great weight, being in a state of agitation, wore out and damaged the road infinitely more than all the traffic that passed over. It was found also that one locomotive engine required three times as much fuel as a stationary engine of the same power. It was his intention to use horses, because one horse power would be sufficient for his purpose; and it was found that there was no saving in using engines under six-horse power, it being as cheap to keep six horses as to work a six-horse engine. There would, in this way, be a great saving in the expense of the power; there would also be a great saving in the construction of the railway. At present a yard of railway weighs 50 lbs.; his would weigh less than half. At present hills are cut down, and valleys raised, to make a railway; by the proposed plan this would be unnecessary.

Mr. Hawkins, having concluded his lecture, answered several inquiries made of him by gentlemen present, and received their best wishes for his success. In the course of the conversation, he mentioned that the manufacturer who had made the rails for the company was now executing an order from America for 1,000 miles of railway.

THE GENESEE AND ALLEGANY CANAL.

(Continued from page 69.)

Part of the Route from Rochester to Allegany at Olean, through the Valley of Genesee River.

It has been ascertained that the principal objection to this route is the difficulty at Nunda falls, at which place the banks are steep, high and rocky, and run close into the shore. In addition to this, there are three perpendicular falls in the distance of a mile and a half, amounting in the whole to 274 feet. By a reference to the map, it will be seen that the river here makes a very circuitous bend, embracing a narrow neck of land which rises high above its bend.

Having only passed over this neck without measuring the distance, I could not form an adequate idea of its width, but am of opinion it will not vary much from 200 rods in its narrowest place, and that its height will not fall short of 200 feet. To encounter the difficulty at this place, therefore, it was obvious that the expense must be great, and it was hoped that some other could be found more feasible and better suited to the importance of the object.

The appearance of the map indicated two favorable points, to wit, the valley of the Cushequa and Canasagaraga. And several intelligent gentlemen residing in that quarter were of opinion, that by keeping up the river a short distance, and preserving the level along its banks, we might easily wind out of its valley, and rise above the high lands at the heads of these streams.

To effect this, therefore, was the object of my examination. We commenced at a place called Norton's farm, near the middle of the east line of the town of Nunda, in a valley which opens through the country in an eastern and western direction, and is bounded on the south by an extensive range of hills nearly parallel to it, and which appear to be of a uniform height. Here we found the main branch of the Canasagaraga, which heads in the hills several miles to the north, and comes into the valley from that direction, and then winds off towards the east. We commenced our level in reference to this stream, and took a westerly direction along the valley.

No obstruction appearing in our way until we came to the Cushequa. The banks of this stream are high and wide, and should the Canasagaraga route be adopted, it must be crossed by culvert and embankment with a heavy expense. At this place the land begins to ascend.

We soon run up to sixteen feet, and within two and a half miles to fifty-eight feet, when we came to an abrupt ridge two hundred and one feet above our level, which extends quite to the river, and precludes the hope of getting round. The descent from this point to the bed of the river is four hundred two feet, and consequently below our level two hundred and one feet. To surmount this, allowing the descent in the river to be eight feet in a mile, (and it will not vary much from it,) it is evident we must go up a little more than twenty-five miles, and as the canal from the Allegany will probably come into the Genesee river at the mouth of Black creek, it is likely it may be difficult to unite the two without some extra expense.

As we did not measure the distance, and do not know any thing of the texture of the soil except from external appearances, our calculation of expense must be uncertain and liable to error. But as it may be desirable to know something on the subject, I submit the following estimate.

The distance of deep cutting from 16 to 58 feet, will be 2 1/2 miles, and the amount of excavation, 1,510,422 cubic yards.

The earth is of a light loam, and a considerable part of it may be excavated for eight cents per cubic yard. But when we take into consideration the depth of cutting, and the distance to which much of the earth must be carried, I am of opinion the average expense will not fall short of 25 cents per cubic yard. This item then amounts to \$377,605 55.

The ridge from whence it begins to rise abruptly to where the level cuts it on the opposite side, is about one hundred rods through, and to make a semi-circular tunnel this distance of thirty-four feet span, which will only give sufficient space for an arched wall 28 feet span and three feet thick, would require the excavation of 27,744 cubic yards. I mention this size because it would be sufficient to admit the pas-

sage of two boats at a time, such as are used on the Erie canal, and any thing less than that would, in my opinion, so incommode the navigation as to more than counterbalance the difference of expense. What the expense of this excavation would be must depend upon the quality of earth through which we must pass. But supposing it to be favorable, as external appearances indicate, it would not fall short of fifty cents per cubic yard, which will amount to \$13,872.

The arch way would contain 14,608 perches. For this work stone can be had within four miles, and in that case the expense may not exceed four dollars a perch, making the sum of \$58,432. As to the expense of making the canal along the bank of the river I think we could not reasonably estimate it at less than \$6000 per mile, including grubbing and clearing, and all the contingent expenses. Distance twenty-five miles—\$150,000. Here then we have an aggregate expense of \$599,909 55.

While at Greigsville, we were informed that a connection might be very advantageously formed between Rush Creek and the west branch of the Cushequa, as these streams rise in the same swamp; but upon examination we found the lands so high as to put that route entirely out of the question. It should be here mentioned, that whether the Canasagaraga or Cushequa route is adopted, the difficulties mentioned above must be encountered, as they are common to both. The Cushequa route is shorter by several miles, and may perhaps be preferable on that account.

The Canasagaraga, at Dansville, is a very commodious mill stream; and I know of no place in the western country, (with the exception of Rochester,) so well calculated for hydraulic operations; and should it ever be deemed expedient to form a connection with the Susquehanna river, there is no point perhaps more eligible than that between Arkport and one of the branches of that stream. The distance between the two points is short, and there are no obstructions in the way. I have seen the ground, and speak with confidence.

I was requested by Judge Bonck to make some examinations on the Allegany river, in relation to the improvement of its navigation. It not being convenient for me to attend to it myself, I engaged Mr. Cantine, my assistant at that time, to go down as far as Franklin, and collect such information as he supposed might have a bearing on the subject. The result of his inquiries he has communicated to me in a letter, a copy of which is herewith transmitted.

On his return, he informed me, that the distance from Warren to Franklin was sixty miles, and the descent of the river between the two places, was 189 feet. That the west bank, particularly, was very favorable to the construction of a canal, with the exception of 3 1/8 miles. This distance, though more expensive than the rest, was by no means impracticable. The bottom of the river stony, but generally free from rock. No bluffs or sliding banks the whole distance. Materials of every description necessary for the construction of the work were very convenient, and in great abundance. He also learned from various respectable sources, that these remarks were generally applicable to the whole distance to Pittsburgh. Such being the facts, the cost per mile of making a canal from Warren to Franklin, exclusive of lockage, may not exceed \$6000. This distance, being sixty miles, the expense amounts to

Lockage 189 feet, at \$8⁰⁰ per foot, \$360,000
14,175

\$374,175

Now allowing the average cost per mile, from Warren to Franklin, to be applicable to the distance from Warren to Pittsburgh, we shall perceive that as the one is \$6,240, nearly, and the other two hundred miles nearly, that the whole expense of that distance will amount to \$1,248,000. And we also perceive, that allowing these and the calculations made for the second route, as communicated in this report, be true, that the whole expense of making a canal navigation from Buffalo to Pittsburgh will not be equal to \$2,000,000.

Now if the State of Pennsylvania will but bring forth her science and resources to this mighty enterprise, she may, in conjunction with the State of New-York, effect a work which, for its importance in a commercial, agricultural, and national point of view, cannot be equalled by any other similar undertaking in the Union.

The above is respectfully submitted by

CHARLES T. WHIPPO.

Murray, January 28, 1826.

(Copy of Mr. Cantine's Letter.)

Dear Sir: Agreeably to your directions, I proceeded down the Allegany from Warren to Franklin, in Penn-

sylvania. I left the former place on the 8th day of October last, accompanied by a gentleman selected by the citizens of Warren as a man the most capable of giving correct information of the operation of the floods, and of the river generally.

The stream was uncommonly low, which afforded the best opportunity of viewing its bottom. From the best information I could obtain from the citizens of Warren, I was of opinion the west side afforded the greatest facilities, and my examinations were therefore principally confined to that side. My examinations may be classed under three heads. First, the descent in the river, by estimating the fall in the river by the different ripples, by comparing them with the two we had ascertained with the instrument. Second, to ascertain if the stream could be improved by damming, and locking, and canalling from one dam to another. Third, canalling on the west side, to be supplied with water from the river or the streams that fall into it.

1st. Estimating the descent, I judge it to be one hundred and sixty feet: but on my return to Warren, on searching the prothonotary's office, I found by comparing our levels with a report made by commissioners appointed by the legislature of Pennsylvania, to survey a route for a canal from lake Erie to the Alleghany river at the mouth of French creek, I found the descent to be one hundred and eighty-nine feet. Those commissioners, in their report, regret that it was not in their power to procure an experienced engineer with proper instruments to investigate the route: it is, however, probable that that report is nearly correct.

2dly. Draining the river, &c. The reason why this mode of improvement was suggested, is, that it was feared the banks of the river would be so steep and difficult as to prevent the construction of a canal. To avoid this difficulty, several dams would be necessary, but it would be impossible to determine their location or number; not knowing the descent in the river from one point to another, and believing as I do, that it would be better to construct a canal on the west side of the river, I shall therefore proceed to the result of my examination on that head.

3dly. Canalling on the west side, &c. The distance from Warren to Franklin is sixty miles. Sixteen miles of this, the side-hill comes down to or near the water's edge, at seventeen different places; which is moderately steep. At almost each of those there are several rods together, where there is a margin sufficiently elevated above the river, and wide enough to admit of a canal.

There are three miles of steep side hill; soil the whole of this distance of the sandy order, some places loamy with some detached masses of rock. The river along this distance not to exceed ten feet deep at any one place where it would be necessary to construct works for a defence to the canal, and the greater part of the distance less than three feet deep.

The bottom of the river, the whole distance, was stony, and all the information I could obtain from the old settlers, as to the changes of its channel and banks, agreed that they were few and gradual, and the uniformity of the descent, the appearance of its banks, the great width of the stream, and its appearance generally, unite to show the information correct. There is not a bluff or sliding bank on the whole shore. A covering or lining of stone on the outer side of the tow-path, sloping at two to one, would be sufficient to protect it from the effects of the river; the stone for this purpose in many places would be obtained in digging the canal, and at other places from the bed of the river.

There are two chains of rock bank in horizontal strata; they will admit of being easily broken up; the bed of the stream at this point is rock, thinly covered with loose stones, which, when I viewed it, was but partially covered with water. There is good earth convenient to this place, to form the canal, and the stone for covering may be taken from the bank or the bed of the stream; the river is of good width here.

The residue of the distance, the canal may be carried through favorable ground at or near the foot of the hill, altogether out of the reach of the floods of the river.

As to a supply of water, on this subject there can be no difficulty. There are a number of streams that fall into the Alleghany on the west side, and their descent is sufficiently rapid when they enter the valley, to be made use of as feeders, and to be crossed conveniently, the largest of which are Broken-straw, Oil and French creeks; there is every material necessary for the construction of the work in the vicinity where it will be used. The most intelligent gentlemen in that quarter united in stating that the river was of the same character from Franklin to Pittsburgh.

I was cordially received by the citizens of Warren and Franklin, and every information in their power afforded. Most respectfully, your obedient servant, ABM. CANTINE.

To C. T. WHIFFO, Esq.

To the Honorable the Board of Canal Commissioners of the State of New-York,

I take the liberty to address the following report:

That the following examinations have been made by your orders, for the purpose of ascertaining the practicability of constructing a canal, and of supplying the same with water, to connect the Erie canal with the Alleghany river, by passing the village of Batavia, and up the valley of the Tonnewanda creek, to a summit to be formed between Cattaraugus lake at the northeasterly, and Lime lake at the southwest-erly extremity, and thence descending by the valley of the Ischua and Olean creeks, to the Alleghany river at Olean Point.

For which purpose I commenced the 6th October, 1825, at the level of the Alleghany river at Olean Point, at which place it is ten rods wide, and sends forth 12,236 cubic feet of water per minute. From thence an accurate level and measurement of distances was carried up the Olean creek 7 miles and 42 chains, to its junction with Oil and Ischua creeks in the township of Hinsdale, and found the rise to be 37.79 feet between the Alleghany and Oil creek. Oil creek at its junction yields 551 cubic feet of water per minute, in the driest weather. From the mouth of Oil creek, the level and survey were continued up the Ischua through the townships of Franklinville, Farmersville and Yorkshire, to Lime lake, a distance of 27 miles and 66 chains from Olean Point; and the total rise from the Alleghany river to Lime lake is 233.63 feet.

A canal from Olean to Lime lake would pass through a valuable tract of country, well cultivated, and abounding with pine and oak timber of the first quality. The soil is a sandy loam, easily excavated, and the surface is generally very regular on the line of canal. The summit dividing Ischua creek from the south end of Lime lake, is about one mile in length, through a tamarack swamp, and rises on an average six feet above the surface of Lime lake. Suitable stone for locks, &c. can be found along the line at convenient distances.

From Lime lake, (which is the summit,) the summit level was carried in a direction towards Cattaraugus lake, and it is ascertained that Beaver lake is 62 feet, and Peacock lake 53 feet above Lime lake; and both these lakes have several smaller ones connected with them, it is evident their waters can all be brought on the summit level.

Cattaraugus lake was found to be 22 feet above Lime lake, but being on the line of the canal, it must be cut through, and also a dividing ridge at the northerly end of the lake, which rises 15 feet above the level of the lake, and runs out to the level in 25 chains. From Lime lake to the north end of the deep cut, the summit level would be 24 miles, and the ground generally favorable, though in many places sidelying and steep, and all may be called heavy timbered land. The only deep cut unavoidable is through the Cattaraugus lake and the dividing ridge. The cutting through the lake would be 26 feet for half a mile, and through the ridge 41 feet for near one-fourth of a mile. The average cutting for two miles is about 20 feet, and it is to be presumed that rock would be met in those depths.

From the northerly end of this deep cut, the country slopes gently to the north, and the canal would follow the valley of the Tonnewanda creek, which would be the principal feeder, and runs through a country of excellent soil and highly cultivated for 30 miles, to Batavia, and thence 20 miles further (having a choice of ground the whole distance) to the Erie canal. The whole distance or length of the Batavia and Olean canal is 101 miles and 66 chains.

The water to supply the summit level of this canal is as follows, viz:

The west branch of Ischua creek to be turned into Lime lake, yields per minute	200 cubic ft.
Lime lake, from a surface of 150 acres, per minute	150 "
Beaver and Fish lakes do. 240 acres, per minute	200 "
Peacock & Mud l. Cl'r cr. 250 acres, per minute	700 "
Cattaraugus lake 150 acres, per minute	150 "

Total, 790 1400

Besides these, would be taken in several small spring brooks; and it should be understood that these calculations were made at the driest part of an unusually dry season. It is the opinion of respectable, observing men, that these same lakes and streams have usually afforded more than double the quantity herein stated, during whole seasons in succession; and that these lakes might be made into reservoirs of more than double their present capacity, by erecting dams across their outlets of moderate height, and comparatively at a trifling expense, which would insure a supply of water on the summit adequate to the demands of extensive commercial operations.

The lockage on the Batavia and Olean canal is as follows:

From Cattaraugus lake northerly to the Erie canal	1,135.84 feet.
From Lime lake southerly to the Alleghany river	233.63 "

Total amt. lockage, rise and fall, 1,369.47 feet.

It is proper here to state the lockage on the Rochester and Olean canal, by the Oil creek summit, viz.:

Total lockage north from Oil creek summit to Erie canal	981 feet
Total lockage south from Oil creek summit to Alleghany river	78.79 "

Total amount of lockage, rise and fall, on this route 1,059.79 "

Difference of lockage between the two routes 309.63 "

The principal feeder for the Oil creek summit from the west is the Ischua creek, which can be taken out for that purpose at the foot of Farwell's mill race, three miles and twenty-four chains above the mouth of Oil creek, viz.: Ischua, at Farwell's mill, feet per minute, 750
Lime lake, and Beaver and Fish lakes, which can be turned into the Ischua, 400

	1150
Oil creek, near the summit, say	150
	1300

Having viewed Oil creek summit as a remarkable depression across the country, and very favorable for a canal, the following examinations were made with a view to that object. The Alleghany river at Olean is 2 chains 50 links wide, and moves at the rate of 100 feet per minute, at an average depth of $\frac{1}{10}$ foot, and sends forward 12,236 cubic feet of water per minute. Its total descent from Olean to Pittsburgh is 650 feet, and the distance 280 miles; and in order to a better knowledge of this fine river, a level was carried up the river 8 miles to Rea's mills near the Pennsylvania line, and in that distance the surface of the river had risen 17 feet. About half a mile below Rea's, the Oswego fork of the Alleghany comes in from the east: this fine stream has a swift current, and sends out 2,500 cubic feet of water per minute. I had hopes that this stream might be brought to the Oil creek summit by extending the summit to the vicinity of Olean; and this I believe to be practicable, provided the Oswego could be taken out a few miles south of the Pennsylvania line. This feeder made navigable would lead into the region of stone coal.

A canal uniting with the Alleghany river by either of the above routes, would accommo-

NEW-YORK AMERICAN.

FEBRUARY 8—14, 1834.

LITERARY NOTICES.

No. XIV.

DEXTER, (*Washtenaw Co., M. T.*) DEC. 15th.

I have been waiting here since I last wrote in order to join an exploring party of three or four individuals, to go up into Shiawassee county, to examine lands. A heavy snow storm has set in to-day, however, and as it will put an end to the expedition, I shall probably start by myself for the Hologago county to-morrow. The journey to Grand River which I proposed to myself, I shall, from the time it would consume, be compelled now to abandon entirely. I do not regret the time I spent here for I am not far from the centre of the territory; and while I have my headquarters at a good tavern in a well settled place, I can, in a ride of a few miles, plunge at once into the wilderness. It is a pretty dangerous matter, however, for a stranger to go without a guide reconnoitering through a country where every hill, lake and wood, looks so much like its brother, that the ordinary landmarks are of no assistance to the eye. The scenery of Michigan will be far more attractive when cultivation shall give variety to a landscape which, however beautiful it is at present, is somewhat monotonous. After visiting nearly a dozen of the transparent ponds of every size which stud the surface of the country, and finding but two or three whose firm banks of some fifteen or twenty feet elevation, assumed a picturesque appearance, from the irregular manner in which they pushed their beautifully wooded promontories far into the lakes they bounded, I started, the other day, to visit a sheet of water somewhat elevated, about twelve miles off. My way, after going a mile or two from the village, led through oak openings of rolling land, called "the short hills," which I can best assimilate to a collection of enormous graves—the tombs of cities, if you choose—thrown confusedly together upon a perfectly level surface—where a patch of wild meadow land—a cranberry marsh, or a bog that looked like the desolated bed of a lake, and frequently indeed the shallow lake itself, filled up the intervals. The huge oaks that crowned the summits of these formal mounds were the only objects that relieved the dreariness of the landscape—even they, I thought, while riding alone beneath their branches, that sighed to the December wind, were not the most enlivening objects in the world. I rode thus for miles, without seeing a living thing, except a raven, which, as that description of bird is only found in these parts of the Union where wolves still infest the country, I at once took it for granted was hovering near one of the savage beasts to which he so faithfully plays the Jackall. Wheeling my horse suddenly from the trail toward a thick et of dwarf oaks, where I expected to find the carion deer that attracted these worthies, he shyed from the bush, and I was thrown upon the spot. After extricating the foot, by which I was dragged a yard or two, from the stirrup, I sprang up but little hurt and moved as quickly as possible to catch my horse, who, having paused for an instant in a clump of trees near by, turned his head around, like a pointer taken aback with the scent after he has passed a bush, and stood calmly gazing at me. At the first step toward the rascal, however, he moved nearly a rod sideways, and then ducking his head toward the ground, and throwing his heels high in the air, my ungrateful courser, accompanying these motions with every additional mark of disrespect he could summon to his aid, left his master alone in the wilderness. He disappeared behind a hill in a moment. I could not help ejaculating with the Kentuckian whose house and family had been burnt up by the savages while he was cleaning his rifle at a brook hard by—"This is very ridiculous." No time was to be lost however. It was late in the day and I was far from any house; while the occa-

sional flakes of snow, which began to fall from the black lowering sky, threatened a storm which might cover in a moment the only path that could guide me homeward. I sat down at once among the long dry grass, and stripping off my leggings and disembarassing my heels of the now useless spurs, stowed all away in my coat pockets. The coat itself, I rolled up in a bundle around my left arm, and taking my gun, to which I applied a fresh cap, in my right, I strode off in as good a humor as one could summon under such provoking circumstances. I could not help thinking, indeed, how much worse matters might have been had I been thus deserted in one of the broad prairies, thirty miles, perhaps, from any house. As for the loss of my horse, I felt so indignant against the inconsiderate brute, that I confess it did not much trouble me. Thus did I trudge on, growing momentarily a better humor with myself. The scene around was dreary at present, but having had all the wild flowers that grow in Michigan described to me, I exercised my imagination by conceiving the more attractive appearance it must wear in summer. I thought how the brown woods must look when the lofty oaks around were clothed in their deep green foliage. I thought of the various vines and flowers which then fill the broad opening between their stems—of the clumps of cluster roses that here grow wild and cover whole acres—of the crimson daisy and fragrant balm pink, the deep-hued lichnidia, and gorgeous golden rod, which, with jonquils and amaranth, the purple fox-glove, and saffron colored silk weed paint the surface of the soil. I could fancy the glossy leaves of the night shade, with its white blossoms and poisonous berries, the creeping ivy and red columbian clustering at the base of the hills. The snow-white lily of the valley, the lilac-tinted, adder's tongue and straw-colored arrow-head, shooting through the long grass between, while the purple fleur-de-lis bloomed along the wet marshes, and the splendid cardinal-flower tossed its scarlet leaves in the breeze that swept the banks above.

I must have practised horticulture in this way for sometime, when on rising a slight eminence in my path, I saw my amiable roan standing quietly looking in the direction whence I was coming, apparently waiting for me. I was completely mollified. I forgave him the little freak and advanced with a light heart to lay my hand upon the bridle. He moved a little, and so did I. He moved a little more and I stood still. I spoke to him, but he continued moving. I coaxed him in a tone that would have melted the heart of one of the marble horses of St. Mark's. He was moved by it only further from me. I whistled to him—(I had taught him a day or two before to come to my whistle, when he had obeyed me like a dog)—he stopped, and I advanced once more to lay my hand on the saddle, and the second broke into a trot just as I was about touching him. I brought my piece to my shoulder, and could hardly forbear drawing the trigger upon him as I stood.

The ground now rolled like the waves of a frozen sea, and my nefarious brute, who soon began to stalk leisurely along about a hundred yards ahead of me, would, to carry out the figure, be just topping the combing while I was in the trough, and vice versa—like two children balancing on a plank. It was perfectly insufferable, mile after mile, to see that eternal saddle bobbing up and down a hundred yards ahead of me. Sometimes, indeed, the vexatious wearer would step aside among a cluster of oaks among the tender grass which still lingered around their roots, and then as he would arch his neck, and seeming to admire the Indian blanket and flame colored surcingle which, after the gay taste of the west, I had buckled, combining use with ornament, to the back of the ungrateful brute, dash off with a snort into a patch of prairie land, I could not but admire the eye of fire and gracefully-gathering-limbs of the spirited creature. I wished, however, that he was any body's horse but mine, disporting himself at that rate. Besides he was a Kentucky horse, and what right had he to run thus wild in Michigan. At last at a turning of the path he disappeared behind a hill, and ceasing longer to tantalize, left me comparatively comfortable. I reached the first "clearing" about 20 minutes afterward, and looking along the highway which here commenced, my steed was nowhere to be seen. Tirel like with walking and vexation, and parched with thirst, (I had neither eat nor drank since breakfast, and it was now nightfall) I advanced to the only shantee near, and knocked at the door. There was no answer, and I shook it violently. A rush-bottomed chair rattled and a cat, the solitary occupant, sprang out through a broken window. I soon found my way, however, to the dilapidated trunk of a large sycamore tree near, which formed the top of a well, and draw-

ing up a moss-covered bucket I placed my lips to the rusty iron-bound brim and took a draught to which the most delicious of Lynch's chateau were but vile *vin-du-pays* in comparison. I can remember but one drink in my life before to compare with it, and that was from a similar goblet after other lips than mine had hallowed the brim. A few moments after a lad rode into the yard with the object of my pursuit, whose bridle had been broken to pieces in the effort of several men to catch him a mile or two off. I was mounted in a moment, and regained my lodgings in an hour, when I found that the adventure of the day had not impaired my relish for a supper of fresh pike and white-fish just smoking on the table.

The range of hills which traverse the Peninsula longitudinally near here, though never, I believe, more than 200 feet high, are said by some to constitute the most elevated part of Michigan. As they abound in game and consist altogether of oak openings, you can conceive of nothing more animating than to gallop over them on horseback. I was out again among them yesterday; and having a pocket compass with me and a map of the country in my pocket, I ventured to leave the trails that wind among the hollows, and scamper over the hills, as my fancy led me. A large flock of grouse rose almost from beneath my horse's feet as I topped the first slight eminence, and then just as the animal was recovering from the flurry into which the rushing sound of their wings threw him, a tall broad-antlered buck, the largest I ever saw, sprang from a small covert, and bounded through the wide forest glades. Away too I went—the feeling was irresistible—I could see the fellow leaping as if he had wings over the rolling land, and the clear bracing atmosphere had given spirits to my horse, that sent us ahead like one and the same animal. In spite of the deer's prodigious jumps, which were as high as they were long, I had gained decidedly on the chase, when coming to the brow of a steep hill, he dashed down the side, and was far away over another before my less agile horse could descend the first. I saw two more deer, besides several flocks of grouse, during my morning's ride. Singularly enough, this was the only time that I had moved a mile without a gun since I left New York; and it was the only opportunity I have had to use one to advantage. If Der Freyschutz were in this region, I should certainly have let the wild huntman make his own terms with me for better luck.

To-day, for the first time, I saw the meadows on fire. They are of vast extent, running far into the woods like the friths of a lake; and as the wild grass which they supply in the greatest profusion, furnishes the new settler with all the hay he uses for his stock, they are burnt over thus annually to make it tender. These fires, travelling far over the country, seize upon the large prairies, and consuming every tree in the woods except the hardiest, cause the often-mentioned oak openings, so characteristic of Michigan scenery. It is a beautiful sight to see the fire shooting in every direction over these broad expanses of land, which are kindled at a variety of points. The flame at one moment curls along the ground, and seems to lick up its fuel from below, while at the next it tumbles over like the breakers of the sea upon the dried grass, and sweeps it in a wave of fire from the ground. I found myself repeatedly surrounded by the fire, while riding hither and thither, watching its progress; but was only on two occasions exposed to any inconvenience—once when my horse was bogged to the saddle girths, so that I had to dismount, in a morass, covered with high weeds, to which the flame was approaching, and again when I found myself in a patch of small woodland, which cracked and roared like tophet itself.

As I rode to and fro here, with a young gentleman in company, trying to find a point where, if necessary, we might encounter the flame to less disadvantage, if unable to avoid it altogether, the ridiculous position in which we had placed ourselves, reminded me not a little of that which Andrew Fairservice occupied on the rock, when he trotted hither and thither on his narrow platform, to avoid the bullets of Rob Roy's Caterans. A finer subject for reflection, however, presented itself near the spot. A small brook crossed the meadow, and my companion dismounting, led his horse through, and gained the other side in a moment. But mine, when I rode him rapidly to the brink, and endeavored to jump him, recoiled. I wheeled round, and tried it again; but his recent experience in the treacherous marsh made him fear the edgy brink, and nothing could prevail upon the cautious animal to approach it. At the last attempt, he recoiled so

suddenly with a terrified snort, that I was nearly thrown over his head; and looking for the new cause of anxiety where the stream wound around, so as almost to double itself in front of me, I saw, on the little peninsula of the burning meadow thus formed, an Indian standing with folded arms amid the wreathing smoke, and surveying my motions with an aspect of perfect calmness. He was a middle-aged man, rather tall, and in the full costume of his tribe. The hair on his forehead, which was seamed with several ghastly scars, was nearly white, but three long plaited locks of raven black fell down behind from the crimson handkerchief which bound his brows. He wore a white woollen frock edged with black, with scarlet leggings and moccasins, while armlets of silver and a belt containing his tomahawk and scalping-knife completed his equipments. All these, however, were observed afterwards, when I had given up the attempt to cross the brook, and spurring through the flame where it was lowest, placed myself by the side of the old warrior. But for the present I remained fixed in my seat, gazing on the noble apparition with as much delight as if my own call had evoked it from the ground. I had seen a dozen Indians of all sizes and sexes in the course of the day, not one of whom had awakened the slightest interest; but there was that about the port and bearing of this grim-looking savage, which, with the somewhat theatrical attitude he assumed and the circumstances under which I first beheld him, carried me away completely. He smiled when I approached him, and received me with great kindness of manner; though, as neither of us understood the language of the other, there could be but little interchange of ideas between us. The few Indian expressions of which I am master, were soon expended, and he seemed not to have a word of English to give me in exchange. He made my companion understand, however, that the frightful wounds which disfigure his noble front, were received while fighting on the side of the British against the Americans at Sandusky.

The name of this veteran chief I have since learned to be *Okemaus*, and I find that he is well known and quite respected in the neighborhood.

GRASS LAKE, JACKSON CO. (M. T.) DEC. 16.

The storm of yesterday still prevailed when I left my excellent quarters at the growing little hamlet of Dexter, to find my way toward the country watered by the beautiful *Kalamazoo*. I had been furnished by mine host with a map of the route for the first eight or ten miles, and it would have amused you to see me occasionally stopping in a furious snow storm to balance my pocket compass on the hasty chart thus supplied. I found my way, however, with very little difficulty through a very thick wood, when the thick coat of snow that robed the trees gave a most fantastic appearance to the forest, and about noon I struck the Washtenaw trail to the west. The travelling, however, was anything but agreeable. The snow being soft would "ball," as it is called, beneath my horse's feet, and what with the stumbling and slipping on this account, I have been unable after a day's travel to make more than twenty miles. There was barely light enough left for me to distinguish my way, when I arrived at a comfortable log house belonging to an intelligent and hospitable farmer, a recent emigrant from the western part of the State of New York. The owner of the dwelling was absent, and it was not till after a parley of some minutes between two very pretty women, whom I could distinguish through the window by the light of a tempting-looking fire within, that I gained admittance to pass the night. Once there, however, nothing can exceed the kindness of the family to make the few hours I shall pass with them agreeable.

SPRING-ARBOR, DEC. 17.

The snow still continues, and the road, becoming worse and worse, I have made even less progress to-day. But there is something so wild and picturesque in the country through which I am passing, that even such travelling has its pleasures. I have counted more than a dozen lakes on my route, and though some of them are only dreary-looking pools, covering a few acres, in the midst of an extensive moss marsh, yet the short sudden hills which surround others, with the beautiful groves of white oak on their banks, and the natural meadows that open upon their mimic friths, make a most romantic appearance. I came unexpectedly upon a travelling band of Ottawas this morning, in one of the most abrupt of these passes. They were returning home partly equipped with presents from the recent treaty held on the Wabash, and their fluttering blankets, gleaming weapons, and gaudy equipments generally,

would have made them a fine subject for a painter, as a furious squall of snow swept along the side-hill they were descending. We exchanged the customary salutation, "Bojur," (probably from the French *bonjour*), and passed on.

There are several Indian graves immediately before the door of the shantee where I am stopping for the night, which I am told are regularly visited and weeded by the surviving relatives of those here buried. My host has had the good taste to put a fence around them to keep his cattle from the spot—a piece of attention with which the Indians appeared to be much gratified at their last visit; and I may here observe that the settlers of Michigan generally appear to treat this ill-fated race with a degree of kindness and consideration that might well be imitated on other sections of our frontier. This morning I crossed the far-flowing Washtenough (or Grand River) near the new village of Jacksonburg; and the sight of its clear smooth waters inspired a new regret that I must abandon my original intention of following them down to the last trading post.

FORKS OF THE KALAMAZOO, {
(Calhoun) Dec. 18.

This never ending storm still continues, and the trails, where not incessantly travelled, being now completely covered and effaced, I lost my way this morning, and wandered several miles from the track. After traversing a broad marsh, however, where my sagacious horse seemed loth enough to venture, I struck a burr-oak opening, and found my way, by the blazed* trees back to the main trail. A man who is used to it, I am told, can get along very well in this way; but you can imagine, that where one has frequently to cross openings of some two or three hundred yards in width, and then hunt up these primitive guide posts, which only occur at long intervals, and have their slice of bark taken out at either side, it is not quite so easy to find his way here, especially with the snow blowing full in his face, as if walking through the rectangular streets of Philadelphia. It took me three hours to gain six miles in this way, my horse slipping and flouncing at almost every step. But lost as I was, I could not help pausing frequently when I struck the first burr-oak opening I had ever seen, to admire its novel beauty. It looked more like a pear orchard than any thing else to which I can assimilate it—the trees being somewhat of the shape and size of full grown pear trees, and standing at regular intervals apart from each other on the firm level soil, as if planted by some gardener. Here, too, I first saw deer in herds; and half frozen and weary as I was, the sight of those spirited looking creatures sweeping in troops through these interminable groves, where my eye could follow them for miles over the smooth snowy plain, actually warmed and invigorated me, and I could hardly refrain from putting the rowels into my tired horse, and launching after the noble game. What a country this is. Into land like this, which is comparatively undervalued by those seeking to settle on the prairie, a man can run his plough without felling a tree, and, planting a hundred acres where he could clear but ten in the unsettled districts of New York, raise his 25 bushels of wheat to an acre in the very first season. "How is the soil here, Sir," said I to a farmer whose broad fields, though but a year under cultivation, looked as if they had been tilled for ten. "A pretty good gravelly loam of 18 inches; but I think some of moving off to Kalamazoo, where they have it four feet deep, and so fat that it will grease your fingers." Railroads and canals will make one broad garden of Michigan, and even now, there is something singularly pleasing to light upon spots in the wildest districts, which, were it not for the rude shantees which indicate their recent settlement—often of but a few months back—might be mistaken for the cultivated farms of an old country. The absence of stumps in the land under cultivation, and the open groves adjacent, give a smiling openness to the landscape which, with the myriads of wild flowers that here deepen the woods in their season, must make the aspect of the country perfectly delightful. I hardly know, though, how some of your city *élégants*, the votaries of Delmonico, or the fair visitants at Gardiner's, would meet the inconveniences of travelling here. As for eating, indeed, they might manage with the aid of cranberry sauce to rough it on venison and wild honey, backed by the finest potatoes and best wheat bread in the world; but I think that when it comes to sleeping, they would be somewhat posed between a bed in the bush and one shared with the hospitable inmates of a cabin, whose dormitory for the whole family is often, as well as their kitchen

* "Blazed" trees are marked with an axe or hatchet, to designate that a trail runs near them.

and parlor, comprised in a single room. Were it not an infraction of the second law of hospitality, I could draw some queer pictures of scenes I have witnessed in this way.

I have now passed the central region where the Eastern and Western rivers of Michigan have their rise, and while I follow down the pebbly waters of the beautiful Kalamazoo to their western outlet, and from thence pass to the mouth of the St. Joseph's, you must not expect the same regularity in my correspondence I have hitherto attempted to preserve. I am well.

MANLY PIETY ON ITS PRINCIPLES, by ROBERT PHILLIPS, of Maberly Chapel. New York, JOHN WILEY. A book on religious duties, which, like this, has the merit of being exempt from all cant, and which presents religion in an aspect that is attractive, and with tolerant views, cannot but do good. The manner of the writer is earnest and forcible, and his matter that which concerns all.

SELECT WORKS OF JAMES SHERIDAN KNOWLES, 2 vols. Boston, CARTER, HENDEE & Co., and ALLEN & TICKNOR.—The acting of MacCready, of C. Kean, of Forrest, and above all of Charles Kemble and his tragic daughter, have made the tragedies of Sheridan Knowles familiar to our theatrical public. *Virgilius*, *William Tell*, the *Hunchback*, and *The Wife of Mantua*, are all appreciated here. These, with other of his dramas, and some of his excellent prose tales, together with a brief memoir of his life, make up the contents of these two little volumes, which are quite an agreeable addition to current literature.

THE AMERICAN TURF REGISTER, &c. for February. Baltimore: J. S. SKINNER.—With much of the usual interest in this number for the amusement and information of sportsmen, there is in one of the papers a somewhat higher and more serious tone of philosophizing, if so we may call it, than is usual in discussing the breed of horses and dogs. We give an extract from this paper. It is to rebut the notion that because we have good horses in America, it is not worth while to seek to improve them by importations from abroad.

Change the name and the object, and the truth and justness of these remarks are of general applicability.

But I must notice an argument on account of its commonness—if *argument* that can be called which is a feeling, and not a reason; an argument which, springing out of our pride and prejudice, makes us put a high estimate on ourselves and our things, and a low estimate on other persons and things, and disdains to acknowledge that the growth of America is inferior to the growth of any foreign clime. Our people have a national conceit,—a public egotism,—which makes us exalt ourselves at the expense of others. Say anything is *American*, and it is stamped at once with a nationality, which confers on it undoubted excellence and indisputable superiority. Hence it is that we hear the performances on the English turf denounced as fables, altogether unworthy of credit. As in higher and more important matters, so in matters of the turf, this wide-spread and rapacious feeling prevents us from imagining any thing superior to the feats of our own horses, and flatly denies that the superior means and facilities of England have produced their natural and correspondent effect. It would be as well to deny the existence of Shakespeare and Sir Walter Scott, because no one amongst us has yet rivalled "the Bard of Avon" and "the Great Unknown." It would be as well to deny the existence of Rothschild, because we have no banker who can control the operations of the most potent governments. We might as well deny the existence of London, the "modern Babylon," with her million and a half of people; or the magnificent system of English pauperism, which tells of two million recipients of public charity. The fact is, and it cannot be disguised, that England is in advance of us in many respects. She is in advance of us in age and power, and wealth and luxury, and corruption—in philosophy, poetry and eloquence—in manufactures, agriculture and commerce—in her military and marine resources—in her towns and internal improvements—in her public debt and public burdens. She is in advance

of us in the pleasures of life, yet farther than its business: in her theatres and shows—her amusements and sports—her boxing and cock fight—ing—her dog coursing and horse racing. It is true that we already rival her in many things, and surpass her in some; and as our country gets older and richer, and our citizens enjoy means equal to hers in all respects, there can be no doubt that, whether "for woe or for wo," we can fearlessly stand beside her in every thing. The time will come when the impartial scales of justice will award to us what our national vanity would prematurely snatch, and we can safely challenge a comparison with our mother country in all the employments and pleasures of life, and the consequences incident to them. The time will come when we shall have our poets and our paupers—our wise men and our woolen factories—our towns with a million of people, and our bankers with their millions of money. And, in relation particularly to our subject, we may safely assert, that the time will come when we shall manage things with more system and greater skill—when we shall have a better stock and better racing—when the performances of our horses will justly vie with the boasted feats of the English Eclipse, Highflyer and Prim.

A MONTH LATER FROM ENGLAND.—The ship United States, of the 13th Dec., and the ship Napoleon, of 24th Dec., from Liverpool, both arrived last week, giving us from England accounts one month later than previously received.

The British Parliament, which stood prorogued to the 12th December, was, by royal proclamation of 9th December, still further prorogued till the 4th of February.

The French Chamber of Deputies were to assemble on the 23d December.

The packet ship North America, which sailed hence on the 1st December, arrived out on the 23d.

The U. S. Schooner Shark sailed from Lisbon for Gibraltar Dec. 12th.

The Paris papers state that the Duke of Orleans will set sail for America in March next, and that he intends to pass the greater part of the year in visiting different parts of that country.

BEARHAVEN, Dec. 9.—The Orpheus, Glover, from Charleston for Liverpool, having been got off the rock, proceeded yesterday, and has put into Bantry Bay.

"The American vessel wrecked at Berck, near Boulogne, the 2d December, is the Dorothea, from New York to Rotterdam. Crew saved."

The most important intelligence, at this moment, to our community, indeed to the whole country, is a considerable and unanticipated improvement in the price of the great staple of Cotton.

Some apprehension existed, we learn, that American Stocks sent to England for sale, might, with the bills drawn against them, be returned by these packets. Nothing of the sort, however, has occurred.

LONDON, Dec. 21.—The Consol-market, after a very long period of stagnation, has experienced an advance to day, to no very material extent. The cause assigned for it is a remarkable one, since it is given out to be the determination of the Bank to lend a sum of £2,000,000 on stock. According to another account, however, this is not to be done with money the property *bona fide* of the Bank of England, but with funds held in deposit belonging to the East India Company, for which corporation the Bank is to act in the affair solely as agent. All the reports agree, however, in stating that such a sum, at present lying idle, is about to be employed for such a purpose. Still the question naturally presents itself, why the bank should become an agent at all in such a manner, and why the same could not be done in a direct way by the East India Company? To the monied interest at large the effect will, perhaps, be the same, since there is as much an increase of the issue of notes in one way as in the other; but it is a very different thing with the public which of the two corporate bodies is to appear in and to have the management of it. The whole sum is said to be engaged on the part of one leading capitalist. These consequences will be felt, if the fact is correct, in every description of stock, and of commodities, too, for such a sum cannot, it is obvious, be brought suddenly into a market already well supplied, without producing a sensible effect. Some say that this is already perceptible, and that a renewal of the demand

for produce is beginning to take place. The speculators are evidently on the alert, and if due precaution is not taken, will repeat the process which took place in the spring, by coming in at the lowest prices, and selling at the highest, leaving their dupes to bear the brunt of the reaction sure to follow, and to lament over their losses. In whatever stage of its progress the affair may be, the warning cannot but be salutary.

In political matters the most interesting is that which concerns the growing difficulties between England and France on the one side, and Russia on the other, ostensibly, respecting the navigation of the Black Sea, but in truth, because of the design becoming more and more manifest of Russia to possess herself gradually, but surely, of the magnificent ruins of the Turkish Empire in Europe.

It is said that the partition of Turkey was resolved upon at the late conference at Munchengrätz; that Russia and Austria are to be the active agents in the affair; while Prussia will keep France in check on the Rhine. A correspondent of the Times says—

"The scheme of Joseph II. and Catherine II. as concocted prior to 1790, is about to be realized. The death of Mahmoud is to be the signal; and that event is hourly predicted by his own subjects, who detest him, and who hate the Russians more, in consequence of their having come to support him. It is even affirmed that the treaty of partition was signed between the despoilers at their late meeting in Silesia.

"The period for the great effort on the part of Russia is at hand: alone the prey may escape her grasp; Austria is therefore invited, as in the case of Poland, to take a share. The cautious proceedings so long adopted by the Cabinet of the Kremlin, of moving step by step and securing every position, must soon be abandoned; and Russia and Austria, no longer acting as foes, are resolved with the speed of vultures to devour the spoil. In France, the want is felt of a great military leader who could counteract this project by a bold display of power. England is compelled, for self-defence, to prevent the aggrandizement of Russia by aiding France. One step on the part of any statesman may, on the death of Mahmoud, involve Turkey, and light the blaze of war in Italy and along the line of the Rhine."

It does not appear what authority the writer possesses for these assertions. The facts, however, which he states, and the consequence anticipated from them, are sufficiently plausible.

By an article we copy from the Times, it will be perceived that both France and England are sensibly increasing their naval force afloat, and the only plausible explanation of these preparations seems to be, that of holding in check, or if necessary, acting offensively against, Russia, in the Mediterranean and Black Sea.

England, France, and Russia.—The naval preparations of Russia and France have for some considerable period attracted the notice of political observers in every part of Europe. The French Government has been pushing forward a powerful armament of men of war in her southern dock yards, to be accompanied by 20,000 or 30,000 troops for the purpose, as it is announced, of invading the African province of Constantina, a dependency of the former Government of Algiers. Perhaps a more pressing service might be discovered a few hundred miles to the eastward of that new French colony. Russia has a fleet in the Euxine, within three short days' sail of Constantinople, consisting of not less than 22 to 24 ships of the line. Can any one be surprised that the Government of Louis Philippe should hasten to be in readiness for all contingencies; or that England should participate in just apprehension of the manifest design of Russia? That England does share the feelings of France on that important subject seems plain from the fact, made known by all the newspapers, that our Admiralty have within these few weeks given orders to fit for immediate service several men of war and first class frigates, now lying in ordinary at Plymouth, Portsmouth, and Chatham, eight sail of the line, we believe and four or five frigates, which, with the Victory and two others already in commission at Plymouth, would constitute a force of 11 sail of the line; and, added to the squadron already in the Archipelago, would compose a fleet of some 16 or 18 sail of the line, including half a dozen three-deckers. Any longer indifference on the part of England to the progress of Russian conspiracy and

trickery against the magnificent ruins of the Turkish empire, would be an insult to the honour of this great people, a sacrifice of the security of British commerce, and of the freedom of the Mediterranean, as well as a crime against the independence and tranquillity of the European Continent. We rejoice, therefore to learn from our brother journalists, that signs of increased alacrity to meet, or, in other words, to ward off, the evil which threatens us, are visible in the preparatory measures of his Majesty's Government. If the Cabinet of St. Petersburg shall be satisfied that France and England really "mean what they say," and that they rig out and man a formidable fleet, nor for ostentation, but, if unavoidable, for action, it is our belief that the Czar will turn more than once on his pillow before he dares the encounter of such a confederacy.—[Times.]

[From the Liverpool Standard.]

With respect to the affairs in the East, the ministry of England are unfortunately in this position, viz., they must either consent to surrender their rights of trade and navigation in the Black Sea to the Russians—either be content to be excluded from the Euxine—be content never to pass the Dardanelles except with the approbation of, or bearing a passport from, the Emperor—or they must go to war.

CONSTANTINOPLE, [Nov. 11.—Another fire broke out in the night of the 3d inst. which was soon extinguished, but it affords the melancholy proof that incendiaries are still at work. Letters from Alexandria of the 4th inst. announce that Mehemet Ali has commissioned four banking houses to pay five millions of piastres (500,000 florins conventional money) to the Porte. This is only one year's tribute due from the Pacha of Egypt. It is well known, however, that there is still another year in arrear, as well as the tribute of the newly acquired provinces (20 millions piastres per year) of which two years are due, which Mehemet Ali refuses to pay. It is not known for which of these two accounts the sum now paid is intended; many conjectures are formed on the subject. We have no news from Candia; opposition to the Porte increases in Samos, and the opinion is that it is stirred up by foreign emissaries.

PARIS, Dec. 16.—The following is from the Indicateur of Bordeaux of the 11th instant, received by express. "The entrance of Spanish troops upon the Portuguese Territory, is confirmed by news which has reached us from the headquarters of General Morillo. This officer would not have set foot thereon but to pursue Don Carlos, who, after two months' hesitancy, has considered that his royal dignity required him to appear upon the soil where the rights of Queen Isabella and his own are in conflict. This display of monarchical courage was not of duration. Only 30 men of his suite were able to save themselves; and on the 29th the Prince was at Elvas, where without doubt, he will take rest after his fatigues, but, where either the troops of Don Pedro or those of Isabella will go and dislodge him."

LONDON Dec. 23.—We last night received the Paris Papers of Thursday, together with all those of Friday and of Saturday's date. They are chiefly occupied with speculations and rumours but they add little to our positive knowledge as to the state of affairs in these parts of Europe which chiefly commanded attention at the present moment. As to Russia, the tone of the Journals following in the track of our own is sufficiently warlike, but it is supposed that, whatever may be the issue of the present demonstrations, a better understanding prevails for the moment between the Cabinets of the Tuileries and St. Petersburg. The accounts from Spain relate chiefly to the movements of troops and rumours of various kinds.

It would appear that the Queen's cause is not so triumphant as her partisans would have the world to believe. Valencia is stated to have declared against it, but the same paper (the *Memorial Bordenais* of the 17th) contains a letter from Madrid, announcing the advance of 44 millions by the commercial body to supply the wants of the Government. Nothing, however, of a decisive nature is to be inferred from those conflicting accounts.

Paris itself remained tolerably tranquil. Several of the medical students arrested on Tuesday were still in custody.

From Spain and Portugal we have direct accounts, later than those received by the packets. Details however, are supplied by them, of some interest.

The London Spectator thus speaks of the condition of the internal affairs of both these countries.

The report of the dismissal of M. Cruz, the War Minister at Madrid, is confirmed: but Zea Bermudez still retains his post. M. Zarco del Valle, a

decided Liberal, and friend of the Marquis De las Amarillas, is appointed to the War department *ad interim*; and there seems to be no doubt that the interest of the Liberals in the Queen's councils has lately been much strengthened. Great efforts have been made to procure the removal of Zea Bermudez, by Count Florida Blanca; who has addressed a strong Anti-Ministerial letter to the Queen; but the Minister has hitherto possessed the firm support of M. Rayneval, the French Ambassador; and until that fails him, it is believed his place will be tolerably secure.

Saarsfield has resigned the immediate command of the army to General Valdez, and is appointed Vice Roy of Navarre. It seems that his long, and apparently unaccountable inaction at Burgos, was owing to want of vigor, or perhaps to treachery, in the late Minister of War, Cruz; by whom he was left unsupplied with the necessary reinforcements, and hampered with contradictory orders. The vigorous representations of the Liberals, and the growing dissatisfaction in the capital, at length compelled the Queen to interfere.—Saarsfield sent in his resignation of the command; but first insisted upon putting a virtual end to the war by the capture of Vittoria and Bilbao.

The accounts from Portugal are unsatisfactory to all who wish for a speedy termination of the contest. Don Pedro gains no ground in the interior, and succeeds principally in disgusting his daughter's best friends in the capital. M. Carvalho, his Prime Minister is hated as heartily as his master; but, in his position, what Minister, could be popular for a month together.

Miguel has lately increased his force at Santarem, by recruits; and the arrival of a detachment of 3,000 men from his army, before Oporto, has enabled him once more to assume the offensive. He has dispatched troops into the Alentejo, with the intention it was supposed, of attacking Faro and Lagos in the Algarve.

The latter place had been supplied with provisions and a few soldiers by Napier; who was, however, unable to reach Faro, in consequence of a storm at sea.

MADRID, DEC. 10.—The news of the taking of Morrell is confirmed. According to the rumors of the day, the castle was taken by assault, after an obstinate resistance, in which we lost many officers and men. The insurgents, it is added, were nearly all put to the sword.

LIVERPOOL, Dec. 10.—The principal news from Portugal relates to a mission of Col. Hare to Don Miguel at Santarem. This gentleman is a sort of deputy negotiator on the part of the British Government, and there can be no doubt that he has gone to sound Miguel as to the possibility of putting an end to the wretched war, or rather *raid*, which is wasting the resources of Portugal.

It appears (says the Liverpool Chronicle,) that the offence of Taipa is the publication of a letter to Pedro, in which he denounced the proceedings of the Ecclesiastical Commission for the suppression of Religious Houses. The letter was couched in strong language, and applied the terms "Pope," and "Profligate Counsellor" to the President of the Court. This led to his being represented as an agent of Miguel, and a warrant was immediately issued for his apprehension. The Peers are more enraged than ever at the terms of the ministerial reply to their address, and when the Ann Paley sailed, they were met for the purpose of preparing a still more urgent remonstrance.

GALE.—A severe gale was experienced on the coast of England, Nov. 30th, the wind blowing from W. N. W. Several vessels were lost, and many others damaged.

Dreadful Shipwreck.

LIVERPOOL, Dec. 21.—On Sunday last, Messrs. Watson and Pim, the owners of the Lord Blayney sent out a steamboat to examine the banks and shore near which she was lost, and if possible to pick up part of the wreck. Not a single article of any kind could be found, and the steamer returned into port without having gained the least information as to the causes or circumstances of the disaster. The manifest of the vessel has since been received from Newry, and it furnishes more particular information as to the number of passengers, and the amount of

property on board. The number of individuals on board, including those who belong to the vessel was FORTY-SEVEN; the names and descriptions are as follows:—Capt. Stewart, R. N. commander; Stephen Roberts, chief mate; James Smith, second mate; Wm. Darlington, first engineer, (body found); Matthew Stanton, second engineer; Mark Quilleash steward, T. Tobin, cook. The remainder of the hands are not given, as their names are uncertain. The only cabin passenger known to have been on board was Mrs. Robert Purdon, of Newry; only one deck ticket was issued—to Mr. Polin, body found. There was a person named James Gordon with a man servant on board, and a race-horse called Mounteagle, valued at £300, which was lost. The names of the other passengers, who were dealers in pigs, are as follows:—O'Hear, P. McCoy, P. Hanlon, P. O'Hear, and another, D. Gorman, H. Dun James Cassidy, O'Henry, P. Trainor, O'Rier, J. Duffy, M'Larkins, P. Rice, H. Hughes, Conisky, P. Clarke, J. Quigly, P. Evers, J. Sloan, M'Anulty, P. Dunn, Fenan, Hanlon, W. Sommerville, M'Ardle, (uncertain.)

[From the Baltimore American.]

A letter from Captain Voorhees, of the United States ship John Adams, dated at Liberia, Dec. 14, and giving a favorable account of the condition of the American Colony, has been published in the National Intelligencer. It is furnished for publication by the Secretary of the Colonization Society, to whom it had been transmitted by Secretary Woodbury as a valuable testimony to the flourishing condition of the settlement. All seemed to be employed—good order and morality prevailing throughout. Several stone warehouses and stone wharves line the banks of the river; others are building, which, with several schooners loading and unloading, or repairing, afford an aspect and an air of business common to a respectable white population. The town is in a thriving condition, and wears an air of neatness and comfort in the dwellings which is quite surprising. Capt. Voorhees adds: "The settlement must move onward, and with all its disadvantages, it appears a miracle that it should be in such a state of advancement."

The vessels at the place, during the last year, were about ninety. An incident is related in the letter, which, while it reflects credit on the humanity and disinterestedness of the colonists, affords a strong corroboration of the importance of the settlement as a place of refuge on the coast for distressed and shipwrecked Europeans. A French oil ship was lately cast away at the coast of Grand Bassa, and the crew, twenty in number, reached that place in distress. They were kindly received by the settlers, and travelled safely along the sea shore to Monrovia. There the colonists with generous hospitality fitted out an expedition, at their own expense, and despatched the government schooner to carry the sailors to their own settlement at Goree. This generosity was the more praiseworthy because the voyage of this vessel on the errand of humanity prevented the Colonists from procuring their requisite supply of rice, and for the want of which they suffered. On the arrival of the John Adams, a French man-of-war barque was in port, which had been despatched by the Governor of Goree to express the gratitude of his countrymen to the people of Liberia for their charitable services.

HOME INTELLIGENCE.

We are requested to state, that the Delaware is again free from ice. The steam boat Burlington, of the Rail Road Line, came up from Philadelphia to Bordentown yesterday, making now an uninterrupted communication between this city and Baltimore, at Summer prices.

SHIPWRECK.—The brig *Anna Margaret*, of and from Charleston, S. C. to Havana, was totally lost on Abaco on the 15th ult. Officers and crew saved.

A VALUABLE DOG, belonging to a gentleman of Gettysburgh, Pa. a few days since, fell into a well which was fifteen feet deep to the water. A rope was thrown to him, which he immediately seized with his mouth, and held on, until he was hoisted to the top in safety.—[Phila. Daily Adv.]

Appointments by the Governor and Senate, February 5, 1834.

New York.—Isaac Adriance, John G. Atterbury, Timothy P. Bruger, John Boyd, William H. Bogardus, Isaac O. Barker, John T. Barten, Horton H. Bur

lock, Franklin Brown, Abner Benedict, William H. Bulkley, Henry L. Clarke, Philip S. Crooke, James W. Carr, Lebeus Chapman, Anthony Carrol, Washington Cockle, Alfred Colvill, Jacob G. Dyckman, Jary Dunn, Peter De Witt, John Fairlie, Lambert M. Feltus, George W. Giles, Neil Gray, Robert Jiles, jr. William Gracie, Adolphus N. Gouverneur James Lorimer Graham, Dayton Hobart, Samuel V. Hoffman, Philip Hamilton, William P. Hawes, Joseph Hyde, Charles G. Havens, Henry Hutchinson, Robert L. Jaques, Daniel P. Ingraham, Ambrose Kirtland, William Lowerre, Robert C. Ludlow, John M. Lester, James Lozier, Livingston Livingston, William Lee Morris, William H. Maxwell, Jeremiah Miller, jr. Jonathan Miller, Charles B. Moore, Cornelius Nagle, Alanson Nash, Henry N'coll, Jesse Jotley, Thomas O'Conner, Richard M. Popham, Ebenezer Palmer, Peter Pinckney, Cornelius Roosa, Daniel Phoenix Riker, Richard A. Reading, Thomas Jefferson Smith, Edward Sanford, Charles W. Sanford, Wm. H. Smith, William S. Sears, David B. Shepard, Reuben Spencer, Alfred A. Smith, Thomas G. Smith, John N. Taylor, Thomas W. Tucker, Thomas Alp Thomas, George N. Titus, Garret G. Van Wagener, James J. M. Valentine, Samuel Van Wyck, Dow D. Williamson, William C. Wetmore, Peter Wilson, Andrew Warner, William G. Wood, Uriah E. Wheeler, Alfred A. Weeks, David E. Wheeler, William D. Waterman, Ebenezer Whiting, Samuel Warford, Isaac Young, and Charles E. Young, commissioners of deeds.

[The above list of commissioners, with those heretofore appointed, completes the number of 100 for the city of New York.

John Ahern, George F. Allen, Richard M. Blatchford, Robert Bogardus, Frederick W. Burke, John Bulkley, John A. Bogart, George C. Baldwin, Ebenezer Burrill, Thomas S. Brady, David M. Cowdrey, John D. Campbell, Gerardus Clark, Charles A. Clinton, George D. Cooper, Peter A. Cowdrey, Charles T. Cromwell, George Catlin, Thomas W. Clarke, Thomas N. Campbell, William N. Dyckman, Robert Day, William E. Dunscomb, John A. De Russey, John T. Duryce, Walter Edwards, Charles Edwards, Augustus Floyd, Morris Franklin, Henry P. Feltus, John Lorimer Graham, James W. Gerard, Thomas Goin, Andrew S. Garr, Francis Griffin, William G. Haydock, David Higgins, Henry W. Havens, Franklin S. Kinney, Cornelius V. S. Kane, Joseph Leonard, John R. Livingston, jr., Henry Laight, Jacob Morton, John F. Mitchell, Montgomery Moses, Peter S. Marselis, Jas. W. McKeon, Solomon Melvin, John H. Magher, E. T. Throop Martin, Wm. O'Brien, Charles Oakley, Horatio G. Prall, Adam G. Pentz, Isaac Phillips, Wm. Poole, Samuel A. Porter, Anthony Rappells, Edward Radcliff, Samuel Stanbury, James B. Sheys, Wm. Soul, Thomas Slidell, Edward H. Seeley, Daniel B. Tallmadge, Francis R. Tillou, Wm. N. Titus, William K. Thorn, Edward N. Taylor, Wm. Van Hook, Wm. W. Wagener, John G. Van Buren, Joseph Wallis, Stephen C. Williams, Richard J. Wells, Harman Westervelt, Henry Wilkes, Joseph Woodward, and Caleb S. Woodhull, notaries public.

Thomas J. Shankland, inspector of domestic distilled spirits.

Naval.—The Brandywine frigate, and the sloop of war *Falmouth*, both at our navy yard, are under sailing orders. Their destinations are not generally known; but conjecture destines one to Europe with a *Plenipo*, and the other to relieve a ship in the Mediterranean. Much depends upon the proceedings of the Senate of the United States, before which body business of importance is pending.—[Gazette.]

CONGRESS—Thursday.—The following business was acted on this week.

Memorials were presented by

Mr. *Brardley* and Mr. *Hard*, praying Congress to provide for the construction of a Ship Canal around the Falls of Niagara.

Mr. *Galbraith* presented a memorial of a Convention of Delegates from Pennsylvania and New York assembled at Warrenton, (Pa.) on the 24th ult. praying Congress to provide for the improvement of the navigation of the Alleghany from Pittsburg to Olean Point—also a petition from inhabitants of Pennsylvania to the same effect—referred to the Committee on Roads and Canals.

Mr. *Turrill*—a petition for an appropriation for the improvement of the harbor of Sackett's Harbor; and

Mr. *Day*—from the inhabitants of Cayuga county to improve the navigation at the entrance of Little John's Bay, Lake Ontario—referred to the Committee on Commerce.

Mr. *Sloane*, a petition of inhabitants of Buffalo, and of inhabitants of Detroit, for an appropriation for the construction of a harbor at the mouth of Chagrin river, Lake Erie.

Mr. *Lyon* presented a memorial of a general Convention of delegates held at Jonesville, the 6th ultimo, for the purpose of adopting measures preparatory to opening a communication between Lakes Erie and Michigan, by means of a Railroad across the peninsula between those lakes; praying that a route for said Railroad may be surveyed by United States Engineers; and that Congress will make an appropriation to aid its construction—which were appropriately referred.

Mr. *Hazeltine*—the petition of sundry inhabitants of Chataugue, Cattaraugus, and Erie, for an appropriation to be made for the construction of a beacon light at the mouth of Silver Creek harbor, on Lake Erie—which was referred to the committee having charge of the bill for the construction of light houses, &c.

Report of the Committee on Finance on the Removal of the Public Deposites, in the Senate of the U. S., Feb. 5, 1834.

THE Committee on Finance, to whom was referred the report of the Secretary of the Treasury, of 3d of December, 1833, on the removal of the public depositories from the Bank of the United States, and a resolution, submitted to the Senate by an honorable member from Kentucky, declaring that the reasons assigned by the Secretary for the removal of the said depositories, are unsatisfactory and insufficient, have agreed on the following report:

The act incorporating the Bank of the United States, as is justly remarked by the Secretary, is a contract containing stipulations on the part of the Government, and on the part of the corporation, entered into for full and adequate consideration.

The Government became party to this contract by granting the charter, and the stockholders by accepting it. "In consideration," says the charter, "of the exclusive privileges and benefits conferred by this act on the said bank, the president and directors thereof shall pay to the United States, out of the corporate funds thereof, one million and five hundred thousand dollars, in three equal payments;" and in another section, it declares that "during the continuance of this act, and whenever required by the Secretary of the Treasury, the said corporation shall give the necessary facilities for transferring the public funds from place to place, within the United States or the Territories thereof, and for distributing the same in payment of the public creditors, without charging commissions, or claiming allowance on account of difference of exchange; and shall do and perform the several respective duties of the commissioners of loans for the several States, or any one or more of them, whenever required by law."

The section immediately following this provision, is in these words: *And be it further enacted*, That the depositories of the money of the United States, in places in which the said bank and branches thereof may be established, shall be made in said bank or branches, unless the Secretary of the Treasury shall at any time, otherwise order and direct; in which case the Secretary of the Treasury shall immediately lay before Congress, if in session, and if not, immediately after the commencement of the next session, the reasons for such order or direction.

It is not to be denied or rebutted, that this custody of the public depositories was one of the "benefits" conferred on the bank by the charter, in consideration of the money paid, and the services undertaken to be performed

by the bank to the Government; and to this custody the bank has a just right, unless such causes have arisen as may have justified the Secretary in giving an order and direction for changing that custody. Any order or direction, therefore issued under the provisions of this law, necessarily involves a consideration of the just extent of the Secretary's power and of the rights of the bank.

But Congress, in making this provision, unquestionably had in view the safety of the public funds, and certain important financial objects, as well as the making of a just consideration to the bank, for the sum paid, and the services undertaken by it; and with this view, also, it has expressed its will, that the depositories shall continue to be made in the bank, until good cause shall arise for ordering otherwise. Of this good cause, the Secretary of the Treasury, in the first instance, and Congress, ultimately and conclusively, is constituted the judge. Every order, therefore, of the Secretary for changing the depositories presents for the examination of Congress, a question of general political propriety and expediency, as well as a question of right and obligation to the bank.

These questions may be considered together. They are intimately connected; because the right of the bank to retain the depositories, and to enjoin the advantages to be derived therefrom, cannot be denied, unless a case is shown to have arisen within the just power of removal, vested in the Secretary, and which made it his duty to exercise that power. The Secretary is only to remove the depositories for reasons. Of these reasons he is to give an account to Congress; if they be insufficient to justify the removal, the bank has a right to a return of the depositories, and the country has a right also, to expect that, in that case, the public treasure will be restored to its former place of safety.

The Secretary having removed the depositories, and having reported his reasons to both Houses, the whole subject is now before Congress, by way of appeal from his decision; and the question is, whether that decision ought to stand, or ought to be reversed.

The power of the Secretary under the law, is evidently but provisional. It is a power which he may exercise in the first instance, but the propriety of his conduct, in every instance, of its exercise, is ultimately referred to the wisdom of Congress, and by Congress it must be judged. He is authorized to do the act, but Congress is to examine it when done, and to confirm or reverse it. The Secretary may change the depositories, but when changed, Congress is to decide on the causes of such change, with authority either to sanction the removal, or to restore the depositories, according to its own judgment of right and expediency.

In order to decide whether the act of the Secretary ought to be confirmed, it is requisite in the first place, to form a just opinion of the true extent of his power, under the law; and, in the second place, to consider the validity of the reasons which he has specially assigned for the exercise of that power, in the present case.

The opinion of the Secretary is, that his power over the depositories, so far as respects the rights of the bank, is not limited to any particular contingencies, but is absolute and unconditional. If it be absolute and unconditional, so far as respects the rights of the

bank, it must be absolute and unconditional in all other respects; because, it is obvious, if there be any limitation, that limitation is imposed as much for the benefit of the bank as for the security of the country. The bank has contracted for the keeping of the public moneys, and paid for it, as for a privilege or benefit. It has agreed, at the same time, that the Secretary shall possess the power of removal; but then, it is also agreed, that whenever this power is exercised, the reasons therefor shall be reported to Congress; Congress being thus constituted the final judge, as well of the rights of the bank, in this particular, as of the good of the country. So that if the Secretary's power be in truth absolute and unconditional, it restrains Congress from judging whether the public good is injured by the removal, just as much as it restrains it from judging whether the rights of the bank are injured by the removal; because the limitation, if any, is equally for the security of the bank and of the public.

If the bank is interested in retaining the depositories, then it is interested in the truth or falsity, in the sufficiency or insufficiency, of the reason given for their removal. Especially is it so interested, since these reasons are to be rendered to a tribunal which is to judge over the Secretary, and may form a different opinion on the validity of these reasons, and may reverse his decision. It clearly has an interest in retaining the depositories, and therefore is as clearly concerned in the reasons which the Secretary may give for their removal. And as he is bound to give reasons, this very circumstance shows that his authority is not absolute and unconditional. Because, how can an appeal be given from the decision of an absolute power; and how can such a power be called on to give reasons for any instance of its exercise? If it be absolute, its only reason is a reference to its own will.

The committee think, therefore, that no absolute and unconditional power was conferred on the Secretary; that no authority was given him by which he could deprive the bank of the custody of the public moneys without reason; and that therefore, his opinion is not to be admitted: that in no event can any order for removing the depositories impair the right secured to the bank by the charter. If removed without good cause, the committee think the removal does impair the rights of the bank.

But the opinion of the Secretary as to his own powers, is hardly more limited in respect to the Government and the country, than in regard to the rights of the bank.

His opinion is, that it is his duty, and within his authority, in this view, also to withdraw the depositories of the public money from the bank, whenever such a change would, in any degree, promote the public interest. "The safety of the depositories," he says, "the ability of the bank to meet its engagements, its fidelity in the performance of its obligations, are only a part of the considerations by which his judgment must be guided. The general interest and convenience of the people must regulate his conduct."

By the general interest and convenience of the people, the Secretary can only mean, of course, his own sense of that interest and convenience; because they are not otherwise to be ascertained than by his own judgment.

The Secretary's construction of the law is therefore, that he has power to remove the deposits, whenever, for any reason, he thinks the public good requires it.

In this interpretation of the design and object of the law, and this broad construction of the Secretary's power, the committee cannot concur.

Although the power of the Secretary is not restricted by any express words or terms, nor by any particular occasions for its exercise, specially and expressly designated or prescribed by the law, yet it is not to be admitted, as the committee think, that this power is to be exercised capriciously, or in an arbitrary manner, or for loose or conjectural reasons, or on any idea of an unlimited discretion, vested in the Secretary, to judge on the general question of the public welfare; or, indeed, on any other grounds than those of necessity, or plain and manifest expedience, directly connected with the subject over which the power exists.

The keeping of the public money is not a matter which is left, or was intended to be left at the will of the Secretary, or any other officer of the Government. This public money has a place fixed by law, and settled by contract: and this place is the Bank of the United States. In this place it is to remain, until some event occur requiring its removal. To remove it, therefore, from this place without the occurrence of just cause, is to thwart the end and design of the law, defeat the will of Congress, and violate the contract into which the Government has solemnly entered.

It is fit to be observed, that no other law confers on the Secretary such a wide discretion over the public interests, in regard to any subject, or gives him a power to act on the rights of others, or on the rights of the public, in part of his official duties, with so unlimited an authority as is here asserted. Every where else, he appears in the character of a limited and restricted agent. He is the financial officer of the government; he is the head of the department of the treasury. His duty is, to report annually to Congress the state of the finances, and to communicate to either house, when requested, any information respecting the Treasury; and he is to superintend the collection of the revenue. But he has no authority over the circulating medium of the country, either metallic or paper, nor has he the control of the national currency. It is no part of his duty either to contract or expand the circulation of bank paper, nor in any other way to exercise a general superintendence over the money system of the country. These general interests of the government and the people are not confided to his hands by any of the laws which created his office, and have prescribed his duties—and the committee are of opinion, that the charter of the bank no more intended to give such a wide scope to the Secretary, in regard to the deposits, than other laws intended to give him the same wide scope, in respect to other duties of his office. No intimation of such intention is found, either in the charter itself or in any of the legislative debates which took place in both Houses when the bank was established—or in the discussions which have been had on the various occasions which have been more recently presented for calling forth the sentiment of Congress. In none of these sources, is there to be found any proof that the legislature has delegated, or

intended to delegate, this extraordinary power of judging of the general interest of the people, to the Secretary of the Treasury. Such a power, did he possess it, would necessarily make him the general superintendent of all the proceedings of the bank—because it would enable him to compel the bank to conform all its operations to his pleasure, under penalty of suffering a removal of the public moneys. This would be little less than placing all the substantial power of managing the bank, in his hands. But he is not by law its manager, nor one of its managers—nor has he any right, in any form, to interfere in its management. On the contrary, the very language of the charter rejects all idea of such general supervision over its concerns by him, or any other officer of government. That language is, that "*for the management of the affairs of the corporation*, there shall be twenty-five directors annually chosen;" and, under the restrictions contained in the charter, these directors are entrusted with the whole general business of the bank, subject, of course, to all the provisions of the charter and the by-laws; subject, too, always, to the inspection and examination of either house of Congress; subject always to regular inquiry and trial, and bound always to communicate to the head of the treasury department, on request, statements of its amount of stock, debts due, moneys deposited, notes in circulation, and specie on hand.

Under these restrictions, the establishment of its offices, and the appointment of its officers, the amount of its discounts; its purchases and sales of exchange, and all other concerns of the institution, are to be conducted and managed by the directors. There is nothing in the charter, giving the slightest authority to the Secretary to decide, as between the bank on the one hand, and the government or the people on the other, whether the general management of the directors is wise or unwise, or whether in regard to matters not connected with the deposits, it has or has not violated the condition of its charter.—The statement which the bank is bound to make to the Secretary, he may lay before Congress; and he is doubtless bound, by his official duty, to communicate to Congress any other information in his possession, tending, in his judgment, to show that the bank has disregarded its charter, or failed to fulfil all or any of its duties. But here his authority, so far as it regards the general course and operations of the bank, ends. It is then for Congress to act, if it see occasion, and to adopt the regular remedies, for any evils which it may suppose to exist. But it transcends the power of Congress itself to pronounce the charter violated, without hearing, without trial, without judgment, far less is any such power, of pronouncing final judgment confided to the Secretary. His power simply is, that in regard to the deposits of the public money, he is to judge, in the first instance, whether just cause has arisen for their removal.

The Secretary seems to suppose, indeed the very basis of his argument assumes, that the law has confided to him a general guardianship over the public welfare, so far as that welfare is in any way connected with the bank, or liable to be affected by its proceedings; and that he holds the power of the removing the deposits as the means, or instrument by which he is to enforce his own opinions respecting that welfare. The committee do not adopt this

opinion. They think that if such had been the design of the law, its provisions would have been different from those which it does actually contain.

If such general guardianship had been intended to be conferred on the Secretary, it is reasonable to believe that he would have been vested with powers more suitable to such a high trust. If he had been made, or intended to be made, general inspector or superintendent, other authority than merely that of removing the deposits, would have been given him, for this plain reason, that the government and the country have interests of much magnitude connected with the bank, besides the deposits of the public monies in its vaults, and to which interests if endangered, the removal of the deposits would bring no security.

The government is proprietor of seven millions of the stock of the bank, and yet no authority is given to the Secretary to sell this stock under any circumstances whatever, or in any other way to interfere with it.

The bill and notes of the bank, too, are made receivable in all payments to the United States until Congress shall otherwise order: and no power is given to the Secretary to prevent their being so received, either during the session of Congress, or in its recess, however the credit of these bills and notes might become depreciated.

How is it possible to conceive that, if Congress intended to give to the Secretary a general right to judge of the operations and proceedings of the bank, and a power, of course, to declare when it had violated its duty, and was no longer trustworthy, it should yet leave him under an absolute obligation to receive its bills and notes in all payments to the Treasury, though they might have lost all credit, and place no means in his hands to execute his high authority of superintendent, except the mere power of removal.

Wherever it is clear that Congress has given the Secretary a power, it has given him the means of informing his judgment as to the propriety of exercising that power. He has power to remove the deposits, and ample means are afforded him by which he may learn, from time to time, whether those deposits are safe. For this purpose, it is expressly made the duty of the bank to furnish him, so often as he shall require, if not oftener than once a week, with a statement of the amount of the capital stock of the corporation, of the debts due to it, of the moneys deposited in it, of its notes in circulation, and specie on hand, and he has a right to inspect the general accounts; in the books of the bank, relating to this statement. This statement enables him to judge of the solvency and stability of the bank, and of the safety of the public money deposited in it.—Here, then, is a power, and all appropriate means given for the just and enlightened exercise of that power. Confined to the deposits, the power is accompanied with all rational auxiliaries and attendants.

But for the depreciation of the bills of the bank, should that happen, and for other cases of maladministration, Congress has provided just and appropriate remedies, to be applied by itself or others, in exclusion of the Secretary.—For redress of these evils, no power is given to him.

For the security of the public interest, the law reserves a right to either House of Congress, to inquire at all times, into the proceedings of the bank, and if, on such inquiry, it appears in any respect to have violated its charter, Congress may bring it to trial and judgment. Power is given to the President, also, to institute judicial proceedings, if he shall have reason to believe that any such violation has taken place. But no such power is given to the Secretary.

The proposition, then, cannot be maintained, that Congress has relied, for the security of the public interest, and the preservation of the general welfare, so far as it is connected with the

bank, on a general discretion, reposed in the Secretary: for two reasons, first, because it has not given him the appropriate instances: and secondly, because it has, in those instances, either expressly reserved those powers to itself, or expressly conferred them on the President.

If the Secretary cannot prevent the notes of the bank from being received at the custom house, and the land offices, even after they should be discredited; if he have no power to touch, in any way, the seven millions of stock belonging to the Government; if the power of examination into the proceedings of the bank be given, not to him, but to either House of Congress; if he have no power, but Congress and the President, each has power, to direct a legal investigation into the conduct of the bank; how can it possibly be maintained that a general inspection and guardianship over the public welfare, so far as it is connected with the bank, is confided to him, and that his authority to remove the deposits, was given, not to protect the deposits themselves, and secure their proper use, but to enable him to enforce upon the bank, under penalty of their removal, such a course of management, as his sense of the public interest, and the convenience of the people, may require? Such a construction would give the law a strange and an undesired character. It would convert the power of removal, intended for remedy and redress, into a mere instrument of punishment; and it would authorize the infliction of that punishment without hearing, or trial, in the very cases in which the law yet says, that if violation of duty be charged, the charge shall be heard and tried before judgment is pronounced, and the duty of preferring this charge, and of prosecuting it to judgment, is given, not to the Secretary, but to Congress, and to the President.

The contingent power given to the Secretary to remove the deposits, evidently shows that Congress contemplated the possibility of the happening of some sudden evil, for which, either no other remedy was provided, or none which could be applied with sufficient promptitude; and for which evil removal would be a just and appropriate remedy. The remedy prescribed, then, teaches us the nature of the evils which were apprehended. We can readily understand that threatened danger to the funds was one, and probably the chief of those evils; because change into other hands is the ready and appropriate measure, which would rationally suggest itself to all minds, as the proper security against such danger; and change is the remedy actually prescribed. Neglect to transfer the deposits from one place to another, as the exigencies of Government might require, and thereby to furnish those facilities of exchange, which the charter demands of the bank, without commission and without charge, is another evil for which, should it happen, the remedy would naturally be the withdrawing of the funds, and the placing of them in their former custody, so that they could be transferred or exchanged by the Treasury itself.

But who can see any connexion or relation, such as ordinarily exists between an evil apprehended, and a remedy proposed—between such an evil as a supposed over discount, for instance, by the bank, at one time, or an under discount at another, and the abrupt removal of the deposits? And if no one can see the connexion, how can it be supposed that, in giving the power of removal as a remedy, Congress had in view any such evil?

A question may arise between the Government and the bank, respecting the right of the parties to the sum of one hundred and fifty thousand dollars, as in the case of the French bill.

It is a question on which different opinions may be entertained, and which is, in its nature, fit for judicial decision. Does any man imagine that such a case as this was in the eye of Congress, when they granted the power of withdrawing the whole public treasure from

the Bank? Can it be for one moment maintained, that Congress intended that, in such a case, the Secretary should compel the bank to adopt his own opinion by the exercise of a power, the very exertion of which deranges the currency, interferes with the industry of the people, and, under some circumstances, would hazard the safety of the whole revenue?

The Committee think it cannot admit of rational doubt, that if Congress had intended to give to the Secretary any power whatever, not directly touching the deposits themselves, not only would it have specially pointed out the cases, but it would also, most assuredly, have provided a remedy more suitable for each case. The nature of the remedy, therefore, which is prescribed, clearly shows the evils intended to be provided against.

To admit the Secretary's conduct is subject to no control but his own sense of the general interest and convenience of the people, is to acknowledge the existence, in his hands, of a discretion so broad and unlimited, that its consequences can be no less than to subject, not only all the operations of the bank and its offices, but its powers and capabilities, perhaps its very existence, to his individual will. He is of opinion that the law creating it is in many of its provisions unconstitutional; he may not unnaturally, therefore, esteem it to be his duty to restrain and obstruct to the utmost of his power the operations of those provisions, thus deemed by him to be unconstitutional. He is of opinion that the existence of such a powerful moneyed monopoly, is dangerous to the liberties of the people. It would result from this, that if in the discharge of his official duty, he is to follow no guide but his own sense of the interest of the people, he might feel bound to counteract the operations of this dangerous monopoly, diminish its circulation, curtail its means, and prejudice its credit. To accomplish these very purposes, and these alone, he might withdraw the deposits. The power given him by Congress, would thus be used to defeat the will of Congress in one of its most important acts, by discrediting and otherwise injuriously affecting an institution, which Congress has seen fit to establish, and which it has declared shall continue with all its powers to the expiration of its charter.

The power conferred on the Secretary is a trust power, and like other trust powers, in the absence of express terms, setting forth the occasions for its exercise, it is to be construed according to the subject and object of the trust. As in other cases of the deposit of monies in Banks, the primary object sought to be accomplished by Congress, by that provision of the charter now under consideration, is the safe keeping of the money. The Secretary's trust therefore, primarily and principally, respects this safe keeping. But another object is distinctly disclosed in the charter, which object is intimately connected with the fund, and that is its transfer and exchange from place to place, as the convenience of Government might require. The Secretary's trust, therefore, respects also this other object thus connected with the fund; and when either of these objects requires a removal, a removal becomes a just exercise of his authority. To this extent, none can doubt the existence of his power. If, in truth, the money is believed to be unsafe, if, in truth, the Bank will not grant the facilities which it has promised, in consideration of receiving and holding the fund, then, certainly, it ought to be removed. But here the power must stop or else it is altogether unbounded. Here is a just and reasonable limit, consistent with the character of the power, consistent with the general duties of the Secretary, and consistent with the nature of the remedy provided.

The charter of the Bank is the law; it is the expressed will of the Legislature. That will is, that the Bank shall exist, with all its powers, to the end of its term. That will,

too, as the committee think, is, that the public deposits shall continue in the Bank, so long as they are safe, and so long as the bank fulfils all its duty in regard to them. The Secretary assumes a broader ground. He claims a right to judge of the proceedings of the bank on all subjects. Admitting the fund to be safe, and admitting that the bank has performed all its duties in regard to it, he claims an authority, nevertheless, to remove the deposits whenever he shall form an opinion, founded on the conduct of the Bank, in any particular whatever, and however unconnected with the public monies, that the general interest of the people requires such removal. If, in his opinion, it discounts too little, or discounts too much, if it expands or contracts its circulation too fast, or too slow; if its committees are not properly organized; if it claim damages on protested bills, which it ought not to claim; if, in his opinion, still, it is guilty of a wrong meddling in politics, or if it do any thing else, not consistent with his sense of the public interest; he has a right to visit it with a withdrawal of the public money from its custody.

If this claim of power be admitted, it would seem to the Committee to be a fair result that the Secretary has power to withdraw the deposits, for no other reason than that he differs with Congress upon its constitutional authority to create any bank, or upon the constitutionality of this particular bank, or upon the utility of continuing it in the exercise of its chartered powers and privileges, till its term shall expire.

The committee, therefore, are of opinion, that it was not the intention of the Legislature to give to the Secretary of the Treasury a general guardianship over the public interests in all matters connected with the Bank; but that his power is a limited one, and is confined to the safety, and proper management of that portion of the public interest to which it expressly relates, that is to say, to the public monies in deposit in the Bank.

But the extent of the Secretary's discretion, as asserted by himself, reaches even farther than the wide range which the committee has here described. It is not confined to the protection of all the various interests which the Government of the country have in the bank, or to a supervision and control over all the conduct of the bank, but it embraces all branches of the public interest, and touches every thing which in any way respects the good of the people.—He supposes himself rightfully to possess the power of removing the deposits whenever any causes, springing up in any part of the whole wide field of the general interest, may appear to him to call for such removal. Notwithstanding he may suppose all the great interests confided to the bank to be perfectly safe; notwithstanding he may have no occasion to complain of any part of its conduct; notwithstanding, even, it may so have demeaned itself as to have become the object of his favor and regard; yet, if his construction be admitted, he may remove the deposits simply because he may be of opinion that he might place them, with a prospect of still greater advantage, in other hands. If he be of opinion that the commerce of the country, or its manufactures would be benefited by withdrawing the public money from one bank and placing it in many, that would be an exercise of authority entirely within the limits which he prescribes to himself. It would be a case in which he would only follow his own sense of what the general interests and convenience of the people required. He might think, too, that by withdrawing all the public treasure from the Bank of the United States, and placing it in the hands of twenty or thirty State banks, to remain there during his pleasure, and to be drawn thence, again, at his will, he might be enabled effectually to advance certain other objects, which, whatever others might think of them, he might

consider to be essential to the good of the people. All this, if he be right, is within his just authority. A power, necessarily running to this extent, is a power, in the opinion of the committee, which can never be admitted.

Having thus expressed an opinion upon the general extent of the power claimed by the Secretary, the committee proceed to consider the reasons which he has reported to Congress as the particular grounds on which the power has been exercised in the present case.

The first reason assigned by the Secretary, is the near approach of the period when the bank charter will expire. That period is the 4th of March, 1836, more than two years distant; nearly two years and a half at the time of the removal. Three sessions of Congress, are, in the mean time, to be holden; and inasmuch as the Secretary himself says that "the power over the place of the deposits for the public money would seem properly to belong to the legislative department of Government," the committee think it might reasonably have been expected by him, that Congress would not fail to make, in season, suitable regulations on a subject thus admitted to be within the just exercise of its authority, and properly one of its duties.

Why, then, should he not have waited till Congress had seen fit to act upon the subject, or had manifested a disposition not to act?—The matter of the deposits had been before Congress last session, and Congress had then thought no provision to be as yet necessary.—Its undoubted sense was, that the public moneys should remain where they were. This was manifested by proofs too clear to be questioned. Another session was fast approaching, and why was not the whole subject left where Congress had chosen to leave it at the end of its last session, to await the free exercise of its legislative power at this session? It might have been fit for the Executive to call the attention of Congress, at this time, to the necessity of some legal provisions respecting the future custody of the public moneys; and it would doubtless have been proper for Congress, without such call, to take up and consider the subject at its own suggestion; but the committee see no reason whatever, in the approaching expiration of the charter, for a change so sudden, and producing such important effects, made so long before that expiration, at a time when Congress had recently had the subject before it: and when, too, it was again about to assemble, and would naturally have reasonable and full opportunity to adopt any necessary legislative provisions.

The Secretary has stated no reason satisfactory to the Committee for not deferring this important step until the meeting of Congress. He sets forth no emergency, no sudden occasion, nothing which, in their judgment, made immediate action by him necessary.

The Secretary supposes it to have been his duty to act on the belief that the bank charter would not be renewed; and he refers to recent popular elections in support of this opinion.—The Committee believe it altogether unusual for reasons of that kind to be assigned for public and official acts. On such subjects, opinions may be very various. Different and opposite conclusions may be drawn from the same facts by different persons. One man may think that a candidate has been elected on account of his opposition to the bank; another may see, only, that he has been chosen, notwithstanding such opposition. One may regard the opposition or the support of any measure, by a particular candidate, as having been, itself, a promoting cause of the success of his election; another may esteem it as a formidable objection, overcome, however, by more powerful reasons; and others, again, may be of opinion that it produced little or no effect on the one side or the other. But if inferences, less uncertain, could be drawn from such occurrences, the committee still think, that for a public officer to presume what

law the Legislature will or will not pass respecting matters of finance, from the election of a particular person to be Chief Magistrate, implies a consequence from such election which the constitutional independence and dignity of the Legislature do not allow to be admitted.

But if for this, or other reasons, the Secretary had persuaded himself that the charter of the bank would not be renewed, still, it certainly did not follow that the deposits ought to be removed before Congress had decided on the hands into which they should be transferred, and had made suitable regulation respecting their future custody. If there were good ground for thinking that Congress would not re-charter the bank, for that very reason there was equally good ground for supposing that it would make proper and suitable provision for the keeping of the public monies elsewhere. How could the Secretary doubt that Congress would omit to do that which he avers to be one of its appropriate duties? The question is, not what measures Congress might be expected to adopt—whether the re-chartering of the bank, or what other measures; but whether it ought not to have been presumed that it would adopt some measure, and that a seasonable and proper one, according to its power and its duties; and whether, therefore, this anticipation of the action of Congress, on the eve of its session, is to be justified.

The bank charter declares that the deposits of the public money shall be made in the bank and its offices, and that the bank shall continue till March, 1836. Where does the Secretary find his power to decide that the deposits shall be so made but for seventeen years from the date of the charter, instead of twenty? If he may thus withdraw the deposits two or three years before the expiration of the charter, what should restrain him from exercising the same authority five years before its expiration, or ten years? A plain and cogent necessity, the existence of a case which admits of no reasonable doubt, and which is too urgent for delay till Congress can provide for it, can alone justify an interference with the public monies lodged in the bank by law for the double purpose of safe keeping, and fulfilment of solemn contract.

But supposing it not reasonable for the Secretary to have expected the interposition of Congress, and admitting that he might consider the withdrawing of the deposits as an act which was to be done at some time by himself, how can it, nevertheless, be argued that so early and so sudden a withdrawal was necessary? The Committee can perceive no possible reason for this in any state of facts made known to them.

The withdrawal of the money left on deposit from a bank whose charter is about to expire, is naturally one of the things longest postponed. It is as safe the last day of the existence of the bank, in common cases, as at any previous period. The bank expects the recall of its deposits near the period of its expiration, and prepares itself accordingly. The operation, if made gradually, produces, when thus conducted, the least possible disturbances in the business of the community. Former experience would seem to have held out a salutary light for the guidance of the Secretary in this part of his official duty.

At the time of the expiration of the charter of the former bank, Mr. Gallatin was Secretary of the Treasury, and the public deposits were in the bank. The charter of the bank was to end on the 4th of March, 1811, and it does not appear that Mr. Gallatin thought it necessary to make any provision whatever for removing any part of the deposits, except by drawing on them for the common uses of government, until late in the very month preceding the expiration of the charter. A large amount of those deposits remained, indeed, in the vaults of the bank after its charter had expired, and until they were wanted in the general operations of the Treasury. And why

should it be otherwise? Why should that be done suddenly now which the Secretary thinks could not be done suddenly hereafter, without great inconvenience? Is it not the just inference, from his own argument, that the thing should not have been done suddenly at all! As to the idea, that the credit of the paper of the bank will be depreciated, near the time of the expiration of its charter, or that it would be inconvenient for it, at that time, to be called on for the deposits, the committee are utterly at a loss to see the slightest foundation for such an opinion. Experience is against it; and all reason, as the Committee think, is against it also. There is nothing to render it in any degree doubtful, that the bills of the bank will be in as good credit, the last day of its charter, and even after that time, if any shall be outstanding, as they are now; and there is as little to render it doubtful, that then, as now, the bank would be competent to answer all demands upon it. In the opinion of the Committee, the withdrawal of the fund was both unnecessarily early, and unnecessarily sudden. It might have been made gradual; it might have been deferred; and it might have been, and ought to have been, as the Committee think, not ventured upon at all, until the attention of Congress itself had been called to the subject. The Committee therefore entirely dissent from this first reason, reported by the Secretary. They see nothing which proves to them the existence of the slightest occasion for taking this important step, at the moment it was taken. So far as it depends on this reason, the Committee think the removal was made without necessity; without caution or preparation; with a suddenness naturally producing mischievous consequences, and in unjustifiable anticipation of the legislation of Congress.

But the Secretary thinks there are other reasons for the removal, growing out of the manner in which the affairs of the bank have been managed, and its money applied, which would have made it his duty to withdraw the deposits, at any period of the charter.

Of these reasons, thus arising from the alleged misconduct of the bank, the first is, that many important money transactions of the bank are placed under the control of a Committee of Exchange, of which Committee, no one of the public Directors, as they are called, is allowed to be a member, instead of being transacted by a Board of seven Directors.

This charge consists of two parts; first, that the discounts of bills are made by the committee; and not by a quorum of the board; second, that the public directors are not allowed to be of this committee.

First. It is not alleged that, in the discounts of bills by this committee, any indiscretion has been committed, or any loss incurred, or that in consequence thereof, any facility to the mercantile community has been withheld, or any duty of the bank to the Government violated. The objection is, simply, that bills are discounted by a committee. Supposing this to be an irregularity, or illegality, in the proceedings of the board, how is it to be corrected by withdrawing the deposits? What connexion is there between the two things? It is not pretended that this mode of discounting bills, endangered the deposits; it is not pretended that it made the bank either less able, or less willing, to perform every one of its duties to Government. How should the withdrawal of the deposits then be suggested, by the discovery of such an irregularity, real or supposed? The committee are not able to perceive the least propriety, in applying the power of removal, to a proceeding of this kind, even if it were admitted to be irregular or illegal. But is the practice illegal. It is believed to be not at all unusual? It is believed to be quite common, in banks of large business, for bills of exchange, which are presented every day, and almost every hour in the day, to be discounted either by a committee of the directors, or by the president, or even other officers; acting under such general or

ders and instructions as the directors, at their stated meetings, prescribe. A large board of directors cannot assemble every day, perhaps not oftener than twice a week. If bills of exchange could only be discounted at these periodical meetings the business of exchange could not go on with the promptitude and despatch so important to commercial men in such transactions.

The committee suppose the truth of these remarks will be at once admitted by all who have knowledge of business of this kind.

The general management and control, the authority of examining and supervising, of contracting or enlarging the amount of daily discounts, according to the state of the bank, and of giving every other order and direction on the subject, still remains with the directors, and is constantly exercised by them. They still manage the affairs of the bank, in the language of the charter, although they may depute to a committee the authority of inquiring and deciding upon the credit of persons whose names are on bills of exchange offered for discount, and on the rate of exchange, current at the day. The legal question would be, whether the directors, by rule or by law, may not authorize a small number of their own board to discount bills. The bank has been advised that it might rightfully do this; and if it be not clear that this opinion is right, it is certainly far from clear that it is wrong; and in this state of the question, the general practice of other banks, under similar provisions in their charters, may well relieve the directors from the imputation of intentional mismanagement.

If, in all this, the bank has violated its charter, what other banks of extensive business have not done the same thing?

But the other subject of complaint, and that which seems to be regarded as the more offensive part of this regulation, is, that the public directors, as they are called, were not allowed to be on this committee.

It may be observed, in the first place, that if the discounting of bills of exchange, by a committee instead of a whole board of directors, be illegal, it would hardly be rendered legal by placing any or all of these public directors on the committee as members. But the Secretary seems to suppose that there was some particular object in this exclusion of these directors, as if there had been something wrong to be done, and therefore secrets to be kept by this committee. It is not easy to see what foundation there can be for this opinion. All these discounts are matter of record. They appear every day in the books of the Bank. Every director, on or off the committee, sees them, or may see them, at pleasure. There is no secrecy, nor any motives for secrecy, so far as this committee can perceive. Very proper causes may have existed, for ought that can have been known by the Senate, for the omission of these particular directors from this particular committee. Their services might have been deemed more useful in other committees, or however respectable in general character, or however useful in other parts of the direction, they may have been esteemed not so well acquainted as others with the business of foreign and domestic exchange. And even if there were, or are other causes, for the omission, such as tend less to prove the existence of that harmony and mutual respect which it is so desirable should prevail in such a board, these causes cannot furnish any just ground for asserting, either that the business of exchange was illegally conducted, or that the constitution of the committee was proof of the existence of any motive not fit to be avowed.

But the Secretary entertains an opinion respecting the character and duties of the directors appointed by the President and Senate, in which the committee do not concur. He designated them "public directors"—"officers of the Government," &c.

By the charter of the bank there are to be

twenty-five directors. Of those, twenty are to be chosen by the individual stockholders, and five appointed by the President, with the advice and consent of the Senate. As the Government owned one-fifth of the stock of the bank, it was judged expedient to place in the hands of the President and Senate the appointment of one-fifth of all the directors. But they are not called public directors, nor officers of the Government, nor public agents. Nor are they entitled, so far as the committee can perceive, to either of these appellations, any more than the other directors. The whole twenty-five directors are joint managers of a joint fund, each possessing precisely the same powers, and charged with the same duties as every other. They derive their appointments, it is true, from different origins, but when appointed, their authority is the same. There is not one word in the charter intimating, in the remotest manner, that the five directors appointed by the President and Senate have any particular duty, or are the objects of any particular trust. The charter calls them not Government directors, not public directors, but simply the directors appointed by the President and Senate. They are placed in the direction to consult with the other directors, for the common good of the bank, and to act with these others, and vote with them on all questions. They are, what the law calls them, directors of the bank, not agents of the Government. They are joint trustees with others, in a joint interest. If any thing illegal or improper takes place in the board, they are bound to resist it by the duty which they owe the individual stockholders, as much as by the duty they owe the Government; because they are agents of the individual stockholders, and have the same authority to bind them by their acts, as to bind the Government; and, in like manner, it is the duty of those directors who are appointed by the individual stockholders, to give notice, as well to Government as to the stockholders, if any thing illegal take place, or be threatened. All those directors act and vote together on the smallest as well as on the highest occasions; and by their joint votes, bind the corporation, and bind both the Government and individual stockholders to the extent of their respective interests in the corporation.

If the directors appointed by the President and Senate had been excluded by the charter, from any part of the power exercised by the others; if it had been forbidden them to interfere, to the same extent, and with the same effect, as the rest, in the common business of the bank, there might be some reason for supposing that an uncommon character, a character not so much of action as of supervision and inspection, was intended to be conferred on them. But they do not interfere, and justly, in all transactions of the bank. They do vote and act on all subjects, like the other directors. Being then possessed of this common character of directors, and enjoying all its powers, to the fullest extent, the committee know no form of argument, by which an uncommon and extraordinary character is to be raised by construction, and superadded to the common character of directors, which thus already belongs to them.

By granting the charter, and by accepting it, the Government on the one hand, and the individual stockholders on the other, have agreed, that, of the directors, as joint agents of all parties, the stockholders shall appoint twenty, and the Government five. The interest of all parties is confided to this joint agency; and any distinction in their powers, as arising from their different modes of appointment, is in the judgment of the committee not to be sustained. They regard such distinction as entirely inconsistent with the nature of the agency created, and as deriving not the least countenance from any thing contained in the law.

The committee, nevertheless, to avoid misapprehension, wish to repeat, that it is undoubtedly the duty of the directors appointed by the President, and of all directors, to give notice, both to Government and the stockhold-

ers, of any violation of the charter committed or threatened.

The Secretary of the Treasury has thought proper to observe, that the measures of the committee of exchange are, as it appears, designedly and by system, so arranged as to conceal from the officers of the Government transactions in which the public are deeply involved. This, it must be admitted, is a very serious charge. It imputes a corrupt motive. The committee have sought for the foundation, either in evidence or argument, on which this charge rests. They have found neither. They find only the charge, in the first place; and then they find the charge immediately stated as a fact, and relied on as the basis of other charges.

The second reason specially reported by the Secretary as arising from the conduct of the bank, respects the bill of exchange drawn by the Secretary of the Treasury on the Government of France, and purchased by the bank.

The general facts connected with this case are these:

By the late treaty of indemnity between the U. States and France, it was stipulated that the French Government should pay to that of the U. States twenty-five millions of francs, to be distributed among those American citizens who had claims against France for the unlawful seizure, capture, and condemnation of their vessels and property, the whole sum to be paid in annual instalments of four millions one hundred and sixty-six thousand six hundred and sixty-six francs, each, into the hands of such persons as shall be authorized by the Government of the U. States to receive it; the first instalment to be paid at the expiration of one year next following the exchange of the ratification.

On the expiration of the year, the Secretary drew a bill of exchange, signed by himself as Secretary, on the French Government for the amount of this instalment, and sold it to the bank, like any other bill of exchange, and received the proceeds by credit of the amount to the account of the Treasurer in the bank.

On presentment of the bill at the French Treasury, payment was refused; the bill was accordingly duly protested, and it was then taken up by a third person for account of the bank. The damages accruing on this bill, according to law and to constant usage in such cases, are one hundred and fifty-eight thousand dollars.

If this bill had been transferred by the bank, as probably it was, the bank itself would have been answerable for damages even at a higher rate, if a third person had not taken up the bill for the honor of the bank.

On receiving information of the protest of the bill, the officers of the bank, as was their duty gave immediate notice to the Treasury Department, and accompanied that notice with the information, always made in such cases, that the drawers of the bill would be held answerable for the damages. Such is the substance of the facts in this case.

The bank it would appear, was willing to collect the bill on the account of government, and to credit the Treasury with the proceeds when received: a course of proceedings which had this to recommend it, that the money to be received on the bill, was to be received by the government simply in trust for claimants under the French treaty, and was not ultimately destined to the ordinary uses of the Treasury. On the contrary, indeed before the dishonor of the bill was known, it had been made, already, the legal duty of the Secretary to place the fund, so soon as received, at interest for the benefit of the claimants.

But it was thought best to sell the bill, and to realize at once its amount into the Treasury; and the bill was sold to the bank, in preference to others offering to purchase, for no reason, it is to be presumed, except that the terms of the bank were more satisfactory. The bill was thus purchased by the bank, and its proceeds credited to the Treasury. This was a mere transaction of the purchase and sale of a bill of exchange. There was no trust confided to the bank and no fiscal agency in the whole

matter. Indeed the agency of the bank had been declined, the Secretary preferring to deal with it not as an agent, but as a purchaser, proposing to it not to collect the bill, but to buy it. On being remitted to Europe, and presented for payment, the bill was protested. By the universal commercial law, the Government, on the occurrence of this protest, became amenable to the bank for the amount of the bill, with damages. These damages may be ultimately claimed, with justice from the French Government if the bill was drawn upon sufficient grounds, and on proper authority; in other words, if the obligation of the French Government was such that it was bound to accept and pay the bill: but unless there be something in the case to vary the general rule, which the committee do not perceive, these damages were part of the debt which had become due to the bank, as much as the principal sum of the bill. If this be so, how could the directors relinquish this part of the debt any more than the other? They were agents for the corporation; they act as trustees, and have no authority, without consideration, to release, either to the Government or to individuals, debts due, or properly belonging to the corporation.

It has been suggested that the bank should have taken up this bill, when protested on government account. Two answers may be given to this suggestion: the first is, that the bill had been taken up by a correspondent abroad for account of the bank, before it was known in the United States that it had been protested.—The second is, that it would have been unlawful for the bank to have advanced such amount to the Government or on account of Government for the purpose of taking up this bill, or for any other purpose, without an act of Congress. The express words of the charter forbid it.

But, as a reason for removing the deposits, it appears to the committee quite immaterial whether the bank be right or wrong in claiming these damages. If wrong, it will not recover them. It is not to judge of its own rights, and if the appropriate tribunals shall decide that the bank was acting on this occasion, or ought to have acted as the agent of Government, or that it was its duty to take up the bill on account of Government, then the damages will not be awarded to it. And in the worst aspect of this case, how can its conduct in this respect be any possible reason to justify the removal of the deposits? What connexion has this occurrence with the safe keeping of the public treasures, or with the remitting them from place to place, to meet the convenience of the Government, according to the duty of the bank under the charter? The bank thinks itself entitled to damages on a protested bill, purchased and held by itself, and drawn by Government. The Secretary of the Treasury thinks otherwise. If there be no reason to doubt the sincerity of the Secretary's conviction, there is as little to doubt the sincerity of that entertained by the bank; and it is quite inconceivable to the committee that the pendency of such a difference of opinion, on such a question, should furnish any reason whatever for withdrawing the deposits, unless it be at once admitted that the Secretary holds the power of removal as a perfectly arbitrary power, and may exercise it, by way of punishment, whenever, in any particular, the conduct or the opinions of the bank do not conform to his pleasure.

The Secretary does not argue this matter.—He offers no reason in opposition to the legal right of the bank to the damages claimed.—Indeed, he hardly denies the right. He commences his observations on the subject by saying that the ruling principle of the Bank is its own interest; and closes them with another declaration, that, as fiscal agent of the public, it availed itself of the disappointment of its principal for the purpose of enlarging its own profits.

Assertions like these, however else they may be disposed of, cannot be made subjects of argument.

The last charge preferred against the bank, is, that it has used its means with a view to obtain political power, and thereby secure the renewal of its charter.

The very statement of such a charge, as a reason for removing the deposits, is calculated to excite distrust in the wisdom and propriety of that measure; because the charge, too general to be proved, is too general, also, to be disproved; and since it must always rest mainly on mere opinion, it might be made at any time, by any Secretary, against any Bank. It would be, therefore, always a convenient cloak under which to disguise the true motives of official conduct.

If proof be made out that the funds of the bank have been applied to illegal objects, the proper mode of redress and punishment should have been adopted, but what has this to do with the deposits? As in the case of the French bill, the Secretary cannot justify the removal of the deposits on any such ground as this, unless it be conceded that he may use the power of removal as a punishment for any offence of any kind which the Bank in his opinion, may have committed. The committee have already expressed the opinion that no such latitude of power belongs to him, and the assertion of such a power, for such a cause as is now under consideration, shows that the power ought never to belong to any Secretary; because the offence, on account of which it is here proposed to be exercised, is a political offence, incapable of definition, depending merely on the Secretary's opinion, and necessarily drawing into its consideration all the exciting controverted topics of the day. The bank, it is said, "has sought to obtain political power."

What is the definition of such an offence as this? What acts constitute it? How is it to be tried? Who is to be the judge? What punishment shall follow conviction? All must see that charges of this nature are but loose and vague accusations, which may be made at any time, and can never be either proved or disproved; and to admit them as sufficient grounds, or justify the removal of the deposits, would be to concede to the Secretary the possession of a power purely arbitrary.

The main fact relied on for this cause of removal shows how extremely unsafe all proceedings on any such reasons must be. The main fact is, that, between December 1830, and December 1831, the bank extended its loans twenty millions of dollars; and it is further alleged that, as if to leave no doubt on the motive of this extraordinary conduct, it continued to add rapidly to its loans, until in May, 1832, while its petition for renewal was pending, those loans amounted to seventy millions. And the Secretary declares that this extraordinary increase of loans made in so short a space of time, and on the eve of a contested election, in which the bank took an open and direct interest, demonstrates that it was using its money to obtain a hold upon the people of the country to induce them, by the apprehension of ruin, to vote against the candidate whom it desired to defeat. This is a strong assertion, but, so far as the Committee perceive, it is assertion merely. It is but the Secretary's own inference from facts, from which very facts his predecessors in office have drawn no such conclusions.

This great extension of the loans, he it remembered, took place in 1831. Why was it not then complained of? How should it have escaped the vigilance of the Secretary at that day at the time it took place? And if it did not escape his vigilance, why did he not then remove the deposits? So, also, as to the amount of loans in May, 1832. That amount was perfectly well known at the time, and if it proved any offence, why was not the punishment inflicted then? How should all other Secretaries have slept over this great mischief?

It might further be well asked, what evidence is there of the existence of any such motive as is imputed to the Bank in this extension

of its loans? There is no evidence but the mere fact itself of the extension, and it cannot be denied that other and very different reasons for the extensions may have existed; so that the charge is proved no otherwise than by inferring a bad motive from an act lawful in itself, and for which good reasons may have existed, nor is it either acknowledged, nor, so far as the committee know, proved that the bank took an open and direct interest, as a corporation, in the election referred to. The bank certainly was much interested in certain accusations which had been brought against it, and which became subjects of public discussion during the pendency of that election. It had been charged with great misconduct and gross violation of its charter. These accusations must undoubtedly have called on the directors for answer. If made before Congress, they were to answer before Congress; if made judicially, they were to answer in the courts; if made in an official and formal manner, and in that manner submitted to the judgment of the country, the directors were bound to meet them before that country by every fair use of fact and argument, not only for the purpose of defending themselves as directors, but for the higher purpose of maintaining the credit of the bank, and protecting the property entrusted to their care. If in thus defending the bank before the community, the directors carried their measures beyond this fair object of defence, or if they resorted to dishonorable or indecorous modes of discussion; if they sought rather to inflame than to reason; if they substituted personal crimination for argument; if, even, they met invective and violence with corresponding invective and violence; they followed bad examples, and are not to be justified.

But on their right to defend themselves before the public against grave charges brought against them and urged before the public, the committee entertain no doubt, and they are equally clear in opinion that the Secretary of the Treasury is not constituted the judge of the mode of exercising this right, and cannot justly remove the deposits merely because the conduct of the bank, in this particular, has not happened to conform to his wishes.

The committee, therefore, consider this last reason of the Secretary equally insufficient with the rest; and they regard it as the most objectionable of all in its principle, inasmuch as it proceeds on grounds which, if admitted, would leave a very high official duty to be exercised from considerations connected with the political feelings and party contests of every day, with no guide but the individual opinion of the officer who is to perform the act; an opinion which, it is possible, may be no less tinctured with political motive and feeling than the conduct which it would reprehend.

If an unlimited power be conceded to the Secretary to inflict penalties on the bank for supposed political motives in acts legal in themselves, where is the security that the judge may not be found acting under the same impulses which he imputes to the party accused?

The committee entertain no doubt that the immediate cause of the existing public distress is to be found in the removal of the public deposits, and in the manner in which that removal has been made. No other adequate cause has been suggested; and those who justify the removal do not so much deny this to have been the cause, as insist that it was not necessary that any such effect should have followed from it. In other words, they argue that, notwithstanding the removal, the bank still possessed the power, if it had chosen to exercise it, of warding off the blow which has fallen on the country, or at least of mitigating its severity.

Nothing could have been rationally expected but that the bank, deprived of the deposits, and denounced by the Executive Government, would feel itself called on to take just care of its own interest and its own credit. Of the means necessary to the attainment of these

side, the directors alone were judges, and the committee have no evidence before them to show they have not exercised their judgment fairly, and with a real solicitude to accommodate the commercial community in the altered state of things as far as has been practicable, consistently with the security of the institution, which it is equally their duty to the public and the stockholders to maintain. They are certainly under every obligation of duty, in the present distressed state of the country, to do every thing for the public relief which is consistent with the safety of the bank, and with those considerations which the approaching expiration of its charter makes it important for the directors to regard.

The removal itself, and the matter of effecting it, are causes entirely sufficient, in the judgment of the committee, to produce all the consequences which the country has experienced, and is experiencing; and these consequences, they think, are to be referred to these causes as their just origin. How could any other result have been expected? The amount of the deposits was nine millions of dollars. On this amount in deposits there was sustained, no doubt, a discount of far greater magnitude. The withdrawal of this sum of nine millions from the bank, necessarily compelled it to diminish its discounts to the full extent of all that part which may be supposed to have been sustained by it. It is to be remembered, too, that this was done at a moment when business of every kind was pressed with great activity, and all the means of the country fully employed.

The withdrawing of so large an amount at such a time, from hands actually holding and using it, could not but produce derangement and pressure, even if it had been immediately placed in other banks, and if no unfriendly feeling, and no want of confidence, had attended the transaction. But, it is quite obvious that the operation to which the Secretary has resorted has been attended with both these additional and powerful causes of derangement. It has created unfriendly feelings, and it has diminished confidence. This change of the deposits is made on the strength of charges against the bank of a very grave and aggravated nature, such as, if true, would most seriously affect its credit for solvency and stability. It is proclaimed to the whole world as having converted itself into a political partisan, misapplied its funds, neglected its highest duties, and entered on a career of electioneering against the government of the country.

These serious charges necessarily put the bank on its defence, and the extraordinary spectacle is exhibited of a warfare by the National Government on the National Bank, notwithstanding that the Government is itself a great proprietor in the bank, and notwithstanding that the notes of the bank are the currency in which the revenues of the country are by law receivable.

The true and natural relation between the Government and the bank is altogether reversed. Instead of enjoying the confidence of the Government, it is obliged to sustain its most serious official assaults, and to maintain itself against its denunciations. The banks selected by Government as its agents are themselves thrown, perhaps unwillingly, into an attitude of jealousy and suspicion with the Bank of the United States. They become cautious and fearful, therefore, in all proceedings; and thus those who should co-operate to relieve the public pressure, are considering mainly their own safety. Fearful of each other, and fearful of the Government, they see the distress continue with no power of beneficial interposition.

It may be asked, why are not these deposit banks able to maintain at large a circulation on the nine millions of deposits as the Bank of the United States? And will they not be thus able when the present panic shall have subsided? The committee think both the questions easily answered.

The Bank of the United States has a credit more general, it may be said more universal,

than any State bank does possess. The credit of the Bank of the United States is equally solid, its bills and notes received with equal confidence for the purpose of circulation and remittance, in every quarter of the country. No paper circulation, so far as the committee know, which ever appeared in the world, has approached nearer to the value and uniformity of a specie currency than the notes and bills of the Bank of the United States. To the State banks these notes and bills have performed the office of specie. All the State banks have discounted upon the possession of them, with the same freedom and boldness as they would have done on an equal amount of the precious metals. The curtailment of their circulation, therefore, if not merely a withdrawing of the amount curtailed from the general mass of circulation, it is removing, rather to the amount curtailed, the basis of the general circulation; and although the actual amount of notes and bills has not been recently greatly diminished, there is reason to suppose that the amount held by the State banks has been greatly diminished.

The removal of the deposits has operated directly on the amount of the circulating medium, at a moment when that amount could not bear any considerable reduction suddenly made, without producing sensible effect. It has diminished prices, and, in some instances, it has had this effect to a very material degree. It has operated on the internal exchange, and has most manifestly been attended with very serious and heavy inconveniences in that important branch of the national interest. More than all, it has acted on opinion; it has disturbed the general confidence, it has weakened the public faith in the soundness of the currency, and it has alarmed men for the security of property. As yet, we hardly know its effects on the credit of the country in Europe. Perhaps it is not easy to anticipate those effects; but if causes which operate here should be found to have been efficient there also, a still greater degree of pressure and distress than has yet been felt may be expected.

The committee, therefore, cannot but regard the removal of the deposits, on the whole, as a measure highly inexpedient, and altogether unjustifiable. The public monies were safe in the bank. This is admitted. All the duties of the bank connected with these public monies were faithfully discharged. This, too, is admitted. The subject had been recently before the House of Representatives, and that house had made its opinion against the removal known by a very unequivocal vote. Another session of Congress was close at hand, when the whole matter would come again before it. Under these circumstances, to make the removal, with the certainty of creating so much alarm, and of producing so much positive evil and suffering, such derangement of the currency, such pressure and distress in all the branches of the business of private life, is an act which the committee think the Senate is called on to disapprove. The reasons which have thus been stated apply to the whole proceedings of the Secretary relating to the public deposits, and make it unnecessary to consider whether there be any difference between his power over monies already in the bank, and his power to suspend future deposits. The committee forbear, also, to consider the propriety of the measures adopted by the Secretary, for the safe keeping of the public monies since their withdrawal from the bank. They forbear, too, from entering into any discussion, at present, of the course of legislation proper to be adopted by Congress under the existing state of things. In this report, they have confined their consideration to the removal of the deposits, the reasons assigned for it, and its immediate consequences; and on these points they have formed the opinions which have now been expressed.

They recommend to the Senate the adoption of the resolution which has been referred to them.

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

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RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J351f

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THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

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PROFESSOR RAFINESQUE, of Philadelphia, offers his services to render steamboats incombustible, and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and deserted by the public as unmindful of safety. Apply, post paid. 81 R J M M & F

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 f R M & F

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Ninety-five tons of 1 inch by 1/2 inch.	Flat Bars in lengths of 14 to 16 feet counter sunk holes, ended at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do.	
40 do. 1 1/2 do.	
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250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 2 3/4, 3, 3 1/2, 3 3/4, and 4 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment. A. & G. RALSTON.

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LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 72 of this Journal. d5

* * At the commencement of the last year I offered to send the American *tri-weekly* instead of *semi-weekly*, together with two of my periodicals, in exchange to those who would publish my advertisements of the different periodicals. In consequence of this notice, the exchange list was increased to 165. I soon found that the expense would be greater than I had anticipated, yet I had made the offer, and would of course continue it through the year—as I have done. I however find it *too expensive* to continue to send as heretofore. The circulation of my PERIODICALS, (upon which the expense falls,) will not warrant it, and I must, therefore, notwithstanding the uniform kindness with which they have been treated by those to whom they have been sent, materially reduce their exchange list.

The *semi-weekly* American will hereafter be sent in exchange to those who will publish the following advertisements a few weeks for the difference of price. *New-York, January 20, 1834.*

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in *semi-monthly* form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor. Jan. 22, 1834.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published.

D. K. Minor also publishes the *NEW-YORK AMERICAN*, daily, tri-weekly, and semi-weekly.

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A scientific person versed in Mechanics, Chemistry and Mineralogy; of several years practical experience in different branches of Civil Engineering, and who is also a good draughtsman, is desirous of obtaining employment either as an instructor in some public Institution, or as an Engineer upon some private or public work.

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The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

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Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wutzell, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

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Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

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All kinds of Machinery correctly drawn, and neatly engraved. M4

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Hudson, Columbia county, New-York, {
January 29, 1833.

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Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maldenlane. J31 6c

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in the profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes. WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested. Baltimore, 1832.

In reply to thy Inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information: The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repair, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any other in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a revolving telescope, in place of the vane sight, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad. Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer. Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
German and Norristown Railroad

AN INTERESTING AND USEFUL MAP.

A friend of Gurs has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in Morocco for pocket maps, in any quantity, by applying to the subscriber.

D. K. MINOR, 35 Wall street.
New-York, August 14, 1833.

INCOMBUSTIBLE ARCHITECTURE.

INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Acrost buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTONIS, or Incombustible Varnish, at one dollar per lb.

Apply to C. S. RAFINESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 8th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushton & Aspinwall, Druggists.

Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means. S. R. J. M. & F.



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heatt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

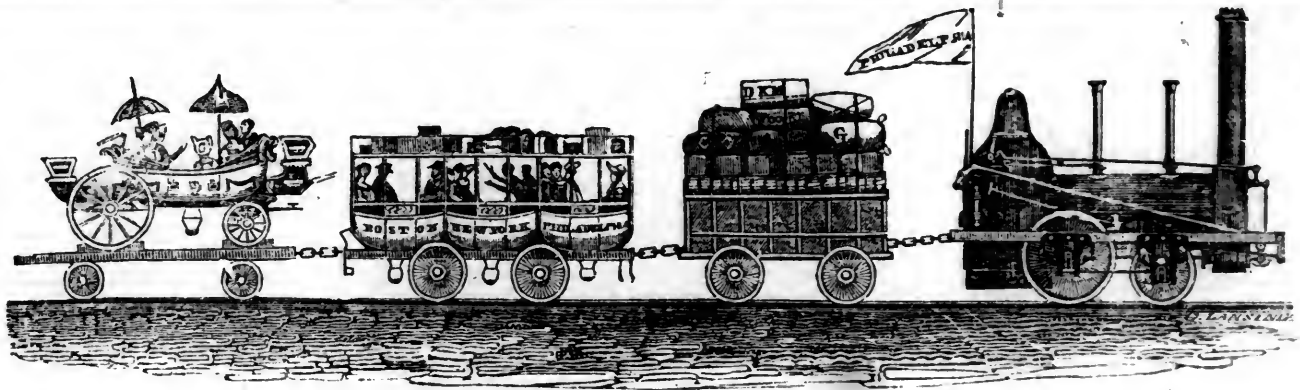
These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.
To Messrs Ewing & Heatt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer to the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, FEBRUARY 22, 1834.

[VOLUME III.—No. 7.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, FEBRUARY 22, 1834.

RAILROADS IN ALABAMA.—We are highly gratified to learn, as we do from the following extracts, that the inhabitants of *Alabama* are pushing forward their works of internal improvement with a spirit, which, if it does not stimulate those of *older* states to action, will at least, we hope, richly reward those who have invested their funds in an enterprise so creditable and so useful.

Railroad.—We regret to state that the first contract, from this place to Courtland, is not yet completed. It is, however, far advanced, and steadily progressing. We understand that the cars now run within seven or eight miles of Courtland, and that not more than about one-fourth of the work, on this remnant of the contract, remains unfinished.

We have the best assurance that the work will all be completed, by or near the first of October next, the time specified in the contracts.

Operations have already commenced under the new contracts, and upwards of one hundred hands are now at work.—[North Alabamian.]

Tuscumbia, Courtland, and Decatur Railroad.—We are gratified to learn, by means of a letter received from David Hubbard, Esq. Secretary of the Tuscumbia, Courtland, and Decatur Railroad Company, the following facts in relation to the progress of this noble enterprise. "On yesterday (16th inst.) the Tuscumbia, Courtland, and Decatur Railroad Company let to contract the whole line of the road to Decatur, to be finished by the first day of October next, (1834.) From the anxiety manifested to get contracts, by able and responsible bidders, the company had no difficulty in letting out to the best description of men, and on good terms. No doubt is entertained but that the road will be completed in time for planters

above the shoals to get their next crops to market as soon as it can be gathered, without waiting for a tide. But what is of equal importance to the people of Huntsville and Madison county generally, the board of directors, also on yesterday, adopted the following resolution:

'Resolved, That if the right of way can be had, from planters along the line, the Tuscumbia, Courtland, and Decatur Railroad Company will extend their road to Huntsville and have it completed during the next year.'—[Huntsville (Ala.) Mercury.]

There can hardly be a doubt, we should think, but that the inhabitants on the line will not only assent, but also, with the inhabitants of Huntsville, give their hearty support to a measure which will so largely contribute to their immediate prosperity.

The Tuscumbia, Courtland, and Decatur Railroad is certainly a measure creditable to those who projected and have thus far prosecuted the work; but we apprehend that the road between the two extremities is a small part only of the line of railroad which will ultimately be connected with it. It will be observed, by a reference to the map, that it is in the direct course of a continuance of the South Carolina Railroad to the Mississippi River at Memphis, or some other suitable point—perhaps *Natchez*; and who that has observed the progress of improvements within the last few years, can doubt the ultimate accomplishment of a work so desirable? It will also be intersected by branches from Tennessee, on the north, and from the interior of Alabama on the south. One has already been chartered from Moulton, the county seat of Lawrence county, to connect at some suitable point, probably at Courtland. In short, the Tuscumbia, Courtland, and Decatur Railroad is a germ from which many others will spring: a work, therefore, which will do great and lasting credit to those who projected and have thus far prosecuted its accomplishment.

ITHACA AND OWEGO RAILROAD.—We learn by a letter received in this city, from John Randall, Jr. Esq. the engineer of this road, that on the 13th of the present month, 13 miles of the road were opened for transportation and travel. The inclined plane at Ithaca was for the first time used, and successfully. A car loaded with two tons of iron and thirty passengers,

passed up the great plane, an elevation of 100 feet, in eight minutes. On the 15th, the road was to have been still further opened to a place beyond Smith's tavern, which is more than half the whole distance to Owego. By the middle of April, if no uncommon event should interfere, the whole line will be finished to that place. All the stone work, bridges, viaducts, and heavy jobs being finished, nothing of consequence remains but to lay the remaining rails. All the materials are on the ground, and the force on the road is at present about 700 men.

We congratulate those gentlemen in New-York and elsewhere, whose unshaken confidence in the work has enabled it to proceed. It has been demonstrated again and again to occupy a most important avenue to trade, and if it only secure the transportation and travel now existing, it will divide an annual interest of from 14 to 21 per cent. There is no mistake about this. The village of Ithaca and its vicinity already pays annually \$150,000 toll at Montezuma on merchandize and produce carried upon the canal.

The trade of that region is immense; 140 mills cluster within twelve miles of the village. Ithaca in fact is the key to the trade of the upper counties of the Susquehannah, and distributes salt, plaster, castings, and merchandize, to a great section of country in Pennsylvania. It receives lumber, (the finest that comes to this market,) produce and coal in large quantities, and will furnish an inexhaustible supply of fuel for the furnaces and salt works of our state. It commands the Baltimore, the Philadelphia, and New-York markets, and has an equal chance with the west for those of Canada. And here we may remark, that this portion of the state has arrived at its present prosperity without the fostering care of the legislature. While all other sections have from time to time, by expenditures in public works, or liberal endowments to public institutions, and multiplied acts of incorporation, been aided in their upward course, some fatality appears to have attended the applications from this quarter. They have been prejudged, or decided upon without a hearing, or have been overthrown by pitiful intrigues and jealous enmities of high minded legislation. The railroad has been made by the enterprise, almost termed folly, of a few individuals, in defiance of the sneers, if not the opposition, of those sagacious characters who always predict the ruin and downfall of every project not of their own creation. The tolls which will be received on these 13 miles of the road, even now, will at once be equal in amount to those received on any road of a similar extent in the United States.—[Albany Daily Advertiser.]

Report of the Engineer on the Survey for a Railroad between Richmond and Potomac Creek.

To Messrs. Lancaster, Denby & Co., F. & J. S. James, John H. Eustace, Edwin Porter, James Bosher, Merrit M. Robinson and others, subscribers to the Survey between Richmond and Potomac Creek:

GENTLEMEN—I have the honor to present you the following report on the surveys made under my direction, with a view to a railroad between the city of Richmond and the Potomac.

The line traced commences on Richmond Hill, near the Old Church. After passing around some ravines emptying into Shockoe creek, and near the Fairfield race course, it crosses, at station 70, the Mechanicsville turnpike; soon after which it descends into the valley of the Chickahominy, which it crosses a short distance above the junction of that stream and the Brooke. After crossing the Chickahominy, it passes around the head waters of the Totopotomoy, to station 247, at which point it crosses the stage road leading from Richmond to the Oaks. A few hundred yards farther it passes the Oaks, and is afterwards traced across some of the branches of the Machumps creek, and in the neighborhood of the road leading from the Oaks to the South Anna bridge. At station 321 it commences descending to the valley of the Pamunkey, which is passed about two hundred yards below the junction of the North and South Anna rivers.

From the valley of the Pamunkey, the line ascends at a graduation of thirty-three feet per mile, through the lands of Williams Carter and Doctor Morris, to the summit between the North Anna and Reedy Swamp. It is thence traced across several branches of Reedy Swamp through the lands of Messrs. Guy, Young, and Duling, to station 539, at which point it commences descending, on an uniform graduation of thirty-five feet per mile, to the valley of the Polecat river.

The summit between the Polecat and the Mattapony is passed with but little difficulty, the excavations and fillings in this distance being very moderate, and the grades, both ascending and descending, not exceeding thirty feet per mile.

From station 626, in the valley of the Mattapony, examinations have been made on two routes. The first line traced crosses the Mattapony a short distance beyond this point, and after passing on table land to the right of this stream, for about two miles, ascends on a graduation of thirty-one feet per mile, to the dividing ground between the Mattapony and Morocosac. Soon after attaining this level, it crosses the stage road between the Bowling Green and Fredericksburg, and is afterwards traced to the right of this, and in the neighborhood of the old court-house road, as far as Quisenbury's, which it passes about three-fourths of a mile to the left. From Quisenbury's it descends along the Ware creek to the Rappahannock flats, which are reached on the lands of Mr. William Taylor. From William Taylor's the line is taken along the flats, on ground generally favorable, to Fredericksburg.

The second line passes along the Mattapony Flats, on a nearly level graduation, to station 254, a few hundred yards above Downer's Bridge; after which it ascends, on a graduation for the greater part of the distance of thirty-two feet per mile, to the dividing ground between the Mattapony and Long Branch. From the summit, at station 174, near the head of Long Branch, it passes down the valley of Long Branch to the Massaponax, which is crossed about two hundred and fifty yards below the mouth of Furnace Run. About one and a half miles beyond this stream, it connects with the line above described.

To both of these lines objections may perhaps be made on local considerations, which

can probably be avoided on a definitive adjustment of the line. The line first traced has the recommendation of pointing directly to the Potomac; but its advantages in this respect would probably be deemed by a company more than counterbalanced by the consideration of making Fredericksburg a point in the main line of improvement, and the importance of avoiding a draw bridge at the Rappahannock. The estimate has therefore been made on the line last traced, by which the whole distance between Richmond and Fredericksburg would be sixty and a half miles.

Between the Rappahannock and Potomac, no examinations have been made with instruments, but a reconnaissance of the country shows two passes at which the dividing ground between these streams may be passed without material difficulty. The first of these is on the land of Mr. Pratt, near the head of Muddy creek, where a cut of moderate depth would admit of a line being afterwards taken, along one of the ravines of the Potomac creek, to the present steamboat landing. The second near the head of Lamb's creek would only be available for a line which should terminate on the Potomac, below the mouth of Potomac creek. Such a line would have the advantage of ending at a point which would afford much better water than can be had on the creek, and of course would admit of the use of a much larger class of steamboats and vessels on the Potomac, in connection with the railroad.

PLAN OF CONSTRUCTION AND ESTIMATE.—The principal difficulties on the line would consist of heavy cuts and fillings, and occasionally expensive constructions of masonry, or brick work, in situations where stone cannot be procured. It will probably be found advisable to adopt this substitute the whole distance between the Reedy Swamp and the head of Long Branch.

The superstructure of the railroad would be similar to that adopted on the railroad lately constructed between Petersburg and the Roanoke, except that white oak rails, plated with iron, are proposed, instead of yellow pine. This last material has been generally made use of on the railroads hitherto constructed in our country; but it has been found too soft and yielding to admit of the use of as heavy engines as it would be advantageous to employ. It is understood that a sufficient quantity of white oak timber may be obtained, on the line of the improvement, to admit of the superstructure in contemplation being executed within the terms of the estimates.

For more convenient consideration the cost of the work between Richmond and Fredericksburg is presented in four divisions, into which the line naturally divides itself.

DIVISION I.

Between the point of commencement and station 139, a short distance beyond the crossing of the Chickahominy, 7 miles.

ITEMS.

Clearing - - - - -	\$ 100 00
Excavation, 119,335 cubic yards, averaged at 10 cents per yard	11,933 50
Embankment, 172,451 cubic yards, at 12 cents - - - - -	20,694 12
Embankment, 42,266 cubic yards, at 15 cents - - - - -	6,339 90
Masonry, of bridges and drains, 1763 perches, at \$5 per perch - - - - -	8,815 00
Superstructure of bridges - - - - -	2,800 00
Railroad superstructure, 7 miles, at \$3000 per mile - - - - -	21,000 00
	\$71,682 52

DIVISION II.

Between stations 139 and 388, near the south bank of the Pamunkey, 14 miles and 78 feet.

ITEMS.

Clearing - - - - -	\$ 580 00
Excavation, 227,156 cubic yards, at 10 cents - - - - -	22,715 60
Do. 220,551 cubic yards, at 13 cts.	28,675 53

Embankment, 251,364 cubic yards, at 12 cents - - - - -	30,163 68
Do. 218,306 cubic yards, at 14 cts.	30,562 84
Masonry, 2769 perches, at \$5 50 - - - - -	15,229 50
Railroad superstructure, 14 miles and 78 feet, at \$3000 per mile - - - - -	42,044 32
	\$169,971 47

DIVISION III.

Between station 388 and station 626, near the Mattapony river, 13½ miles.

ITEMS.

Clearing - - - - -	\$ 350 00
Excavation, 500,426 cubic yards, averaged at 11 cents - - - - -	55,046 86
Embankment, 336,474 cubic yards, averaged at 12 cents - - - - -	40,376 88
Do. 68,504 cubic yards, averaged at 15 cents - - - - -	10,275 60
Brick work of Bridges and Culverts.	
807,000 bricks, laid in lime mortar, at \$9 - - - - -	7,263 00
Masonry, 2660 perches, at \$4 50 - - - - -	11,970 00
Superstructure of bridges - - - - -	4,800 00
Railroad superstructure, 13½ miles, at \$3000 per mile - - - - -	40,500 00
	\$170,582 34

DIVISION IV.

Between station 626 and Fredericksburg, 26 miles and 82 feet.

ITEMS.

Clearing - - - - -	\$ 450 00
Graduation, including drains, 11½ miles of railroad, along the Mattapony flats, averaged at \$2400 per mile - - - - -	28,000 00
Bridges across South river and Mattapony - - - - -	6,000 00
Excavation, 242,885 cubic yards, averaged at 10 cents - - - - -	24,288 50
Embankment, 119,917 cubic yards, averaged at 11 cents - - - - -	13,190 87
Do. 65,112 cubic yards, averaged at 15 cents - - - - -	9,766 80
Brick work in Culverts and Drains.	
388,000 bricks, laid in lime mortar, at \$9 - - - - -	3,492 00
Masonry, 1910 perches, at \$4 - - - - -	7,640 00
Superstructure of bridge at Massaponax - - - - -	1,600 00
Railroad superstructure, 26 miles and 82 feet, at \$3000 per mile - - - - -	78,046 60
	\$172,474 77

SUMMARY.

Division I. - - - - -	\$ 71,682 52
II. - - - - -	169,971 47
III. - - - - -	170,582 34
IV. - - - - -	172,474 77
	\$584,711 10

Add for superintendence and contingencies ten per cent. - - - - - 58,471 11
Probable expenditure for depots, warehouses and water stations, and for locomotive engines, cars and carriages, - - - - - 120,000 00

Capital stock required for the railroad to Fredericksburg - \$763,182 21
As before observed, no survey has been made between Fredericksburg and the Potomac, and an accurate estimate cannot therefore be presented for this portion of the route, a bridge across the Rappahannock would probably cost \$20,000; and the distance by the way of Muddy creek, the nearest of the two routes, to the steamboat landing, may be computed at thirteen miles. Supposing the cost of this portion of the line to exceed, somewhat, the average expense of the railroad between Richmond and Fredericksburg, and a similar proportional expenditure to be necessary for locomotives, cars, &c. an increase of capital to the extent of \$200,000 would be necessary for the extension of the railroad to the Potomac.

The above aggregates will probably exceed the expectations which have been formed as

to the cost of the work, but objects proportionably large would seem to justify its accomplishment. To the inhabitants of Richmond and Fredericksburg, it will afford a means of speedy intercommunication, by bringing them within a few hours transit of each other: to the intervening country a cheap and speedy transportation of its products, and to the portions of the state trading with Richmond and Fredericksburg, the benefit of improved markets. The execution of the work in question may also be expected in a few years to lead to that of lateral railroads along both branches of the Rappahannock, and in this aspect not only the rich counties at the foot of the Blue Ridge, but the Valley counties of the Shenandoah, Frederick, and Jefferson, seem to be particularly interested in its accomplishment.

But these results, important as they are, appear trivial compared with those which may be expected to ensue from the execution of the proposed work, if it should become the line of northern and southern travel. So far, this has been taken principally by packets plying between New-York and the southern ports. But the lines of railroads now progressing or executed in the northern states will have afforded, within two years from the present time, a steamboat and railroad communication between Boston and the Potomac, and the improvements projected in the south will have equally the effect of accumulating, on our southern border, a large and steadily increasing travel. It can scarcely be the policy of the legislature to direct this travel from the limits of the state, to place it on the bay. Unless this should be done, the proposed work, in connection with the Petersburg railroad, will have the effect of conducting it through the interior of the state, and of affording to the districts of the commonwealth, through which it will pass, as well as to the towns of Richmond, Fredericksburg and Petersburg, all the benefit which must necessarily result from positions on the great line of national thoroughfare.

That the work, under these circumstances, must be productive, there can be no doubt. It would seem, if the above views be correct, to be equally clear, that no work which has been projected in Virginia can be, in proportion to the expenditure which will be required for its completion, of more importance to the commonwealth, or have higher claims on its consideration and patronage. All which is respectfully submitted.

MONCURE ROBINSON, C. E.

Richmond, January 4th, 1834.

[From the London Courier, 14th Nov.]

It may be said of railroad projects, as it is sometimes said of other things, that "it never rains but it pours." No matter how far apart any two places may be, or whether the traffic between them be great or small, we are assured that to unite them by a railroad will be a highly profitable concern. We are further assured, that it is no great matter whether the line between them be level or not, seeing it has been opportunely discovered that an undulating line is preferable to one that is level. The success of Burns turned the heads of thousands of his countrymen, who fancied that because they could string together a few doggerl verses, they were rivaling the wit, and simplicity, and pathos, of the Ayrshire bard. The success of the Manchester and Liverpool Railroad Company seems to have had a similar influence over the proprietors and speculators of this end of the island. But we are afraid there are not many of the newly-fledged schemes destined to make a nearer approach, in point of productiveness, to that prosperous concern, than the mass of his competitors did to Burns. Those to whom the interest of their capital is any object would do well to pause and reflect seriously what they are about before embarking in any one of these schemes. Those who can afford to promote a public object, at the expense of their subscriptions, or who expect to gain more indirectly by the construction of the railroads

than the amount of their shares, are persons who may safely engage in such projects. Other parties will best consult their interests by confining their patronage to the risking of their bodies in the "fast coaches," when once they are set in motion.

It would be quite as logical to infer that because a £50 share in the Trent and Mersey Canal is worth £630, a share in the Croydon Canal should fetch a corresponding price, as it is to infer, from the success of the Manchester and Liverpool railroad, the success of the numberless schemes of the sort now before the public. We affirm, without fear of contradiction, that there are not within the British Empire any two places, 30 miles distant, between which a railroad can be made with half the chances of success as between Manchester and Liverpool. The latter is, in fact, the port of Manchester; and while the latter is the centre of the cotton manufacturing district, there is, within the single hundred in which it is situated, a population of 650,000! The intercourse between Manchester and Liverpool, before the railroad was so much as thought of, was vastly greater than that between any other two places in the Kingdom; and it must necessarily continue to increase, not only with the increased facilities of communication, but with the rapid growth of population, manufactures, and commerce, in that part of the country. In fact, looking at the Manchester and Liverpool railroad in an economical point of view, its moderate success is the only very striking feature about it. On the 23d of January last, the directors declared a half-yearly dividend at the rate of £4 4s. per cent. This amounted to £33,463 15s., leaving a surplus of only £693! In most concerns with which we are acquainted, this would be considered very improvident management. The railroad carriages, &c., have cost little less than a million; and they are very far certainly from being particularly durable. It is affirmed, no doubt, that the repairs which are constantly being made on the road and carriages, keep them uniformly up to the desired degree of goodness; and that, therefore, it is unnecessary to accumulate a sinking fund. But it is alleged by others that this not really the case, and that at no very remote period a very large additional outlay will be required. Whether this be so we cannot pretend to affirm. But, taking the facts as they stand, and setting them in the most favorable point of view, they give slender encouragement to the projects now on foot. Here we have a railroad 30 miles in length, between two places having the greatest intercourse by far of any two in the empire, and because it pays eight per cent, we are told that we may all become as rich as Croesus by subscribing to railroads three, four, and five times the length, between places that have not a third, a fourth, or a fifth part of the intercourse between Manchester and Liverpool! We like quick travelling, and nothing would give us greater pleasure than to see the country intersected by railroads; and we do not mean to deny, that in a few cases they may be constructed with a view to the profit of the projectors or shareholders. But our love of rapid motion is not greater than our dislike of quackery and humbug. Let no one, who expects to profit by such schemes, put his faith in mere prospectuses.

IMPORTANT DISCOVERY.—A gentleman in this town believes he has discovered important improvements on the Burdenian plan of constructing steamboats, which he conceives will eventually supersede every other mode now in use. The improvements, it is thought, will combine every advantage of the Burden plan as to speed, and 1st, a great increase of strength—2d, a much less draft of water—3d, an adaptation to lake or river navigation, in deep, shallow, calm, rapid, or rough water—4th, an adaptation to the conveyance of passengers, or both freight and passengers, affording abundant room for the stowage of freight, which Mr. Burden's plan does not embrace—5th, an

increased facility in turning round—6th, a great diminution of cost in the construction. It is supposed that a boat on this plan may be built, which will run as fast as the boat built by Mr. Burden, having the same power of engine, and draw not more than one and a half or two feet of water. Should the sanguine expectations entertained of the value of the improvements, upon further consideration, prove well founded, a further notice will probably appear.—[Brockville Recorder.]

ANOTHER STEAMBOAT.—This is emphatically an age of steam inventions. New steamboats, steam-boilers, and steam-engines, greet us on every hand; and in this neighborhood there seems to be an astonishing fecundity in this respect.

Mr. Burden's wonder was long ago duly announced, and intelligence of it has been carried by the four winds to the four quarters of the globe. Not long since, some unknown friend sent us a paper printed in Ireland, containing an account of Mr. Burden's invention, originally given in this paper.

We have also noticed, upon the authority of others, Mr. Langdon's invention, and owe him an apology (which we find in the multiplied duties of the conductor of a daily paper), that we have not yet embraced his invitation to examine his boat.

Our object now is, as chroniclers in this region, to inform the public of another invention or model of a steamboat, which, being exhibited in this city, we had the pleasure of seeing on Tuesday. The plan is approved of by several prominent individuals in this city, who, besides, are connected with the present steamboat association, and who, we understand, design, (such is their confidence of its merits,) at no distant day, to reduce the invention to the test of experiment.

The model, which is remarkable for its simplicity and the absence of extra and unnecessary incumbrances, represents a boat 250 feet long, and 50 feet wide, composed or built upon two hulls (each 250 feet long) lying parallel to each other, and 20 feet apart in the centre.

The hulls are designed to be 10 feet deep, and 11 wide, with perpendicular sides, so that, at the same time they serve to buoy the boat, they supply two long and spacious cabins; which being below and not above the deck, will obviate the hindrances to speed, which boats having their cabins and a load of fixtures on deck, in certain states of wind and weather, sometimes experience.

The deck is arched, and in such a way, if not to present the full resistance and power of the perfect arch to the weight that may be placed upon it, yet so as in a great degree to strengthen the boat, and render it fully adequate to the uses for which it is designed.

The sides and bottom of the hulls, where they come in contact with the water, are constructed on a line purely designed to diminish resistance, and forming the segment of a circle of an immense diameter.

The boat is to be propelled by a single paddle-wheel of great power, revolving in the centre between the hulls.

The inventor is a young man of this city, of promise and ingenuity, and the present evidence of it is not the first the public has to judge of. His profession and calling have given him opportunities of observation, and of studying the subject of improvements in the application and use of steam and steamboats, which few others have had, and which, with a laudable ambition, he has endeavored to improve for the benefit of the public, and we hope of himself also.

It is also intended to introduce a coal-boiler, constructed on a new principle, the effect of which, it is assumed by those acquainted with the subject, (which we profess not to be,) will be the saving of at least 50 per cent. in the expense of fuel.

To construct a boat 250 feet long, it is estimated will cost \$30,000.

The hulls will be framed upon light but strong timbers, upon which are to be fastened successive layers of thin tough oak plank, or boards. The first layer to run horizontally lengthwise the boat; the second crosswise; the third crosswise diagonally; and the fourth lengthwise; the whole fastened or riveted together, by iron nails or rivets, and to constitute a thickness not exceeding four inches: forming, in short, a kind of medium between boats built on the plan of Mr Annesley and common boat building.—[Troy Press.]

RAILROAD MEETING.—At a large and respectable meeting of citizens, from the several towns of Orange county, held at the Orange Hotel, in the village of Newburgh, on the 11th February, 1834, for the purpose of considering the propriety of petitioning the legislature for aid in the construction of the New-York and Erie Railroad, the hon. Nathaniel Jones, of Warwick, was elected President; Abraham M. Smith, Esq. of Newburgh, was chosen Vice-President, and Edward Blake, of Montgomery, and Robert Sly, of New-Windsor were appointed Secretaries.

David Ruggles, Esq., after addressing the meeting, moved that a committee be appointed to draft a memorial to the legislature, upon the subject for the consideration of which the meeting was assembled. The meeting was also addressed by Isaac R. Van Duzer, Samuel J. Wilkin, Charles Borland, John Hallock, Jun., William W. Brooks, and Abraham Crist, Esqrs. upon the importance to the state of New-York of the subject under consideration; whereupon, David Ruggles, of Newburgh, Isaac R. Van Duzer, of Goshen, Charles Borland, of Montgomery, William W. Brooks, of Blooming-Grove, John B. Booth, of Goshen, John Hallock, Jun., of Minisink, and Abraham Crist, of Walden, were appointed a committee to prepare a memorial to the legislature, for their aid and encouragement in constructing the said railroad.

The committee having consulted together, reported a memorial to the legislature, which was unanimously adopted.

RAILROADS IN GEORGIA.—Companies have been incorporated by the Legislature of Georgia to construct three Railroads in that state; one from Savannah to Macon; one from Macon to Forsyth, and one from Augusta westwardly.—It is required by these charters that these roads shall be commenced within two years of the passage of the act, and shall be completed within six years thereafter.

BUSINESS OF THE CANAL.—We have been politely furnished with the following return by Gen. Humphrey, canal collector in this city:

The whole quantity of down freight upon which toll is charged by weight, that was conveyed on the New-York canals to Albany, in 1833, amounts to one hundred and fifty-two thousand nine hundred and thirty-five tons, at 2000 pounds per ton, viz.:

Barrels of flour.....	734,133
" ashes.....	22,922
" provisions.....	13,439
" whiskey	19,908
Hogsheads do.....	873
Bushels of salt.....	17,116
" wheat.....	293,504
" coarse grain.....	122,944
" barley.....	257,252
Boxes of glass.....	2,157

Also, the following, upon which toll is not charged by the ton:

Cords of wood.....	20,960
Feet of timber.....	74,350
" lumber.....	55,338,547
M. of shingles.....	74,350

There were 68,321 tons of merchandise, furniture and sundries, sent up the canal from Albany.

The whole amount of tolls received by the collector at Albany is \$323,689 83, making an increase of \$87,053 56 over the receipts of the last year.

Number of boats arrived and cleared, 16,834.

PRODUCE AND COAL IN PHILADELPHIA.—

The following statement exhibits the number of bushels of grain, salt, (coastwise,) and coal, discharged at the port of Philadelphia for the years

	1832.	1833.
Corn..... bushels	631,098½	628,654½
Wheat..... ditto	232,831½	156,255½
Rye..... ditto	39,608	77,302½
Barley..... ditto	55,509½	45,760½
Oats..... ditto	95,329	93,434½
Flaxseed..... ditto	5,204½	9,890½
Beans and Peas..... ditto	1,414½	378
Clover-seed..... ditto	575	—
Salt..... ditto	114,378	63,971½
Coal..... ditto	142,754	180,145

Flour Inspection.—Amount of flour and meal inspected for the port of Philadelphia, for the year ending 31st Dec. 1833:

Wheat Flour.....	378,590 barrels.
Ditto.....	22,725 hf. ditto.
Rye Flour.....	40,011 barrels.
Corn Meal.....	40,415 ditto.
Ditto.....	7,549 hhd.
Middlings.....	2,557 barrels.

Inspection of Salt Provisions, in the city and county of Philadelphia, for the year 1833:

3,123 barrels of beef.
508 hf. bbls. ditto.
6,765 hhd. of pork.
69 hf. bbls. ditto.
53 bbls. of herring.

10,518.

WONDERS OF ART.—You behold a majestic vessel bounding over the billows from the other side of the globe; easily fashioned to float with safety over the bottomless sea; to spread out her broad wings, and catch the midnight breeze, guided by a slow drowsy sailor at the helm, with two or three companions reclining listlessly on the deck, gazing into the depths of the starry heavens. The commander of this vessel, not surpassing thousands of his brethren in intelligence and skill, knows how, by pointing his glass at the heavens, and taking an observation of the stars, and turning over the leaves of his "Practical Navigator," and making a few figures on his slate, to tell the spot which his vessel has reached on the trackless sea; and he can also tell it by means of a steel spring and a few brass wheels, put together in the shape of a chronometer. The glass with which he brings the heavens down to the earth, and by which he measures the twenty-one thousand six hundredth part of their circuit, is made of a quantity of flint, sand, and alkali—coarse opaque substances, which he has melted together into the beautiful medium, which excludes the air and the rain and admits the light,—by means of which he can count the orders of animated nature in a dew-drop, and measure the depth of the vallies in the moon. He has, running up and down his main mast, an iron chain, fabricated at home, by a wonderful succession of mechanical contrivances, out of a rock brought from deep caverns in the earth, and which has the power of conducting the lightning harmlessly down the sides of the vessel into the deep. He does not creep timidly along from headland to headland, nor guide his course along a narrow sea, by the north star; but he launches bravely on the pathless and bottomless deep, and carries about with him in a box a faithful little pilot, who watches when the eye of man droops with fatigue, a small and patient steersman, whom darkness does not blind, nor the storm drive from his post, and who points from the other side of the globe,—through the convex earth,—to the steady pole. If he falls in with a pirate he does not wait to repel him, hand to hand; but he puts into a mighty engine a handful of dark

powder, into which he has condensed an immense quantity of elastic air, and which, when it is touched by a spark of fire, will instantly expand into its original volume, and drive an artificial thunderbolt before it, against the distant enemy. When he meets another similar vessel on the sea, homeward bound from a like excursion to his own, he makes a few black marks on a piece of paper and sends it home, a distance of ten thousand miles; and thereby speaks to his employer, to his family, and his friends, as distinctly and significantly as if they were seated by his side. At the cost of half the labor with which the savage procures himself the skin of a wild beast, to cover his nakedness, this child of civilized life has provided himself with the most substantial, curious, and convenient clothing, textures and tissues of wool, cotton, linen, and silk, the contributions of the four quarters of the globe, and of every kingdom of nature. To fill a vacant hour, or dispel a gathering cloud from his spirits, he has curious instruments of music, which speak another language of new and strange significance to his heart; which make his veins thrill, and his eyes overflow with tears, without the utterance of a word—and with one sweet succession of harmonious sounds, send his heart back, over the waste of waters, to the distant home, where his wife and his children sit around the fire-side, trembling at the thought that the storm which beats upon the windows, may, perhaps overtake their beloved voyager on the distant seas. And in his cabin, he has a library of volumes—the strange production of a machine of almost magical powers—which, as he turns over their leaves, enable him to converse with the great and good of every clime and age, and which even repeat to him, in audible notes, the laws of his God, and the promise of his Saviour, and point out to him that happy land which he hopes to reach when his flag is struck, and his sails are furled, and the voyage of life is over.—[E. Everett.]

RAIN WATER.—In our country there falls rain, including melted snow, to the average depth of 35 inches. On a surface forty feet square, there falls yearly 34,909 wine gallons; and if all this were secured in cisterns, there would be nearly one hundred gallons for every day's consumption, or about three barrels. This water, if well preserved, would be the very purest and best for most domestic purposes. The horse and the cow prefer rain water to pump or well water; and though it would not be entirely governed by their decision, yet great respect is due to their judgment in such matters. The water of many wells is tinged in such a way as to make it less fit for a solvent; and it does not so perfectly combine with nutritious substances, to form kyle, and nourish the human system. They who live in situations where water is not easily procured from the ground, may be told that the purest water is descending around them; and if they will only be at the necessary expense to secure this gift of heaven, they may provide an abundant supply. On such reservoirs the inhabitants of Palestine placed much dependence; and it is a merciful appointment of God, that in warm countries, where the greatest supply of water is needed, the most rain descends. We may yet find good capacious cisterns, of brick or stone, and Roman cement, economical additions to our do-

mestic conveniences. A cistern ten feet square, and ten feet deep, would contain 118 hogsheads of 63 wine gallons each, and would secure to most families a constant supply of water.—[Scientific Tracts and Lyceums.]

THE CHEAP TRANSPORTATION OF BOOKS AND PERIODICALS.—The present state of society demands a cheap system of conveyance for the diffusion of knowledge. The post-office system is too expensive. On this system conveyance must be more expensive, from its rapidity, than is necessary for all purposes. A vast number of publications now issued are not required to be transmitted with great speed. As mail stages now usually run, they carry a load of one thousand pounds at three times the expense of conveying the same load at a moderate rate. "In England," says the Scientific Tract on Railroads, "every coach on the best roads that runs for twenty-four hours, at nine miles per hour, drawing not over two tons, requires no less than 180 horses, or ninety each way. Less than 12 horses would carry the same weight for the same time, at two and a half miles per hour." In the mail stages of our country, weighing about a ton, less than a ton of passengers and baggage is usually carried. To transport this load at the rate ordinarily travelled, the horses are changed every twelve miles. To carry the load, therefore, thirty-six miles, twelve horses are needed. At the rate of four miles an hour, four horses would transport this load in waggons. At a moderate speed, therefore, a load of magazines and books would be conveyed at one third the cost of transportation by rapid mail stages. But there is no advantage in my having many of the periodicals I receive by a rapid conveyance. A system of baggage waggons, transporting small articles over the country at a cheap rate, would, therefore, greatly facilitate the diffusion of knowledge. I wish to take the Biblical Repository, and find that four numbers weigh two pounds and ten ounces. I live rather more than 100 miles from Boston; and the postage of the whole, comprising 50 sheets, would be \$1.25; while the freight, at the rate at which goods are commonly transported in waggons, would be a little less than 2½ cents. The postage of forty numbers of the Temperance Recorder would be 60 cents; while the freight of the whole 40, if the papers were dried, and thus made light, would not be more than one cent. When the post-office was established there did not exist such a periodical literature as distinguishes the present age; and therefore, the United States did not provide for such a conveyance of packets as is now needed. The law now in force, passed March, 1827, enacts, "That no person, other than the Postmaster General, or his authorized agents, shall set up any foot or horse post for the conveyance of letters and packets upon any post road, which is or may be established as such by law." This law forbids such a system of conveyance of parcels as is contemplated in this article, unless it should be established by the post-office department. But if it should not be thus established, it may be authorised by act of Congress. Why should booksellers and printers, and publishers, be shackled in their business more than other classes of the community? A vast amount of the literature of the country is now periodical. We

have our weeklies, our monthlies, our quarterlies; and our annuals, without number. We have our libraries too; the Christian's Library, the Select Circulating Library, and a variety of others." It is desirable that there should be a regular and cheap conveyance of such books. This difficulty of distributing periodicals over the country is of the nature of a heavy duty on them. The postage on a periodical, which does not convey news, and needs not to be carried post haste, now greatly increases its cost, and checks its circulation. If shoes, and hats, and other articles of manufacture, could be conveyed only by government lines, at the cost of 33 per cent. on their value, the manufacturers would be exceedingly embarrassed; and the public, too, would be injured beyond calculation, especially if the manufacture could be carried on only in one place in a whole county, or in a whole state, as is the case with books and periodicals.—[Scientific Tracts and Lyceums.]

THE FLOATING GARDENS OF CASHMERE.—The city of Cashmere, being the capital of the province of that name in Asia, is situated in the midst of numerous lakes, connected with each other, and with the river Vedusta, by canals, separated by narrow lines and insulated plots of ground. Upon these lakes are floating gardens, cut off generally from the body of the lake by a belt of reeds; the cultivation of which is not only very singular, but highly profitable, and worthy of imitation in Europe as a resource for raising food for man. The second number of the Journal of the Geographical Society contains a notice of the Natural Productions and Agriculture of Cashmere, from which the following account is compiled:

The city of Cashmere is subject to considerable inundations, which have become annually more frequent, through the neglect of the government in not checking the accumulation of weeds and mud, which diminish the depth, and consequently increase the surface of the lakes. This has suggested the expediency of a floating support, by which vegetables are cultivated in safety, deriving as much moisture as is beneficial without the risk of being destroyed. Various aquatic plants spring from the bottom of the lakes, as water lilies, sedges, reeds, &c.; and as the boats which traverse those waters take generally the shortest lines they can pursue to their destination, the lakes are in some parts cut into avenues, as it were, separated by beds of sedges and reeds. Here the farmer establishes his cucumber and melon floats by cutting off the roots of the aquatic plants about two feet under water, so that they completely lose all connection with the bottom of the lake, but retain their situation in respect to each other. When thus detached from the soil, they are pressed into somewhat closer contact, and formed into long beds of about two yards breadth. The heads of the sedges, reeds, and other plants of the float, are next cut off, and laid upon its surface, and covered with a thin coat of mud, which, at first interrupted in its descent, gradually sinks into the mass of matted stalks. The bed floats, but is kept in its place by a stake of willow driven through it at each end, which admits of its rising and falling in accommodation to the rise and fall of the water. By means of a long pole thrust among the reeds, at the bottom of the lake, from the side of a boat, and turned round several times, a quantity of plants are torn off from the bottom, and carried in the boat to the platform, where the weeds are twisted into conical mounds, about two feet in diameter at their base, and of the same height, terminating at the top in a hollow, which is filled with fresh soft mud, and sometimes wood ashes. The farmer has in preparation a number of cucumber and melon plants, raised under mats, and of these, when they have four leaves, he places three plants in the basin of every cone or mound, of

which a double row runs along the edge of every bed, at about two feet distance from each other. No further care is necessary except that of collecting the fruit, and the expense of preparing the platforms and cones is very trifling. Mr. Moorcroft traversed about fifty acres of these floating gardens, growing cucumbers and melons, and saw not above half a dozen unhealthy plants; and he says, he never saw in the cucumber and melon grounds, in the vicinity of populous cities in Europe or in Asia, so large an expanse of plant in a state of equal health or luxuriance of growth. The general depth of the floating beds is about two feet, and some of them are seven feet broad. The season lasts for three months and a half, beginning in June. From the first setting of the fruit to the time of pulling, seven or eight days are the ordinary period. Thirty full-sized fruit from each plant, or from ninety to a hundred from each cone, are the average crops. The seed of the melon is brought annually from Baltistan, and the first year yields fruit of from four to ten pounds each in weight; but if the seed be re-sown, the produce of the second year exceeds not from two to three pounds. Unless when eaten to great excess the melon produces no disorders, and it is remarked that healthy people who live upon this fruit during the season become very speedily fat; and the effect upon horses fed upon this fruit is reported to be the same. In the early part of the season, cucumbers of full size sell at the rate of about three for a piece of coin of the value of a half-penny; but as the weather becomes hotter, and the plants get into full bearing, ten, fifteen, and even twenty, are purchased for this price. It is calculated that every cone yields a money return of about eighteen pence. Allowing sixpence for labor of every description, and including also the tax, the clear profit is a shilling for every two square yards. The yield of the melon is numerically less, but the return of profit is at least equal. No other vegetables are raised upon the spaces between the cones, although Mr. Moorcroft thinks that onions, cresses, and other useful vegetables, might be raised upon them; and water-mint grows spontaneously upon the floats.

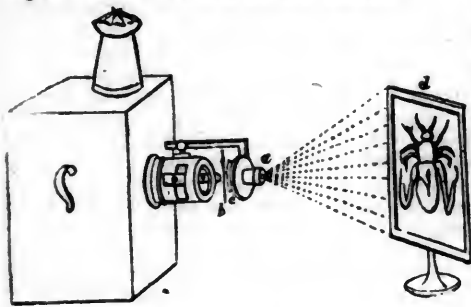
Cashmere, or Cassimere, is one of the northern provinces of India within the Ganges. It is surrounded by mountains, and from its beauty and fertility has been called the Paradise of the Indies. It contains upwards of 100,000 villages, is well stocked with cattle and game, and is said to be unmolested by beasts of prey. The people are ingenious, and resemble the Europeans in their persons, and the women are fair and tall. The famous Cashmere shawls derive their name from this country, though at present the supply that actually comes from it is comparatively small.

WHITE MONKEY.—A letter from Ramree of the 15th April, 1827, makes mention of a perfectly white monkey that had been caught there. The hair on the animal's body was white, curly, and soft as silk, and excited great wonder and admiration among the natives. They represented that such a creature had never but once, to their knowledge, been seen in those parts, and that the king of Ava sent down a golden cage, with a host of people, to escort the animal to his presence, and expended besides 20,000 rupees in sacrifices and public rejoicings, auguring from the arrival of the extraordinary stranger, the most happy presages of good fortune. The monkey brought to our correspondent was one of the same description, but unfortunately it was too young and tender an age when caught. A Burmese woman, who was nursing an infant of her own, requested permission to suckle it, and fairly divided her maternal attention between the two. Pug lived in apparent good health and spirits for six days, but whether it was that its nursing disagreed with it, or that it was naturally very delicate, it died on the seventh day.—[Mr. E. G. Ballard, Islington, in the Field Naturalist's Magazine, No. 9.]

On the Microscope—Method of Constructing, &c. [From Partington's British Cyclopædia.]

[Continued from page 71.]

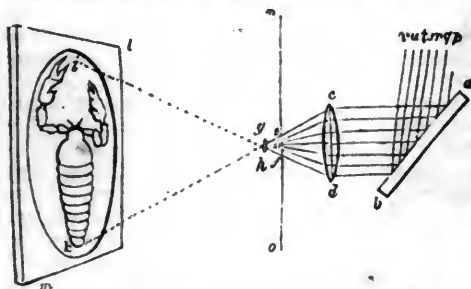
Another still more simple mode of effecting the same object is shown beneath:



The lantern is provided with a sliding tube for the introduction of the objects to be magnified. The moveable lenses are shown at *a*. Other objects differing in their character may be placed in the forceps, *b*, attached to the sliding frame by the plate *c*. A plate of ground glass, shown at *d*, serves to receive the figure of the object.

The mode of constructing the solar microscope may now be illustrated.

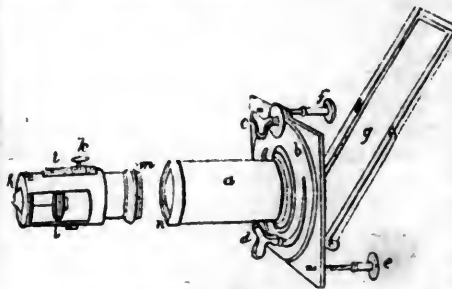
It is shown in its simplest form in the engraving below, in which *a b* is the diago-



nal mirror for receiving the rays of light, *p q r s t u v*. They are reflected by the polished surface, and thrown on the lens *c d*. Within the focus, at *e f*, is placed any transparent object to be magnified, and the image thus illuminated passes through the lens *g h*. The size of the magnified figure, *i k*, will depend on the distance the instrument is placed from the wall *l m*. The room should be darkened, which is usually effected by employing a large shutter at *n o*. Mr. Baker, speaking of this instrument, says, "that it has conveniences attending it which no other microscope can have: for the weakest eyes may use it without the least straining or fatigue. Numbers of people together may view any object at the same time, and by pointing to the particular parts thereof, and discoursing on what lies before them, may be able better to understand one another, and more likely to find out the truth, than in other microscopes, where they must peep one after another, and perhaps see the object neither in the same light nor in the same position. Those, also, who have no skill in drawing, may by this contrivance easily sketch out the exact figure of any object they have a mind to preserve a picture of, since they need only fasten a paper on the screen, and trace it out thereon, either with a pen or pencil, as it appears before them. It is worth the while of those who are desirous of taking many draughts in this way, to get a frame, in which a sheet of paper may be placed or taken out at pleasure; for, if the paper be single, the image

of an object will be seen almost as plainly on the back as on the fore side; and, by standing behind the screen, the shade of the hand will not obstruct the light in drawing, as it must in some degree when one stands before it."

A valuable solar microscope of the most perfect form is annexed.



The square plate *b c d* is attached to the window-shutter by the screws *e f*. The glass plate *g* is mounted in a brass frame, and may be elevated or depressed by a screw at *d*. A rotatory motion is communicated by a pinion and handle at *c*, which acts on a large wheel concealed by the square plate. The first lens is placed in the tube *a*, immediately adjoining the mirror. Another tube *m* is attached by a screw at *n*, and contains two small lenses, and the rack-work, *k l*, for adjusting the focus of the instrument. The objects are introduced at *i*; those best fitted for exhibition are the wings of insects, and the cuttings of wood. When glasses of high power are employed at *h*, they are now constructed on the achromatic principle.

We may now proceed to furnish our readers with some necessary particulars respecting the method of using microscopes. On this, Mr. Adams, in his *Essay on the Microscope*, has been very copious; with a view, as he informs us, to remove the common complaint made by Mr. Baker, "that many of those who purchase microscopes are so little acquainted with their general and extensive usefulness, and so much at a loss for objects to examine by them, that after diverting their friends some few times with what they find in the sliders which generally accompany the instrument, or perhaps with two or three common objects, the microscope is laid aside as of little further value; whereas, no instrument has yet appeared in the world capable of affording so constant, various, and satisfactory an entertainment to the mind."

In using the microscope there are three things necessary to be considered. 1. The preparation and adjustment of the instrument itself. 2. The proper quantity of light, and the best method of adapting it to the object. 3. The method of preparing the objects, so that their texture may be properly understood.

With regard to the microscope itself, the first thing necessary to be examined is, whether the glasses be clean or not: if they are not so, they must be wiped with a piece of soft leather, taking care not to soil them afterwards with the fingers; and, in replacing them, care must be taken not to place them in an oblique direction. We must likewise be careful not to let the breath fall upon the glasses, nor to hold that part of the body of the instrument where the glasses are placed with a warm hand; because the moisture thus expelled by the heat from the

metal will condense upon the glass, and prevent the object from being distinctly seen. The object should be brought as near the centre of the field of view as possible, for there only will it be exhibited in the greatest perfection. The eye should be moved up and down from the eye-glass of a compound microscope, till the situation is found where the largest field and most distinct view of the object are to be had, but every person ought to adjust the microscope to his own eye, and not depend upon the situation it was placed in by another. A small magnifying power should always be begun with, by which means the observer will best obtain an exact idea of the situation and connection of the whole, and will of consequence be less liable to form any erroneous opinion, when the parts are viewed separately by a lens of greater power. Objects should also be examined first in their most natural position; for, if this be not attended to, we shall be apt to form very erroneous ideas of the structure of the whole, as well as of the connection and use of the parts. A living animal ought to be as little hurt or discomposed as possible. From viewing an object properly we may acquire a knowledge of its nature; but this cannot be done without an extensive knowledge of the subject, much patience and many experiments; as in a great number of cases the images will resemble each other, though derived from very different substances. Mr. Baker, therefore, advises us not to form an opinion too suddenly after viewing a microscopical object; nor to draw our inferences till after repeated experiment and examinations of the objects in many different lights and positions; to pass no judgment upon things extended by force, or contracted by dryness, or in any manner out of a natural state, without making suitable allowances. The true color of objects cannot be properly determined by very great magnifiers; for, as the pores and interstices of an object are enlarged according to the magnifying power of the glasses made use of, the component particles of its substance will appear separated many thousand times further asunder than they do to the naked eye: hence the reflection of the light from these particles will be very different, and exhibit different colors. It is likewise somewhat difficult to observe opaque objects; and as the apertures of the larger magnifiers are but small, they are not proper for the purpose. If an object be so very opaque that no light will pass through it, as much as possible must be thrown upon the upper surface of it. Some consideration is likewise necessary in forming a judgment of the motion of living creatures, or even of fluids, when seen through the microscope; for, as the moving body, and the space wherein it moves, are magnified, the motion will also be increased.

On the management of the light depends, in a great measure, the distinctness of the vision; and as, in order to have this in the greatest perfection, we must adapt the quantity of light to the nature of the object, and the focus of the magnifier, it is therefore necessary to view it in various degrees of light. In some objects it is difficult to distinguish between a prominence and a depression, a shadow and a black stain; or between a reflection of light and whiteness, which is particularly observable in the eye of the libella, and other flies, all of them

appearing very different in one position from what they do in another. The brightness of an object likewise depends on the quantity of light, the distinctness of vision, and on regulating the quantity to the object; for one will be in a manner lost in a quantity of light scarcely sufficient to render another visible.

There are various ways in which a strong light may be thrown upon objects, as by means of the sun and a convex lens. For this purpose the microscope is to be placed about three feet from a southern window; then take a deep convex lens, mounted on a semi-circle and stand, so that its position may easily be varied; place this lens between the object and the window, so that it may collect a considerable number of rays, and refract them on the object or the mirror of the microscope. If the light thus collected from the sun be too powerful, it may be lessened by placing a piece of oiled paper, or a piece of glass slightly ground, between the object and lens. Thus a proper degree of light may be obtained, and diffused equally over the surface of an object, a circumstance which ought to be particularly attended to; for if the light be thrown irregularly upon it, no distinct view can be obtained.

On account of the sun's motion, and the variable state of the atmosphere, solar observations are rendered both tedious and inconvenient, so that it may be advisable for the observer to be furnished with a large tin lantern, formed something like the common magic lantern, capable of containing an argand lamp. There ought to be an aperture in the front of the lantern, which may be moved up and down, and be capable of holding a lens, by which means a pleasant and uniform as well as strong light may easily be obtained. The lamp should likewise move on a rod, so that it may be easily raised or depressed. A weak light is best fitted for viewing many transparent objects, among which we may reckon the prepared eyes of flies, as well as the animalculæ in fluids. The quantity of light from a lamp or candle may be lessened by removing the microscope to a greater distance from them, or by diminishing the strength of the light which falls upon the objects. This may very conveniently be done by pieces of black paper with circular apertures of different sizes, and placing a larger or smaller one upon the reflecting mirror, as occasion may require. The light of a lamp or candle is generally better for viewing microscopic objects than day-light, it being more easy to modify the former than the latter, and to throw it upon the object with different degrees of intensity.

With regard to the preparation of objects, Swammerdam has, in that respect, excelled almost all other investigators who either preceded or have succeeded him. He was so assiduous and indefatigable, that neither difficulty nor disappointment could make the least impression on him; and he never abandoned the pursuit of any object until he had obtained a satisfactory acquaintance with it. Unfortunately, however, the methods he made use of in preparing his objects for the microscope are now entirely unknown.

For dissecting small insects, Swammerdam had a brass table, to which were attached two brass arms, moveable at pleasure. The upper part of each of these vertical arms was constructed in such a manner as

to have a slow vertical motion, by which means the operator could readily alter their height. One of these arms was to hold the minute objects, and the other to apply the microscope.

The lenses of Swammerdam's microscopes were of various sizes as well as foci. His observations were always begun with the smallest magnifiers, from which he proceeded by progressive steps to the greatest.

The minute scales or feathers which cover the wings of moths or butterflies afford very beautiful objects for the microscope. Those from one part of the wing frequently differ in shape from such as are taken from other parts; and near the thorax, shoulder, and on the fringes of the wings, we generally meet with hair instead of scales. The whole may be brushed off the wing upon a piece of paper, by means of a camel's hair pencil; after which the hairs can be separated, with the assistance of a common magnifying glass.

Great difficulty is experienced in dissecting properly the proboscis of insects, such as that of the guat, and the experiment must be repeated a great number of times before the structure and situation of the parts can be thoroughly investigated, as the observer will frequently discover in one what he could not in another. The collector of the bee, which forms an exceedingly curious object, ought to be carefully washed in spirit of turpentine, by which means it will be freed from the unctuous matter adhering to it; when dry, it is again to be washed with a camel's hair pencil, to disengage and bring forward the small hairs which form part of its microscopic beauty. The best method of preparing the stings of insects, which are in danger of being broken, from their hardness, is to soak the case and the rest of the apparatus for some time in spirit of wine or turpentine; then lay them on a piece of paper, and with a blunt knife draw out the sting, holding the sheath with the nail of the finger, or any other blunt instrument; but great care is necessary to preserve the feelers, which, when cleaned, add much to the beauty of the object. The beard of the *lepas antifer* is to be soaked in clean soft water, frequently brushing it while wet with a camel's hair pencil; after it is dried, the brushing must be repeated with a dry pencil, to disengage and separate the hairs, which are apt to adhere together.

The eyes of insects in general form very beautiful and curious objects. Those of the libellula and other flies, as well as of the lobster, &c. must be cleaned from the blood, &c. after which they should be soaked in water for some days: one or two skins are then to be separated from the eye, which would be otherwise too opaque and confused; but some care is requisite in this operation, for, if the skin be rendered too thin, it is impossible to form a proper idea of the organization of the part. In some substances, however, the organization is such that by altering the texture of the part, we destroy the objects which we wish to observe. Of this sort are the nerves, tendons, and muscular fibres, many of which are viewed to most advantage when floating in some transparent fluid. Thus very few of the muscular fibres can be discovered when we attempt to view them in the open air, though great numbers may be seen if they be placed in water or oil. By viewing the

thread of a ligament in this manner we find it composed of a vast number of smooth round threads lying close together. Elastic objects should be pulled or stretched out while they are under the microscope, that the texture and nature of those parts, the figure of which is altered by being thus extended, may be more fully discovered.

To examine bones by the microscope, they should first be viewed as opaque objects; but afterwards, by procuring thin slices of them, they may be viewed as transparent. The sections should be cut in all directions, and well washed and cleaned; and, in some cases, maceration will be useful, or the bones may be heated to a high temperature, in a clear fire, which will render the bony cells more conspicuous.

AGRICULTURE, &c.

[From the New-York Farmer.]

CULTIVATING THE MULBERRY.—The following, we believe, is from "Goodsell's Genesee Farmer":

So well are we satisfied with the result of our experiments, and that it is unnecessary to go through with all the routine of first sowing the seed in beds, and then transplanting the trees from the seed bed to the nursery, and from there to the orchard, then to wait for them to become firmly rooted, and to expand their tops, before worms can be fed from them, that we design next spring to sow another pound of seed, from which we hope to raise from eighty to one hundred thousand trees, from which to feed from until our orchard shall arrive at maturity, and ultimately to transplant the young trees into hedges, which for large establishments are no doubt preferable to standard trees, as it facilitates the gathering of leaves, and renders the whole less expensive. We are fully confident that every seedling tree one year old is capable of furnishing food for one worm, or producing one cocoon; if so, the greatest obstacle to the immediate introduction of this branch of domestic manufacture is removed, and instead of waiting many years, and incurring heavy expenses in the cultivation of trees, before the manufacture of silk can be commenced, or any returns had from the investment, it requires no more time than is necessary to clear off a piece of land, and obtain a crop of wheat, and we are satisfied that the same labor bestowed will yield a richer harvest. I am, sir, yours, &c.

EDWIN STANLEY.

Adams' Basin, Nov. 12, 1833.

Hops.—A gentleman from Germany informs us that American hops have been tried in that country and obtained a decided preference to the English; and that an increased demand from that quarter may be looked for hereafter.—[N. Y. Shipping List.]

A METHOD OF REARING EARLY PEAS AND OTHER VEGETABLES.—An English gardener states that "the method of rearing peas in pots and boxes, in hot-beds and hot-houses, and afterwards transplanting them out into open ground, is a common practice with gardeners, and often succeeds very well, particularly if they are not too long in transplanting them; but I would recommend a method not so well known, as far preferable to that of pots and boxes, particularly when they are to be raised in a hot bed. This consists in having a quantity of turf cut in pieces, of about nine or ten inches long, and three or four broad, which are placed in a regular manner over the surface of the hot-bed, grass side downwards, and a row of peas is sown upon each row of turf, and afterwards covered with soil; when they are fit for transplanting, no more is required than to lift out the turf, piece by piece, with the peas

growing upon it, and place them where they are to produce their crop. By this means the roots receive no injury, nor do the plants sustain the least check in transplanting. This method may be practised with similar success in the raising of potatoes, beans, &c."

Culture of the Mulberry. By the Editor.

The White Mulberry, *Morus alba*, a native of Asia, was introduced into Italy by the survivors of the last crusade. It was cultivated extensively in that country, and early in the sixteenth century carried into France. This is the species principally cultivated in the United States for feeding the silk-worm.

SOWING AND TRANSPLANTING.—It can be propagated by seeds, cuttings, layers, or suckers. The seed, which may be obtained at any respectable seed-store, should be fresh and plump. Choose a rich piece of ground, and, if convenient, a sheltered situation in the garden. Let it be well dug and pulverised with the spade. Sow the seed the latter part of April, or early in May, in drills from eight to twelve inches apart, and cover them to the depth of half an inch, pressing the soil with a spade, hoe, or roller. In ten or twelve days the young plants will begin to make their appearance above ground. By soaking the seed some twenty-four hours before sowing, in rain water, their vegetation may be hastened. The young plants should be kept free from weeds, and occasionally hoed between the drills. If too thick, they should be thinned when about three or four inches high, by taking some of them up with a dibber, or a chisel-shape board, leaving the remainder near a foot apart. If this is not done in a rainy day, the drills or rows should be well watered, that the young plants may be taken up with as much earth adhering as possible, and kept in a moist state until they are transplanted into fresh dug earth. If the tap root is cut off, when they are raised, it saves handling.

In the fall, before the plants cease growing, cut off the long tap roots of those that have not been transplanted, by thrusting into the ground a sharp spade, care being taken not to cut them off too short. Those that have had a vigorous growth may, if more convenient, be transplanted into their permanent places in the fall, or succeeding spring. Generally, however, it is recommended to transplant them into a nursery,

rows fifteen to twenty inches apart, where they remain to obtain the growth one, two, or three seasons. Whenever they are removed from the seed beds, or from the nursery, much care should be taken to preserve the soil around the roots, that the fibres may not be injured, or exposed to the sun or dry air. The soil where they are intended to remain permanently should be rich and well pulverised.

When intended for hedges, they are taken from the seed beds after the first season's growth, cut down to about six inches, and then set out in the hedge rows. If cattle are kept from the hedge for three or four years, they will make it grow the thicker by browsing the limbs.

The seeds are sometimes sown in the fall, immediately after ripening. If the winter is mild and uniform, they will succeed, and thus enable the grower to gain the greater part of the season.

One ounce of seed should, if good, produce from five to ten thousand seedling plants.

The proper soil for the mulberry is that free from excess of moisture: a dry, sandy, or stony piece of ground produces leaves congenial to the health of the worm, and productive of good silk.

CUTTINGS AND LAYERS.—Even the first spring after the seed has been sown, the plants will supply wood sufficiently ripened for a large number of cuttings. They should be from five or six to ten or twelve inches long, and put in the ground nearly half their length. A soil retentive of moisture, and made pretty rich with fermented, particularly cow manure, and in a situation rather shady than otherwise, adds much to the certainty of the success of the cut-

tings. They may be put at distances most convenient for the grower; in rows that will enable him to hoe them. If the weather, before they are well rooted, be dry, they should be frequently watered.

The white mulberry is also propagated by layers, by bending those limbs nearest to the ground, and fastening in the usual manner the bend some four or six inches under the ground; or a sizable plant may be bent over, nearly flat on the ground, by loosening the earth on the opposite side with a spade. In this way almost every branch will serve for a layer. They may be cut from the parent stock the first or second spring after having been layed.

THE CHINESE MULBERRY.—The *Morus multicaulis*, Chinese mulberry, was, we believe, first introduced into this country by the late Andrew Parmentier, of Brooklyn, in the year 1828. It has since been greatly propagated, and is rapidly extending over the country. As far as experiments have been made, it promises not only to be a rival of the white mulberry, but to supersede it.

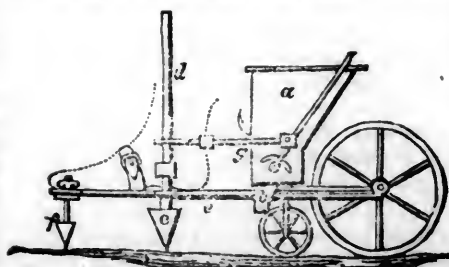
Its advantages are its very large leaves, affording a much greater amount of food for the worms; its being a tree of much less height rendering the gathering of the leaves not so laborious, and the ease with which it can be rapidly propagated by layers and cuttings. It is thought to produce silk equally as good, if not superior to that from the white mulberry. For hedges, it is supposed to be admirably adapted, from its disposition to send up numerous suckers, and from the richness and beauty of its foliage. The rapidity with which it throws out new leaves during the growing season, renders it a valuable plant for the rearing of two crops of cocoons.

PROPAGATION.—It is generally increased by layers. A plant of one or more years' growth is bent over, in the spring, or early summer, by loosening the earth; the limbs are extended and firmly secured in the ground by pegs or crotchets. The whole plant and the branches are covered over with the soil to the depth of about an inch. If the soil is rich, a young shoot will rise from almost every joint, and obtain a growth of three to six or eight feet the first season. In the succeeding fall or spring they may be divided into separate plants, and transplanted.

If the soil is very rich, the young plants making a vigorous growth, the wood does not always ripen sufficiently to stand the winter of the Northern parts of the Eastern States.

DIBBLE.—It is very probable that increased attention will be given in this country to planting and sowing in rows. We give the accompanying engraving from the British Cyclopaedia.

"This is an agricultural implement employed in making holes in the ground for setting grains, plants, and other sorts of crops in, which are planted in rows. Their form, and the materials of which they are made, differs according to the nature of the crop which is to be put in or planted out by them; but for grain they are mostly shod with iron. In some cases they have likewise a sort of step for setting the foot upon, in using them. When employed, they are thrust into the ground to a depth suitable to the crop which is to be put in by them, and holes thus formed, into which the seeds, sets, or plants, are put by the hand.



We give the above engraving of a dibble act-

ing by the foot as already described; a represents the depository for the seed, &c.; the discharge valve is shown at b, the opening and shutting of the hopper being by a double lever, g, resting against the heel above, e; the dibble-iron and guide is shown at c f."

REPORT OF LIVE HEDGES.—The "Massachusetts Society for the Promotion of Agriculture," in the view it was their duty to take of those objects to which public attention might be beneficially invited, have thought that, in the progress of the culture and improvement of the country, Live Hedges would, in many places, become highly important and even necessary, where stone is not to be had, and timber, as must soon be the case, shall become more valuable for other uses. The beauty, permanency, and efficacy of this mode of enclosure is, with foreigners and many of our own countrymen, becoming a subject of taste and admiration. It is not our intention to deny the efficacy or expediency, in most places, at present, of a good rail fence, or, what is better, a strong stone wall. But, as our divisions of land multiply, these materials, in many places, will become more scarce and difficult to be had. As this shall occur, the introduction of live hedges will come into use here, as they prevail elsewhere. A gradual introduction of them must be useful, and add a verdure and beauty to the face of the country as its cultivation increases. Under this impression, the trustees of the Massachusetts Society were induced to offer a premium of \$30 for the best hedge, not less than 100 rods, which shall be in the most thriving state in 1833.

On this subject the committee on live hedges have a pleasure in presenting to the public the following communication of E. Hersy Derby, Esq. It will be seen that he has, by well-tryed experiment, established the perfect adaptation of the Buckthorn (or *Rhamnus Catharticus*) to our climate, as well as its preference over several other plants.

They therefore unanimously award to E. Hersy Derby, Esq. the premium proposed or \$30, for his hedge, of upwards of 100 rods, and recommend that his detailed and useful communication on this subject be printed.

By order of the Committee,

JOHN WELLES, Chairman.

Salem, Nov. 30, 1833.

The Committee on Trees and Live Hedges.

Gentlemen,—Please consider me an applicant for the premium offered by the Society for the best buckthorn hedge, not less than 100 rods, which shall be in the most thriving state in 1833. On measuring mine, I find I have over 118 rods of the buckthorn hedge, which I have reason to think would be considered at least equal to any in this country.

The trustees generally have examined the state of it the present season. Should it be thought proper, I will make a few observations on my experiments in hedging.

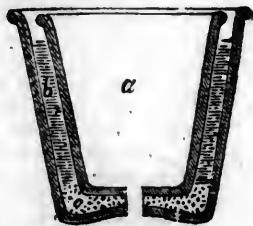
I have been for a great many years fully convinced of the superiority of live hedges for efficacy and economy. I began by setting out my first hedge about thirty years since, of the English hawthorn; the result was far from satisfactory; the plant, being not adapted to our climate, is injured by our summer droughts; frequently experiences blight early in August, and, by the first of September, assumes a wintry appearance. My next experiment was with the three-thorned acacia: to this hedge I devoted the most careful attention; but the result was equally unsuccessful. The plants run up without interlacing, and the thorns growing only upon the upper branches, the stems below were not thick enough to serve as a fence; it was beside too tender a plant to bear our severe winters. I also tried the crab-apple with but little better success. About 1808, there was standing in the garden of the venerable Dr. Holyoke, of this town, which adjoined that of my brother, a large tree of the buckthorn or *rhamnus catharticus*. In digging the latter, the gardener found several young plants, which

had grown from seed shed by this tree. They were given to me and set out in a nursery; finding they grew very rapidly, I was induced to set them out for a hedge some time in 1809, and in this attempt I was entirely successful. The length of this hedge is about 20 rods; has been a good fence over 20 years, and is, at the present time, in a fine, healthy state, not a single plant having failed since it was first set out. It presents a mass of verdure from early spring until late in the autumn, and is completely impervious, affording entire protection to the land it incloses. It being my first experiment with the plant, I did not head it down so low when young as I have since found it advisable to do; the consequence is, that it is not so thick at bottom as any of my others set out since. Finding it so hardy a plant, and so well adapted for hedges in our climate, I have been induced to cultivate it very extensively, and have, at different periods, extended my hedges until they measure nearly 120 rods in length.

The method I should recommend in setting a hedge, would be to place the plants in a single row, about 9 inches apart, either in the spring or fall of the year; if in the fall, I should clip it the next spring, within six inches of the ground, which will cause it to be quite thick from the bottom; any after-pruning can be made to suit the pleasure of the cultivator. I have also tried plashing; it was recommended to me in 1818 or '19, by my gardener (an Englishman), and I allowed him to try it upon a young hedge of crab-apple; but the hedge never flourished afterwards, and I, at last, pruned away the branches he had interwoven, and lost four years' growth by the experiment. I have never found plashing necessary for the strength or beauty of the buckthorn hedge, the natural growth of the branches being sufficiently interlaced. Three years' careful management in the way I have described is sufficient to form a perfect hedge, nearly as thick below as above. I am, gentlemen, very respectfully, yours, &c.

E. HERSY DERBY.

DOUBLE POTS FOR MARSH AND TENDER PLANTS.—You will perceive that this double pot is formed by simply placing one pot within another, the latter being a size larger than the former, and uniting them at bottom with a little Roman cement. The holes in the bottoms of both plants must be opened with a stick before the cement stiffens; otherwise, of course, the water in the inner pot could not escape.



In the figure, *a* is the inner pot; *b*, the vacuity between the two pots; and *c*, the cement which unites them at bottom. By keeping the vacuity between the pots (*b*) filled with water, the smaller or inner pot (*a*) will absorb moisture sufficient for the nourishment of the plant, provided the material of the pot be not too hard burnt; the water between the pots can at any time be emptied out, and the outer pot will then act as a shade for the roots of the plant in hot dry weather.

In my humble opinion, if a cheap and simple method could be found for shading pots exposed to the sun, we should not have so many sickly scorched-looking plants in the summer season. I am not aware of any pots having been made on the above principle.—[Thos. Blair, Stamford Hill, June 22, 1833.]

This mode of equalizing the moisture and temperature of the exterior side of pots is, as far as our experience goes, quite new; and, certainly, it appears well adapted either for growing marsh plants, by filling the interstices

between the pots with water; or delicate plants, easily killed either by too much water or by neglect of water, such as cape heaths, by using moist moss instead of water. Many persons find it very difficult to keep heaths in warm rooms, even during the short time they are in bloom, without either over-watering them, or keeping them too dry; Mr. Blair's pot, either with water or moss, would be an effectual remedy.—[Gardener's Magazine.]

WATERING PLANTS IN THE OPEN GROUND.—A mode of supplying plants growing in the open soil with water, during dry intervals of summer, practised by the Rev. Geo. Reading Leathes, of Shropham, Norfolk, deserves to be made known; and may, although it has nought of parallelism or likeness to Mr. Blair's, farther than its relation to supplying water, be described here. Soil dried to dustiness resists water; and not every assistant whom one may request to water the plants, which may be languishing in the garden, will take the patient and honest pains to give them the thorough soaking they require. When the soil about a plant or plants is dried to dustiness, the moistening it by watering requires that water be applied in a small quantity at a time, and repeatedly. The doing this occupies much time; yet you must either do this, or open with a spade, at the foot of the plant, a hole that will receive at once a larger supply of water; and this latter mode has the effect of leaving the gully hole, as it may be termed, and the earth which had been taken out of it, exposed to view: an offensive sight to those who have a passion for evenness of surface in the soil of their gardens. Mr. Leathes practises neither of these modes; but, as an equivalent to both, sinks into the soil, at the foot of the plant requiring water, a flower-pot, immersed to the half or whole of its height or depth, with its size proportioned to the quantity of water which the constitution of the plant may indicate it to need, and with the drain hole of the pot left open at the bottom. When each of the plants most liable to injury from drought has received the apposition of a flower pot sunk at its base, the watering of all these plants is thenceforth effectible with an increase in the rate of despatch, quite or more than equivalent, in a drought of some duration, to the first expenditure of time and trouble: besides, too, the valuable satisfaction supplied to him who takes this trouble, of feeling conscious that every plant receives the whole, and directly to its roots, of the quantity you may please to pour into the sunk flower-pot; through the drain hole at the bottom of which the water passes at a rate determined by the degree of absorbency in the soil, without detaining him who supplies it until it has soaked away.—[Loudon.]

BLOOD MANURE FOR THE VINE.—The vine is manured with bullock's blood in autumn, and the shoots are laid down and covered with dry leaves; by which they are protected against severe frosts; and also in the beginning of spring against those fine days which occasion their early vegetation. They are pruned in spring after the leaves are removed.—[Baron Kottwitz, in Loudon.]

THE PROPAGATING OF CABBAGES BY SLIPS AND CUTTINGS.—The first shoots only are applicable to such a purpose; the second run to seed. [Maund's Botanic Garden, June, 1833.] This fact, one of some consequence, is stated by Mr. Maund, on the cover of his number of the Botanic Garden for September, to be supplementary to the information on this subject in pp. 126, 127, and to have been communicated to him by the author of that article, Peter Kendall, Esq.

SUGAR IN SOUPS.—A London paper says, "Sugar is now becoming a universal ingredient in many of our soups in ordinary use, such as soup crisis, gravy soup, &c., being found to add greatly to their flavor and wholesomeness."

NEW-YORK AMERICAN.

FEBRUARY 15—21, 1834.

LITERARY NOTICES.

No. XV.

Marshall, (Calhoun Co.) M. T., Dec.

I confess that it was with some pleasure that—after dividing my time for several days, as described in my last, between roads rendered almost impassable by continual snows and log cabins, where the recent settler, however hospitable, had but spare accommodation to offer to the passing traveller—it was with some pleasure that on rising an elevation on the northern bank of the Kalamazoo, I saw a large frame building, which was evidently a tavern, rearing its comfortable looking chimneys above a group of log huts on the plain beneath. My horse, who had doubtless repented of former escapades in the companionable intercourse which had now for some time subsisted between us, seemed to sympathize in the feeling; and pricking up his ears, as he snuffed the grain in a flour mill directly beneath us, we descended the slippery height, and were soon tolerably well housed in the new inn of Marshall. The house was indeed not as yet plastered inside; and the different bed-rooms, though lathed, seemed divided from each other rather by lines imaginary than real. But the bar-room were already the insignia of a long established tavern in an old community; and apprized me at once, by the placarded sheriffs' notices, and advertisements for stolen horses, grain to be sold, and laborers wanted, which indicate the growth of business in country life, that society was in a pretty mature state—at least six months old—in the county town of Marshall. I was therefore not at all surprised to find among these notices a call for "a Railroad Meeting" in the evening—especially as nearly 18 months had elapsed since the first white man erected his cabin in this section of the country.

The meeting, which might be termed a crowded one, was conducted with more animation than unanimity. There were several very intelligent men present, however, and I listened with interest to their exposition of the resources of this section of Michigan, which, as a wheat growing country, may be justly compared to the celebrated Genessee valley of New York, while the soil, as I have heard it well observed by a resident, "unlike the heavily timbered land of the Eastern States, instead of wearing out one generation in subduing it for the purposes of the husbandman, invites the plough at once." Nor, if a railroad should be constructed from Detroit to the mouth of the St. Joseph's, passing through the counties of Wayne, Washtenaw, Jackson, Calhoun, Kalamazoo, Van Buren, and Berrien, do I think it would be too bold to assert, that the amount to be transported by the time the work was completed would be equal to one million of barrels; which is a less estimate by two hundred thousand than I have seen given by an intelligent writer on this subject, in a Detroit paper. The route thus designated I am persuaded, is the right one for a Railroad; though, should a different mode of communication be determined upon, it would be difficult to decide whether it were most expedient to construct a Canal from the Falls of Grand River to Detroit, or from the navigable waters of the St. Josephs to Monroe. I do not hesitate to add that before two years have expired, all of these routes will be under contract. The abundant resources of Michigan are developing so rapidly, that they will shortly require all these outlets; and in a country where you may drive a barouche and four for hundreds of miles in any direction through the woods, the expense of constructing more artificial ways will be comparatively trivial. Did I not know how ignorant generally the people of the East are of the resources and condition of this country, it would surprise me that some New York capitalists have not embarked in some of these

works. A prodigious speculation might be realized by laying out a Railroad on one of these routes above described; having first purchased the land in its vicinity at Government prices, to be disposed of afterward when its value should be enhanced by the completion of different sections of the work. The ingenious writer above alluded to, has already suggested this mode of covering the expense of such an undertaking. You can have no idea of the feeling existing on the subject of internal communications throughout Michigan; and it would amuse you not a little to witness the heart-burnings and jealousies on the subject which pervade a country but just beginning to be populated. The rapidity with which people establish themselves, and collect the indications of agricultural wealth around them, before they have even the ordinary comforts of life, will, in a great measure, account for their looking thus ahead and quarrelling about the game before it is hunted down. The farmer who has more grain in the sheaf stacked in the field than he can accommodate in his barn, is naturally more eager to find the means of sending a share of it to market. I was quite diverted at the turn matters took at the meeting which suggested these remarks, when a discussion in relation to the various routes to be recommended to Government in case they should consent to make a railroad through the Peninsula, became unpleasantly warm. "This pother reminds me Mr. Chairman," said an old pioneer, "of two trappers, who, in planning a spearing expedition for the next day, quarrelled about the manner in which a turtle which they proposed taking, should be cooked for their supper after the days sport was over. An old Indian happily settled the difficulty by proposing that they should first catch the turtle! Now, sir, as this railroad—" "The case is not at all parallel," interrupted a still more ancient speaker, "for *Nature* has already caught the turtle for us. She meant the railroad to pass right along here and no where else."

The councils of the meeting were not on the whole, so harmonious as I could have wished from the courtesies offered me after its termination by the adherents of the two parties of Guelphs and Ghibbelins which distract the unborn city of Marshall. But it was surprising to a stranger upon looking round at the hovels of mud and logs, which as yet occupy its site, to find so many persons of intelligence and refinement thus collected in their precincts. The population of Michigan generally, as I believe I have before observed, is much superior in character to the ordinary settlers of a new country. The ease with which a man can here support a family as a farmer, induces a great many persons of all professions in other States to abandon their former pursuits and become tillers of the soil. The alteration of life I should judge by the contentment I everywhere witness, is almost always for the better.

I have met with several dispeptics who have been completely cured of that horrible disease by their change of life. With such, health is a sensation—a positive delight; and in duly estimating the blessing, they of course were ever ready to praise the conditions upon which they enjoy it. Others again bred up in a city, find in the indulgence of that love of rural life, which, when it is a natural taste is inextinguishable, an ample compensation for breaking up established habits and associations. The majority again are men of slender means; and while the necessity of attending practically to the subsistence of their families keeps them employed, the want of pecuniary resources prevents their embarking in the thousand idle schemes which tend so often to the charade and the ruin of "gentlemen-farmers." But the main cause of Michigan being settled by such respectable people, remains yet to be mentioned. It is that no one can take up an acre of land without first paying cash for it at one of the three land offices of the territory.

The whole surface of the Peninsula has either been, or is now being, surveyed into townships of six miles square. These again are subdivided into sections of a mile square; which sections are again cut up into lots of forty acres; which is the smallest quantity of land that can be taken up from the Government. The price is invariably \$1 25 an acre. When you consider, therefore, that every emigrant who means to locate, (this is a sound American word, and as indispensable in the vocabulary of a western man as are an axe and a rifle among his household furniture) must, however poor, have some earnings in advance to purchase the spot upon which he is to live; and to bring his family to such a remote distance it will be easy to conceive that the industrious and the enterprising must constitute the largest portion of such a population of freeholders. The prosperity of a whole community, composed of such aggregate masses, may be safely predicted; and though one sometimes meets with those whom the first process of accumulating renders discontented and induces to speak ill of the country, yet in general I may say, that the pride of a Michigianian in the beautiful land of his adoption, is as strong as the home-feeling upon which the citizens of some of the older States pique themselves. As for the sickness which always prevails more or less among the new settlers, to one who is aware of their imprudences, the wonder is that the majority of them escape with their lives. Think but of people setting themselves down on a soil of twenty inches in depth, and in the month of June when the weeds and wild flowers oer-top the head of the tallest man turning over the rank soil immediately around their dwellings, and allowing the accumulation of vegetable decomposition to be acted upon by a vertical sun, and steam up for months under their very nostrils; and yet this, I am told, is continually practised by settlers who come in late in the season, and are anxious still to have a crop the first year. Here, as in the case of those settlers, who, for the sake of the wild hay, locate themselves near the great marshes, imprudence alone is manifested; but the charge of culpability will justly attach to some other cases, when nuisances, not before existing, are created by the owners of property. I allude to the practice, expressly prohibited by the laws of Michigan, of flooding land while constructing mill ponds without removing the green timber growing upon the spot. So pernicious is this to the health of the neighborhood, that it affects very sensibly the value of property near the new pond, and yet in their eagerness to have mills erected, and aid the market of their overflowing granaries, the new inhabitants overlook entirely the gross violation of their laws and the melancholy consequences which ensue to their families. Another cause of sickness is drinking the water of springs or rivers which head in marshes, and are of course impregnated with their baleful properties, instead of digging wells where water is not liable to such exception. As for general healthfulness of situation, I believe it is agreed that the banks of the small lakes which so abound in the Peninsula, are—when these transparent bodies of water are surrounded by a sand beach, which is the case with about a third of them—by far the healthiest. They are fed generally by deep springs, and almost invariably are supposed to have a subterranean outlet, while so beautifully transparent are their waters, that the canoe suspended on their bosom seems to float in mid air. These lakes abound with fish, and in some of them of only a few acres in extent, fish have been taken of forty pounds weight. They generally lie embosomed in the oak openings, and with their regular and almost formal banks, thus crowned with these open groves, these silver pools might be readily taken for artificial trout ponds in a cultivated park. I need hardly add, that it is necessary to diverge, as I have, from the route generally travelled, to see these scenic

gems, so numerous, lonely, and beautiful. Not one in a hundred has a settler on its banks, and I confess I take a singular pleasure in surveying these beauties, as yet unmarred by the improving axe of the woodman, and unprofaned by the cockney eyes of city tourists; nor would I change my emotions, while ranging alone over the broad meadows, traversing the lofty forests, or loitering by the limpid lakes of Michigan, for the proudest musings of the scholar that revels in classic land. It may argue a want of refinement in taste, but I confess that a hoary oak is to me more an object of veneration than a mouldering column, and that I would rather visit scenes where a human foot has never trod than dwell upon those gilded by the most arrogant associations of our race.

What are the temples which Roman robbers have reared? what are the towers in which feudal oppression has fortified itself? what the blood stained associations of the one, or the despotic superstitions of the other, to the deep forests, which the eye of God has alone pervaded, and where Nature, in her unviolated sanctuary, has for ages laid her fruits and flowers on his altar? What is the echo of roofs that a few centuries since, rung with barbaric revels, or of aisles that pealed the anthems of painted pomp, to the silence which has reigned on in these dim groves, since the first fiat of Creation was spoken?

I shall diverge from my western course tomorrow, a few miles southward, in order to visit a groupe of lakes, near which a band of Pottawattamies, a tribe I have not yet seen, have their encampment. I will leave this letter open, in order to give you the result of my visit.

Pittsborpe, (Calhoun Co.) M.T. Dec. 23.

I write to you from a little cottage in a beautiful grove, not far from the banks of the Kalamazoo, where two young gentlemen, recently from the east, have erected their tabernacle in this land of enterprise. It is amusing to observe how little singularity people here attach to a mode of life, which, in older countries would be looked upon as highly eccentric. My entertainers are both young lawyers, liberally educated, and men of much accomplishment, and yet the house in which I am passing the night, with every article of furniture it contains, is of their own manufacture; saw, an axe, a wood knife, and a jack-plane being their only tools. It would amuse you not a little, to look through the window, and see our little groupe at this moment. One of my companions whose axe and rifle are suspended by wooden hooks to the rafters over his head, is professionally engaged in drawing a declaration at the table upon which I am writing; while the other having just got through removing the remains of our game dinner, prepared and cooked by his chums, is now sitting with a long pipe in his mouth, watching a coffee pot which steams up so fragrantly from the live embers, that no light consideration would induce me to part with the interest I have in its contents. Their house, which has been thus occupied for three months, is a perfect pattern of neatness, though as it consists of but a single room, no little ingenuity is required to arrange their books, house-keeping apparatus, and sporting equipments, so as to preserve even an appearance of order in such a banbox. They have already sufficient business, they tell me, to sustain their moderate household; and as the Indians supply them with abundance of provisions, they have ample leisure to devote to study. It is far from uncommon, however, to meet thus with persons of finished education, and accomplished manners under as humble a roof as this in the wilds of Michigan. For so rapid is the growth of society here, that he who aims at a prominent station in the new community, must be a pioneer far in advance of the growing settlements. Two years ago the first white man raised his log hut in the county of Calhoun, it has now a population of 1500, and I have passed an eve-

ning in more than one mud-plastered wigwam, whose fair and elegant inmates would grace any society, however refined. I cannot help sometimes, when I see these fair young creatures, the wives and daughters of men habituated by early education to all the comforts and elegancies of refined life, thus submitting cheerfully to every privation for the sake of those whose happiness is involved with theirs, I cannot help involuntarily calling to mind the jargon of novels so often adopted by people of sense in cities, where the terms "excellent match," and "supporting in the station where she has been accustomed to move," usurp all considerations of mutual affection, and capability in the parties united to study each others happiness through life. I am more than ever persuaded that there are two kinds of refinement in life which bear but little similarity to each other, and the one least often met with is that which is independent of modes and fashions of tailors, milliners, and cabinet makers—which does not necessarily lean upon a pier table nor repose upon a *chaise longue*, which—shall I confess it? may be nursed without a silver fork. The purest porcelain which the factories of China produce does not require a single tint upon its surface to show the fineness of the texture, but that in which coarser clay is blended is always charged with some gaudy hue to hide the intermixture of the mongrel material. This doctrine though, is so little in accordance with those taught in the English novels, which constitute the modern text book of elegance, that while the mode of eating an egg is the test of good breeding, and the art of pattering French phrases the criterion of intellectual cultivation, I should as soon think of interfering with the particular province of a lackey or *friseur*, as breaking a spear at such disadvantage with Almacks and Captain Hamilton.

But a truce to this prosing. Did you ever see a jumper? A couple of hickory poles so bent that the runners and shafts are of the same piece, with a crate placed on four uprights, complete this primitive species of sledge, and when the crate is filled with hay and the driver well wrapped up in a buffalo robe, "the turn out" is about as comfortable a one as a moderate man could wish. In such a vehicle as this, with a harness every way suitable, viz: a collar of undressed deerskin and reins of rope, (the twisted bark of trees is often used) did I, with one of my present entertainers, the first companion I have yet had in travelling, sally out from Marshall this morning. My horse, who had detained me here a couple of days by a soreness of his back proceeding from the saddle, seemed highly to approve of this new mode of travel: Mr. Osbaldistone behind Tom Thumb, Sesostri in his chariot, or Yorke in one of Brower's new Omnibuses, could not have dashed off with more glee than did we with our merry jumper along the dimpling waters of the Kalamazoo; when lo, just as we had crossed a bridge of unhewn timber and were under full way through the oak openings, our frail barque struck on a rock hidden by the snow, and we were capsized and wrecked in an instant. Fortunately, though both were pitched like a couple of quoits from the machine, we were neither of us hurt; and my companion returning to the settlement to borrow a horse, I mounted mine, and leaving the remains of my crank establishment, where chance had thrown them, I rode on, while he overtook me in time to introduce me to his friend, and make me so pleasantly at home in their dwelling, as you must observe, I now am. Good night, I will tell you to-morrow evening how we dispose of our time till then.

December 24th.

The air was mild this morning, and large flocks of snow-birds twittering among the bur oaks, with the jays screaming from the woods, and the covies of grouse rising continually before us in the openings, made our route to the camp of Warpkesick more like a ride in the

spring-time, than a winter excursion. I was accompanied by my companion of yesterday; and as we were both well mounted we galloped over the openings towards Lyon lake, at a rate which brought us in a few minutes to the white sand beach which fringes that beautiful water. The marks of an Indian trail were here easily discernible; and following the foot marks dashed in the yielding sand, the frequent print of mockasons soon led us again away from the shore into a tall wood beyond. A morass that shook for yards around as our horses' hoofs would encounter the sagging peat, was next to be crossed; and then passing between two small lonely looking lakes, where a tall pine or two lifted its sweeping cone above the tapering tamaracks around, we struck at last into a dense forest. Here the numerous deer-runways, with the flocks of wild turkeys, and innumerable tracks of raccoons, wolves and bears, showed us that we were upon a favorite hunting ground of the Pottawattamies. As for the wolves they are little disturbed by the Indians, who consider them fair hunters like themselves, and privileged to go unmolested; they generally abound around a hunting camp; and soon grow fat on the offals of game slaughtered near it. But bears, though the successful hunter invariably takes his dead quarry by the paw, calls him his grandfather and asks his pardon for killing him, "being compelled to it by necessity," are hunted with great avidity; and you generally find a tamarac swamp, the favorite covert of these animals, in the vicinity of a hunting camp. We had ridden for about a mile through the heavily timbered land, when reaching the banks of the Nottawasee, a branch of the St. Josephs, I heard the sound of childrens voices, and descried two or three red urchins wading through the shallow stream on stilts, while others of a similar age were amusing themselves in shooting bows and arrows on the opposite side. We immediately forded the stream, and making our way into a swamp, where the horses would sink to their knee at every step, came unexpectedly upon a piece of firm ground, some eighty yards in diameter, and found ourselves in the middle of the camp of Warpkesick. It was composed of three or four wigwams, only but they were large and probably contained several families each. They were constructed of mats, arranged in the form of a tent, and supported by uprights at either end, an opening being left in the centre for the escape of the smoke, and a blanket suspended over a hole cut in the side, supplying the place of a door. The day being mild for the season of the year the indwellers of these simple habitations were, at the moment of our arrival, variously occupied in several groupes on the outside. Some of the men appeared to be cleaning their weapons, and others were apparently engaged in arranging a bundle of muskrat traps—while one old fellow, whose screwed up features, peering from under a mass of grizzly locks, indicated the cunning of the trapper rather than the boldness of the hunter—was occupied in slaying an otter but just taken. The women were, however, the only ones who appeared to be assiduously engaged—the men having all a lounging air of indolence about them, incompatible with the idea of actual employment—dressing skins was the occupation of the former; and they each sat grouped like a hare in its form around a collection of boiling kettles, over which the skins were suspended. A tall virago of fifty, whose erect stature, elf locks, and scarlet blanket floating about her person, would entitle her to flourish as Meg Merrilies in the frontispiece of Guy Mannering, stood up in the midst and, had it not been for some tolerably pretty faces among her junior collaborators, might have been taken for Hecate herself, surrounded by the wierd sisters of the cauldron. A pack of wolfish looking curs, about twenty in number, completed the assemblage; which, when you take into consideration the variously colored

calico hunting shirts, and cloth leggings, in which the females had arrayed themselves, with the white, blue, red and green blankets in which the men were wrapped, constituted about as motley a collection as ever followed Falstaff to the field. Warpkesick himself, the chief of the gypsey band, issued from his lodge while I was thus studying the appearance of his adherents. He was a young man, not more than thirty, with a handsome though somewhat voluptuous cast of countenance and remarkably fine eyes. His stature was rather below the middle size; and though the upper part of his person was extremely well formed, with a deep chest and broad flat shoulders, one of his legs, whether from deformity or misfortune I did not like to inquire, was so twisted under his body as to be worse than useless. He supported himself upon an aspen staff, about eight feet in length, and terminating at the bottom in a round ball, to prevent it, probably, from sinking too deeply into the earth while in rapid pursuit of game; the chief being, in spite of the unsightly incumbrance he is compelled to drag after him, when bounding like a stricken panther, on his prey, one of the keenest hunters of his tribe. He received us courteously, but remained standing; while several Indians gathered in a few moments around him; after shaking hands with them all in succession, I took up a loaded gun, and by way of breaking up the formality of the meeting, desired an eagle-eyed young Indian to make a shot with it. He hesitated for a moment to comply, and immediately all the others from some whim or other insisted that I should shoot; our conversation being altogether in signs it was some moments before I understood their gestures; and I confess, that, having but little practice with a single ball, I was any thing but disembarassed when I came to understand the purport of the request they were proffering with so much animation. A small blaze that was instantly made with a tomahawk in a sapling, forty or fifty yards distance, left me no excuse for pretending longer to misunderstand my worthy acquaintances, and placing the gun to my shoulder I was as much surprised at putting the ball within a couple of inches of the centre, as if the tree had screamed when thus peirced by my random bullet. Having met with those in Michigan who will drive a rusty nail with a rifle at this distance and shoot leaves from each other heads at six rods, I could not account for the degree of approval manifested by the spectators till my companion informed me that the Indians, owing perhaps to the inferiority of their rifles, which are of English manufacture, are but indifferent marksmen at still objects. "Tai-ya," cried the women, "Neshin," said the chief, and "Nesheshin," echoed his attendants; while the blankets of the lodges were now for the first time raised, and entering we stretched ourselves on mats around the fire. A youth of nineteen sprang to his feet as I removed the dingy curtain which formed the door, and revealed a face and form that might be the model of an Apollo. Being sick at the time he was but half dressed, the purple blanket dropping from his shoulders setting off a neck and chest of the finest manly proportions. His features were copied by nature from a Greek model; while his shaven crown, with the single chivalric scalplock would in its noble developments have thrown the disciples of Gall and Spurzheim into ecstasy. The particularity of his head-dress, with the beautifully beaded leggings discoverable around his ankles, revealed to me at once, that the young gentleman was an Indian dandy—a Pottawattomie Pelham in an undress; and I assure you that Mrs. C— never schooled any of his New York rivals to wear their Spanish cloaks with a better air than was exhibited by my red friend Neshwa-coquatchegun, or Three-garters, as he gathered the folds of his blankets about his person. Pipes were now lit, and Three-garters, who was too unwell to smoke himself, politely, after a few whiffs, tendering me his, while my companion, who could partially speak the language, was supplied from another quarter, we were soon perfectly at home; when, as I was trying to squeeze a tune from a species of flute, of imperfect tones, but having a rich mellow sound, after unsuccessfully attempting to purchase (the owner being absent) what I considered quite a remarkable Indian curiosity,

Warpkesick rose suddenly, and stating that he had to start at once on a trapping expedition, signified that we should take our departure. An Indian pony stood at the door, and leaping at one bound into the wooden saddle, an immense bundle of steel-traps was handed to the Chief by a bystander, and, accompanied by an Indian on foot, almost as sorry-looking as the miserable beast he rode, our abrupt host disappeared at once in the woods. I was still trying to make terms about the flute, and had conciliated the squaws wonderfully by tearing out the silk lining of my frock coat, and giving it in shreds to their children, when my friend, being already mounted, told me we had better move off. I had barely time to cross the saddle, when a whoop rang through the woods, which, while it made my horse spring almost from beneath me would have wakened Rip Vanwinkle from his twenty years' doze. The piercing cry from the forest was echoed with an exulting shout from every wigwam. A dozen dusky figures leaped through their flimsy porches, and as many rifles gleamed in their hands. He of the heron feather was the first that caught my eye, and as his gun pointed in the direction whence the first whoop came, immediately behind me, I could not help, in spite of the undesirable propinquity of its muzzle, admiring the eagle eye and superb attitude of the young warrior. Not a soul advanced three paces from the covert whence he sprung. There was a dead silence. The children held their breath, and "Meg Merriilles," who had stepped on a fallen tree at the first outcry, now stood so still that eldrick foam, were it not for her elf locks, streaming over her scarlet blanket in the breeze, might have been mistaken for a creature of stone. Another whoop, and the cause of all the commotion at once appeared. A noble buck, roused from his lair by Warpkesick, comes bounding by the camp, and buries his proud antlers in the dust in a moment. A dozen scalping knives pierce his leathern coat, and the poor creature is stripped of his skin almost before he has time to pant out his expiring breath.

I rode home reflecting upon all I had ever read of the want of vivacity and fire in the Indian character, and concluded that I would rather have witnessed the spirited scene I have just attempted to describe to you, than double all the knowledge I have hitherto laid up from such sources.

I leave this comfortable house in the morning, and it will be long before I reach again one half so agreeable.

THE WRITINGS OF ROBERT C. SANDS, IN PROSE AND VERSE, with a Memoir of the author. 2 vols. 8vo. New York: HARPER & BROTHERS.—Those even who knew, or thought they knew, the extent of the acquirements and reach of the genius of Sands, will, we are persuaded, rise from the perusal of these volumes with increased admiration of his knowledge and talents. The preliminary Memoir, understood to be from the pen of G. C. Verplanck, is written with a warm and affectionate interest in the fame of one who, though much his junior in years, had long been a literary associate and personal friend; and it presents an enumeration of his labors and acquirements and forms an estimate of his intellectual and moral qualities, such as to excite both wonder and respect.

Of the contents of these two handsomely printed volumes, much has appeared before. The leading prose article, however, in volume I. is now for the first time presented in an English shape—an historical Memoir of Hernan Cortez. This was prepared by its author in order to be prefixed to a Spanish edition of Cortez's letters, printed for South America, and was translated, as it was written, into Spanish. This memoir was written with care, and after consulting all the authors who could throw light on his subject, and it will be admitted to be an admirable sketch of the Conqueror.

We extract from the notice by Mr. Verplanck, a summary of the acquirements and character of Mr. Sands.

In ancient and modern literature, and languages, he had few equals, probably in our country no superior. He read familiarly the Greek, Latin, French, Spanish, Italian, and Portuguese authors. All the treasures of English literature, in the broadest sense of the word, were stored in his memory, from Chaucer to Charles Lamb, from Cudworth to O'Keefe. He had a general and more than ele-

mentary acquaintance with the mathematical and physical sciences, but for these branches of knowledge he felt little curiosity or interest. He held and maintained with Johnson, that the knowledge of external nature is not the great or the frequent business of the human mind,—that we have perpetual occasion for those principles of moral truth, and materials of reasoning or illustration, which are supplied by poets, orators, and historians, but are chymists or geometricians only accidentally or occasionally. He had laid a deep foundation of law learning in his youth, and though he abandoned the profession, he never quite gave up his legal reading. He was, therefore, probably as sound a lawyer as can be made without the actual and continued practice of the profession. His reverence for the law, and love of its peculiar learning and reasoning, led him to an extreme of prejudice against all reform or melioration of the system. He admired and defended even those narrow and inconvenient entrances which the ingenious and apologetic Blackstone himself allows are to be found among the spacious apartments of the ancient castle of English common law. He had, also, something of the same sort of dislike against the metaphysics of political economy, a study he never relished and never did justice to. He frequently maintained that it was not entitled to the honor of being called a science, and that "all the trash about values, and wealth, and reproductive industry was not of the slightest practical use."—There was scarce any other part of knowledge which had not at some time excited his curiosity, and more or less engaged his attention. Hence his mind was stored with an immense mass of miscellaneous information; such as, if it is not learning, is often found much more useful. He had read extensively, though irregularly, in divinity and ecclesiastical history; and had settled his opinions on most of the contested points of theological discussion. His opinions seemed in general to be those of Taylor, Barrow, and the old divines of that school in the Church of England, which, however, he held with great moderation.

He revered religion, and all good and moral influences, wherever he found them to exist.

His large stores of learning and of practical information on men and things, could not have been accumulated without great activity and versatility of mind, and these he evinced in all his pursuits; for he possessed the power of vigorously directing the faculties of his mind to any chosen object of study, inquiry, or speculation. His fancy was surprisingly fruitful of original and striking combinations of ideas; and if his peculiar vein of humour had any fault, it was that of excessive and unrestrained exuberance. But he had none of that bitterness of spirit, or keenness of sarcasm which frequently give edge to satire. His indulgence in the laughable sprung from the love of the laugh itself. He had no touch whatever of the sneering misanthropy, or the contemptuous hatred for folly which have so often lent their savage inspiration to comic and satiric talent. His humour, as it overflowed in his conversation and letters, even more than in his written compositions, ran somewhat in the whimsically broad vein of Rabelais, (though quite free from his grossness) delighting like him to mix the topics and language of learning with the humours and phrases of humble or even of vulgar life.

It strikes me as a remarkable circumstance (whether common to him with any other learned wits, I cannot say) that with this buoyancy of imagination, this constitutional tendency to the jocose or the whimsical, all his favorite studies and literary recreations were of a very grave cast. He had early read most of the witty and comic authors of note, but rarely recurred to them in after life. When fatigued with business or literary labor, he did not as one might have expected, refresh himself with Swift or Smollet; admire the chivalrous tancies and noble horsemanship of La Mancha's knight, or "laugh and shake in Rabelais' easy chair"; but he returned with ever fresh delight to hold communion with ancient ages and scholars, or else

—entranced to hear
O'er battle fields the epic thunder roll;
Or lia where tragic wall upon the ear
Through Argive palaces shrill wailing stole."

So too, all his deliberately selected subjects of composition were of a serious nature, generally demanding grave reading and research. His pleasantry was all spontaneous, unpremeditated, unbidden.—Nor were his laughable associations ever applied to subjects worthy of higher thoughts, for quick as he was in his perception of the ridiculous, he was equal

• Yamoyden.

ly sensitive to all that is beautiful in nature, or grand and elevating in sentiment.

Who can read this sketch—beautiful as we believe it true—and not lament anew that its brilliant subject was prematurely cut off at the age of 33?

TREVELYAN—by the author of *Marriage in High Life*. 2 vols.: Philad.—CAREY, LEA & BLANCHARD.—An interesting story—from a female pen, so at least we assume—and wrought up with a thorough knowledge of the human heart and its passions, modified but not subdued by the arbitrary rules of society.

The characters both of Trevelyan and his sister are portrayed with great skill, and have withal much of originality in them.

TRAITS AND TRADITIONS OF PORTUGAL—collected during a residence in that country, by Miss PARDON. 2 vols.: Philad.—CAREY, LEA & BLANCHARD.—These are light and pleasing recollections by one who seems to have enjoyed the beautiful climate of Portugal, without suffering herself to be incommoded by the numberless inconveniences, especially to a female traveller, in that country of primitive usages. There is no continuous story; but, as the title implies, tales and traditions suggested by the place or company in which she happened to be. The stories, however, would have been quite as effective by the omission of the numberless Portuguese phrases, which—as the translation is given in notes—only serve to encumber the pages.

THE COOK'S OWN BOOK, AND HOUSEKEEPER'S REGISTER, &c. &c. By a *Boston Housekeeper*. 1 vol. 8vo. Boston: MUNROE & FRANCIS. New York: C. S. FRANCIS.—Some books are for instruction chiefly; others for amusement; some teach a particular branch of learning; others, more general, treat of the whole circle of sciences: but the book of books, profanely speaking, is that which exhibits man to most advantage in his distinctive character as "a cooking animal." Such a book is now before us—well printed, and with a due regard to the march of mind, now in full progress, having interleaved blank pages, whereon taste, curious of novelty, and fond of change, may record—for the benefit of after times, and future editions—the current remarks and *obiter dicta*, or opinions dropped by the wayside, of fastidious experimentalists. We therefore commend this book, as invaluable for reference, and especially to be consulted by all who desire to combine economy and health, with a reasonable share of good living.

THE MUSEUM OF FOREIGN LITERATURE, FOR 1834.—2 vols. 8vo. Philadelphia, J. LITTLE.—We are indebted to the publishers of this well conducted monthly miscellany, for the whole series of last year, bound up in two handsome volumes—and furnishing of themselves a great mass of agreeable reading—which may always be taken up—laid aside—and resumed at pleasure; and thus fill up many a gap of time that might at least otherwise be wasted. One hardly realises, till the volumes are before his eyes, the amount and variety of matter, which in the course of a year is accumulated in this periodical—which certainly seems more valuable when thus collected, than even in its fresher but more fugitive state of monthly numbers.

THE BOOK KEEPERS' ATLAS; or, perfect system of Book-keeping by double entry, &c. &c. by Wm. EDWARDS.—New York, HARPER & BROTHER.—This is a handsome and clearly printed quarto volume, showing by a series of actual transactions the most approved mode of stating, and keeping, and checking mercantile accounts. It appears to us well done; but what is much more decisive, it is so certified to be, by many active and intelligent merchants of our city.

AN ELEMENTARY PRACTICAL BOOK FOR LEARNING FRENCH, adapted to the capacity of children; translated from the German of Dr. J. H. P. Leidenstueck.

er, by Mrs. BARBARA O'SULLIVAN ADDICKS: N. York, J. B. COLLINS.—If we were in doubt as to the value of this school book and its adaptedness to the capacity of children, we should yield at once to the authority of the competent judges who have furnished the translator with the decisive testimonials she publishes of its merits. The method adopted in it, is that now generally pursued by, we believe, the most successful teachers in all languages—that of following, as nearly as possible, the natural way by which children come to the knowledge of their mother tongue: first by learning isolated words, then by combining them. This little volume is well and accurately printed.

MEDICAL AND SURGICAL CASES, &c.—by DUDLEY ATKINS, M. D. N. Y.—PETER HILL.—A well-printed volume—of cases rare and difficult—which will, we dare say, have abundant attraction for the profession.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, for Feb. Philad.—CAREY, LEA & BLANCHARD. This, like the former, is a work mainly for the profession. It is a quarterly publication, well-printed, and apparently with abundant contributions. We are struck with one remark in a paper by Dr. Gibson, of Philadelphia, detailing the operation of removing a large tumor from the neck of a lad of 18—namely, that on a comparison of the results of tying up veins—always a hazardous experiment—death has most usually resulted in Europe from such an operation, while in this country, Dr. G. avers, that he never met with any case of death or injury from the operation. For this remarkable fact Dr. G. thus accounts: "I think it very probable that the constitutions of patients in this country—owing to all classes of people being well fed and clothed, and little exposed to hardships—are generally superior to those of Europeans, and as such more capable of resisting the operation of injury or disease."

DAILY MORTALITY OF THE HUMAN RACE.—The annexed extract from a work recently published in England, by a Layman, on the *State of the Departed Soul* taken in connexion with the sensation produced by the recent sudden death of Mr. Bouldin, of Virginia, on the floor of the House of Representatives, exemplifies anew the truth of the remark, that individual instances affect the imagination much more deeply than general truths. The death of this one Legislator, under the circumstances in which it occurred, startles the mind more than the immense fact, that more than ninety-one thousand beings, like him, perish daily.

From a late Work "On the State of the Departed Soul."

"The life of man, on an average, is little more than 30 years, and as there are one thousand millions of human beings on the face of the earth, (according to the latest estimate,) it will be found that 91,324 of our own race die every day. Every hour which goes over our heads, about 3,800 immortal souls go out of this world; and as the population of the earth is on the increase, a greater number come into it, to inhabit mortal bodies in their room—a consideration which should show how the necessity of preparation for yielding our places to others, and for joining the invisible flight of spirits which are continually leaving the earth; for no one can tell, but that the next moment, his soul may be called on to become one of the number.

The death of Mr. Wirt—after a short illness—at Washington, seems to have been deeply felt. The bar of the Supreme Court immediately assembled—Mr. Attorney General Butler presiding, when Mr. Webster offered a series of resolutions expressive of the admiration and respect of the meeting for the deceased, which he prefaced with a beautiful notice of the talents and character of his lamented friend.

[From the Globe.]

APPOINTMENTS BY THE PRESIDENT.

By and with the advice and consent of the Senate. William Noland to be Commissioner of Public Buildings in the City of Washington, in the place of Joseph Elgar, removed.

George Huyler to be Consul for the the port of Nassau, in the Island of New Providence, in the place of John Stoor, resigned.

Nicholas P. Trist to be Consul for the port of Havana, in the Island of Cuba, in the place of William Shaler, deceased.

Maximo de Aquirre to be Consul for the port of Bilbao, in Spain in the place of F. Xavier de Ealo, resigned.

Joshua Dodge to be Consul for the port of Bremen, in the place of Nathaniel Pearce, removed.

Daniel Brent to be Consul for Paris, in France, in the place of Isaac C. Barnett, deceased.

Charles J. Hambro to be Consul for Copenhagen, in the Kingdom of Denmark, in the place of John Raynals, deceased.

Robert Grieve to be Consul for the port of Leith, in Scotland, in the place of Joel Hart.

John Morrow to be Consul for the port of Halifax, in the province of Nova Scotia.

Joseph Balestier to be Consul for the port of Rbio, in the Island of Bintang, in the Malayan sea.

Thomas H. Barker to be Consul for the port of Elsinore, in the Kingdom of Denmark.

W. M. Haxton to be Consul for the port of Bathurst, in the Island of St. Mary's in the river Gambia.

By the annual report of the New York Savings Bank, it appears that in the course of the year 1833, they received from 20,015 depositors, \$1,155,980.33. Five thousand and twenty seven of these new accounts. During the same period, \$923 072.25 have been drawn out by 11,893 depositors; 2534 of whom have closed their accounts. Among the depositors, there are 150 clerks, 101 carmen, 146 carpenters, 869 domestics, 400 grocers, 589 laborers, 331 seamstresses, 152 shoemakers, 123 tailors, 688 minors.

The receipts of the bank since its establishment in July, 1819, have been \$8,902,137 24; and the sums repaid to depositors have amounted to \$6,748,202 65—having in the bank on the 1st of January, 1834, 2,153,934 59. Add to this the interest up to the same date, and including the January dividend, and there was due to depositors on the 1st of that month \$3,105,778 03. The simple statement of facts in this report, shews in the most conclusive manner, the great value of this institution.—[Daily Advertiser.]

[From the Journal of Commerce.]

BANK OF NEW BRUNSWICK.—News was received here yesterday afternoon, that the Bank of New Brunswick, N. J. had suspended payment. Its circulation in the city of New York is believed to be small.

In consequence of injurious reports and the pressure of the times, the President and Directors of the Bank of New Brunswick have been under the necessity of suspending payment; but at the same time they deem it their duty to caution the public against sacrificing the bills of said Bank,—as they believe the Bank to be solvent; and that eventually all the bills will be redeemed. F. RICHMOND, Cashier.

February 18.

[From the Lowell Journal of Wednesday.]

LOWELL, MASS.—We learn with regret, almost approaching to horror, that many of the directors and stockholders of the Factories in this town, are upon the point of deciding to stop the mills. The effect upon thousands of our people will be indescribable. Laborers of every class, and artisans of every trade, must go, they know not whither, to seek in vain for subsistence; and all the inhabitants who depended upon them again for a support, will be left destitute of means to obtain their daily bread. Others of the stockholders, and especially the agents and superintendants, are desirous of preventing this annihilation of the laboring interests, by reducing the rates of wages so low, that they would feel justified in continuing to manufacture for the present, though no doubt can exist, for a moment, that it would be safer and better for them, on many accounts, to stop at once. Common humanity will pray, that the results of their deliberations may be favorable to the poor, and if such a rate of wages can be established as will prevent too great a sacrifice on the one hand, and enable the working classes to live for a time on the other, we may hope, that dark as the prospect is before the country, some means will be devised by the Government to restore prosperity, and give a new impulse to manufacturing enterprise.

From FRANCE, we have received papers which should have reached us Friday last, to 26th Dec'r. They present the King's speech on meeting the

Chambers—as unmeaning as the most unmeaning of its forerunners—and which, though it alludes to all European nations, with whom questions of any sort are pending, makes no reference whatever to the United States; notwithstanding the fact, that a treaty, duly ratified on both sides, has been rendered inoperative by the fault of the French Government.

We take the extracts which follow from the Courier and Enquirer:

FRANCE.—PARIS, DEC. 24.

His Majesty's Speech on opening the Session of the Chambers.

"PEERS AND DEPUTIES—Gentlemen, France has continued in undisturbed tranquillity since our last session, and the enjoyment of the blessings of order and peace. Throughout the country, industry and labor meet with their reward. The population, occupied and peaceful, feels assured of the stability of our institutions, of my fidelity in watching over them, and that public security is the pledge of national prosperity.

"It was by guaranteeing our rights, protecting our interests, and by the equity and moderation of our policy, that we have obtained these happy results.

"In order to render them lasting, we shall persevere with energy and patience in the same system. An unceasing vigilance is still necessary; insensate passions and culpable manoeuvres are at work to undermine the foundations of social order.

"We will oppose to them your loyal concurrence, the firmness of the magistrates, the activity of the administration, the courage and patriotism of the National Guard and the Army, the wisdom of the nation, enlightened as to the danger of these illusions, which those who attack liberty, in pretending to defend it, still seek to propagate—and we will insure the triumph of constitutional order and our progress in civilization. It is thus, gentlemen, that we shall at length put an end to revolutions, and accomplish the wishes of France. I thank her for the support she has given me. I thank her for the tokens of confidence and affection with which she has surrounded me. I received them with emotion in such of the provinces as I have been able to visit; and I render thanks to Providence for the blessings which our country already enjoys, and for those of which the future holds out a promise.

"You also, gentlemen, will second me in my endeavors to protect the increase of our national wealth, in opening to our commerce and industry new sources of prosperity, and to spread ease with labor throughout all classes of the population.

"I hope that the new Law of Customs, while it evinces the progress of our industry, will conciliate the protection that is due to it, with those principles of wise liberty which enlightened governments are disposed to admit.

"Popular instruction has received, thanks to your concurrence, a salutary impulse.

"The Finance laws, and those required by the execution of treaties, will be speedily presented to you. The public revenue improves, and every thing foretells that it will continue to follow the ascending movement of our prosperity.

"Several projected laws, some of which have been already presented to you, will also be submitted to your deliberations. I have reason to hope that the promises of the Charter will be accomplished in the course of this Session.

"I am happy to announce to you that our relations with all the Powers and the assurance I receive from them as to their dispositions, leave no doubt as to the maintenance or the general peace.

"The Peninsula has become the theatre of important events.

"As soon as the Government of the Queen Donna Maria II. was established at Lisbon, I renewed our diplomatic relations with Portugal.

"In Spain, the death of King Ferdinand VII. has called the Princess his daughter to the throne. I hastened to acknowledge the Queen Isabella II., hoping that such prompt acknowledgement, and the relations it established between my Government and that of the Queen Regent, would contribute to preserve Spain from the miseries with which she was threatened. Already tranquillity is beginning to be restored to the provinces in which rebellion had broken out. The corps d'armée, which I have ordered to be formed, will protect our frontiers in any event.

"Continuing to be intimately united with Great Britain, we have every reason to hope that the difficulties which still retard the conclusion of a definite Treaty between the King of the Belgians and the King of the Netherlands, will compromise neither the great interests of Belgium nor the tranquillity of Europe.

"Switzerland has been momentarily disturbed by dissensions, which the prudent firmness of her Government in a short time appeared. I hastened to render her the services that she had a right to expect from a faithful and disinterested ally.

"The Ottoman Empire has been threatened with great peril. I was anxious to hasten a pacification at once called for by the interest of France, and the stability of European order. I shall continue my efforts to ensure its preservation.

"The events which I have just mentioned, and especially the situation of the Peninsula, have rendered it my duty to maintain the army upon the footing required by the safety of the State.

"Let us consummate our work, Gentlemen; let order, powerful and respected, be henceforth shielded from every attack. Let the efficacious protection of the national interests dissipate the last hopes of the factious, and France, happy and free under the tutelary shield of the Government she has founded, will at length pursue without obstacle the career of her prosperity. This is my most ardent wish, and you will assist in securing its accomplishment."

PARIS, DEC. 24.—"When the opposition Deputies entered the Chamber yesterday, the Ministerial members accosted them, and in great perturbation made them the most alarming recitals. The *Société des Droits de l'Homme*, they said, had, on the preceding evening, held a meeting, and resolved that one of its members should, after the delivery of the speech from the throne, rise, and declare that Louis Philip having, like Charles X., violated his oath, he had released every Frenchman from his allegiance. M. Vayer d'Argenson had excused himself from undertaking the task, which was then entrusted to M. Audry de Puyraveau, who had accepted it, and was to be seconded by M. d'Argenson. The deputies of the *Gauche*, on hearing the statement of this enormity, received it with ridicule, but could not dissipate the alarm of their colleagues of the *Centre*. Fortunately, a deputy, who is the friend of M. de P., on hearing the tale of scandal, informed them that the Honorable Deputy for the Charente Inferieure had not yet left his department. The alarm, however, had not subsided, and contributed to increase the acclamation when the King entered the Chamber. This news promulgated in the Chamber, was circulated throughout the day before. It is probable that Count d'Argout suffered himself to be abused by some stupid report of the Police, and gave credit to it without making any inquiries as to its truth."

HAVRE, DEC. 22.—The westerly winds that have constantly prevailed for the last six weeks, have kept upwards of fifty vessels of different descriptions completely bound in the port, and on the first favorable change, we shall have the sight of a large fleet leaving our harbor. The weather continued very tempestuous throughout last night, the gale blowing at times with very great violence, but this morning it has subsided, though the sea continues to roll very heavily."

SPAIN.

PARIS, DEC. 25.—The following intelligence, from Madrid, is of the 13th inst.:—"Tranquillity is far from being re-established; on the contrary, the insurrection is becoming more general. In every direction, the public spirit is showing itself more hostile to the Government of the Queen; on one side the Liberal party, with its importunities, and on the other masses of fanatics, following the instigations of the ecclesiastics, who seduce and excite them. The Government is moving in five different directions, for each Minister has a policy of his own; consequently it is impossible that there can be any accord in the system. The Prime Minister is in favor of resistance, or even of reaction—he of the *Fomento* (Interior) for a progressive improvement of the administration of the country; hence the late territorial division, and hence by a decree of the 10th inst., a free commerce in silk, paper, soap, cloths and other articles, has been adopted.

The Minister of the Finances confines himself entirely to his department, and intends to introduce important improvements; the Minister of War, more enlightened than the others, is forming the army upon the Constitutional basis, being the officer who, in 1832, at Cadix, had the direction of the staff till Ferdinand was released. The Minister of Justice, in order to do nothing that may compromise himself, holds to the *statu quo* of his predecessors. And all this is done in the presence of a Council of Government directed by the Marquis de las Amarillas, which frequently renders the Royal power uneasy because it is supported by the public, and increases its influence in proportion to the unpopularity of M. Zae. At Aranjuez disturbances have become so serious as to warrant the appointment of a Governor

with unlimited powers, as in a state of siege. The officer appointed is Major Don Manuel Pinto, who has set out already, accompanied by an Advocate, and who is to act as his counsellor in the Courts Martial that are to be holden.

The Queen, wishing to hunt in the forest of Viguñuelas, was obliged to surround herself with troops in order to ensure her personal safety. At Almodovar, a band of 350 men are moving about the country, proclaiming Don Carlos. At Agadete, a monastery has been converted into barracks for Carlist insurgents. At Fuente del Ropel and Castro Gonzalo, Carlist soldiers have been seen taking the road to Portugal, probably to join Don Carlos. At Olmeda the Volunteers who escaped from Madrid have been overtaken and dispersed by the Queen's troops. At Jenes sixty Carlists having attempted to gain possession of some property belonging to the Queen; the burgers have been armed as a means of protection. At Valderrobbe and Calacette some considerable columns of Carlists are said to have been attacked by Gen. Carsatals. At Elda and Petter the Carlists have been endeavoring to stir up the people, but Col. Jartes, who on the 5th was at Infantes, was preparing to attack them. In La Mancha, El Locho is at the head of the insurrection which has proclaimed Don Carlos. In this country are also the bands of Sedillo and Barba.

At Cabreros and Naval Caruero in the very environs of the capital, bands of Carlists audaciously parade about; they are paid and protected by the Convent of Guisando. On the second instant the Bishop of Leon omitted the town of Caracellos in order to join Don Carlos, taking the direction of Carcion. Troops have been sent against the Convent of Matallana, one of the principal promoters of the rebellion. The accounts from Bilbao and Biscay, are much more favorable to the Queen's cause. Don Vincent Sancher Salvadoz has been appointed Military Governor ad interim of Badajoz. At Seville, a Carlist plot has been discovered and many arrests have been made, and the Prefect of Police at Santa Cruz, has been obliged to place many of the most distinguished inhabitants of the town in secret confinement. A great many officers of the Regiment de la Reyna who were in garrison there have deserted and fled to join Don Carlos in Portugal. At Riofrio the chief Balinaseda is proclaiming Don Carlos at every point. On the 4th, he took from the Royal Depot at Siguenza, ten thousand uniforms for 365 men, and seventeen muskets. At Butares the Carlist Chief Vargas has been surprised, taken and shot, but his followers continue to devastate the country.

At Valencia the whole country is filled with Carlist bands, but the high road is not occupied by them. General San Martin is shortly expected to arrive in the province and put them down. At Burgos, on the 5th, several Carlist chiefs were shot. This part of the kingdom is remarked for its fanaticism. The rebel leader, Carnicer, is at Becete with 300 armed men. This is a general view of our situation, which can scarcely be considered as an advantageous one, when the difficulties it throws in the way of collecting taxes, and providing the Government with the means of putting down the insurrection are taken into the account. Under these circumstances, the announcement of the retreat of M. Ramia, the Director General of the Treasury, is not without importance. It is reported that he will be succeeded by M. Gargollo, Director of the Sinking Fund." Another letter from Madrid of the same date gives the following:—"M. Burgos, the Minister of the Interior, has been honored with the Grand Cordon of the Order of Isabella the Catholic.

M. Latre, Prefect of Police at Madrid, has been promoted to the rank of Major in the Royal Army. He was one of the Deputies to the Cortes in 1820.—M. Clemencin, formerly Minister to the Cortes, has been appointed Librarian to the Queen, in the room of M. Fernandez, deceased. All these acts partake of the movement, which M. Zae wished to avoid by his manifesto and circular letter. M. Burgos has conciliated the nobility by investing them with employments. As to the Count de Florida Blanca, he is opposing the Ministry with great adroitness, and gaining popularity by demanding, not a system of anarchy, but a wise, just, and enlightened administration. At the same time the Carlists are not discouraged."

Extract of a letter of the 26th inst. from Bayonne:—"One of the Secretaries of the French Embassy at Madrid arrived here yesterday, having been stopped and robbed by the Carlists at Villa Real. The mail, which left here on the 16th for Madrid, has also been stopped at Villa Real. The letters were taken out, and the passengers robbed."

The *Estrella*, a Madrid paper of the 8th instant, says—"A steam vessel, a frigate, two brigantines, and two transports, all belonging to Don Pedro, have arrived at Faro el Lago, and landed 1800 men, between 80 and 100 horse, and a large quantity of ammunition and provisions." The same journal also contains the following:—"It appears that 700 horses, with several artillery wagons, and about 60 other carriages belonging to the army of Don Miguel, have arrived at Valencia de Minho. They retreated in consequence of the late affairs in the environs of Oporto.

TURKEY.

SMYRNA, Nov. 16.—The number of European ships of war stationed in our seas, is increased every day. Sir Pultney Malcolm sailed hence yesterday for Vourla, where the greater part of his squadron is assembled, and where he will receive the reinforcement sent him from England. The British admiral will not quit that port until he receives fresh instructions from his Government, which he expects next week by the Salamander steam-packet. Ali is too powerful; it is thought, however, that this state of things cannot last long; and that Mehmet Ali himself, seeing the impossibility of establishing a monopoly in Crete, as he has done in Egypt, and as he may do perhaps in Syria, will give a possession which can only be injurious to him. It is said that the regiment last arrived, of 3,200 men, will relieve the Albanian troops in their cantonments. The Egyptian Admiral, Osman Pacha, is still off Sunda, with two ships of the line of 100 guns, one of 84, and a frigate of 60. An Egyptian sloop of war was lost in a storm on our coast a fortnight ago, with all the crew, 27 in number.

VIENNA, DEC. 17.—We learn from Odessa that several ships of war are fitting out in the ports of the Black Sea, a proof of a fixed resolution to be ready to meet events. The commercial world is in the meantime, no ways uneasy as to the interruption of peace, hoping to see those differences between the Great powers speedily arranged, and a general disarmament follow.

CONSTANTINOPLE, NOV. 12.—The Ottoman fleet is disarming, and will, as soon as the Sultan has returned to his palace at Therapia, leave the roads of Beschiktaah to return to the arsenal.

The *Hamburg Correspondent* says: The answer of the French Cabinet to the Note from that of Russia, respecting the affairs of Turkey, is, it is said, very strong, and the reply from Russia still more so. If as is believed possible, the French Ministry, in order to gain favor with the Chambers, should publish its answer, the reply of the Russian Government must also appear before the world.

HUMAN FATE.

A little child, a little child,
Upon its mother's knee,
With dimpled cheek, and laughing eye,
A holy sight to see.

A thoughtless boy, a thoughtless boy,
A truant from the school,
Urging his tiny wooden sled
On through the glassy pool.

A musing youth, a musing youth,
With eyes fixed on a book,
Where he but sees his mistress' face
In her last far-well look.

A gay gallant, a gay gallant,
Hero of club and ball;
His father's pride, his mother's joy,
Admired and loved of all.

A traveller, a traveller,
Returned from foreign strand,
With store of wisdom, culled with care,
For use in his own land.

A happy man, a happy man,
With wife and children round,
And smiling friends, and cheerful home,
Where all pure joys abound.

A patriot, a patriot,
Intent on public good,
Who, in a court's orndent tried,
Corruption's bait withstood.

A man of woe, a man of woe,
Bankrupt in heart and wealth—
Wife, children, hopes, all in the grave,
A bankrupt, too, in health.

A misanthrope, a misanthrope,
Disgusted with mankind,
Deserted by deceitful friends;
Whom favors could not blind.

A lunatic, a lunatic,
In melancholy mood,
Shrinking from every living thing—
Sighing in solitude.

A burial, a burial,
With none of kin to weep,
And lay the old man 'neath the sod,
To take his last long sleep.

Strange companion, strange companion,
Are these to meet, I woeen!
Alas! they are but life's changes,
That in one man are seen!

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

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STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads No. 264 Elizabeth street, near Bleecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

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NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nutt's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

TO STEAMBOAT COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, offers his services to render steamboats incombustible, and not liable to sink, even by the bursting of boilers, or striking against rocks, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and derided by the public as unmindful of safety. Apply, postpaid.

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NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6c nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833.

A29 f R M & F

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch, 200 do. 1 1/2 do. 40 do. 1 3/4 do. 800 do. 2 do. 800 do. 2 1/2 do.

Flat Bars in lengths of 14 to 16 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins. Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, and 4 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments, and incorporated Governments, and the Drawback taken in part payment.

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Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

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LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any order for the construction of Locomotive Engines, Tenders &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 24, 1833.

For further information on this subject see No. 49, page 779 of this Journal.

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.

D. K. MINOR, 35 Wall street.

New-York, August 14, 1833.

INCOMBUSTIBLE ARCHITECTURE.

INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTIMONY, or incombustible Varnish, at one dollar per lb.

Apply to C. B. RAFINESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 5th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushton & Aspinwall, Druggists.

Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means.

81 R J M M & F



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repair within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same.

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TO RAILROAD COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1825, by his caveats filed in the Patent Office. Apply, post paid.

81 R J M M & F

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Esq. M. & H. K. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York,

January 29, 1833.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber, not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wutzel, Yellow Locust, Ruta Baga, and Field Tarnip Seeds, well worth the attention of Farmers.

W. THORBUEN,

347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better chance can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardeners' Magazine. MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J31 6t corner of Maidenlane.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy;—also, a Railroad Goniometer, with two Telescopes;—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Each Level and Compass are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails;—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad. Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germanstown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,

German and Norristown Railroad

ml 1y

[From English papers.]

St. SIMONIANS.—M. Prati is continuing his lectures on St. Simonism at the Burton Rooms. We went yesterday evening to hear him, but we found that he said little or nothing which we have not given before in our notices of his former lectures. The chief topic last evening was the emancipation of women, which was to be brought about by education. Women were to receive the same education as men, and if they did they would be found equal to men in every thing that required mental faculties only. He had studied Gall, and phrenologically examined many women's heads, whose organs, save that of combativeness (Query—did he ever examine the Amazonian heads of the ladies of St. Gile's and Billingsgate?) were even more fully developed than those of man. From that he concluded, that if they received a proper education, they would excel men in the Arts and Sciences, and become equally if not more capable of directing industry, upon which his system is chiefly founded. He, therefore, hoped to see in the new arrangement of society, women great politicians, deeply scientific, and surpassing in the fine arts. He exhorted the ladies present, (there were few old ones who came to hear him) to apply themselves to study; and he assured them, if they did so, they would soon become equal to men, and be no longer subject to them. He counselled them to despise the epithets of "blue stockings and learned ladies," which the tyrant man applied to them merely to keep them in a state of subjection. He called upon them most emphatically to form an association for the emancipation of females, which would become not only the school of their own emancipation but of that of all mankind. Women were always benevolent and good, and the great Poet, who wrote the most offensive lines against them, could not at last help avowing that women were Samaritans in every situation. A great servile war was at hand unless women stepped in as did the Sabine women of yore, and preached and practised reconciliation. If they would apply themselves to study and emancipate themselves, they would speedily smooth down the roughness of man, and create a new heaven upon earth.

A gentleman here asked whether the St. Simonians intended to sweep away the present order of things; what was to be the form of their new government; and what places women were appointed to fill in it?

M. Prati said, the St. Simonians intended to sweep away nothing, but that the present state of things would sink under its own rottenness. The form of their government was to be a hierarchy—not an hereditary one—founded on nature, in which those of the greatest capacity would preside. The station appointed to woman would be that her capacity entitled her to. She might fill any situation which did not require great strength and muscular exertion.

Another Gentleman asked whether women were to command ships.

M. Prati. Oh certainly!

The same Gentleman. Do you also intend to man your ships with women [laughter]?

M. Prati. Not exactly; there may be half men and half women—that would make the voyage pleasant; but, on reflection, I think it would be better that there should be no women at all, since the employment of a sailor requires great muscular exertion. Women are to be captains and commanders, but not common sailors.

A general discussion then took place between the persons present on the form of government, the distribution of property, and the rights of women.—Though we paid great attention, we could not understand the different theories, nor, we believe, did the disputants themselves, since the matter ended in a general challenge, to be decided some day next week.

PRINCE TALLEYRAND: *Anecdotes*.—During a part of the time when Prince Talleyrand was an emigrant, he was reduced to so much want, that he was even obliged to sell a valuable watch. "I know a gentleman," said the Marquis d'Assigny to the prince, "who will lend you a few hundred crowns. I yesterday heard him say, in the presence of two opulent English merchants, that he always keeps two thousand crowns to serve his friends." "You are laboring, I apprehend," replied the prince, "under a mistake; if he lent me this money, he would no longer keep it."

"What is your opinion respecting Mr. Nugent, a very witty old man?" said a friend to Prince Talleyrand. "He always puts me in mind of an antique chateau haunted by spirits—*donc lequel il revient des esprits*."

The Countess de —, whose amours formed a general subject of conversation, was blamed in very severe terms by a certain lady, in the hearing of Talleyrand. "I cannot entirely agree with you," said the prince; "the countess is merely enjoying the loss of her reputation."

"I was standing on the Pont Royal one evening," said Talleyrand; "a splendid carriage passed, in which was La Tour, the commissary-in-chief of the army, who had been a footman. 'Do you know who that person is?' cried a fish-woman to her comrade. 'Yes,' replied the latter; 'he is a *ci-devant* derrière'."

Mlle. Fanny S—, a very lovely girl, had been the greater part of the evening in earnest conversation with a young clergyman, remarkable for his handsome person. When the latter had taken his leave, the young lady said to the prince that she had been much edified, and that the congregation—

"Flock, you intend to say, Miss—. I suspect our friend to be more of a shepherd than a pastor."

"He relates an anecdote extremely well," said Mr. B., speaking of Count Daru; "but half the stories he recounts are untrue, although they have the appearance of probability. What satisfaction can he derive in deceiving us?" "That pleasure," said the prince, "which a man experiences in making others believe what he does not believe himself."

A discussion arose respecting certain usages among different nations. "They may all be traced to some motive," said Lally Tollendal. "Why, then, said a gentleman, 'do the French, in driving their vehicles, give and take the left? In a drawing-room, you always give the right: you cede the right upon all occasions when you intend to shew deference to a person.' 'It is quite clear,' said T. 'that the English are better whips than we; if there were no other reason than this, it would show that we are in the wrong. The riders sit on the right, and are, of course, able to see how near the wheels can approach each other. Talking of right and left, as far as etiquette and precedence are concerned, recalls to me a saying of Madame Palatine de Bavière, the abbess of Maubuisson. Another abbess, who was about to pay her a visit, sent to inquire if the right would be given to her. 'Ever since I have been a nun,' replied Madame Palatine, 'the only difference I know between the right and the left is in making the sign of the cross.'"

At the commencement of the last year I offered to send the American *tri-weekly* instead of *semi-weekly*, together with two of my periodicals, in exchange to those who would publish my advertisements of the different periodicals. In consequence of this notice, the exchange list was increased to 165. I soon found that the expense would be greater than I had anticipated, yet I had made the offer, and would of course continue it through the year—as I have done. I however find it too expensive to continue to send as heretofore. The circulation of my PERIODICALS, (upon which the expense falls,) will not warrant it, and I must, therefore, notwithstanding the uniform kindness with which they have been treated by those to whom they have been sent, materially reduce their exchange list.

The *semi-weekly* American will hereafter be sent in exchange to those who will publish the following advertisements a few weeks for the difference of price. *New-York, January 20, 1834.*

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in *semi-monthly* form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall street, New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher

of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor. Jan. 22, 1834.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published.

D. K. Minor also publishes the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

Also, the PLOUGH-BOY, a cheap agricultural publication, of eight quarto pages, is issued once a week, at \$1 50 per annum, in advance. It contains much interesting reading upon agriculture, &c.

All Letters and Communications for the above publications, may be addressed, free of postage, to D. K. MINOR.

List of Subscribers to the Railroad Journal who have paid in advance to Jan. 1, 1835, —continued from February 8, 1834.

J. W. Crane, Schenectady, N. Y.
E. M. Adams, Smithville, Jef. co., N. Y.
J. S. Barnard, Dagsboro, Del. State.
J. W. Collet, Flushing, L. I.
W. H. Rodman, Philadelphia, Pa.
John Pickell, Danville, N. Y.
R. Paul, St. Louis, Missouri.
A. B. Allaire, Howell Works, N. J.
A. Livermore, Meadville, Pa.
Jonathan Jessup, Waterloo, Md.
John Watson, Waterloo, Md.
U. A. Boyden, Lowell, Mass.
S. B. Cushing, Providence, R. I.
D. Mathews, Schenectady, N. Y.
John Noonan, Yorkville, N. Y.
B. A. Alderson, Lexington, Ky.
G. W. Shields, ditto.
L. Randal, ditto.
A. O. Barber, ditto.

A scientific person versed in Mechanics, Chemistry and Mineralogy, of several years practical experience in different branches of Civil Engineering, and who is also a good draughtsman, is desirous of obtaining employment either as an instructor in some public institution, or as an Engineer upon some private or public work.

He was educated at one of the first scientific institutions in the United States, and was for several years an instructor in the said institution.

A line addressed to B. at Railroad Journal Office, No. 35 Wall street, will meet with immediate attention. J R15 if

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the sub-criter's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersunk heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory, for which purpose they are found invaluable, as it is their object to make more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in A-bury and Troy; J. L. Brown, 222 Water street, New-York; A. M. Jones, Philadelphia; J. Janv, Jr., Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing as to keep pace with the daily increasing demand for his Spikes. J23 Jan.

H. BURDEN.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, MARCH 1, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 1, 1834.

In reply to the oft repeated inquiry "has Mr. Vignolle's promised article on Roads and Railroads yet appeared," we can only say that it has not, but we hope soon to receive it.

The letter of L. B. W., of Fort Wayne, Ia. is received, and his request attended to, relative to C. G. V. The paper containing the communication to which he alludes, has not been received. We are obliged to him for his suggestion relative to a tabular view of all the railroads in the United States. The propriety and utility of such a measure has more than once occurred to us, but hitherto we have been unable to obtain the necessary information, and for the present, other engagements do not admit of our undertaking the compilation. We shall endeavor, however, in the course of the present volume, to present our readers with a list of railroads in the United States, with a statement of their length, mode of construction, cost, &c. &c., and shall, therefore, be obliged to those engaged in their superintendence, to give us data for the purpose.

Locomotive Engines—Historical Retrospect. Compiled from the Report of the Committee of the House of Commons, of August, 1831. [From the London Mechanics' Magazine.]

The first locomotive engine was invented twenty-eight years ago, by the late Mr. Trevithick, a very ingenious man, and subsequently improved and used by Mr. Blenkinsop and others, for the service of collieries.

Mr. Gurney stated that his carriage weighed only 2½ tons; that in 1825 he began to work it; that in 1826 he went up Highgate and other hills; and in 1827 he went to Bath. that he has run 18 to 20 miles an hour.

that he is able to compete with the coaches, with an advantage, as 2l. 10s. to 15s. per hundred miles.

that he makes no noise.

N. B.—Mr. G. run his carriage for some time between Cheltenham and Gloucester, to the great loss of his supporters, Sir Charles Dance and others.

Mr. Hancock stated that his carriage weighed 3½ tons, that, with a piston of 9 inches, he has worked at 400 lbs., and on an average at from 60 to 100 lbs. on the square inch; consequently, could exert a power of 13 to 90 horses. that he makes only one-third of the noise of others.

Mr. Farey stated that Mr. Hancock and the Messrs. Heaton were the only candidates likely to prove successful.

suggested that there should be 2 horses at every hill, for the help of these locomotives. stated that passengers were annoyed from heat, noise, smoke, and dust. condemns Gurney's, &c.

N. B.—The Messrs. Heaton, residing at Birmingham, were not examined.

Mr. Ogle stated that his engine is 20 horse power, with a pressure of 250 lbs. on the square inch. that his carriage weighs 3 tons. has gone at the rate of 32 to 40 miles per hour—and has ascended hills at the rate of 16½ miles per hour. explosion impossible.

he is on the point of establishing a factory, so great are the demands for his carriage!

Mr. Gibbs was very sanguine in his hopes of success—proposed to plough, and drive vana.

Mr. Summers (the partner of Mr. Ogle) stated that they had constructed 2 carriages, weighing 3½ tons, besides passengers. that they had carried 9 persons at the rate of 9 miles, when the crank broke, and the carriage was sent back by canal. has carried 19 persons at the rate of 10 miles. has travelled at the rate of 30 miles during 4½ hours frequently; consequently 135 miles in 4½ hours. has ascended Shirley-hill, which is 1 foot in 6.

Such was the state of the locomotives in 1831.

Observations.—In 1833, Mr. Gurney, the most persevering of all the competitors, is beaten out of the field, to his great cost.

Sir Charles Dance, his substitute, has run many times to Croydon and Greenwich—made an attempt to go to Birmingham, in which he failed—and made, lastly, an attempt to run daily to Clapham, in which also he has failed.

Messrs. Hancock, Ogle, Gibbs, Summers, and Heaton, are all in movement, but merely by convulsive starts; although they are provided with powers that may be raised to twenty, thirty, forty, and eighty horse power.

About twenty years have passed away in experi-

* Mr. Summers afterwards explained that what he meant to say was, that he had travelled "for the space of four miles and a half—not four hours and a half—at the rate of thirty miles an hour."—[Ed. M. M.]

ments, and not less, probably, than 100,000l. have been expended upon them; yet, after all, nothing effectual has been done.

At one period steam guns were the terror of many: they were to have mowed down whole ranks of infantry and cavalry; even artillery were to be quite impotent before them; but nobody now hears or dreams of such things. It would almost seem as if steam-carriages were destined to run the same course. The writer hopes not; but if he were to look for grounds to anticipate a different result, it would not be in any of the prospectuses for steam-carriage companies that he has seen, of which the best that can be said is, that they circulate much easier than the wheels of the carriages that they respectively extol to the skies.

A. FRENCHMAN.

List of Steam-Coaches and Drags now building and built in London and its Vicinity.

We have been favored with this list by a correspondent, who states that its "accuracy may be depended on." We really had no idea that there were so many locomotive competitors in the field.—[Ed. M. M.]

Hancock	1	Infant, his own, built, experimental one.
Ditto	2	Era, (for a company,) built.
Ditto	3	Enterprise, (ditto,) built.
Ditto	5	a new one now building, his own
Ditto	4	Autopsy, his own, built.
Gurney, Maudsley, and Gibbs	1	a drag, built and altered by the said engineers, for Sir C. Dance, Knight.
Ogle	1	a carriage, his own, built, experimental one.
Squire	1	a carriage, himself and others, experimental one.
Frazer	1	a carriage, himself and others, building, experimental one.
Gibbs & Applegath	1	a drag, themselves, experimental one, built.
Gatfield and Bower	1	a drag, themselves, experimental one, building.
Andrew Smith	1	a drag, (for Mr. King,) experimental one, building.
Palmer	1	a drag, his own, experimental one, built.
Redmund	1	a carriage, experimental one, building.
Manting, Joseph	1	a carriage, his own, experimental one, building.
Phillips & Co.	1	a carriage, their own, experimental one, building.
Silk	1	a carriage, his own, experimental one, building.
Smith and Co.	1	a carriage, (for company,) experimental one, building.
Mile-end (name not known)	1	a carriage, (for company,) experimental one, building.

STEAM TRAVELLING.—A company has been just established to run steam-coaches in various parts of England. The capital of the company is to be £350,000. They have ordered fifty coaches to be built at Birmingham and six at Maudsley's. Sir H. Parnell is the chairman of the company.

Report of the Board of Directors of the Pontchartrain Railroad Company, to the Stockholders, at their meeting of December 2, 1833.

Office of Pontchartrain Railroad Co.
New-Orleans, Dec. 2, 1833.

TO THE STOCKHOLDERS:

I am instructed by the board of directors to lay before you the following statements:

1. Statement of the affairs of the company on the 30th of November ult.

2. Comparative statements of receipts for 1831, '32, and '33.

3. Statement of the machinery ordered, and of the work required for the completion of the road, and their probable cost.

By statement No. 1, it will be seen that the rail track, harbor, machinery, real estate, negroes, &c. &c., have cost \$443,433 76

To which may be added the additional amount required for machinery, and the completion of the road, say 18,600 00

Making the total cost of the road, independent of current expenses \$462,033 76

The same statement shows the debts of the company are as follows:

Bills payable, due in 1834 - \$37,419 36

" " 1835 - 5,085 00

Due to sundries - 8,000 00

Bonds in favor of the City Bank, payable in 1837, '42, and '47 50,000 00

\$100,504 36

Their available means are as follows:

Bills receivable, due in 1834, '35, '36, and '37 - \$19,826 14

Amount due by sundries - 5,257 01

Cash on hand - 3,627 77

Sinking fund to meet the reimbursement of bonds - 3,484 00

\$32,194 92

Amount due on the

Darcantel property,

and in suit, about \$40,000 00

The second statement shows that the receipts of the company, since the commencement of their operations, have been as follows:

For 1831 - \$16,141 01

" 1832 - 44,101 15

" 1833 - 75,929 25

The third statement enumerates the machinery ordered, and the works required for the completion of the road and harbor, and their probable cost.

SUMMARY.

Capital stock of the company - \$250,000 00

Cost of works, including probable

amount required for their completion, &c. as per statement \$462,033 76

DEBTS OF THE COMPANY FOR 1834.

Amount due as above - \$37,419 36

Probable cost of the machinery

ordered, and works required for

the completion of the road - 18,600 00

Probable current expenses, - 30,000 00

Interest on bonds - 4,000 00

Due to sundries - 8,000 00

\$98,019 36

AVAILABLES FOR 1834.

Bills receivable - \$3,077 53

Cash - 3,627 77

Return duties on rails, when laid 2,000 00

Rent of hotels and bath houses - 4,200 00

Due by sundries - 5,257 01

Probable receipts; suppose the

same amount as in 1833 - 75,929 25

\$94,091 56

It is confidently expected that the balance of bills receivable, and the amount due on the Darcantel property, will more than suffice to

redeem the bonds issued in favor of the City Bank.

It may be well to observe here, that the real property of the company is put down at cost, while it is worth more than double the amount.

The cholera and yellow fever, during the last summer, have certainly reduced the receipts of the company upwards of twenty thousand dollars; it is, therefore, not unreasonable to suppose, that the increase in the receipts for 1834 will be at least in the same ratio as the previous years, when the track and harbor were in an unfinished state, and the whole works covered with mechanics and laborers. Should this be the case, the company will be enabled to complete their works, extinguish their debts, and give a good dividend at the close of the coming year.

During the present year the following works have been completed, to wit:

1. The harbor, with the exception of a small part of the breakwater.

2. A large car house.

3. An engine house.

4. Double and treble tracks at both ends of the road, to facilitate the arrival and departure of the cars.

5. A large platform to avoid manual labor in loading the cars at the city end of the track.

6. Ten new cars for passengers.

7. The Venetian blinds of the Washington Hotel.

8. Filled up a large extent of the company's property, thereby trebling its value.

9. A bath house for the people of color.

And the company have bought or imported the following machinery:

1. The locomotive engine Creole, and a large number of freight cars.

2. A lathe, and the necessary tools for the engines and forge.

3. A drudging machine.

The drudging machine has the double advantage of preserving a proper depth of water in the harbor, and of supplying the company with materials to fill up their lots, thereby greatly increasing the value and utility of both; about fourteen thousand superficial feet have already been filled up.

The company is now amply supplied with all the machinery required for the transportation of freight and passengers. A third locomotive engine has been ordered, to prevent the possibility of a stoppage; and the forge is provided with lathes and the necessary tools to keep the machinery in proper order, and to repair any part of the engines which may give way.

A few months will now suffice for the completion of the whole works; the board of directors will then be enabled to direct their undivided attention to the proper application of the immense mechanical power under their control. I am, very respectfully, your obedient servant,

JOHN HEWLETT, President.

UNDULATING RAILWAYS have attracted much attention and discussion in England. The inventor, Mr. Badnall, has met with great opposition from various sources; he has, however, steadily pursued his labors in perfecting his invention, and at the same time kept up a controversy, always in a gentlemanly, yet decided tone, with his opponents, until he has demonstrated, by actual and repeated experiments, its entire practicability. So well, indeed, has he satisfied those who have witnessed his experiments, that Mr. Stephenson, the distinguished engineer of the Liverpool and Manchester Railroad, has joined him as a partner in civil engineering.

In Nos. 48 and 50 of Vol. 2, we gave, from a London paper, some account of experiments made on the Liverpool and Manchester Railway

by Mr. Badnall, to test the correctness of the undulating principle as contended for by him. They were not, however, given at length in the London paper, and therefore we re-publish them from the London Mechanics' Magazine, as given by Mr. Badnall himself, and we shall publish several articles from the Mechanics' Magazine, to explain more fully Mr. Badnall's views and theory, that the subject may receive in this country the consideration which its importance demands.

Further Experiments on the Liverpool and Manchester Railway, to determine the correctness of the Undulating Railway System.

SIR,—Since I had last the pleasure of addressing you, we have been enabled to try some further experiments on the Liverpool and Manchester railway, the decisive result of which will, I doubt not, fully establish, in your mind and in the public opinion, the merits of the undulating principle.

On Wednesday last, the 16th instant, we met as before on the *Sutton inclined plane*. On this occasion it was agreed by the engineers present, viz., Mr. Robert Stephenson, sen., the Messrs. Dixons, Mr. Dagleish, and myself, that the truth and validity of the principle, as well as the comparative advantage to be derived from its adoption, would be effectually determined by the following test:

As great a velocity as possible being attained by the engine and load, before reaching a *given point* near the foot of the inclined plane, the time was to be accurately ascertained which the train occupied in ascending from that point to a state of rest.

The power being thus reversed, the time was to be accurately measured which the train occupied in descending from a state of rest to the point from which it had previously ascended.

Hence it would be obvious, that if the descent were made in less time than the ascent, the velocity generated at the foot of the plane would be proportionably greater than the velocity of the ascending train at the same point, and, consequently, the demonstration would be clear that the engine and train would not only have ascended to an opposite elevation equal to that from whence it fell, but to a *greater one*, the extent of which would be in proportion to the velocity attained.

Experiment 1.—The "Liver" engine, and a load of thirteen waggons (weighing in all 72½ tons,) after traversing a distance of three-fourths of a mile to acquire a sufficient velocity, ascended the inclined plane 278 yards, the time occupied in performing the ascent to a state of rest being 90 seconds, viz. velocity at foot of plane being about 12.60 miles per hour, and the average velocity about 6.30 miles per hour.

Experiment 2.—The power being reversed the engine and train descended 278 yards, viz. from a state of rest to the point from which they had previously risen, in 50 seconds. The velocity at the foot of the plane being about 22.70 miles per hour—average velocity about 11.35 miles.

Experiment 3.—The engine and train having traversed ¾ mile to generate velocity, ascended to a state of rest, viz. about 278 yards in 75 seconds. Velocity at the foot of the plane being about 14.12 miles per hour—average velocity about 7.6 miles.

Experiment 4.—The power being reversed, the descent of 278 yards was accomplished in 40 seconds. Velocity at the foot of the plane being about 23.32 miles per hour—average velocity 14.16 miles.

Experiment 5.—The ascent of 278 yards was made in 80 seconds. Velocity at the foot of the plane being about 14.22 miles per hour—average velocity 7.11 miles per hour.

Experiment 6.—The descent of 278 yards was accomplished in 49 seconds. Velocity at the foot of the plane being about 23.22 miles per hour—average velocity about 11.61 miles per hour.

AVERAGE.		
Total spaces passed over to generate maximum velocity before ascending.	Times occupied in ascending	
Experiment 1.....1,320 yards.....	90 seconds.	
Experiment 3.....1,320 yards.....	75 seconds.	
Experiment 5.....1,320 yards.....	80 seconds.	
Total, 13,960 yards.....	245 seconds.	
Average, 1,320 yards.....	811 seconds.	
Total spaces passed over in generating maximum velocity in descending.	Times occupied in descending	
Experiment 2.....278 yards.....	50 seconds.	
Experiment 4.....278 yards.....	40 seconds.	
Experiment 6.....278 yards.....	49 seconds.	
834 yards.....	139 seconds.	
278 yards.....	461 seconds.	

From the preceding statement it appears, that the utmost average maximum velocity which the Liver engine could attain on this occasion, at the foot of the plane, after traversing a distance of 1,320 yards, was about 13.926 miles an hour; by which means, the power being continued, she was enabled to ascend an inclination of 278 yards.

On the other hand, it appears that the same engine, with the same load, (the steam being kept up in every instance to a pressure of about 50 lbs. to the inch,) generated a velocity, after descending 278 yards, of about 24.488* miles per hour, evidently proving that the engine and train would not only have mounted another summit of equal elevation to that from whence it fell, but would, at the highest point, have been travelling at a velocity of more than ten miles an hour, with the full means of increasing that velocity to any desired extent over the succeeding undulations.

Although the preceding experiments had, to the satisfaction of all present, decided the superiority of the undulating principle, I was anxious to know the result of a trial with a double load. I therefore proposed (it being too late an hour on this occasion) to attain, on a future day, a velocity of twenty miles an hour, with a double train of goods and two engines. I had, on several occasions, published my opinion of what that result would be, and I have now the satisfaction of adding the particulars of this important experiment, which, I need not say, more than confirms all my anticipations.

On Sunday morning last two locomotive engines, viz. the "Firefly" and the "Pluto," left Manchester with a train of loaded waggons, weighing 150 tons, exclusive of engines and tenders, the whole length of the train being about 155 yards.

On arriving at the Sutton inclined plane, it was determined to adopt the same method as on the last trials, of proving the merits of the principle. Our reason for appointing Sunday for this meeting will be obvious, when it is considered how dangerous and inconvenient it would be to try experiments with such a load on any other day, when the trains are almost constantly passing and repassing.

It may be known to some of your readers, that the French government have lately appointed a certain number of their most eminent engineers to visit this country, with a view of acquiring all requisite information, preparatory to the construction of several intended French lines of railway.

These gentlemen, nine in number, were present on this occasion; their names were as follows: Mons. Navier; Mons. Goubeau, Juge-mont des Ponts et Chaussées; M. Arnollet; Ingenieur en chef du Ponts et Chaussées, a Dijon; M. Engene Nuneann, Ingenieur des Ponts et Chaussées, No. 1 Rue Castiglione, Paris; Mons. Dausse; Mons. L. L. Vallee, Ingenieur en chef des Ponts et Chaussées; Mons. J. Moistard, In-

genieur de la Marine; Mons. Paris, Lieutenant de Vaisseau; Mons. K. Mamgan.

The English engineers present were Mr. R. Stephenson, sen., of Manchester, (with whom I have recently entered into partnership as civil engineers,) Mr. Dagleish, sen., Mr. Dixon, sen., Mr. Dagleish, jun., and myself. In addition to whom were many other individuals deeply interested in railways, and of general scientific acquirements, among whom were Mr. Case, of Summer-hill, near Liverpool, Mr. Garnett, of Manchester (editor of the *Guardian*), and others.

The following statement cannot fail to form an interesting part of your publication:

Experiment 1.—Two locomotive engines, the Firefly and the Pluto, being attached to the train above mentioned, and having traversed a distance of one mile, to generate a sufficient velocity, arrived at the point from whence the ascent was to be measured, at a velocity of about 20.28 miles per hour. The Pluto then left the train, and the Firefly alone ascended with the load (working the whole way) to a distance of 575 yards, 116 seconds—average velocity being about 10.14 miles an hour.

Experiment 2.—The power of the Firefly being reversed, the engine and load descended 575 yards in 74 seconds. The velocity at the foot of the plane being about 31.70 miles per hour—average velocity about 15.85 miles per hour.

Experiment 3.—The Firefly and Pluto having traversed the same distance as before, generated, at the foot of the plane, a velocity of about 14.34 miles per hour. The Pluto then left the train, and the Firefly and load ascended (power working) 315 yards in 90 seconds—average velocity about 7.17 miles per hour.

Experiment 4.—The power of the Firefly being reversed, the whole train descended 315 yards in 65 seconds. Maximum velocity 19.82—average velocity 9.91.

Experiment 5.—The same engines and load, working about 1½ miles to generate velocity, attained at the foot of the plane a velocity of about 18.32 miles an hour. The Pluto left as before, and the Firefly and load rose 457½ yards in 102½ seconds—average velocity about 9.16 miles per hour.

Experiment 6.—The Firefly and train descended 457½ yards in 80 seconds. Maximum velocity 23.22 miles per hour—average velocity 11.61. N.B. In this instance some delay occurred in reversing the power, which will account for the comparative difference in time.

Throughout the whole of these experiments it will be seen the results were so much in favor of the undulating system, that it was evident a far greater load than 150 tons could be moved by the Firefly, at an average velocity of 15 miles per hour from one summit of a curve to another. The dip of inclination being about 1 in 99, and the total length of the undulation varying from 630 to 1,150 yards.

This led me to propose a further experiment, and I think I may safely add, that one more important in result was never before tried in any country.

Experiment 7.—The two engines, as before, attained at the foot of ascent a velocity of about 19.04 miles per hour. The Pluto then left the train, and, at the same moment, the Firefly shut off her steam. The whole train then rose by momentum alone (the weight of the train, including engine and tender, being near 164 tons,) to the distance of 323 yards in 70 seconds—average velocity about 9.52 miles per hour.

Experiment 8 and last.—The Firefly and train descended 323 yards (power working) in 66 seconds! Velocity at foot of the plane being about 20.04 miles per hour—average velocity about 10.02 miles per hour.

Thus the preceding experiments most unquestionably prove two most important facts—not only that a given locomotive power can convey from one summit of a curve or undulation, to another summit of equal altitude, double the load which that same power can convey at

the same velocity on the level; but that a given locomotive engine can convey, from one summit of a curve or undulation to another summit of equal altitude, double the load which it is capable of moving on a level at a like velocity (see last experiment), by the employment of the steam force throughout only half the distance!

These results lead me to go one step farther. It is my opinion, that if such a weight were to be added to the 150 tons moved on this occasion, as would be a maximum load for three locomotive engines on a level at 15 miles an hour, the Firefly alone (her power being equal to either of the other engines) would move the whole train from one summit of a curve to another of like altitude, at an equal average velocity, viz. 15 miles per hour.

If any of your readers, whether witnesses or otherwise of these interesting experiments, can correct any error of opinion or of statement in allusion to them, I shall be exceedingly happy to recognize and acknowledge it. In the mean time I think, Sir, I may congratulate myself upon having stamped, by this letter, a value that will be long appreciated on the correspondence (*pro and con*.) which your Magazine contains on this subject; and I am as happy in feeling that every individual who witnessed the recent experiments was fully satisfied with the importance of the results, as in believing that, in defiance of prejudice and long-formed erroneous opinions on this subject, the public will before long acknowledge, appreciate, and be benefitted by the "UNDULATING PRINCIPLE."

I am, sir, with great respect, your very obedient servant,

RICHARD BADNALL.

P. S.—I have not yet seen your last Number. "S. Y.'s" remarks in the previous one shall be noticed. In the mean time, he does me injustice in supposing I have ever indulged one contemptuous feeling toward him. I could not indulge it to a worm—much more to an individual whose good motives, in a scientific discussion, I have never questioned, and in answer to whose remarks I have bestowed time, attention, and labor.

The following communication, from Mr. J. L. Sullivan, refers to a subject of great importance to this country, and especially to this city. We have heard much of Mr. Blanchard's steamboat for ascending rapids in rivers, without ever having seen a description of it. The following communication will, we hope, attract the attention of those who are experienced in such matters, and have leisure to furnish us with their views for publication.

Blanchard's Allegany River Steamboat. [Communicated for the American Railroad Journal.]

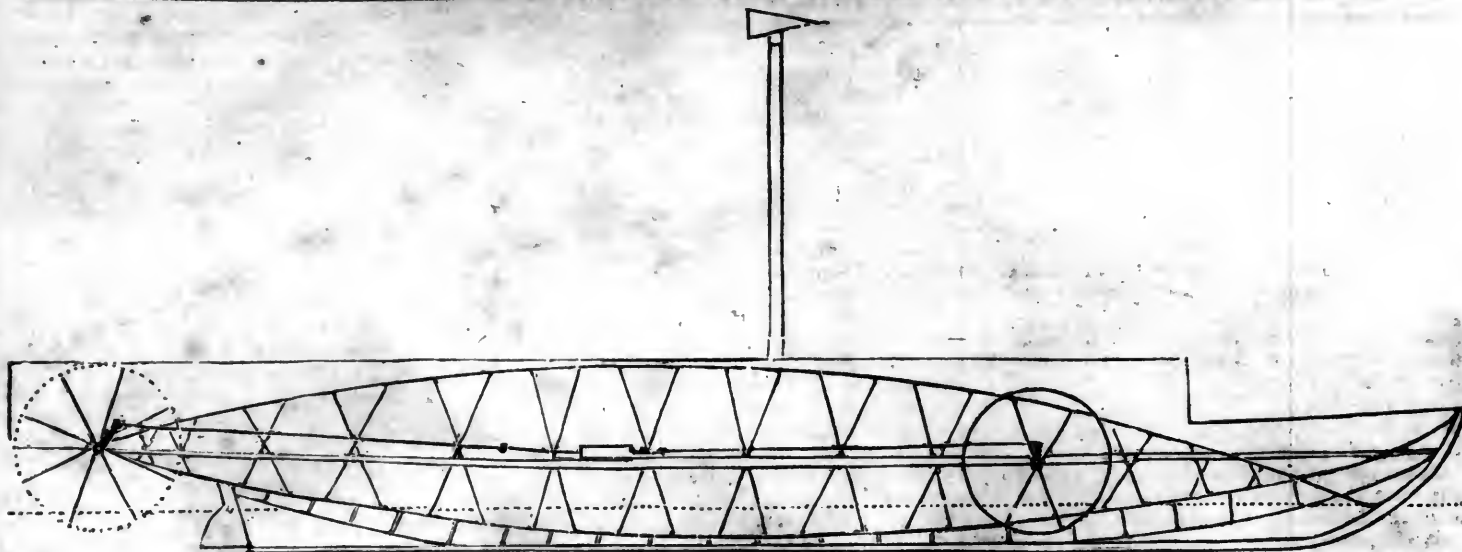
To the Editor:

Sir,—If, in announcing the twin boat on Burden's plan, it could have been stated that it had run up rapids so heavy in descent that a canal had been actually made around them where the fall is in fact eight feet a mile, it would have been admitted that "a New Era" in steam navigation had indeed commenced; and this is but a correct description of the performance of Blanchard's boat on the Connecticut, between Hartford and Springfield, passing up Enfield falls, daily, the summer past.

This sort of steamboat is the same that has made a passage up to Olean Point from Pittsburg. Others have since been built for constant business elsewhere: the Allegany route not yet being reached from New-York by the westward bound freight.

But I am led at this time to bring it into recollection and notice, as an interested party, from seeing, in one of your last numbers, mention of an improvement by Mr. Langdon, of Troy, in which some reliance appears to be placed on the principle of strength combined in Blanchard's patent; and more especially also, from seeing the purpose of Pennsylvania, avow-

The velocity in these instances is calculated from the average number of seconds occupied in ascending and descending; thus, 278 yards being = about 6½ of a mile, we have the descending line 461 × 6½ = 2994 and 3,600 seconds ÷ 2994 × 2 = 24.488 maximum velocity.



ed by one of her Senators in Congress, to cut off all our western trade. There can be no question that such is the intention of Philadelphia, and there is much reason to fear that they are much nearer to effecting it than we are in New-York aware of.

The navigation of the Allegany with light and powerful steamboats, together with an immediate connection of this river by a railroad with the Erie canal at Buffalo, could prevent it; and more effectually when the great railroad in contemplation from this city to the lake, touching the head of that river at Hamilton, shall be made; and then the branch to Buffalo, (50 miles,) would serve both to connect the canal with the river, and to connect that city with New-York by a good winter route.

I am not, however, the only interested party; all who wish New-York to retain a good share of the western trade must feel interested in the subject.

Having been on the Allegany while a member of the United States Board of Engineers for Internal Improvement, and having been early in life practically engaged in improving river navigation, I then considered this route as of very great consequence to the commerce of New-York, and very easily made navigable for steamboats of a light draft of water; and when Blanchard's experiment thereon was announced, a few years later, sought and contracted for his services and the right of his invention exclusively for the companies I might form for its use; for others as well as for the Hudson and for the Delaware and Raritan canal trade, as permitting of an extensive communication with the southern waters—for if a short canal were made in North Carolina from Cape Fear river to the Waccamaw in South Carolina, and from Winyaw Bay to the Santee, and a marsh cut made around Bull's Bay, there would be steam navigation inland from New-York to Georgia.

The peculiarity of Blanchard's boat, which assures to it great speed, is the combination of means to construct a very light hull, having extraordinary vertical strength, so as to be able to carry a stern wheel, and *much more than usual power in proportion to size*. It may be said to combine ship carpentry and house carpentry with the principle of the arched bridge. This mode of construction, it will be seen by the prefixed sketch, distributes the stress over the whole fabric. A great vertical force may bear on the arc frames; and if much longitudinal impulse is received, it is at their extremities. Even the cylinders of the engine are borne by these arc frames; and the action and reaction of the power is all included within them. The shell of the hull buoys up or carries the machinery, without being relied on to bear any strain.

Suppose two arcs of a circle of which the

cord is rather longer than the length of the boat. Suppose them vertical and opposed, united at the extremities, and the curve preserved by braces in the form of an X; and that close to each brace a screw bolt ties the two arcs together, pressing on the ends of the braces, somewhat let in. Such a frame placed vertically would be immensely strong to resist perpendicular pressure. Two such frames, thus placed parallel to each other, resting on the floor timbers, and connected with the beams and ribs, makes a very stiff yet very light vessel; and the timber employed being acted on lengthwise, may be very small, yet abundantly strong in that position.

The frames or arcs project astern far enough to bear the wheel, the weight of which is sustained, consequently, by the whole of the hull, even to the head; and thus the wheel may be placed so as to act in the dead water of the wake, producing there much more effect than close up. The cylinders are horizontal, and connected with the arcs, which bear their weight and action. The boilers also are placed so as to be borne by the arcs; and if the boat is for canal use, they are in-board in rooms separated by a very strong *glancing shield*, to guard against explosions, though otherwise effectually guarded against. If for rivers, they are placed on the guards, and outside of the shields. On rivers there may also be side wheels; and for rapids, where the current is too swift, Blanchard's invention to push or set the boat forward is applied. This is powerful enough even to lift while it pushes ahead, and is a combination very useful on the Ohio in a low state of the water.

This branch of navigation is becoming too extensive and valuable in our country not to have made safety a very important point. Besides the shield to glance off an explosion, the use of a float, with mechanism to ring a bell in the boiler itself, when the water gets too low, is another precaution: another, to cause similar machinery to open valves to give notice by steam: another, a self-regulator of the supply: another, to prevent sediment and concretions on the bottom, (of which I shall give you a description in a future article.) We have, besides, several improvements in the boiler to use anthracite, reducing the quantity so as to make it about one-third the expense of pine wood; so also as to apply the fire without internal flues.

The Allegany boats can use the coal of the upper branches of this river, as well as that obtained at Pittsburg. A branch railroad to Buffalo would carry coal to the lake boats. A twin boat would not be so safe for the Allegany as a single one. The liability of a twin boat to strike aground, or against another vessel or obstacle, suddenly with one of the hulls, causes the momentum of the other (a force equal to

the weight thereof multiplied into its velocity) to rend itself separate. And two hulls that are so heavy as to sink, if filled, doubles the danger, because the sinking of one upsets the whole. Whatever depresses one more than the other, disturbs the steering; but a single hull may heel without diminishing the power of the helm.

It seems reasonable to think that a single hull, with very ample power, will be the swiftest vessel, because she may receive the form and proportions nearly which Nature gives to quick swimming fish. Naval architecture has taken this hint, and follows it out as far as is consistent with the stability of sailing vessels. One that is shaped the same at both ends, cannot sail as well as when gradually diminishing aft from the forward third. Since the resistance to the velocity is well known to increase in much higher ratio than the speed, the lighter the draft the greater promise of rapidity, as flat vessels sail fastest before the wind.

On a large scale, Blanchard's boat may have uncommon breadth and adaptation to the Ohio; and on the Hudson she may have both stern and side wheels. The more breadth of paddle applied, the less depth will be required, and the more advantageous the application. The cylinders may be upright for the side wheels, and horizontal for the stern wheel; all sustained by the arcs: and by thus distributing or dividing the power, more may be employed. The weight of an engine increases in a greater ratio than the power, therefore three engines would comprehend a greater proportion of power to weight, than one or two.

The resistance sustained by a body moving in a fluid, is proportioned to the square of its velocity, and the area of its section immersed. Whatever the shape of the vessel, her displacement of water must be a quantity equal to her weight. In point of draft, or section immersed, nothing is gained by a twin boat; but in point of resistance, something is lost. In his work on the Steam Engine, Mr. Renwick observes that "an obvious advantage will be gained by increasing the size of the vessels; for the resistances vary as the square of similar dimensions, while the tonnage increases with their cubes."

It is evident that a boat upon Blanchard's plan, as broad and long as Burden's, and 32 feet wide, would draw but half as much water, and present no more cross section; and while the resistance would be the same, minus the friction of two sides, she would have the advantages of not parting the water at so much depth, and of avoiding by her shape the retarding force following or occurring at the stern. Burden's are 8 feet diameter.

For these reasons mainly, which are in their nature, indisputable, I am led to think that Blanchard's kind of boat with stern and

side wheels must be very favorable to the effect of the power, since with that of the stern wheel only, they perform so well.

In reference to the commerce of the west, this steam-boat evidently possesses the properties demanded by the rapidity of some parts of the Alleghany, and the shallowness of some parts of the Ohio in the summer season. It is of great consequence, indeed, that as the New-Orleans market is not much sought from the north at mid-summer, the western trade on the Ohio, the Cumberland and the Tennessee, and even the Missouri, may advantageously rely on a direct and cheap way to a northern port.

This route is the more important, since the avowed intention of Pennsylvania, because the hope cherished by some that a canal might be made or allowed by that state along the shore of the Alleghany, cannot be expected, *contrary to the interest of Philadelphia.*

But it may be said here, as it has been said there, in the Quarterly Review, that the railroad from New-York to Alleghany river, "will become a permanent portion of national wealth, and not only add to the comfort and riches of the present generation, but exert an influence upon the remotest posterity. Of all the sources of national wealth, internal commerce is not only the most secure, but the most productive. Nations that are merely agricultural are proverbially poor. It is far otherwise when the enterprise of the industrious is directed to every object."

"All the means which facilitate both personal communication, and a cheap and rapid interchange of commodities, are of the utmost value and importance. They have been so regarded by all enlightened nations; and in truth, the attention that has been paid to them is one of the surest criterions by which to judge of the advance a people has made in civilization. Progress in the Fine Arts is a far less certain indication of refinement than roads and inland navigation."

Such are the opinions entertained in Philadelphia, where practice evinces their acceptance throughout the state.

Permit me now briefly to consider the practical effect of this navigation of the Alleghany combined with the use of the railroad from hence thither, in its way to lake Erie, compared with the useful effect of the railroad without these steamboats.

The lake being closed in the spring, nearly as late at Dunkirk, where the road will terminate, as at Buffalo, about two months more of lake navigation will belong to the communication through Pennsylvania; but as the Alleghany and the Ohio are open earlier than the Pennsylvania canal can be, unless a very mild winter, much freight that would have gone by the way of Philadelphia to the central west, or to the centre of Ohio by the lake, will descend the Alleghany and pass from Cincinnati north, in less time, and probably at less expense. The consequence will be that New-York retains her full share of the western commerce rather more advantageously than Pennsylvania can by her canal, though in a milder region.

Let us consider the distances and time, which I do with the more confidence from knowing the ground by observation.

It is most probable that this route will avail of the Harlem railroad as far as opposite Rockland, gaining the shore of Hudson by following that of Harlem river, and crossing, pass thence to Ramapo valley, (unless the Company should avail of the Paterson railroad to reach the same point, the ground being favorable; this, however, is leaving the state.)

To Ramapo may be called - - 35 miles.
Thence to Florida, in Orange, - 24 "
Thence by Deer Park Gap, in Shawangunk mountains, and across Sullivan county, to the Delaware, - 60 "
Up the Delaware - - - - 20 "
Across to the Susquehanna - - 16 "

Westward down along the Susquehanna, and up along the Che-mung, - - - - - 110 "
Canestoe to Angelica - - - - 20 "
To Olean - - - - - 30 "
- - - - - 315 "
Thence by the Alleghany to Pittsburg, - - - - - 280, "
descending 2½ feet in a mile, in all 630 feet.
The time, at 8 miles an hour on the railroad, will be - - - - - 40 hours.
Down the river - - - - - 20 "
To Cincinnati, 439 miles, at 12 miles an hour - - - - - 37 "
- - - - - 97 "

In the spring of the year, when the water is high, the passage down must be even quicker, and the merchants are then solicitous to reach home early with their purchases.

In the autumn, after the 1st October, the Alleghany will be deemed safer than the lake, and the river will be open later than the canal. There will be two months earlier access to the New-York market for produce from the west this way than by the lake.

It will be important that the boats be powerful. The speed of steam freighting, even on the Hudson, makes up for the cheapness and slowness of sloop navigation, which averages four days, while the tow-boats run the passage regularly in 24 hours. The navigation of the Alleghany will be at least half as important to the state as the Hudson itself.

But no time is to be lost in defensive measures against the vigorous enterprise of Philadelphia. She will, if we delay, have accomplished her works, completed her system of interception, and bound the West to her capital in fetters of credit. The wishes even of the western people of that state will be frustrated. The expedient that will take least time, is to connect Erie canal at Buffalo with the bend of the Alleghany in Cattaraugus, as our leading statesmen think. The distance is 50 miles, and one track might be soon made. But to wait for a canal to be made from Rochester to Olean, however useful the work, involves too much delay as a defensive measure.

This railroad might be considered a branch of the main line in reference to the winter travel, or practically so. To use again the language of the Quarterly Review, "A populous state, willing to pledge its resources for the redemption of loans, can alone command that confidence which will justify investment of the property of individuals, or what is of even more importance, will draw to our country the wealth of foreign capitalists."

This remark is applicable and encouraging to the southern states. Public investment may be compensated in the effects. Erie canal doubled the price of produce in the western counties. When such works are accomplished by public credit, the loans may be paid off by selling stock to private capitalists, who can then buy in, because immediate returns warrant it.

The difference between our country and others, is, that their resources are swallowed up in the necessity of maintaining large standing armies. Our country only wants cheap transportation to be prosperous. It has been well remarked, that "When a state enters into a system of internal improvement, if the completion of the public works shall add to the value of individual property as much as they cost, the state is no loser (if they receive no revenue;) but if besides, they pay the interest of the cost, the whole expenditure becomes clear profit."

Humble as may be the instrument described in this article, it can hardly be doubted from experience thus far, that it really commences a "new era" in the art, when steamboats will conquer the difficulties of rapid rivers, and combining the means of safety, traverse the

great arc of the Union, from the head of the Alleghany to the head of the Tennessee. For this reason an Albany company might commence this operation, if the railroad company should not do it in anticipation of the accomplishment of their work. J. L. SULLIVAN.

P. S. There has lately been an improvement in steam boilers, made by Mr. L. Disbrow, and owned by him and Joseph Goddard, Esq., and tested in the steamboat of the Delaware and Hudson Canal Company, by which there is a saving made, compared with wood, of 45 to 50 per cent. in the expense of fuel.

It consists of a number of conical furnaces, the base of which is the grate, the apices connected by a small flue. These all immersed in the water and half full of coal, make a steady and strong fire. They are fed near the top of the cones, by horizontal openings.

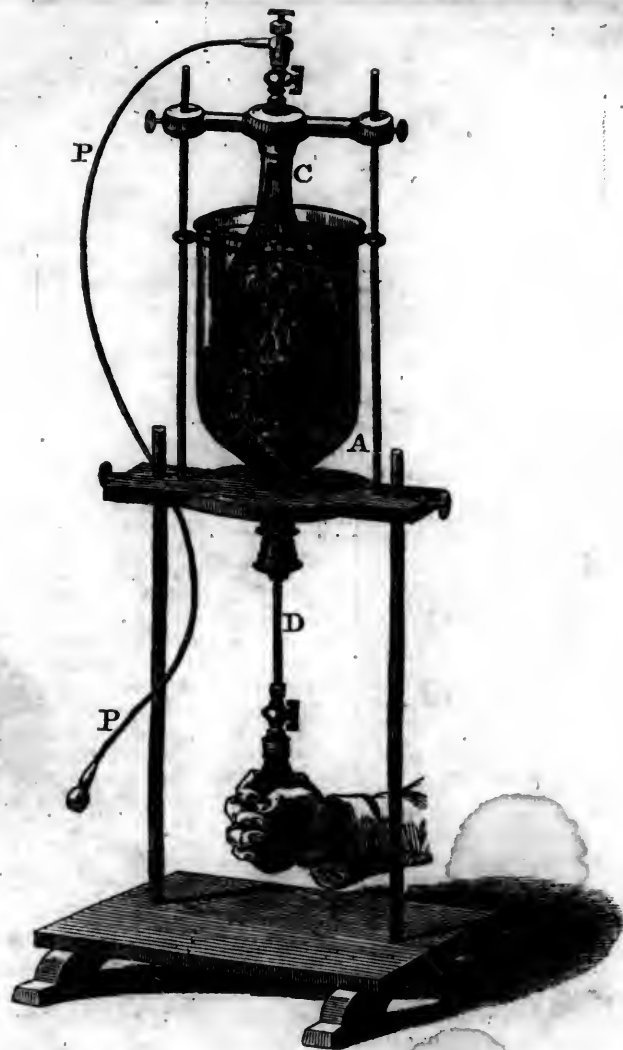
On the Preservation of Timber, &c. By A. B. [For the American Railroad Journal.]

SIR,—I will contribute a little of my experience, which satisfies me that the plan of the Black Rock railroad will answer well. In 1823 I laid a hemlock plank on the surface of ground, corresponding with a grade prepared for a railroad. Without grass or vegetation, dirt had accumulated so as to be about even with the upper surface, except at one end, which had become covered with gravel. Last season, after the plank had lain ten years, I had occasion to take it up. I expected to find the under side rotten, but found the whole plank as sound and hard as if it had been under cover. The use of it was to walk upon from the kitchen door. A. B.

RAILWAY BETWEEN AMSTERDAM AND COLOGNE.—The Prussian journals say that an iron railroad will be made between Amsterdam and Cologne, that the work will be confided to Lieut. Col. Bake, of the Dutch engineers, and that a Dutch civil engineer, named Braede, is already engaged in the preparatory surveys. The plan has already received the sanction of the kings of Prussia and the Netherlands.

PERCUSSION LOCKS FOR THE ARMY.—A committee, consisting of three officers of artillery, is now actively engaged at Woolwich in a course of practical experiments, of which the object is to ascertain the propriety, or otherwise, of introducing percussion locks for the army, in lieu of the present flint and steel. No report is, we hear, to be made to government till the firing of 24,000 rounds of cartridges shall have afforded grounds for a decided opinion.

WATER IN FLOUR.—Most important researches have recently been carried on in Paris by M. Payen and Persoz, on the several points in the chemical history of bread, flour, and grain. Their observations are not yet published in detail; but we select the following as being one of the very highest commercial detective importance. They have found that 100 parts of flour, sold as dry, and imparting no moist stain to blotting paper, contain, under atmospheric circumstances, 19 per cent. of water, and but 89 of dry nutritive matter; that flour exposed to moist air contains as much as 23 per cent. of water; that the finest flour employed by the bakers contains 16 per cent. under ordinary circumstances. In summer these proportions are reduced, but they are remarkably increased in moist weather. Thus, the quantity of flour which, by weight, at the rate of 5 per cent. of water, would produce 150 lbs. of bread, will produce but 127½ lbs., when the same weight of flour is purchased in long continued wet weather. The prices of flour should, consequently, in all seasons, be based on the quantity of dry matter it contains, and which a simple and rapidly performed experiment would exactly indicate. Thus, by placing 100 grains of flour on a plate, and heating them on a vessel of boiling water for one hour, the loss sustained will denote the precise quantity of water mixed with the flour.—[Universal Corn Reporter.]



Apparatus contrived by Dr. Hare for separating Carbonic Oxide from Carbonic Acid, by means of Lime Water. [From the Mechanics' Magazine.]

Lime water being introduced in sufficient quantity into the inverted bell glass, another smaller bell glass, C, is supported within it, as represented in this figure. Both of the bells have perforated necks. The inverted bell is furnished with a brass cap, having a stuffing-box attached to it, through which the tube D, of copper, slides air-tight. About the lower end of this tube, the neck of the gum elastic bag is tied. The neck of the other bell is furnished with a cap and cock, surmounted by a gallows screw, by means of which a lead pipe, P P, with brass knob at the end suitably perforated, may be fastened to it, or removed at any moment. Suppose this pipe, by aid of another brass knob at the other extremity, to be attached to the perforated neck of a very tall bell glass filled with water upon a shelf of the pneumatic cistern, on opening a communication between the bells, the water will subside in the tall bell glass, over the cistern, and the air of the bell glass, C, being drawn into it, the lime water will rise into and occupy the whole of the space within the latter. As soon as this is effected, the cocks must be closed, and the tall bell glass replaced by a small one filled with water, and furnished with a gallows screw and cock. This bell being attached to the knob of the lead pipe, to which the tall bell had been fastened before, the apparatus is ready for use. I have employed it in the new process

for obtaining carbonic oxide from oxalic acid, by distillation with sulphuric acid in a glass retort. The gaseous product consists of equal volumes of carbonic oxide and carbonic acid, which being received in a bell glass, communicating as above described by a pipe with the bell glass C, may be transferred into the latter, through the pipe, by opening the cocks. As the gaseous mixture enters the bell C, the lime water subsides. As soon as a sufficient quantity of the gas has entered, the gaseous mixture may, by means of the gum elastic bag and the hand, be subjected to repeated jets of lime water, and thus depurated of all the carbonic acid. By raising the water in the outer bell, A, the purified carbonic oxide may be propelled, through the cock and lead pipe, into any vessel to which it may be desirable to have it transferred.

GALWAY.—The population is, we believe, above 40,000; of these a lamentable number is in a state of pauperism. The annals of Galway are carefully preserved from the year 1280, and afford most interesting details. It was once a great depot for Spanish wines.

The Galway females of the peasant class are fond of red petticoats and flannel or frieze jackets. The Wexford ones of blue striped linsey. But there is another much more distinguishing and important mark between them. In Galway, the Irish language is in very general use; so much so that, in many districts, English is hardly understood. In Wexford, Irish is totally unknown.—[Quarterly Journal.]

Animal Mechanics, or Proofs of Design in the Animal Frame. Continued from page 72. [From the Library of Useful Knowledge.]

Fig. 5.



By all this, we see, that if the skull is to be considered as an arch, and the parietal bones as forming that arch, they must be secured at the temporal and sphenoid* bones, the points from which they spring. And, in point of fact, where is it that the skull yields when a man falls, so as to strike the top of his head upon the ground?—in the temples. And yet the joinings are so secure, that the extremity of the bone does not start from its connections. It must be fractured before it is spurred out, and in that case only does the upper part of the arch yield.

But the best illustration of the form of the head is the dome.

A dome is a vault rising from a circular or elliptical base; and the human skull is, in fact, an elliptical surmounted dome, which latter term means that the dome is higher than the radius of its base. Taking this matter historically, we should presume that the dome was the most difficult piece of architecture, since the first dome erected appears to have been at Rome, in the reign of Augustus—the Pantheon—which is still entire. The dome of St. Sophia, in Constantinople, built in the time of the emperor Justinian, fell three times during its erection: and the dome of the cathedral of Florence stood unfinished 120 years for want of an architect. Yet we may, in one sense, say that every builder who tried it, as well as every laborer employed, had the most perfect model in his own head. It is obvious enough, that the weight of the upper part of the dome must disengage the stones from each other which form the lower circle, and tend to break up their joinings, and consequently to press or thrust outwards the circular wall on which it rests. No walls can support the weight, or rather, the lateral thrust, unless each stone of the dome be soldered to another, or the whole hooped together and girded. The dome of St. Paul's has a very strong double iron chain, linked together, at the bottom of the cone; and several other lesser chains between that and the cupola, which may be seen in the section of St. Paul's engraved by Hooker.

* In the Greek, *sphenoid*—in the Latin, *cuneiform*—like a wedge, because it is wedged among the other bones of the head; but these processes, called wedges, are more like dovetails, which enter into the irregularities of the bones, and hold them locked.

The bones of the head are securely bound together, so that the anatomist finds, when every thing is gone, save the bone itself, and there is neither muscle, ligament, nor membrane of any kind to connect the bones, they are still securely joined, and it requires his art to burst them asunder; and for this purpose he must employ a force which shall produce a uniform pressure from the centre outwards; and all the sutures must receive the pressure at one time, and equally, or they will not give way. And now is the time to observe another circumstance, which calls for our admiration. So little of accident is there in the joining of the bones, that the edge of a bone at the suture lies over the adjoining bones at one part, and under it at another, which, with the dovetailing of the suture, as before described, holds each bone in its place firmly attached; and it is this which gives security to the dome of the cranium.

If we look at the skull in front, we may consider the orbits of the eye as crypts under the greater building. And these under arches are groined, that is to say, there are strong arched spines of bone, which give strength sufficient to permit the interstices of the groinings, if I may so term them, to be very thin. Betwixt the eye and the brain, the bone is as thin as parchment; but if the anterior part of the skull had to rest on this, the foundation would be insufficient. This is the purpose of the strong ridge of bone which runs up like a buttress from the temple to the lateral part of the frontal bone, whilst the arch forming the upper part of the orbit is very strong; and these ridges of bone, when the skull is formed with what we call a due regard to security, give an extension to the forehead.*

In concluding this survey of the architecture of the head, let us suppose it so expanded that we could look upon it from within. In looking up to the vault we should at once perceive the application of the *groin* in masonry; for the groin is that projection in the vault which results from the intersection of two arches running in different directions. One rib or groin extends from the centre of the frontal bone to the most projecting part of the occipital foramen, or opening on the back of the head; the other rib crosses it from side to side of the occipital bone. The point of intersection of these two groins is the thickest and strongest part of the skull, and it is the most exposed, since it is the part of the head which would strike upon the ground when a man falls backwards.

What is termed the base of the skull is strengthened, if we may so express it, on the same principle: it is like a cylinder groin, where the rib of an arch does not terminate upon a buttress or pilaster, but is continued round in the completion of the circle. The base of the skull is irregular, and in many places thin and weak, but these arched spines or ribs give it strength to bear those shocks to which it is of course liable at the joining of the skull with the spine.

CHAPTER II.

MECHANISM OF THE SPINE.—The brain case is thus a perfect whole, secure on all sides, and strengthened where the exposure to injury is the greatest. We shall see, in the column which sustains it, equal provi-

sion for the security of the brain; and what is most admirable, there is an entirely different principle introduced here; for whereas, in the head, the whole aim is firmness in the joinings of the bones, in the spine which supports the head the object to be attained is mobility or pliancy. In the head, each bone is firmly secured to another; in the spine, the bones are not permitted to touch; there is interposed a soft and elastic material, which takes off the jar that would result from the contact of the bones. We shall consider this subject a little more in detail.

The spinal column, as it is called, serves three purposes: it is the great bond of union betwixt all the parts of the skeleton; it forms a tube for the lodgment of the spinal marrow, a part of the nervous system as important to life as the brain itself; and lastly, it is a column to sustain the head.

We now see the importance of the spine, and we shall next explain how the various offices are provided for.

If the protection of the spinal marrow had been the only object of this structure, it is natural to infer that it would have been a strong and unyielding tube of bone; but as it must yield to the inflexions of the body, it cannot be constituted in so strict an analogy with the skull. It must, therefore, bend; but it must have no abrupt or considerable bending at one part, for the spinal marrow within would in this way suffer.

By this consideration we perceive why there are twenty-four bones in the spine, each bending a little; each articulated or making a joint with its fellow; all yielding in a slight degree, and, consequently, permitting in the whole spine that flexibility necessary to the motions of the body. It is next to be observed, that whilst the spine by this provision moves in every direction, it gains a property which it belongs more to our present purpose to understand. The bones of the spine are called *vertebræ*; at each interstice between these bones, there is a peculiar grisly substance, which is squeezed out from betwixt the bones, and, therefore, permits them to approach and play a little in the motions of the body. This grisly substance is inclosed in an elastic binding, or membrane of great strength, which passes from the edge or border of one vertebra to the border of the one next it. When a weight is upon the body, the soft gristle is pressed out, and the membrane yields: the moment the weight is removed, the membranes recoil by their elasticity, the gristle is pressed into its place, and the bones resume their position.

We can readily understand how great the influence of these twenty-four joinings must be in giving elasticity to the whole column; and how much this must tend to the protection of the brain. Were it not for this interposition of elastic material, every motion of the body would produce a jar to the delicate texture of the brain, and we should suffer almost as much in alighting on our feet as in falling on our head. It is, as we have already remarked, necessary to interpose thin plates of lead or slate between the different pieces of a column, to prevent the edges (technically called *arrises*) of the cylinders from coming in contact, as they would in that case chip or split off.

But there is another very curious provision for the protection of the brain: we mean the curved form of the spine. If a steel spring, perfectly straight, be pressed

betwixt the hands from its extremities, it will resist, notwithstanding its elasticity, and when it does give way, it will be with a jerk.

Such would be the effect on the spine if it stood upright, one bone perpendicular to another, for then the weight would bear equally; the spine would yield neither to one side nor to the other, and consequently there would be a resistance from the pressure on all sides being balanced. We, therefore, see the great advantage resulting from the human spine being in the form of an italic *f*. It is prepared to yield in the direction of its curves; the pressure is of necessity more upon one side of the column than on the other; and its elasticity is immediately in operation without a jerk. It yields, recoils, and so forms the most perfect spring; admirably calculated to carry the head without jar or injury of any kind.

The most unhappy illustration of all this is the condition of old age. The tables of the skull are then consolidated, and the spine is rigid: if an old man should fall with his head upon the carpet, the blow, which would be of no consequence to the elastic frame of a child, may to him prove fatal; and the rigidity of the spine makes every step which he takes vibrate to the interior of the head, and jar on the brain.

We have hinted at a comparison betwixt the attachment of the spine to the pelvis and the insertion of the mast of a ship into the hull. The mast goes directly through the decks without touching them, and the heel of the mast goes into the step, which is formed of large solid pieces of oak timber laid across the keelson. The keelson is an inner keel, resting upon the floor-timbers of the ship, and directly over the proper keel. These are contrivances for enlarging the base on which the mast rests as a column: for as, in proportion to the height and width of a column, its base must be enlarged, or it would sink into the earth, so, if the mast were to bear upon a point, it would break through the bottom of the ship.

The mast is supported upright by the shrouds and stays. The shrouds secure it against the lateral or rolling motion, and the stays and backstays against the pitching of the ship. These form what is termed the standing rigging. The mast does not bear upon the deck or on the beams of the ship; indeed, there is a space covered with canvas betwixt the deck and the mast.

We often hear of a new ship going to sea to stretch her rigging; that is, to permit the shrouds and stays to be stretched by the motion of the ship, after which they are again braced tight; for if she were overtaken by a storm before this operation, and when the stays and shrouds were relaxed, the mast would lean against the upper deck, by which it would be sprung or carried away. Indeed, the greater proportion of masts that are lost are lost in this manner. There are no boats which keep the sea in such storms as those which navigate the Gulf of Finland. Their masts are not attached at all to the hull of the ship, but simply rest upon the step.

Although the spine has not a strict resemblance to the mast, the contrivances of the ship-builder, however different from the provisions of nature, show what object is to be attained; and when we are thus made aware of what is necessary to the security of a column on a moveable base, we are prepared to appreciate the superior provisions

* Although they are solid arches connected with the building of the cranium, and bear no relation to the surfaces of the brain, the early craniologists would have persuaded us that their forms correspond with the surfaces of the brain, and indicate particular capacities or talents.

of nature for giving security to the human spine.

AGRICULTURE, &c.

A NEW MODE OF REARING ASPARAGUS.—

The asparagus seed should be sown from the middle of March to the last of April, in a rich spot, (not too much exposed to the mid-day sun,) one inch deep, and the seed one inch apart; after they come up, to be kept clear of grass and weeds during the summer, by hand weeding; to be dug up the next fall or spring—(I prefer the spring, as the roots do not grow during the winter, if set out in the fall, and are liable to be killed by a severe winter,) and set in beds prepared as follows: Dig out the size of the beds nine inches deep—cover the bottom three inches deep with rich marl, (which has been my practice,) though I believe that oyster shells half burned will be as good, as it is intended as a lasting heating manure, to protect the roots in winter, and force the vegetable early in the spring: then put three inches deep of coarse stable manure, then three inches of rich earth. This brings the beds on a level with the surface of the earth. Next lay off the beds in rows eighteen by twelve inches apart, and put a single eye or spire in each spot where the lines intersect, and cover them three inches deep with rich earth. Plank the sides of the beds, as this prevents grass and other roots from running into the beds, and also keeps the outside roots from being exposed, by the sides of the beds washing away. The beds should be kept clean by hand weeding, and all the earth and manure used in making them should be perfectly free from grass roots and noxious weeds. In the fall of the year, after the seeds have matured, cut the tops off close to the beds, (being careful that not a single seed is left to vegetate on the beds,) as they have already as many roots as the space they occupy should contain, and if additional roots are suffered to form from year to year from the falling of the seed every fall, the beds will soon be so much clustered with roots that the vegetable must degenerate, at least in size and length, as the new roots form near, or on the surface. Some prevent this by burning, but I think the best way is to pick them off by hand, before the ball that contains the seed breaks. You then top dress the beds with coarse stable manure, let it lie on all winter, and in the following spring rake off the coarsest part, and fork in the remainder, being careful that the fork does not touch the roots. Pursue this course two falls, and early in the third spring, before the beds are forked up, put on two inches of light well rotted manure—fork it with the stable manure, then put on from three to four inches deep of clean sand from the river shore, and you will cut in the month of April the best vegetable we have in Virginia. I would not give my beds for the balance of my garden. I think there is much in the kind of seed. I obtain my seed from New-York; they were marked "giant asparagus."

The cover of sand is important on several accounts; its being a great absorber of heat and moisture, so soon as the vegetable gets through the soil, it is hastily thrown through the sand to the surface in a bleached tender state, and the cutting from day to day is more uniformly of the same tender delicious vegetable. The sand also prevents grass from growing on the beds, which obviates the necessity of so much hand weeding during the season for cutting, by which the beds frequently become trampled, and the vegetable that is about to come through the surface mashed down, which not only destroys the spires that are so trampled on by the gardener in the process of hand weeding, but (I think) injures the root. The sand should be laid in the alleys between the beds, in the fall, when the beds are about to receive the top dressing of stable litter to keep them warm through the winter; and when the sand is about to be replaced in the

spring, it should be passed through a sieve of such size as will not let the balls (that contain the seed) pass through. This will be another means of preventing the seed from vegetating on the beds. There is a practice very prevalent with gardeners, to plant lettuce, radishes, and other early vegetables on the beds; this should never be done, and particularly with radishes, as they have a long root that extends to the roots of the asparagus, and must seriously interfere with them.

I frequently cut asparagus from three to five and a half, and once I cut a spire six inches in circumference, and from five to eight inches long; it could have been cut longer, but it is never tender near the root.—[Farmer's Reg.]

MANURING IN DRILLS.—A friend of mine, who I hope is now better employed, who was a man of general science and a practical and scientific farmer, exerted himself for thirty years to improve a poor sandy farm—by the method of manuring which I am about to mention; he effected more for it in the five years which preceded his death, than had been accomplished in the other five and twenty. From the shore of a saltwater sound to which the farm was contiguous, he littered his farm with sea ware. In the fall, he laid off with a plough the field which he intended for the next year's crop of corn, in trenches seven feet apart, twelve inches in width and six in depth. The plough traversed the same furrow until the trench was sufficiently wide and deep—its sides were made by the bar of the plough. Those trenches were then filled with sea ware from the farm yard, and stable manure; the latter placed in the bottom of the trench, and making from a tenth to a sixteenth part of the combination: the trenches were then covered with the plough, and upon the ridges thus formed, the crop of corn was drilled the succeeding spring. After the laying by of the corn crop, the field had a year of rest, after which the intervals between the corn rows were treated and used as the rows had been. The advantages of that manner of manuring are manifest. Almost all the fertilizing properties of the manure which escaped whilst becoming decomposed, fed the crop—the bed of the manure was not broken open, nor was it exposed to evaporation, until the soil had become "seized in its demesne as of fee" of all its treasures, save those which had already produced food for man and beast. A few manurings in that way will make a very poor field of any susceptibility rich.—[American Farmer.]

FERMENTED MANURE.—A writer in the Northern Farmer gives the following indirect proof against his own theory, by stating what old experienced farmers believe. Says he,—

"Strange as it may seem, many old farmers yet believe that old rotted manure promotes vegetation better than fresh, or unfermented manure! They appear to be ignorant of the fact, that the longer manure remains exposed to rot, the less nutriment or food for plants it retains; and the more it becomes assimilated to mere earth."

SAVING PEAS AND BEANS FROM MICE.—Chop up the tops of last year's shoots of furze, and sow them in the drill.—[Gardener's and Forester's Record, No. 3.]

CLEANLINESS OF THE DUTCH.—As to cleanliness, every dwelling-house is a model and a pattern; they seem to vie with each other on this point. The cowhouse is pure and clean, not a particle of filth being to be seen in it; the cows are as clean as if they were in a dining room; the milk and cheese houses, and in short every part of the house, are free from dust and dirt of any kind; the manure is placed at a convenient distance from the cowhouse, behind the house, and every particle is carefully collected together. The whole apartments, even the byre and

hay-house, are generally under one roof; and the cleanly system, and the admirable arrangement, give that comfort and pleasure which are too often wanting in this country.

MANAGEMENT OF CALVES IN HOLLAND.—

From the fact that Hollanders are distinguished for their dairy husbandry, their management of calves is deserving of attention. We find the following in the Transactions of the Highland Society of Scotland:

The most approved method of treating the calf is as follows: It is immediately after its birth taken from the cow, put in a separate place, and laid on dry straw. A little salt is given, and the tongue and mouth rubbed with it. It is also rubbed clean with straw. After the lapse of six or eight hours, the first beesting of the mother cow, diluted with one-third water, is given to the calf to drink, and this treatment is continued for some days, the liquid being given thrice a-day. Thereafter, during two or three weeks, they give the calf the milk as it comes from the cow, diluted with one-fourth water, in which now and then a small handful of sand is put; then churn-milk is gradually given, and it is supplied with hay; at the age of ten weeks it is brought out to the meadow, where it is also supplied with skimmed milk, churned milk, or whey. In this way each farmer raises the proper number of weaned calves to fill up vacancies; but calves fattened for sale have milk from the cow three times a day.

For some days after calving the cow is milked thrice a day, and they then return to the usual practice of milking twice a-day.

BLACK TONGUE.—We scarcely open a newspaper from the country, without meeting a paragraph or a communication respecting a disease in horses and cattle called the *Black Tongue* or the *Burnt Tongue*. It is said to prevail chiefly among horses, but is not uncommon among cattle. Some respectable physicians have given their opinion, that if any person who was taking care of animals afflicted with this distemper, should get any of the matter of the diseased tongue into an eye or a flesh wound, it would be a very serious affair, and might prove fatal. We have heard that several persons in the country are now suffering under an inflammation from this cause.—[Boston Courier.]

BURNED TONGUE.—This disease, which we mentioned in our last, and for which we gave recipes, has become very prevalent in this and some other sections of the State. It is undoubtedly an epidemic, as it attacks those which have not been near or exposed to those suffering with it. Hogs, horses, and cows, all have it.

At first, it appears like a blister upon the tongue, or in black patches upon the lips. The animals appear sluggish, drool, and eat hay with difficulty: sometimes, they refuse all nourishment, and seem averse to drinking. Water, whether cold or warm, when drunk, brings on an ague fit, and they tremble and shiver exceedingly. Some of the horses have been attacked in the feet. A swelling and eruption commences at the top of the hoof, accompanied with evident pain and soreness.

We have treated one case of this kind successfully by washing the feet with warm soap suds—then by a weak solution of chloride of lime, and a bandage soaked in pigs' foot oil. A very weak solution of oil of vitriol, used as a wash, has been successful in those cases where it has been tried. Physic of some nature should be freely used.—[Maine Farmer.]

POKE BERRIES.—Dr. R. R. Harden states, in the Southern Planter, that he has found those berries to be a certain cure of epilepsy.

NEW-YORK AMERICAN.

FEBRUARY 22—MARCH 1, 1834.

LITERARY NOTICES.

No. XVI.

Prairie Ronde, (Kalamazoo co. M. T.) Dec. 26.
 "Stranger will you take a cocktail with us," called out a tall athletic looking fellow to me as I was making my way through a groupe of wild looking characters assembled an hour since around the fire by which I am now writing. There was a long haired "hoosher" from Indiana, a couple of smart looking "suckers" from the southern part of Illinois, a keen-eyed leather-belted "badger" from the mines of Ouisconsin, and a sturdy yeomanlike fellow, whose white capote, Indian mockasons and red sash proclaimed, while he boasted a three years residence, the genuine *wolverine*, or naturalized Michiganian. Could one refuse to drink with such a company? The spokesman was evidently a "red-horse" from Kentucky, and nothing was wanting but a "buck-eye" from Ohio, to render the assemblage as complete as it was select. I was in the midst of the first real prairie I had ever seen—on an island of timber, whose lee while making slow headway for the last two hours, with a biting breeze on my beam, it had been my whole object aim and ambition to get—a comfortable bar room, a smoking "cocktail"—a worshipful assemblage (Goldsmith's Club was a fool to it) had never entered my dreams! Could I refuse to drink with such a company? The warm glass is in my frozen fingers. The most devout temperance man could see no harm in that! It is touched smartly by the rim of the Red-horse. It is brushed by the Hoosher. It rings against the Badger—comes in companionable contact with the Wolverine, "my respects to you gentlemen and luck to all of us."

Here was a capital commencement with just the sort of sallad of society, I have been long wishing to meet with, having as yet only tasted its component parts in detail. But auspicious as was the beginning, I nearly got into a difficulty with my new acquaintances a few moments afterward, by handing the landlord a share of the reckoning, and I took back the coin forced upon me, with many apologies upon my part for having presumed to pay part of a "general treat," while laboring under the disqualifications of being a stranger. Room was then, courteously made for me by the fire-place, and accepting a pipe, proffered by one of the company, a few whiffs made me sufficiently sick and at home to lay it by without further ceremony. "There's a smart chance of cigars there in the bar, stranger, if you'd try some of them," said one of the hoshers, "yes," echoed the other "and they are a heap better than those pipes." "I allow" rejoined another of the company "but I wish that fellow would shut the door; he must think we were all raised in a saw-mill, and then he looks so peert whenever he comes!" "Poor fellow," ejaculated one who had not yet spoken, "he is considerably troubled with youngness."

"From the eastern side, stranger," said another to me, "I'm told it's tolerable frog pasture. Now here the soil's so deep one can't raise any long sarce—they all get pulled through the other side. We can winter our cows, however, on wooden clocks, there's so many Yankees among us," &c. &c.

A scattering conversation was kept up in similar quaint expressions for sometime, but as Mr. Hickett has already given the cream of western phraseology in his highly original part of "the Kentuckian," I will not tire you with enumerating more of those which fell under my observation. These unique terms, indeed, were poured out so copiously, that it was impossible for one's memory, though elastic as a pair of saddle bags, to retain them. At last a train and a couple of carioles drove up to the door, and I discovered, upon their bundling merrily into these vehicles, that the whole company were

bound for a wedding. "Jim," cried one driver to another, snapping his whip, "let our horses run near the silk." Jim cracked his snapper, and the light carioles taking the lead, the more humble train skimmed rapidly after them: their dark shadows were soon lost upon the moonlit prairie, and the sound of their bells died away in the distance by the time I had regained my now solitary seat by the fire.

I have had but a sorry time since leaving the agreeable company, I spoke of in my last. To day indeed the weather though cold and windy has been clear. But on the two previous, I rode for the whole time through alternate snow and sleet which the wind at times blew so directly in my face as to make it almost impossible to proceed. In one instance while making my way through a dense forest of 12 or 14 miles between the openings without a cabin by the way, my horse stopped suddenly and looking about ten paces ahead, I saw a couple of deer standing immediately in my path and gazing on me with the most perfect unconcern—but my fingers were so numb with cold that I was unable to cock my gun while the timid creatures slowly retired within the depths of the forest. The Kalamazoo wound through this wood, but the under growth of timber was so very heavy that its waters though within a few yards of me were rarely discernible—and their ample flow when seen, as now swollen by the troubled current of Battle Creek and other tributaries, though capable of bearing boats of considerable burthen, possessed less charms for me than when I first struck the slender rill as it leaped unsullied from its virgin fountain, and went singing on its course. Still it was with regret, when at last ferried over the Kalamazoo, so long my only companion, that, on turning my horse's head to the south, I took leave of its Arcadian banks for ever. I passed the previous night at the little hamlet of Comstock, where an enterprising young gentleman, after whom the place is called, having the advantage of a good country, is creating a flourishing establishment around him; a frame store and several log cabins, with two or three mills, already giving some importance to the site in a new country. My ride of to-day, having started late, brought me about sunset a distance of 20 miles to the verge of Prairie Ronde; the intermediate country consisting partly of burr, oak plains, broken sometimes by the short round hills I have before described to you, and partly of broad grassy meadows running sometimes into marshes and again watered by some clear stream whose sandy bottom would contrast strongly with its low sedgy brink.—The ground became higher and firmer as I approached Prairie Ronde and then after riding for a few miles through the openings, when I expected to descend upon a broad meadow somewhat resembling the many I have seen in Michigan fully answering to my pre-conceived ideas of a Prairie, I came suddenly upon an immense piece of cleared table land some 50 feet above a pretty Lake in its vicinity. The scattering houses around its borders with the island of timber in the centre, and the range of six or seven miles of prairie on every side (assured me that this was Prairie Ronde, while the piercing blast which as the sun sunk redly on the opposite side, rushed out from his western resting place and blew the snow drift in my teeth, made me eager to cross the waste as rapidly as possible and sufficiently accounts for the pleasure with which I entered this hospitable tavern. The collection of houses which stand sheltered by this wood, is called "Schoolcraft." The wood itself, though only 5 or 600 acres in extent, has a small lake in the centre, and the village, if not the whole settled part of the Prairie, is distinguished by the number of fine running horses, blood dogs and keen sportsmen, it has, in proportion to the population. Fox hunting, on horseback, with full packs of hounds, is the favorite sport though wolf, bear, and badger baiting have each their active followers. The soil is so easy of

culture and so generous in its product, that the settlers after attending to their necessary avocations have ample leisure for their many recreations. Prairie Ronde though like all parts of Michigan in a great measure settled by emigrants from the state of New York, is said to count a still greater number of its residents from nations of the south and west. The population generally was perhaps fairly represented at the assembly to which I so unceremoniously introduced you at the opening of the letter.

Niles, (Berrien Co., M. T.) Dec. 23.

I have been now for two days in the St. Josephs county, considered among the finest in Michigan, having, since I wrote the above, traversed the counties of St. Joseph and Cass, watered by the St. Joseph's river, which is the most imposing-looking stream I have yet seen. A ride of 14 miles from Prairie Ronde brought me first to its banks, which, rising occasionally 40 or 50 feet above the water, in a sudden bluff, look higher than those of any river I have yet described to you. You must already have gathered from my attempts at portraying Michigan scenery, that neither the grand, the picturesque—hardly even the romantic—are to be numbered among its characteristics. "The beautiful" comprehends them all: and yet you can readily imagine, that that beauty is neither tame nor monotonous, which can shine through the dreary months of winter, and make the half frozen and solitary traveller almost forget its rigors. It is true that one brought up in a more rugged and broken country might often miss the mountain tops leaning against the sky,—might sigh for the sound of a cascade, and long once more to plant his foot upon a cliff; and yet, where would the eye more delight to wander, than through these beautiful groves, which in summer must stretch their green arcades on every side? Where rest more happily, than on those grassy meadows on which their vistas open? These streams, too, that sparkle so over their golden beds, are they not substitutes for the rushing torrents of more mountainous countries? or does the lichen-covered crag tempt one's footsteps more than this teeming soil, when nature has carpeted it with the myriad of wild flowers which the summer's scene calls forth? To no scenery of our country that I have yet seen, is the term 'Arcadian' more applicable than to the rich and fairy landscape on the western side of the Peninsula watered by the Kalamazoo and the St. Josephs.

The latter stream, when I first beheld it, was filled with floating ice, which the deep and rapid tide brought down with such force, that my horse recoiled with affright, when I attempted to urge him into the current, at a point where an old woman told me was the usual place of fording. A rope ferry a quarter of a mile further on, removed the difficulty, and finding my way along a rich bottom where the trail was so encumbered with vines that it was difficult, even at this season, to keep it, I hailed a grim-looking Charron, with a shock head of hair, attired in a green hunting-shirt, who was standing in the door-way of a cabin on the opposite side, and crossing for me in his scow, I was soon conveyed with my Bucephalus across the wintry torrent. The country now became gradually more populous as I approached the village and prairie of White Pigeon. I had travelled 14 miles in the morning without seeing the sign of a habitation; and as one meets with neither travellers nor emigrants at this season, there is some company, even in the smoke of a chimney, though you do not stop to warm your fingers by the fire beneath it. I expected long before this to have fallen in with a most agreeable companion: in a gentleman of the country, whom I met with at Detroit, and who is a considerable proprietor on the St. Josephs. Having a fine taste for natural scenery, and being one of the best rifle shots of whom I have ever heard, I anticipated

much pleasure and advantage from his company and guidance through the nearer sections of the Peninsula. But my journey through Michigan is now nearly finished, as it began, entirely alone. At White Pigeon, where I found quite a pretty village of four years growth, I seemed, in getting upon the stage route from Detroit to Chicago, to get back once more to an old country. I found a good tavern and attendance at Savary's, and discovered, by the travellers going north and south, that travelling was not as yet completely frozen up. There are a great many English emigrants settled upon this prairie, who, I am told, are successfully introducing here the use of hedges instead of fences, in farming. They are generally of a respectable class, and seem to be quite popular with the American settlers.

The morning was fine when I left White Pigeon to-day; and as the sun shot down through the tall woods, nothing could be more cheering than my ride among the beautiful hills of Cass county. The road, which is remarkably good, meanders through ravines for a distance of many miles, the conical hills resting upon the plain in such a manner as barely to leave a wheel track between them, except when at times some pretty lake or broad meadow pushes its friths far within their embrace. A prairie of some extent was to be traversed on this side of these eminences, and the floating ice on the St. Joseph's was glistening beneath its shadowy banks in the rays of the cold winter morn when I reached its borders, and arrived at Mr. Olds' tavern in this flourishing town of Niles. Myne host, who does not seem to be the most accommodating person in the world, has refused to provide supper for myself and two other gentlemen at so late an hour, assigning, as a reason, that "his women are not made of steel"—an instance of cause and effect which I merely put upon record as being the only one of the kind I have met with in all Michigan; and it is somewhat remarkable after the ready accommodation which, during all my rambles, I have met with, at all hours, from the cabin of the humblest settler, to find that money cannot command a meal at an established stage-house. It was impossible, however, to give myne host one's real opinion of his fitness to keep a tavern, when several gentlemen of the place present, very politely seemed to take the circumstance much more to heart than do they who are as much amused as vexed at the incident. My fellow sufferers appear to be both agreeable men, and as we are to travel in company to Chicago, &c. the sympathy arising from our present melancholy condition may insure a pleasant intercourse under happier auspices.

The county of Cass, through which I have passed to-day, has a population of more than 3000, and contains 7 prairies of 6 or 8 miles in diameter, besides many smaller ones. They produce, when cultivated, from 30 to 80 bushels of new corn, or 40 of wheat, to the acre. The mode of planting the former is to run a furrow, drop the corn in, and cover it with a succeeding furrow, which is planted in a similar way, and the field is rarely either ploughed or hoed after planting. There are several pretty lakes in this county; but it is not so well watered as St. Joseph's, through which I passed yesterday, which for local advantages of every kind, as well as fertility of soil, is generally considered one of the best in the Peninsula. I like Kalamazoo county, however, as much as any part of Michigan I have seen. I am now within 8 or 10 miles of the Indiana boundary, and some twenty or thirty only from the shores of Lake Michigan, having described nearly a semi-circle in my tour through the Peninsula, including, with some deviations, the counties of Wayne, Monroe, Lenawee, and Washtenaw, on the east, Jackson in the centre, and Calhoun, Kalamazoo, St. Joseph's, Cass and Berrien, on the west; and I have not met a resident in that whole range but what was pleased with the country,

and I may almost say attached to its soil. The females indeed will sometimes murmur, and in some remote places I have heard those whose conversations indicated that they had not been brought up with the most ordinary advantages, complain of "the want of society!" But even these would love to dilate upon the beauties of the country when the flowers were in bloom. Others again who would prove an ornament to any circle, would sigh at one moment for the comforts and elegancies of their maternal homes, while their eyes would kindle with enthusiasm the next, when speaking of the appearance which the woods around their new dwellings wore in summer. Small communities form but slowly in a country where the settlers, instead of gradually pushing their way together into the depths of the forest, as at the Eastward, drive their wagons in any direction a hundred miles through the openings, and plant themselves down a day's journey apart, just where their fancy prompts them. This will account for my so often lighting upon a pleasant hamlet after a day's travel through a perfect wilderness. The river St. Joseph's debouches into lake Michigan in this county; and as a steamboat will probably run the next season from the town rapidly growing at its mouth, to Chicago, a Railroad from Detroit to this steamboat harbor, is only wanting to bring the visitor of Niagara within a few days' travel of Chicago, and carry him through the flowery groves of Michigan to one of the most important points in the Union, and what may be termed the central head of the Mississippi Valley. Delmonico may then stock his larder with grouse from the meadows of Michigan, and Gassin try his skill upon the delicious fish that swarm her lakes and rivers (would that I could at this moment witness some of their curious orgies) while sportsmen will think no more of a trip hither than they do now of an excursion to Islip, Rayner South, or Patchogue. In the mean time I have secured you the seeds of more than 20 varieties of wild flowers, which I shall send to their destination as soon as possible, lest from the rapid increase of internal communication they shall lose half their value from ceasing to be a variety.

H.

HISTORY OF THE RISE AND PROGRESS OF THE ARTS OF DESIGN IN THE UNITED STATES. By WILLIAM DUNLAP.—This, though a work in *posse* and not yet in *esse*—is one towards which we have for some time desired an opportunity of calling the attention of our readers—and asking their encouragement by subscription to it.

Mr. Dunlap's name as an agreeable writer, is familiar to the country. His latest work, the History of the American Theatre, met with great and deserved success—and we cannot but anticipate an equal degree of success, for that now under his hands, artist as he is, as well as author—and of which we can furnish no better or more attractive notice than that set forth by himself in his proposals for its publication by subscription.

To trace the progress of Painting, Sculpture, Engraving, and Architecture, in our country, and bring before the Public a connected series of facts, respecting the lives and fortunes of those individuals, whether native or foreign, who have exercised any of these arts in the United States, appears to be an undertaking, which, if executed with moderate abilities, and a strict regard to truth, will form a portion of American History both entertaining and instructive.

The materials collected by the author of this work, will be chronologically arranged, from the early days of our existence as colonies to the present time. To rescue from oblivion or misrepresentation the names of our earliest Artists, and to record the effects produced by the visits of foreign Professors to our shores, appear to be subjects of sufficient interest to command the attention of our citizens generally;—to the great body of Artists now exerting their talents in the Republic, it is a species of knowledge that seems indispensable.

The most ample Biographies of all known Artists, native or foreign, who have exercised their professions in this country, will be given. And when we recur to the names of those who, with West, Copley, and Stuart, have passed away, and to the brilliant constellation which now adorns the United States, it will be seen that the biographical portion of the work will be as extensive, and as much varied in character, as the most eager thirst for this species of knowledge or entertainment can desire.

The writer of this work has had personal knowledge of most of the Artists who will be the subjects of its pages, from West and Copley to the men of the present day. Information and assistance have been liberally furnished from the best sources. Those most conspicuous in our literature and arts, have most freely aided the author. This enables him confidently to promise such a collection of facts on the subjects of which he treats, as could not be submitted to the public from any other pen.

The worth of the work will principally consist in its authenticity. Opinions advanced may be valuable; historical accounts of pictures curious; personal narratives interesting; but facts shall be undeniable—and of such importance to the history of the country, that it would be incomplete without them; for it is presumed, that the history of those arts which civilize mankind, and embellish society, form an essential portion of the history of all nations.

We can add nothing to this simple outline, which could have the effect of enhancing such a work in the eye of the public. We, therefore, only say in conclusion, that the publication is already in a considerable state of forwardness—that it will be comprised in two 8vo. volumes of about 400 pages each, at the price of \$5 dollars—and that we shall very gladly receive at this office the names of any persons disposed to subscribe.

THE AMERICAN JOURNAL OF SCIENCE AND ART, January, 1834; by BENJAMIN SILLIMAN, M.D. LL.D. &c. New Haven, HAZEKIAH HOWE & Co.—We referred some weeks ago to the paper of this number which was not then published, that upon the whole will interest most persons—that on the meteoric phenomena of the 13th November last. We shall look with interest for the conclusion in a future number of this paper; though not with much expectation, we confess, of seeing any satisfactory explanation of this extraordinary phenomenon.

THE NEW ENGLAND MAGAZINE, for February: Boston, J. T. Buckingham.—A charming number—light, graceful, spiritual, and withal, sensible. We have hesitated between two or three short and clever articles—Connecticut as it was, the Eating Philosopher, &c. &c.; but have finally settled down—mainly because it was the shortest—on Nicolo Paganini:

The Devil came fiddlin' thro' our town.—*Scotch Ballad.*

It is well known of John Bull that he spoils his favorites and then punishes them. He made an Orpheus of Paganini, and then reviled him because he was not born or bred a hero.

This great personage, who looks a good deal like Mephistophiles, gave a farewell concert at Drury Lane, in August last. Though the popular favor towards him had waned, yet the house was crowded. The prints give a pretty good representation of the solemn musician.

"Black he stood as night."

His graceless bow was that of an ill-jointed, paste-board man, and no smile played over the long wrinkles of his visage. He seemed to stand alone in the world—delighting thousands, but having sympathies with none. He is sharp and thin. "The case of a treble hautboy were a mansion for him. His appearance is spectral and impressive.

"His look
Drew audience and attention still as night,
Or summer's noontide air."

Music, however, is a forced plant in London—it is a luxury for which men pay largely, as for grapes, and pines; for they cannot raise it. It belongs to Germany and Italy,—to Ireland and Scotland; but not to England. Though Mr. Bull's ears are not over delicate, like Bottom, it pleases him to have them tickled. The strains of Rossini fell upon them with little power; but when the necromancer struck up—albeit, but on one string—"St. Patrick's day, in the morning," the whole assembly was in an ecstasy. The silence, however, was like that of the desert,—every one held his breath till the tune was finished,

and then came forth a burst of applause that would have roused any mortal sleeper. If it should please Paganini to visit us musical Hesperians, let him play many of the simple old tunes, such as delight "the knitters in the sun." He breathes into them a new soul.

Genoa has the glory of giving birth to Columbus and Paganini. A dream of his mother, like most omens, tended to verify itself. An angel appeared to her in a dream, and promised to make her son Nicolo a great player on the violin, who accordingly began upon a fiddle as large as himself, and he gave concerts at nine years of age.

His father believed as much in fortune as his mother in angels; for he was ever dabbling in lotteries. He received more profit from his son's concerts, who, at fifteen, was a travelling meteor, attracting the worship of the musical Italians. His father threatened to slaughter him, unless the profits were given up, and, for a while, Nicolo surrendered them, about twenty thousand francs.

Soon Paganini had no rivals. Lafont, the Parisian, indeed, courted a trial, and came off shorn of his laurels.

"Strange that such difference should be,
Twixt twiddle dum and twiddle dee."

Success was followed, as in all things, by envy and slanders; and fictions of murders, of the drugged bowl, and the dagger, were believed of Paganini, on no stronger evidence than his physiognomy. A dun-geon, it was said, was for years the seclusion, in which he acquired the magic of his art. All men agreed upon the dungeon: there was some difference of opinion as to the nature of his crime. Some ascribed to him the crimes of Salvator Rosa, and affirmed that he had been a captain of banditti; others softened his offences to those of a simple Carbonare, or to having killed his antagonist in a duel. But the most romantic story was generally believed, that he had murdered his wife or his mistress. These reports, though they were of no advantage to his character, did no injury to his calling: men and women were the more anxious to see him, as they could at the same time be gratified with the hearing of music and the sight of a murderer. A bad name is of great use to a good performer of any kind, and the person that robs him of that often makes him poor indeed. At Vienna, however, Paganini denied the whole story of the incarceration with its adjuncts.

From a memoir we extract the following, which shows a name as widely spread as that of Charles XII. "Italy, from Mont Blanc to Vesuvius, from the heights of Abruzzi to the shores of the Adriatic, resounded with his praise. The strains of his wonder working violin were borne on the waters of the Danube, till the ocean murmured 'Paganini!'"

THE UNITED STATES REVIEW, No. I. Philadelphia: A. WALDIE. New York: G. & C. & H. CARVILL.—Periodical literature would seem, of all others, best adapted to a busy, inquiring, but not over studious people, like ourselves. It is of a nature to be taken up at any moment—to be relished at broken intervals—and, by its variety, to catch and fix the attention, even of minds habitually intent upon the varied pursuits of active life. Yet, so far as the matter is understood by the public, this sort of literature does not meet with the degree of encouragement that, a priori, might have been anticipated. The North American Review, the oldest of our Quarterlies, only now, after long years of existences and supported as it undoubtedly has been by much sustained talent, affords a reasonable remuneration to its conductors. The American Quarterly—younger in the field, though not less able—yields not yet any such return for the expense and labor connected with its publication, as to make it an object of any considerable value; and meanwhile, the Southern Review, got up in Charleston, and written with great general ability, but too deeply tinged with peculiar political views, and partly perhaps because of that tinge, after struggling through some two or three years of fitful existence, perished. In the face of circumstances, apparently so little encouraging, we have here the first number of a new Quarterly; and not one of those before mentioned presented itself, we are persuaded, in a prepossessing shape as this one, in all that regards the mechanical execution of the work, paper typography, &c.—with or more general claim to consideration on the score of its litera-

ry contents.—There is not indeed, any brilliant paper in this number—no one marked by particular and eminent talent—but all the articles are well done—the doctrines inculcated, and the general tone of thinking is such, as liberal and educated men will approve—and the whole scope and spirit of the publication recommend it to public patronage.

The contents are—Art. I. On Anniversary Discourses—in the course of which exception is justly taken to such addresses as—intended for mixed audiences, and for the most part on kindly occasions—introduce debatesable topics of politics or political economy—that of Mr. Maxcy, delivered before the Brown University of Providence, and that of Mr. Kennedy, delivered before the American Institute of this city, are cited as bad examples in this particular.—Art. II. On the Use and Abuse of Political Terms, is quite interesting, and refers to a book which, from the exhibition therein made of it, we hope to see republished in this country; where, *par excellence*, the abuse in question prevails. Art. III. recalls in a kindly manner the poems and prose works of Richard H. Dana. Art. IV. On Anti-Colonial History, annihilates pretty much at one blow Moulton's History of New York, and Heckelwelder's flattering fictions about his favorite race of the Lenni Lenapes. Art. V. is on Mrs. Lee's Memoirs of Baron Cuvier. Art. VI. On Traits and Stories of Irish Pessantry, which are highly praised. Art. VII. On imprisonment for debt—adverse to the law abolishing that remedy.—Art. VIII. On Ancient Art in Egypt and India. Art. IX. On Lucy Aiken's Court of King Charles I.; and Art. X. On the Temperance Cause, which it sincerely but temperately advocates.

THE HEART, DELINEATED IN ITS STATE BY NATURE, AND AS RENEWED BY GRACE, by a Presbyterian of the Protestant Episcopal Church: 1 vol. New York, SWORDS, STANFORD, & Co.—A skilful moral anatomist has, in this little volume, laid bare the self-delusions of the human heart—its tendency to error and evil while unregenerate—and its consequent need of those proper religious influences, which can alone so regulate its emotions as to render them conducive to happiness here, and fit its possessor for a better world.

THE HEIRESS, a Novel; 2 vols. New York, HARPER & BROTHERS.—Novels have been scarce lately—new ones we mean—and therein consists the best chance for success of this we now announce; which, on other grounds, and amidst active competition, judged on its merits, would hardly run a brilliant career.

A NEW TRAGEDY is to be shortly brought out, as we hear at the Park, under the auspices of Miss Kemble and her father. It is from a native pen, and will not fail, we think—for we have had a peep at the M.S.—aided as it will be by the talents and skill of the Kembles, of brilliant success.

FOREIGN INTELLIGENCE.

FROM ENGLAND.—After Saturday's paper went to press, we received our London files by the New York to the 7th ult. We make from them such extracts as are of interest and we can find room for.

The leading topic is the state of uncertainty respecting the course which Russia may pursue, when apprized of the preparations making upon a large scale, both in England and in France, to have a large naval force in the Mediterranean.

The London Times—from which paper of 6th January, we give a long extract—is for striking a blow, or at any rate making the demonstration so real, that Russia shall not mistake its nature or purpose. The Spectator of 4th January thus comments on Russian affairs:

An article in a German newspaper, the *Allgemeine Zeitung*, on the state of Turkish affairs, and

the policy of Russia, appears to have effected a change all at once in the tone of our Government journals. Thus, on Monday, the *Globe* spoke of the "idle endeavor in some quarters to contrast the language of Louis Philip, in his late speech, with his actions, and to argue, from the improved condition of his army, as well as from the active equipment of ships in our dock-yards, that the intentions of the French and English Governments were not so pacific as their professions." The whole tenor of the *Globe's* remarks was to discourage the idea that Russia would "exasperate both the Great States of the West." But on Tuesday the German papers arrived; and in the article, evidently official, above referred to, it was intimated, that if the French and British fleet was reinforced, Russia would be compelled to arm some vessels. This threat immediately caused our Ministerial organ to assume a war-like tone; and on Wednesday we were reminded that it is the unquestionable intention of Russia to model Turkey into a species of tributary State, or a convenient vassal; that the Porte, under such protectorship, would be rendered subservient to designs hostile to France, England, and all other European states; that Russia has put off the payment of her last instalment of the Greek loan; that no one can be deceived by the smooth tone of the Austrian journals; and finally, that Russian ambition must be resisted "by friendly remonstrance, to rectify sinister intentions, and, if that proved unavailing, the adoption of the stronger alternative." Stronger alternative, of course, means war.

The *Times* spoke out, as usual, with more decision of tone. The necessity of prompt and vigorous measures is insisted upon; "negotiations, despatches, and Lord Ponsonby, and the rest of it," are laughed to scorn; a few broadsides are recommended, as the right kind of protocols to bring Russia back to good manners; and Englishmen are told to bear in mind, "that there is such a thing as settling a dispute in a manner the most satisfactory by administering a good knock-down blow at once."

The conclusion to be drawn from all this vaporing (which, looking to the actual state of affairs in the East, would have been quite as appropriate last week as the present), is simply this—that Ministers would fain have it believed that they are quite ready for war, and resolved, if necessary, to "strangle the Russian fleet in the cradle of Odessa." The remarks in the Austrian journal, and those which have appeared in the *Times* and *Globe*, are merely newspaper protocols, and as such of very little value. The proceedings of Russia must determine whether we shall go to war or not. If the Emperor is resolved at all hazards to become master of Constantinople, the Euxine, the Levant, and the Adriatic, there seems to be no help for it, and a war must ensue. The policy, therefore, of our Government and that of Louis Philip in making preparations for it, is undoubtedly a sound one. And it was extremely "idle" in our Ministerial organ to endeavor to lessen the effect which those preparations were intended to have upon the designs and proceedings of Russia, by representing the intentions of France and England as being so pacific. The fact is—and now we find it announced clearly enough—that if Nicholas yields, we shall all be good friends; if he persist in his schemes of aggression, our actions will no longer be pacific.

That Russia, will however, hold back, for the present, seems most likely. Excellent reasons may be assigned for her continuing to practice the temporizing policy by which she has hitherto gained so much. It will depend upon the degree of vigilance used by British and French statesmen, whether that policy shall in future be as successful as it has been hitherto.

[From the London Times of January 6.]

The *Journal des Debats* seems to be of opinion that Russia will yield to the remonstrance of Great Britain and France, backed by their preparations for hostilities, and will consequently relinquish the immediate execution of her designs upon the Turkish capital and its neighboring posts. We have no doubt that the maritime preparations of England, and the mixed ones made by France, might, though unaccompanied by any formal remonstrances, have a better effect than merely modifying or suspending the realization of the aggressive schemes entertained by Russia; provided the latter Power could be convinced that the preparations of this portion of Europe were real armaments—that they were calculated for purposes of actual resistance, instead of being what are commonly called "demonstrations,"—menaces got up for the sake of intimidating an enemy, and, failing in that object, to be at once laid aside, and followed by humble acquiescence. There is nothing so silly as a "de-

monstration" which bears upon the front of it that it is a demonstration, and nothing more. Wiser by a great deal to do nothing, for in the latter case we save all useless expense, and leave our resources in that respect undiminished. The Tories, combined with the low Radicals, through their daily and weekly prints, are laboring to persuade the people of this country that the period has long since passed at which it would have been possible for England to interpose any serious check to the march of Russian encroachment, and with consistent wickedness they flatter the Autocrat, not only that he is too strong to be resisted, by this country, but that his designs are just and meritorious, and such as he ought not to abandon. This is of a piece with the factious treachery which has encouraged the stubbornness of the King of Holland during these two years, and advised him to hold out against the pacific endeavors of England towards the settlement of the dispute with Belgium. "in hopes that something might turn up," either on the Continent through a war, or by a change of Ministry and the return of Tory councils here in England. We do not deny that in days of yore some examples of the like spirit may have been found to actuate the movements of persons who were not Tories. The memorable instance of Oczakow cannot in common justice be overlooked, when an opposition embassy was despatched to the Empress Catherine, and assurances held out to her that by a due degree of obstinacy she would defeat the plans of the British Government of that day—a council on which she had cunning enough to act; and the consequence was, that Mr. Pitt's resistance to the project of the female Autocrat miscarried, although the other half of the factious undertaking failed, for the Minister retained his office. Why do we recur to these crimes of another generation? To condemn them—to give weight to the stigma with which we would persuade the people of England to visit the present iniquities of the ultra-Tory junta, as manifested in their Dutch, their Portuguese, and the Russo-Turkish counteraction (it is all but treasonable) of the measures adopted by the King of England for the maintenance of British interests and honor. The attempts to keep open the discord of the Dutch and Belgians, in which the English Tories have so largely shared, have hitherto served in no small degree to distract the ears of this Government and of the French from the affairs of Turkey, and to weaken their joint opposition to the Autocrat in that quarter. But the rapid growth of the danger is, we trust, helping out the remedy. We have said that a demonstration once discovered to be a demonstration on the part of these two Governments, is worse than none; of little value, moreover, is a remonstrance carried on in words, and ending in resignation. Russia has so deep a stake in the game she is now playing, that she laughs at the murmurs, and not less at the threats of other Governments, as she will at their noisiest preparations for war, if she have any solid reason to suspect that, after all, no war will be ventured on by the parties making them. So great, besides, is the object aimed at by Russia, and so keen and intense her passion for realizing it, that if she suspend her work to-day, she will resume it to-morrow, entailing on England an incessant course of watchfulness, and extreme uneasiness on the whole European world. The maritime force of this country, therefore, ought to be maintained on a highly effective footing, and not a moment lost in the presence of an enemy so unremitting in his activity, and so powerfully impelled towards the accomplishment of his fatal design.

It is rumored that Austria has given pacific "advice" to Nicholas, which may induce him to desist from this odious undertaking. Austria is the China of the west. Stupid and immovable in the dotage of despotism—hating all knowledge, because dreading all change—Austria "advices" Russia. But will the Czar, untouched by the angry remonstrances of England, be shaken from his purpose by Austrian advice? England must take counsel from her own courage and foresight—they are the sure safeguard of individuals and nations.

We see that M. Pozzo di Borgo on Wednesday last complimented the French King in decorous terms, and delivered some vague prognostics favorable to the continuance of tranquility. It is the policy of Russia, as of all mediators of aggression, to cover ambitious purposes in the garb of peace. The representatives of the French people are, however, at their post. M. Dupin, President of the Chamber of Deputies, thus expresses himself to Louis Philippe—"Peace, as far as it may be possible; but such a peace as you can alone desire—a safe and honorable peace, worthy of the nation."

These are not words which indicate any deep-rooted confidence, in the phrases of M. Pozzo di Borgo. The winter season for the present paralyzes all movements, but half the winter season has gone by.

In France naval preparations on a considerable scale were in progress. The answer to the King's speech was under discussion in the Chamber. The ministers had elected all the officers of the Chamber but one, M. Perail, the Advocate General, whom they proposed for one of the Vice Presidents, but he was defeated by M. Beranger 165 to 98.

M. Perail has rendered himself very obnoxious by persecutions of the press.

Sir J. Campbell remained still a close prisoner in the Castle of St. George, Lisbon; and the British Ministry has declined to interfere in his behalf.

The Portuguese quarrel is stationary.

Don Miguel had rejected an offer of mediation, made to him at Santarem, by the Queen of Spain; whose Ambassador, Baron Rameford, had an interview with him on the 17th of last month. General Rodil had made a fresh incursion into Portugal, as far as Braganza, in search of Don Carlos; but only succeeded in capturing some of the Junta who attended him. There are rumors of naval preparations by the agents of Don Miguel; and it seems to be allowed that he has lately been successful in recruiting his army from among the peasantry. In the mean time, hostilities have not recommenced.

In Spain the quarrel assumes more and more the character of a guerilla contest.

The insurgents in Biscay, Navarre, Arragon, and Valencia, are again appearing in considerable force. The Queen's troops had been defeated in some skirmishes; and the rebels were sufficiently strong to make a formidable attack upon Tolosa, on the 26th of December; but were successfully resisted. Zavallo, the General of the Franciscans, who is mentioned as the real leader of the Monkish party, has been negotiating with General Valdez; but he assumes too high a tone to make it probable that an accommodation will be the result of their communication. The Madrid correspondent of the *Times* says—

"It is known that Zavallo was at Bilbao at the time of the death of King Ferdinand; and it was there that, as soon as the intelligence arrived, the insurrection broke out into a sudden flood of mutiny." Judging of the rest of Spain by what he had observed in his own immediate neighborhood, Zavallo had expected that the rising would be general; and it would undoubtedly have been much more general than it has proved, had the Pretender only ventured, when the tide turned in his favor, to show himself in the country. But the time has gone by; and the cause of Don Carlos is not to be saved by all the skill of Zavallo, nor by the high tone he assumes in his correspondence with General Valdez."

In fact, there seems no reason to apprehend serious danger to the Queen's throne from the insurrection; though, from the nature of the support it receives, and the miserable state of the Government finances, it may be extremely troublesome for some time to come. In Madrid, Zea Bermudez is more unpopular than ever; and the new Minister at War, Zarco del Valle, is not in much better odour.

The *Indicateur* of Bordeaux of the 31st ult. has the following from Bayonne, dated the 29th ult.:—"Saarsfield's return to Pampeluna with 3 000 men, having left a similar number at Tafalla, is confirmed. The conduct of this General has appeared very suspicious, not only to the inhabitants of the country, but also to his own troops, who remarked that in his recent march he always took the opposite direction to that of the insurgents. There is also much complaint that Saarsfield has disarmed the forces of Gen. Lorenzo, who occupied Estella. The greater part of the troops of the latter have been replaced by others, who have not given the same proofs of valor, and who are not so accustomed to conquest as those removed. All the Queen's troops are about to march, in order to attack, in every direction, the Carlist bands that are spreading desolation through the country. Of the Valencia faction only forty men remain between that province and Arragon."

STILL LATER FROM FRANCE.—By the Havre, from Havre, we have Paris papers of 8th January. These present the case of the Queen of Spain in a somewhat more favorable aspect; but still without any material change.

There is nothing further of a decisive nature as to Russian affairs: of speculation concerning them and plain talk in the Chamber of Deputies a great deal—of which, with more leisure and space, we will translate portions for our readers.

The *Journal des Debats* in commenting on that part of the President's message which refers to the non-payment of the French indemnity, holds this language: "We hope a legislative vote will soon put an end to the only difficulty which exists to the completion of the treaty concluded with this country. All is not sacrifice for France in this Convention; and the benefits assured by it to our commerce will at least compensate for the payment of a debt against which our integrity would not permit us to plead prescription."

PARIS, Jan. 7. Evening.—The Stock Market has been animated to day, and the price of stocks has experienced a further improvement, which is attributed to a rumor that the Government will have no need to have recourse to a loan. A rumor of the capture of Oporto by the Miguelites has been current, but it produced no effect, as Don Miguel's Loan remained stationary without business.

On Sunday the Ambassadors of all the Northern Powers assembled at the Russian Embassy, when it is said Count Pozzo di Borgo communicated to them a Note he had received from the Minister for Foreign Affairs relating to the affairs of the East.

The Sentinelle, of Bayonne, of the 2d inst., has the following extract of a letter of the 25th ult., from Madrid:—"Gen. Quesada has succeeded in destroying all the bands which were formed in Castile. Several of their chiefs have been shot. It was with great difficulty and risk of falling into the hands of the Queen's troops that Merino gained Portugal with 16 of his followers. It is certain that the Queen's army is to enter Portugal, but it must previously be reorganized, for the corps of Morillo and Rodil are not worthy of the name of an army. Some politicians assert that it is intended to drive out Don Carlos and Don Miguel, and to join Don Pedro in establishing the government of Donna Maria throughout Portugal. Others, however, affirm that the Spanish Cabinet has an understanding with France and England for driving out both the pretenders to the throne, and taking possession of the disputed kingdoms. But this is highly improbable, for the Spanish government, which cannot yet be said to be master of its own provinces, is little capable of effecting the conquest of a country defended by the army of Don Pedro, which is much more perfect in the art of war than that of Spain, without reckoning the troops of Don Miguel, which would also act against the invaders. The Sentinelle also states the arrival of letters from Bilbao, announcing that a terrible conflict took place on the 30th ult. at Durango, between the Queen's troops, commanded by General Valdes, and the Carlists, under Zubala, in which, it is said, the Christinos were beaten, and lost two pieces of cannon."

The Memorial Bordelais of the 3d instant, gives the following, under the date of Madrid, December 25th:—"The troops of Morillo, seconded by the Government, have entered the Portuguese territory, and seized 40 Carlists, whom they have brought into Spain."

A letter of the 30th ult. from Bayonne, states, that General Lorenzo, after a severe contest at Los Arcos, has beaten the insurgents of Navarre, who were compelled to fall back upon Logroño.

LATE AND IMPORTANT.—The Editors of the Daily Advertiser, have received by the Francis Depau, which put into England, and sailed from Falmouth, on 24th ult., files of London papers to the evening of the 18th January, containing Paris dates to the 16th, and Madrid to the 9th, eleven days later than those previously received. It appears, says the Daily Advertiser, that Catalonia has risen en masse, and demanded a Constitution. General Valdez has returned to Spain, and Mina was probably on his way back. The Liberals so long persecuted and exiled have arisen, and are in a fair way of compelling the milder government of the Queen to yield to their determined demands. From Portugal we find nothing of interest. The London Courier, of the 18th

of January says:—The French papers of Thursday speak of the change in the Spanish Ministry, which we yesterday mentioned as one of the rumors of the Stock Exchange. Some of the papers, however, trace it up to the messenger which had arrived at the English Ambassador's. More than one of them speak of this series of events—the demands of Llauder, and the other Captains General, combined with the number of persons who have taken an interest in the proceedings in Catalonia—as a true revolution in Spain. We observe that General Don Jose Valdez, with other Constitutionists, have returned to Spain from Paris. Mina will probably also now find his way back. The other news from Spain is of trifling importance.

LATEST FROM PORTUGAL.—The Pantaloon arrived at Falmouth on the 17th Jan. from Lisbon, with dates to the 13th. The differences between the Government and the Duke of Terceira were settled. The army of Don Miguel had suffered considerably from sickness. No movement had taken place between the armies. It is stated that Don Miguel's forces were not more than 6000; but the fortifications are so strong that it would require a much greater force to dislodge them.

PARIS, JAN. 16.—It has been remarked that Baron Rothschild makes frequent visits to the Minister of the Finances, the object of which probably is to settle the conditions of the new loan. (Journal du Commerce.)

The National de 1834 gives the following details upon the communication of Gen. Llauder to the Queen of Spain, which are of considerable interest. "We are informed upon good authority that the Queen, after having consulted her Ministers, and the diplomatists at her Court, returned, without opening it, the Exposition which General Llauder had sent by Colonel Sanz. On receiving it Llauder proceeded to the Municipality of Barcelona, and held a conference as to the next steps to be taken. He proposed a middle course, through which the remonstrance might reach the Queen without offending her; but he received for answer, as on former occasions, that it was too late to retreat, and that, if he did not feel sufficient confidence in himself to sustain with courage the part he had undertaken, he had better quit the Province. Llauder upon this put the packet under another cover, and sent it again to the Queen as she had returned it, without any additional letter. Thus the Governor of Catalonia conducts himself towards the Queen of Spain as one sovereign would towards another, and this exchange of communications assumes a most singular hostility. If any one doubts the truth of the above details, let him apply to the Minister of War, and we are confident he will not contradict them."

The Memorial Bordaels of the 13th inst. confirms in the following terms the news of the resistance of the Captains-General to the Spanish Government:—"We have received news of the utmost importance, through several different channels. Catalonia has risen in a mass in the name of liberty, under its military chieftain, Llauder. This is the first cry of Constitutional Spain. Llauder has demanded of the Queen, in his own name, as well as in that of the 45,000 armed men which he has at his disposal, liberal institutions. Madrid is tranquil, but disquieted by Llauder's demand. There is reason to believe that several other Captains General, such as Quesada, Valdes, Morillo, are about to demand the dismissal of the Ministry. We ardently desire the success of this revolution, for such it really is."

The Indicateur de Bourdeaux, of the 13th inst. has the following from Bayonne, dated the 11th:—"A courier from the British Embassy at Madrid arrived here last night; he left that capital on the morning of the 8th, when all was perfectly quiet, and performed the journey without the necessity of an escort. The courier has important dispatches from the Court of St. James's and the Tuileries, the Captain-General of Catalonia having, in the name of that province, demanded a Constitution of the Regent; the number of signatures to the address is said to be nearly 50,000. This it was which occasioned the dispatch of the courier. By a decree of the Regent, El Pastor had been appointed Brigadier, and consequently is arrested; it is well known that he, as well as Mina and other chiefs, were banished for the attempts made in November, 1830."

The Vapor of Madrid states that Don Gregorio Alvarez y Perez, a canon and treasurer of the church of Burgos, had been arrested, and was in the chapel preparing for execution, when a courier arrived with his pardon. He was so much affected, by this unexpected clemency, that, immediately on being released, he wrote and published a pamphlet, exposing all the manoeuvres used to mislead the people, and urging them all to range themselves under the banner of their lawful Queen.

PARIS, JAN. 15.—It has been asserted on 'Change that the Queen, yielding to the necessity in which she is placed, has consented to the convocation of the Cortes, and has changed the Ministry. The President of the new Cabinet is said to be the Marquis de las Amarillas.

This news, whether true or false, produced some improvement in Spanish Stock; the French Funds also recovered a little.

The only news from the frontier that is worth mentioning, is that of a new combat on the 8th with the Carlists, commanded by Zabala; in consequence of which they were again dispersed.

The letters from Bayonne speak also of the arrival at Vittoria of 4,000 recruits, who are to be immediately incorporated with the troops.

Famine in Russia.—The Swabian Mercury gives the following letter from Odessa, dated Nov. 23:—"The general dearth becomes very alarming, and it is impossible to foretell what may ensue. Every article that forms the food of man is becoming daily more and more scarce and dear. Meat alone is cheap, and this is because the graziers are obliged to kill their cattle for want of fodder. There are whole villages in the environs of Odessa that are entirely destitute, the inhabitants having left them, in hopes of finding bread elsewhere. The Sea of Azoff is no longer navigable, so that we have no chance of receiving supplies from the opposite shore. Immediately after receiving despatches from St. Petersburg, Count Wornozow

went off in all haste to Ekaterinoslaw, where the famine has already caused some deplorable disasters."

Manufacturing Industry.—All the information we have received from the manufacturing districts leads us to believe that the operations of trade will be materially impaired by the present position of the United States. Almost every letter we have seen from America containing a caution to manufacturing and shipping houses not to send out goods, as there is no money to pay for them. We are glad to find in many instances manufacturers are acting upon this caution. (Morning Post.)

LONDON, January 18th, 12 o'clock.—Previous to the close of business yesterday afternoon, in the Stock Exchange, an improvement in the Consol Market was expected, the last quotation having been 80½ for the account, at which price it opened this morning. A sudden decline, however, almost immediately occurred, some transactions being effected at 79 for the account; and numerous reports were in circulation relative to the resignation of Lord Grey, which was positively stated to have been accepted, according to some reports, in consequence of a difference upon the Portuguese Question; and to others, upon the Church Reform. Up to the present time, no confirmation of any of the rumors has been received, and a slight advance has taken place in Consols, which are now quoted at 89½.

Half past One.—The Consol Market is again a shade better, the present quotations being 87½ for Money, and 89½ for the account. Bank Stock is 121½, and India Stock, 240 24½. Exchequer Bills are 44 46, and India Bonds, 22 24 prem.

"In the Foreign Market, Dutch Five per Cent. is at 94½ 95; and the Two and a Half per Cent. 49½; Belgian 95½ 96; Russia 103 to 4; Portuguese 57½; Agency Bonds 57½; and Spanish 103½. Brazilian Stock is 67½ 68; and Mexican remains without any fluctuation as 37½ 37½, the letters brought by the packet contain no political news of importance."

LATE AND IMPORTANT FROM SPAIN.—The following intelligence from the Daily Advertiser, furnishes information from Europe more important than any before received for a long while.

The effect throughout Europe of the ascendancy of liberalism in the councils of Spain—if that ascendancy can be maintained and confirmed—can hardly be conjectured.

There are later papers, too, from London, by two days—up to the 20th; and from Liverpool, of the 18th.

Extracts from these follow:

The Editors of the New York Daily Advertiser are indebted to the late Governor Cabrera, now an exile in this city, for the following highly interesting intelligence, received from his respectable correspondents, at Cadiz, under date of 22d January, by the brig Herald, which arrived at Boston on Monday last, having sailed on the 22d, the date of the letters, and which are from the most authentic sources.

The dates from Madrid are to the 17th of January, nine days later than those received by the latest arrival here, viz.: the Francis Depau, from England.

On the 16th January a most daring and deep-rooted conspiracy of the Carlist party was discovered. The plan was to destroy the Queen Regent, her two daughters, the Infant, Don Francis, his wife, and all his children—in fact, to destroy all the Royal family. Many of the most distinguished persons, of all ranks, had been arrested and thrown into prison.

The Liberals became so indignant at the conduct of the Premier, Zea Bermudez, and his fellow ministers—by whose negligence the conspiracy had been so near being accomplished—that they repaired to the house of Zea Bermudez on the night of the 16th, for the purpose of destroying him; but being unable to find him, they vented their rage by destroying all the furniture and valuables.

The excitement was so great that the Queen Regent changed her government at once, by removing all her Ministers except Zarco Del Valle of the War Department. Martinez de la Rosa is appointed Premier, in the place of Zea Bermudez: Gareli is called to the Department of Justice; Vasquez Figueroa, Minister of the Marine; and Arandale to the Finance Department.

Nearly all the Captains-General of the various Provinces have addressed the most energetic representations to the Queen, requiring a representative government, and demanding the immediate assembling of the Cortes. A new state of things had taken place; the Liberals were again in power; and exiles from foreign countries were returning to the land of their nativity.

ENGLAND.

LONDON, (Thursday Evening, 1.2 past 7.)—The line to be adopted by Great Britain and France in respect to Russia and Turkey being now generally understood as implying no interruption to the general peace, the sensation in that direction is rapidly subsiding. The British and French fleets in the Mediterranean have been ordered—the former to Malta, and the latter to Toulon.

The exportation of horses from this country to Portugal is very extensive, but several hundreds have been detained for some days past at Portsmouth,

either from the want of conveyances, or the unfavorable state of the weather. One dealer alone has forwarded to that place upwards of five hundred horses since the first inst.

FRANCE.

Chamber of Deputies.

JANUARY 13.—The Duke de Broglie, on taking his seat on the Ministers' bench, was congratulated by several Deputies on his recovery from indisposition.

M. Benjamin Delessert read to the Chamber a proposition relative to the establishment of Savings Banks. The following is the substance:—

1. There shall be established successively in each chief town of every Department, a Savings Bank.

2. The Prefect shall nominate a Commission in each locality, to inspect and control the deposits and repayments.

3. This Commission, the members of which shall give their services gratuitously, shall have for President the Prefect or the Sub-prefect.

4. The Receiver of the Department, or of the Arrondissement, shall undertake the charge of Treasurer.

5. Deposits may be made once a week. No smaller sum than 1*fr.*, and no greater than 300*fr.*, to be received at one time, and from one person; and the deposits belonging to any one individual are never to be allowed to exceed 3000*fr.*

The Minister of Finance presented a project of law, having for its object the execution of the Treaty with the United States of America.

AUSTRIA.

VIENNA, JAN. 5.—All is silent respecting the Eas the French Ambassador has despatched a courier to Paris, probably in consequence of the last accounts from Constantinople, which announced the departure of the English and French squadrons. The tone of the English journals is indeed very warlike, but nobody is deceived by this: for the aversion of the English nation to a war is well known; the funds are rising; the negotiations respecting Belgium seem to be proceeding, and it is hoped that by the serious intervention of the Powers, they will at length be brought to a conclusion. Count Lalasing, Belgian Chargé d'Affaires here, is said to have received another appointment. Count Belle Brake, the Danish Secretary of Legation, is going in the same capacity to St. Petersburg.

TURKEY.

CONSTANTINOPLE, DEC. 17.—I refer to my letter of the 11th inst., and inform you that the energetic remonstrances of the Porte have succeeded in obtaining the withdrawal of the French and English squadrons, which had been considerably reinforced. The English and French Ambassadors sent the day before yesterday directions to the Commanders of their respective fleets to return to Malta and Toulon, there to remain until further orders.

The news of the retirement of the combined squadron has produced the best effect; it is now hoped that all existing differences will be shortly adjusted amicably.

ITALY.

The letters from Bologna to Jan. 5, say that several persons of distinction at Modena have come to Bologna, to escape the new persecutions which have lately taken place in the Duchy. Among these persons is the son of Count Capanani, ex-Governor of Modena, M. Garofoli, ex-Chief of the Police, Marquis Campori, and some of the Guard of Honor of the Duke. Some think that a pretended conspiracy is the cause; others that these persecutions are connected with the affair of the unfortunate Ricci, who was condemned to death by a military commission, and shot in July, 1832. The truth is, that the Ministry de buon governo, having caused to be published some further depositions of the accomplices of M. Ricci, several persons look at Modena and Bologna as named in them, and thereby implicated. Those of Modena belong to the Ministerial Departments, the Court and the noble guard. Those at Bologna are of the first distinction; but among them are some who have not political opinions; others who, on account of their age, are exempt from all suspicion; for instance, Prince Bucciocchi, son of Elisa Buonaparte, who was killed by a fall from his horse at Rome, on Easter day, last year. This pamphlet, which has been published at Modena, has been received at Bologna, where it is the general subject of conversation. But at Modena on the 29th December, it was made the order of the day to all the corps of volunteers, in order to animate the peasants in favor of the Duke, and to excite their animosity against the persons named in these depositions. Colonel Fabbri, the Commander, made them renew on this occasion the oath of fidelity, and swear again to exterminate the Liberals.

[From the National Intelligencer of Feb. 19.]

OBITUARY.—Died, about meridian, yesterday, in this city, WILLIAM WIRT, Esq. aged about 62 years.

In him, his family have lost all that can be lost, in one among the most tender, devoted, and enlightened of husbands and fathers.

Of all who witnessed the strong and heart-endearing ties which this event has sundered, there lives not one but must sympathize, from his inmost soul, with the amiable and exemplary wife, who at once imparted and partook the purest and highest enjoyments of conjugal union, and who is now to see a premature grave open to receive the mortal remains of him who was the source and the object of the hallowed affections by which that union was cemented and embellished—with children, to whom the hand is now cold and motionless, which but yesterday led them, with paternal solicitude and unerring aim, through the paths of human science, in all the intricacies of which the exercises of studious youth, and the sustained application of mature years, had instructed him, and which his genius had illustrated; to those children, the eloquent tongue, though not yet mute to grateful memory, no longer speaks, in living accents, precepts of wisdom, morality, and piety, so lately enforced by the example, and adorned by the life and manners of a Christian, a scholar, and a gentleman.

His country, indeed, has lost a citizen whose talent and virtues, always adequate to the highest tasks of public service, were always devoted, with unflinching patriotism, to his country's good; but to that country he has left an inheritance in the extended fame which will perpetuate his name with the enduring monuments of the age and land in which he lived.

His professional brethren must largely participate in all the causes of profound regret, both general and particular, that can affect either communities or individuals. Lamenting him as a brother, whom in life they loved with brotherly affection, and admired as the ornament of their profession; they have lost no time in evincing their alacrity to manifest their respect to his memory; and will, doubtless, follow out the first promptings of a spontaneous and all-pervading sentiment, and give unequivocal and lasting tokens of the sincerity and depths of their affection, their admiration, and their regret.

TRIBUTE OF RESPECT.—At a meeting of the gentlemen of the Bar of the Supreme Court of the United States, and of the Officers of the Court, at the Court Room in the Capitol, on Tuesday, the 18th instant, the Hon. B. F. BUTLER, Attorney General of the United States, was called to the Chair, and the Hon. JOHN SERGEANT was appointed Secretary:—whereupon,

Mr. WEBSTER rose, and addressed the Chair as follows:

It is announced to us that one of the oldest, one of the ablest, one of the most distinguished, members of this Bar, has departed this mortal life. WILLIAM WIRT is no more! He has this day closed a professional career, among the longest and the most brilliant, which the distinguished members of the profession in the United States have at any time accomplished. Unsullied in everything which regards professional honor and integrity, patient of labor, and rich in those stores of learning which are the reward of patient labor, and patient labor only; and if equalled, yet certainly allowed not to be excelled, in fervent, animated, and persuasive eloquence, he has left an example, which those who seek to raise themselves to great heights of professional eminence, will, hereafter, emulously study. Fortunate, indeed, will be the few, who shall imitate it successfully!

As a public man, it is not our peculiar duty to speak of Mr. Wirt here. His character, in that respect belongs to his country, and to the history of his country. And, sir, if we were to speak of him in his private life, and in his social relations, all we could possibly say of his urbanity, his kindness, the faithfulness of his friendships, and the warmth of his affections, would hardly seem sufficiently strong and glowing to do him justice, in the feeling and judgment of those who, separated, now forever, from his embraces, can only enshrine his memory in their bleeding hearts. Nor may we, sir, more than allude to that other relation, which belonged to him, and belongs to us all; that high and paramount relation, which connects man with his Maker! It may be permitted us, however, to have the pleasure of recording his name, as one who felt a deep sense of religious duty, and who placed all his hopes of the future, in the truths and in the doctrines of Christianity.

But our particular ties to him, were the ties of

our profession. He was our brother, and he was our friend. With talents, powerful enough to excite the strength of the strongest, with a kindness both of heart and of manner capable of warming and winning the coldest of his brethren, he has now completed the term of his professional life, and of his earthly existence, in the enjoyment of the high respect and cordial affections of us all. Let us, then, sir, hasten to pay to his memory the well deserved tribute of our regard. Let us lose no time in testifying our sense of our loss, and in expressing our grief, that one great light of our profession is extinguished forever.

Mr. WEBSTER concluded by submitting the following resolutions, which were read, and unanimously adopted, viz:

Resolved, That the members of this Bar feel, with deep sensibility, the loss which the profession, and the country have sustained, in the death of WILLIAM WIRT, a member of this Bar, and heretofore for many years, Attorney General of the United States.

Resolved, That we cherish the highest respect for the professional learning of the deceased, for his varied talent and ability, for the uprightness of his professional life, and for the amiable and excellent qualities which belonged to him as a man.

Resolved, That to testify these sentiments, we will wear the usual badge of mourning for the residue of the term.

Resolved, That a Committee be appointed to offer to his bereaved and afflicted family, the condolence and sympathy of his brethren of the Bar; and to request that he may be interred in the City of Washington, and that his professional brethren be permitted to raise a suitable monument to his memory.

Resolved, That Mr. SOUTHARD be requested to pronounce a discourse before the Bar, upon the professional character and virtues of Mr. WIRT, at such time, during the present term, as may suit his convenience.

Resolved, That the Attorney General do move the Court that these resolutions be entered on the minutes of their proceedings.

The following gentlemen were appointed by the Chair to compose the Committee ordered by the fourth resolution: Mr. SWANN, Mr. JONES, Mr. WEBSTER, Mr. CLAY, Mr. SOUTHARD, Mr. SERGEANT, Mr. PETERS.

[From the Daily Advertiser.]

NEW YORK COLONIZATION SOCIETY.—The first meeting of the New Board of Managers of the Colonization Society was held on Monday, 17th ult. and was very fully attended—President Duer, of Columbia College, in the Chair. Samuel Ward, Esq. having declined the office of Vice President, the Rev. Dr. Bangs was elected in his room.

A committee appointed for the purpose of reporting the draft of an Address to the public on the subject of the affairs of the Parent Society at Washington, and the operations of this Society both present and in prospect, made an interesting report on those subjects, which was read and adopted.

The board determined, with great unanimity, to send a pioneer expedition to Africa, in May, for the purpose of making the necessary arrangements for the immediate foundation of the contemplated colony. For this purpose, Mr. Israel M. Searle, a graduate of Amherst College, was appointed to take charge of the same, under the superintendence of the Rev. Mr. Spalding, who had previously been appointed principal agent of the Society in Africa.

A resolution was likewise adopted for holding a public meeting at the Brick Church in Beekman st. on Tuesday evening next, for the purpose of giving more full and particular information on the subjects contemplated by the enterprise.

The report above-mentioned, after a recapitulation of the difficulties and embarrassments which the Parent Society has experienced from a defective organization, and the consequent indebtedness which they had incurred beyond their income, gives an account of the re-organization of the institution at the annual meeting at Washington in January last, under a much more effective and energetic system, with a statement of the pecuniary resources for the liquidation of their debt, and for the expenses of their future operations. We have not room for the insertion of the report at length, but the following extract from it will be found more immediately interesting to the auxiliary society, and the public, in this city.

"A new and important principle of action is also about to be adopted for the future operations of the Society. The Parent Board will probably hereafter wholly abstain from the superintendence in detail of transporting emigrants to the colony; and leave to such of the auxiliary and local Societies, as choose to undertake it, the labor and expense of collecting emi-

grants, sending them to Africa, and providing for them on their arrival, and until they can sustain themselves.

It appears to be generally expected that the Parent Society will confine itself to, and find sufficient employment in, governing and defending the Colony, enlarging its territory, fostering its civil, religious and literary institutions, and placing them on a broad and permanent basis. It will, however, and no doubt ought, to retain and exercise the power of controlling and regulating the auxiliary and local societies, in their mode of conducting emigration.—It should certainly prevent them from sending improper emigrants, or in too great numbers, or at improper times, or without necessary provision for their comfort and health during the voyage, and for their prosperity and happiness after their arrival in Liberia.

The Parent Society will, however, judge for itself in marking the lines of its future duties, and in that respect be regulated by wise and enlightened councils. But by dividing, in the manner suggested, the labor and responsibility, and securing the active co-operation of a greater number of devoted friends in different parts of the country, and at the same time acknowledging and yielding to the control and direction of a wise and efficient central head to check all extravagant or irregular action, the business of colonization hereafter, we trust, will be conducted with greater care, regularity and economy.

In conformity with this principle of action, the Colonization Society of the city of New York will hereafter itself expend in colonization, the money which shall be raised under its immediate auspices. To enable this Society to do that, the Parent Society has given us permission to establish a new settlement, to be called New York, at some suitable location in Liberia—and to direct all our energies and expend our resources upon that object.

In prosecuting it, we shall not endeavor to see how many free persons of color we can, by our own efforts, send to Africa; nor how many slaves we can emancipate. But our great aim will be, to promote, by all the means in our power, the true interests of those who may emigrate to our settlement, and the true interests of the Pagan population among whom they settle.

To this end our colony will be founded on the following principles:

1st. The selection of such Emigrants only as are Members of the Temperance Society, and of unexceptionable moral character.

2d. The settlement of them under such circumstances as will promote Agriculture, especially the cultivation of the staples of the African soil, such as rice, cotton, sugar, and coffee.

3d. The adoption of a system of universal education, and to provide at once the means of instruction in letters and the useful arts of life, not only for the colonists, but also for the native Africans who may live in the settlement and its vicinity.

4th. The entire prohibition of the use, and traffic in ardent spirits—except for medicinal purposes.

In view of the facts and objects above presented, the Colonization Society of the city of New York have adopted the necessary measures, to secure an efficient Board of Managers, and responsible and active officers and agents to conduct its future business and operations. The Society has resolved to establish a colony, and has already an exploring agent employed in Africa, to examine Cape Mount, the site of the contemplated colony—and if it shall be found an eligible position, to make the necessary arrangements for the reception of the pioneer emigrants. If the Society should be disappointed in the eligibility of this site, another one will be sought, and the like arrangements made. The Society, therefore, earnestly and respectfully invite the co-operation and support of their fellow citizens, in executing this interesting and benevolent enterprise. They pledge themselves that all money and property, contributed to this object, shall be faithfully and economically applied.

WM. A. DUER, President.
IRA B. UNDERHILL, Rec. Secretary.

New York, Feb. 17th, 1834."

The Revs. Dr. Channing and Gannet, were lately summoned before the Grand Jury of Boston, to give testimony respecting a duel, but refused to disclose what they knew of the matter. The Grand Jury immediately made a representation to the Judge of the Municipal Court, who summoned those gentlemen before him, and they appeared. The result is given in the Boston Atlas.

The Commonwealth's Attorney stated to the Court the reason why these gentlemen had been summoned

and that the Grand Jury were now in Court, waiting for the decision of the Court, whether these gentlemen should be compelled to testify. He cited a passage from Starkie on evidence to show that by the common law, not even auricular confessions to Catholic priests were privileged from being testified to; that it appeared by the notes to Metcalf's edition of Starkie, that in many of the United States, confessions made to Protestant clergymen were not privileged, and that the Supreme Court in this State had settled the same principle in Commonwealth versus Drake, 15 Mass. Reported, page 161.

The Judge stated that clergymen were not exempted by the law from testifying when called before a Court or Grand Jury as to communications made to them as clergymen; "that the privilege of secrecy is strictly confined to persons acting as counsel, attorney, or solicitors, in causes, and cannot be extended to those confidentially employed in other professions; that this is a privilege secured by law to the client rather than the counsellor. He referred to the case of the Duchess of Kingston, as cited by McNally on Evidence.

Dr. Channing stated to the Court that he had thought the communications made by a parishioner to his spiritual guide were sacred, and should not be disclosed, but in relation to the present case, he was suddenly called before the Grand Jury, and had little or no opportunity for reflection upon the subject; that since yesterday he had reflected upon the circumstances, and he now considered that any communications made to him in this case, were communicated to him rather as an esteemed friend, than to a spiritual guide; he was therefore now ready to testify.

Mr. Gannett stated that he viewed the communications made to him, as made in his character as a spiritual guide, and whilst he wished all artificial distinctions in favor of the clergy might be abolished, he hoped the Court would excuse him from testifying. He then read his reasons for declining to testify in such a case.

The Judge said that he certainly respected the delicacy exhibited by the gentleman, but that he must remember that the law, as such, has no mercy, and knows no distinction of persons; that in his opinion, he was bound, as a good citizen, to testify.

Mr. G. said, feeling bound as a citizen, he would testify, although he regretted the law was such as to compel him.

BANK FUND—Pursuant to a resolution of the Senate, the Comptroller reported on Tuesday, the amount and condition of the Bank Fund, from which we have prepared the following statement:

Contribution in 1830,	\$26,983 67
" 1831,	62,627 62
" 1832,	94,295 60
" 1833,	105,139 54

Total, \$289,046 43

The investments of the fund are as follows:
 Canal debt, bearing an int. of 5 per ct. \$8,083 40
 Astor " " 5 " 92,000 00
 General fund, " 4 1/4 " 178,966 01

\$278,108 41

There is due from the revenue to the capital, the sum of \$10,938 02, which, with the sum invested, constitutes the whole amount of the fund. The amount of revenue due to the capital, must, by the provisions of the act creating the fund, be paid before any part can be paid to the corporations. The revenue for the current year will amount to \$11,935 34—[Argus.]

NEW POST OFFICE.—A new Post Office has been established in the town of Scaghticoke, Rensselaer Co., N. Y., called *Old Scaghticoke*, and Aaron A. Marcellus appointed Post Master.

[From the Pittsburgh Gazette of Feb. 19.]
 Flour was sold in this city, yesterday, at \$2 62 1/2. Can persons, who declare that there is no pressure in the money market, account for this reduction in price?

[From the Mercantile Advertiser.]
 About 100 tons of ice carried from Boston to Calcutta, by the *Tuscany*, had been landed free of duty, and orders given to extend the same favor to similar cargoes from whatever quarter. It was selling at 6 1/4 cents per pound.

Supposing the whole 100 tons to sell at the above rate, it would produce twelve thousand five hundred dollars, upon an investment, probably, including the cost of all the extra precautions for preserving the ice, of \$500.

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.

D. K. MINOR, 35 Wall street.
 New-York, August 14, 1833.

INCOMBUSTIBLE ARCHITECTURE.

INCOMBUSTIBLE dwelling-houses and buildings of all kinds, devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.
 For sale, 10,000 lbs of ANTONIS, or Incombustible Varnish, at one dollar per lb.

Apply to C. S. RAFFESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 8th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the *Mechanics' Magazine*; Messrs. Rushton & Aspinwall, Druggists. Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means.



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
 Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustment.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

To Messrs Ewing & Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

H. LATROBE,
 Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same.

TO RAILROAD COMPANIES.

PROFESSOR RAFFESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1825, by his patents filed in the Patent Office. Apply, post paid.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
 Hudson, Columbia county, New-York, }
 January 29, 1833.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, Ruta Mulberry Seed, genuine Mangel Wutzel, Yellow Locust, Rota Bags, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORNBURN,
 347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* Mr. Thornburn is also Agent for the following publications, to wit:

NEW YORK FARMER and American Gardeners' Magazine.
 MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
 E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
 Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested:

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a revolving telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
 JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.
 Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer,
 Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY K. CAMPBELL, Eng. Philad.,
 Germantown and Norristown Railroad

The North River is now open; and the steam-boats Constitution and Constellation run daily.

We have by the boat that came down last night, the Albany papers of yesterday morning.

APPOINTMENTS BY THE PRESIDENT.

By and with the advice and consent of the Senate.

H. T. Williams to be Surveyer General of Public Lands in the State of Louisiana, in the place of H. B. Trist, resigned.

James Corscaden to be Consul for Londonderry, in Ireland.

William J. Dubbs to be Consul for Maracaibo, in the Republic of Colombia in the place of Alfred Laussat resigned.

William A. Magill to be Consul for the Island of Martinique, in the place of John S. Miereken, deceased.

Alexander Schwartz to be Consul for Riga, in Russia.

Charles J. Smith to be Consul of the United States at Para, in Brazil, in the place of Abraham R. Smith, resigned.

FOREIGN VARIETIES.

The Seine, at Paris on Tuesday, 31st Dec., rose nearly to the height of the great flood in 1740, filling the cellars, sweeping goods off the wharves, and creating much alarm in its vicinity.

Mr. Lander reached Liverpool on Wednesday, 1st January, in the Columbine, from Fernando Po. He is in excellent health, after his perilous expedition into the interior of Africa.

Cashmere Shawl Manufacture.—It is computed that there are now not less than 50,000 artisans engaged throughout Scotland in the manufacture of shawls from the Cashmere or Thibet goat. The yarn for the purpose is obtained from France.

American Forest Trees.—Public attention seems to be turning, by those who desire ornamented plantations, to the great variety and beauty of our forest trees; and particularly the oaks. "To those," says a writer on this subject, "who vindicate the practice of exclusively planting native trees, as most suitable to the country, it is answered, that they might as well refuse to grow pine apples, because they do not spring up wild in our woods, as reject the brilliant tints of the American forest trees, because nature has clothed ours in a more sombre tinge."—Above 40 specimens of American oaks are now constantly planted for sale, in the nurseries about London. We were not aware that the *Live Oak* would stand the climate of England, but mention is made of several in different parts of the kingdom, and of one particularly, a large one, in Lord Pembroke's Park at Wilton.

Sir John Herschel.—This distinguished astronomer and true philosopher, has sailed for the Cape of Good Hope—there to observe the starry wonders of the Southern sky. "To the sincere and enlightened philanthropist, it may afford," it is finely argued, "matter for proud and consoling reflection, to consider this philosopher, this emissary from European civilization, tranquilly seated in Africa at the farther extremity of that barbarous and inhospitable continent—and nightly, in what was a howling desert, only tenanted by the tiger and the hyena, or the wandering savage, scarcely more humanized—pursuing undisturbed his high vocations."

John Galt.—This well-known writer, whose precarious health for some time past, had little justified any hope of ultimate recovery, seems quite restored; and has appeared in two recent works—one in three volumes, prose, consisting of various tales, under the title of "Stories of the Study," and another of "Poems."

The Marquis of Sligo.—This nobleman who is appointed Governor of the island of Jamaica, was some 20 years ago tried before Sir Wm. Scott for inveigling British seamen from King's ships, to man his yacht in the Mediterranean. He was found guilty, and sentenced to several months' imprisonment in Newgate, which he underwent. His mother, then a widow, went into Court to intercede for her son. The stern and upright Judge was inac-

cessible; but the man was touched by the scene and by the conduct of the mother; and she soon after became the wife of Sir Wm. Scott.

At the commencement of the last year I offered to send the American *tri-weekly* instead of *semi-weekly*, together with two of my periodicals, in exchange to those who would publish my advertisements of the different periodicals. In consequence of this notice, the exchange list was increased to 165. I soon found that the expense would be greater than I had anticipated, yet I had made the offer, and would of course continue it through the year—as I have done. I however find it *too expensive* to continue to send as heretofore. The circulation of my periodicals, (upon which the expense falls,) will not warrant it, and I must, therefore, notwithstanding the uniform kindness with which they have been treated by those to whom they have been sent, materially reduce their exchange list.

The *semi-weekly* American will hereafter be sent in exchange to those who will publish the following advertisements a few weeks for the difference of price. *New-York, January 20, 1834.*

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in *semi-monthly* form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNOTT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published.

D. K. Minor also publishes the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

Also, the FLOUGH-BOY, a cheap agricultural publication, of eight quarto pages, is issued once a week, at \$1 50 per annum, in advance. It contains much interesting reading upon agriculture, &c.

All Letters and Communications for the above publications, may be addressed, free of postage, to D. K. MINOR.

A scientific person versed in Mechanics, Chemistry and Mineralogy, of several years practical experience in different branches of Civil Engineering, and who is also a good draughtsman, is desirous of obtaining employment either as an instructor in some public institution, or as an Engineer upon some private or public work.

He was educated at one of the first scientific institutions in the United States, and was for several years an instructor in the said institution.

A line addressed to B. at Railroad Journal Office, No. 35 Wall street, will meet with immediate attention. J. F. M.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Planes, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads No. 264 Elizabeth street, near Bloecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J. S. F.

RAILROAD CAR WHEELS, BOXES AND AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J. S. ROGERS, KETCHUM & GROSVENOR.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 773 of this Journal.

TO STEAMBOAT COMPANIES.

PROFESSOR RAFALESQUE, of Philadelphia, offers his services to render steamboats incombustible, and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and deserted by the public as unmindful of safety. Apply, post paid. S. R. J. M. & F.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for shingles. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be able, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 13, 1833. A29 R M & F

RAILWAY IRON.

Ninety-five tons of 1 inch by 1 inch, length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.	Flat Bars 10
200 do. 1 1/2 inch by 1 1/2 inch, length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.	do. 1 1/2 inch by 1 1/2 inch, length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
40 do. 2 inch by 2 inch, length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.	do. 2 inch by 2 inch, length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
80 do. 3 inch by 3 inch, length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.	do. 3 inch by 3 inch, length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
100 do. 4 inch by 4 inch, length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.	do. 4 inch by 4 inch, length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

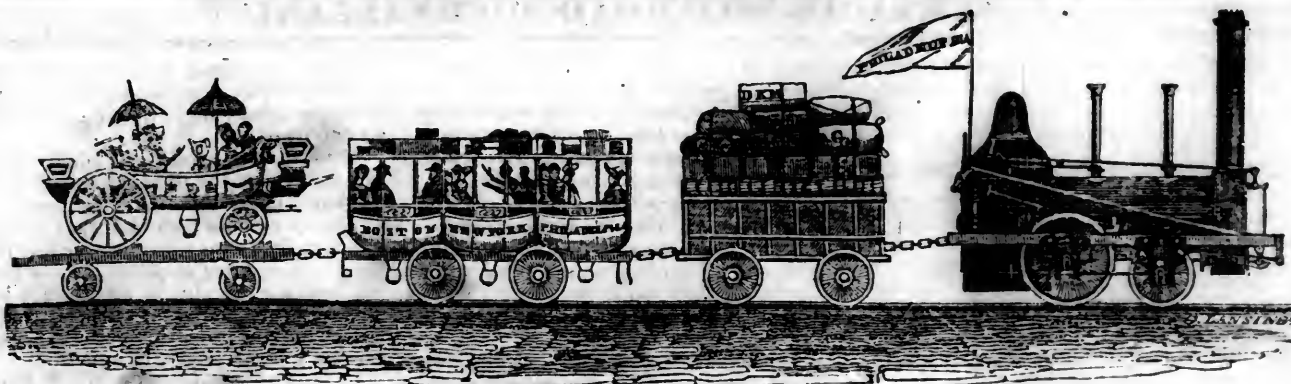
Wrought Iron Pins of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 24, 28, 30, 33, 36, and 40 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

3 South Front street, Philadelphia. Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d11mowr



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, MARCH 8, 1834.

[VOLUME III.—No. 9.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 8, 1834.

The Editor of the Railroad Journal regrets that circumstances render it necessary for him to take leave of those who have encouraged him in his course by *subscribing* to the Journal, but have *discouraged* him from its continuance by omitting to pay for it. If it is *worth* reading, it is certainly worth \$3 a year—at least it costs him so near that amount, that he cannot afford to print many more than are promptly paid for, and therefore it will be discontinued after *this* number, where the *subscription for last year is still unpaid*. To those who have paid for the previous, but are in arrear for the current year, the editor will merely observe, that to them, or to him, *three dollars alone is of little consequence*; but when they consider that *his business is entirely made up of such sums, and that there are many hundred such amounts yet due for the Journal*, he trusts that each one will remit his subscription without delay; and do it also in a *U. S. Bank note*, if possible, as all others, except a few in this city and immediate vicinity, are at a *heavy discount*. Any subscriber, remitting a \$5 U. S. note, for the *current and ensuing year*, may do so without paying postage, and he will have credit for its full amount.

Those who have paid in advance for the current year, he begs leave to tender his thanks for having thus expressed their approbation of the utility of such a work, and trusts that they may derive ample remuneration from its columns for their liberality.

Having determined to send *only* to those who deem it worth paying for in advance, yet

being unwilling to be deemed uncourteous to those who may not have had leisure or opportunity to attend to so small a matter, the Journal will be sent to all, as at present, *until the 1st of April*, that every subscriber may have ample time to remit. After that date it will not be sent, unless the subscription shall have been paid.

From the Montreal Gazette we extract the following :

Norman Bethune, Esq. of this city has obtained letters patent for a new improved principle for building steam-vessels. Of course we are unaware of the exact nature of Mr. Bethune's improvement, but he has stated to us that ever since the completion of the Manchester and Liverpool railroad, his mind had occasionally been engaged in devising some improvement in the speed of steam-vessels, but that owing to his avocations he had not leisure to give much attention to the subject. He had thought of the buoyancy of the cask, but did not discover the application of it until he read a description of Mr. Burden's new boat, which seemed to promise what he had been in search of. But upon carefully examining it, he discovered a great deficiency in safety to the passengers and cargo, in the event of an accident happening to one of the tubes, by striking a piece of floating timber or ice, end on, while under full impetus, which would cause that side to fill almost instantaneously, and the weight on deck would sink it in a few minutes to the bottom; but where the depth of water should be greater than the breadth of her deck, she would fall over on her back. To obviate such a risk has for the last four months been his study, and he has, in his opinion, happily arrived at a complete safeguard against such an accident; and in attaining that desirable end, his boat naturally acquires greater buoyancy, and of course greater speed. Mr. Bethune feels perfectly satisfied that a vessel built on his plan will make the passage to Quebec in eight hours, and return in ten, stoppages included. Should his views prove correct, two boats, built upon the new plan, would form a daily line, and starting at six o'clock in the morning from both places, the Montreal boat would land her passengers at Quebec at two o'clock, and the Quebec boat hers at Montreal at four o'clock in the afternoon, (taking the tide as it might happen to be,) and always in day-light.

Navigation of Lake Ontario.—The first vessel which plied the present season between York and Niagara, left the former port on the 26th of February—much earlier than in former years.

On Undulating Railways. By A CIVIL ENGINEER. [For the American Railroad Journal.]

SIR,—Soon after the perusal of the experiments made by Mr. Badnall on the Liverpool and Manchester Railroad, I drew up the following strictures upon them, which I send for publication, if you should think that they will contribute to the objects of your Journal.

A CIVIL ENGINEER.

MR. EDITOR,—You must pardon me—my patience is exhausted—I can no longer silently look on and see your respectable and useful paper countenancing an absurdity which nothing but the blindest species of intatuation (that of an inventor for his favorite project) can support after a moment's serious reflection, aided by a knowledge of the laws of nature. But I must pause—perhaps you have thought, from my abrupt beginning, that I was about to attack another Cataline: you are mistaken—I allude to Mr. Badnall's "undulating railway," and especially to his late experiments on the Liverpool road, which, it would seem, were seriously witnessed by Mr. Stephenson, the Engineer of that great work.

After reciting the experiments, the conclusions drawn from them are,—“That a locomotive engine can not only convey, on an undulating way, double the load which it is capable of conveying at the same velocity on a level line, but that it can accomplish this by the employment of half its power.” [See page 789, last vol.]

That Mr. Badnall should persuade himself of the truth of this most unphilosophical conclusion, is not a matter of much wonder; but that Mr. Stephenson, who is an eminent engineer, a man on whom the epithet 'great' has, on some occasions, been conferred, should sanction it, is to me a cause no less of surprise than regret.

I have declared his conclusions erroneous; it remains to sustain my position. With this view the following observations are premised :

It is a law of gravitation, that, if a body fall freely from a certain height to the earth, its velocity is accelerated at each instant of time during its fall: that, *ceteris paribus*, if the same body be projected upwards with the final velocity it had acquired by its fall, it will rise to the same height from which it fell, and in the same time, before its momentum will be destroyed by the same force which generated it, in its downward course.

Bodies moving on inclined planes follow the same general immutable law,—i. e., if a body be projected up an inclination with a certain initial velocity, it will advance up the plane until its momentum is exhausted by its gravi-

tating tendency, when, if left free, it will return down the plane in a time equal to that consumed in its ascent, and at the end of its course will have acquired precisely the initial velocity of projection.

We hence perceive that no more power or momentum can be generated by a body in falling down a plane than will carry it up an equal inclination in length and degree.

These preliminaries made, we may remark that the first six experiments are of one class. We will abridge the 1st, 2d, and 7th, 8th experiments, which contain the substance of the whole set.

1st. "Two engines brought the train to a given point at the foot of the Sutton inclined plane, at which point they had attained a velocity of 19 miles per hour. One engine then left the train, and the other ascended with the load 575 yards in 116 seconds."

2d. "The power of the engine being reversed, the engine and load descended 575 yards in 84 seconds; the velocity attained at the foot of the plane being far greater than at the same point when ascending."

7th. "The two engines attained a velocity of 18 miles per hour at the foot of the ascent; one engine then left the train, and the other shut off her steam, when the whole train rose, by momentum only, 332 yards in 70 seconds."

8th. "The train descended (the engine working) 332 yards in 66 seconds."

In the first set of experiments there is an apparent inconsistency with the law of dynamics above given: that this is only specious, and not real, as Mr. B.'s fancy has led him to imagine, the latter set clearly prove, as I shall endeavor to show in what follows:

The rules of philosophizing seem to have been wholly lost sight of; for, instead of the inference the sanguine Mr. B. draws from 7 and 8, viz., that it can convey double the load, with half its power, they prove the fallacy of the preceding—at least, of the inference Mr. B. draws from them; and show a remarkable coincidence with the laws above laid down. In short, these experiments, coinciding as they do with the known laws of falling bodies, ought to have suggested that, there not being a coincidence among all, there existed some defect, mismanagement, or other adequate cause, for the apparent disagreement of the first set with known laws: instead, these laws we find virtually pronounced incorrect; because, certainly not that his experiments actually prove them so—for any man reasoning *a priori*, from these laws, would have arrived at results similar to those which the experiments develop—but because, forsooth, it would seem they are strange (to him), and perhaps because they would not otherwise account for the preconceived principle of the undulating railway!

The poet may dwell upon the beauties of the visible world, and exclaim with rapture peculiarly his own,

"'Tis distance lends enchantment to the view."

Not so the philosopher. At the distance of 3000 miles he may throw his intellectual ken across the Atlantic, and pierce the dark atmosphere of an inventor's prejudices in the pursuit of truth. Should the inferences drawn from these experiments (the facts are not contested) be true, there would indeed be a revolution, not only in railroads, but in the planetary roads; and possibly render it necessary to remodel those laws which have so long and so well answered the purpose of guiding the planets in their courses!—laws which, we are fain to believe, most of the world would be unwilling to dispense with, even for the bonus Mr. B.'s undulating railway system can confer upon them.

We think that the first of these philosopher's stones, of which Mr. B. claims to be the happy discoverer, will be reduced to its original brass, by the consideration that the train was projected up the plane by the momentum generated by two engines, and was assisted in its further progress by one. The power then is not as Mr.

B.'s fancy has led him to imagine,—“that of one engine doing the work of two on a level,”—but of one engine aided by the momentum generated by two engines before reaching the starting point—a power as efficient and active, while it lasts, as that of the engine actually hitched to the train—a power which a form of words cannot annihilate. Had the train advanced to the starting point aided solely by the engine which was to accompany up the plane, we ask; what would have been the result? Why, plainly, the same as in the last set—equal times—equal velocities.

Unless then we can suppose that Mr. B. has discovered some method of condensing large quantities of momentum, which he may carry in his pocket, and infuse into his train before encountering one of the “bumps” of his “undulating railway system,” our humble opinion is, that he will have to amend his first inference by striking out “double the load,” and inserting “two-thirds, or one-half of the load,” which it is capable of conveying at the same velocity on a level line: which opinion we expect to turn into an indisputable truth in the sequel of this paper.

Again, searching for the cause of the wonder which words have had the power to confer on these experiments—for the reason why, in falling down the plane, the train passes the foot at a far greater velocity than at the same point when ascending,—it should be borne in mind that, if the train had proceeded up the plane aided solely by the momentum generated before reaching it, the mass would have advanced until its momentum was exhausted, when, returning, it would have passed the foot of the plane in a time equal to that of its ascent, and at the same speed; adventitious circumstances, such as irregularities of motion, and consequently of friction upon the rails and otherwheres, as well as from the friction of the pistons of the engine, not being taken into account. The rationale of this discrepancy is readily given.

In addition to the momentum generated by the two engines, the train was assisted by one up the plane: this would operate to carry the train much farther up the plane than if left to its momentum alone; consequently, even if at the turning point this engine had been detached, the gravitating tendency would have caused the train to re-pass the foot at a far greater speed than it ascended with—since there was a much longer space in which to generate its velocity by the accelerating force. Partly from the same cause, and partly for the reason, that, after the momentum ceased to operate in propelling the load, it must have passed over the remaining distance to the turning point at a very slow rate, the time elapsing in the descent must have been much less than that expended in the ascent—offering, surely, nothing strange or unlooked for, one would suppose, by the experimenter; at least, I can vouch for it, by one who was not alchemizing for the “principle of the undulating railway.” The experiment was actually more favorable to produce this disparity, since the engine worked down the plane, which would tend still farther to increase the difference of the times.

I am therefore quite at a loss to perceive the justice of inferring thence, that because, under these circumstances, the train descends more rapidly, and in a less time, over a given distance, “that one engine does the work of two on a level.” The only inference warranted by the premises is, that trains, under like circumstances, will always descend more rapidly and in less time than they will advance up a given inclination. It is only by a computation of the performance of the engines in the experiment, and a comparison with the actual performance on a level, that we can pronounce upon their relative performance or advantage.

The last experiments, 7 and 8, show clearly a coincidence between the time of ascent and descent, when the train is influenced by momentum only in propelling up the plane, since

the times, as noted, do not sensibly vary from equality—aside from the working of the engine down the plane, they would have come quite up to equality.

From this experiment he could only rationally infer, that the times of ascent and descent of planes under these circumstances is nearly a ratio of equality: and not that, “on the undulating plan, one engine can accomplish double the work with half its power,” since the relative performance can only be ascertained by a comparison of the computed absolute performances on the plane and on the level. These computations I shall presently submit.

In short, the inferences Mr. B. draws from the experiments are about as much warranted by the premises as one would be in estimating the value of a quantity of vegetables from the known value of a pound of cheese.

We have seen that the fact of the descent being performed in less time than the ascent in these experiments, under these circumstances, is nothing strange, nothing new, and is consistent with the laws of dynamics; that the last experiment is a direct and plain corroboration of these laws; that the inferences drawn from both sets are incorrect; that, consequently, any superstructure which may be erected upon them is—un chateau en Espagne.

These facts will appear more striking when I shall have answered the question—“What practical result may then be inferred from them?”

Submitting the performance of the first to calculation, we shall find that the rate exceeds but little 12 miles per hour; but if the engines had been permitted to continue their course on the level, it would have been 19 miles per hour. We infer, then, that if a train of cars of the weight, and under the circumstances, of those in the experiment, be brought to the foot of a plane similar to the Sutton plane—if then one engine be detached, while the remainder proceeds up the plane until the gravity of the whole exhausts both the momentum generated by the two engines and the power of the accompanying engine—and at this point the power of the engine be reversed, and the whole return down the plane—that there will always be a loss by the use of this method compared with that of the two engines working on a level road in the ratio of 2 : 3, or one-third.

If we submit the performance of the two last to calculation, we shall find a result below 10 miles per hour for the actual performance. The performance on the level would have been 18 miles per hour. We infer then that there is a loss in the use of the principle of “the undulating railway,” under the circumstances of the experiments 7 and 8, in the ratio 10 to 18, or one-half.

As to curvature—shade of Newton!—that matter may be moved in a curved track at a greater velocity and with less power than in a straight line! is to say that bodies moving in curved paths do not always require an increase of power to propel them in the direct ratio of the squares of the velocities, and in the inverse ratio of the radius of curvature!—is to say that the more the curvature is sharpened, the greater the facility with which a body moves therein! (what a rapid flig htw e might make to the moon by a road curving like a succession of S's!)—is to say, that when a single force is resolved into its components, that a part is greater than the whole!!

Did the English Smeatons and Rennies, and the French Pronys, seriously approve of all this? or did they smile and shake their heads?

Albany, December 19, 1833.

Further Experiments on the Liverpool and Manchester Railway, to determine the correctness of the Undulating Railway System. [From the London Mechanics' Magazine.]

Sir,—I have this morning (29th October) received your numbers of the 19th and 26th inst. My principal object in now addressing you is to make an observation or two, which Mr. Cheverton's last communication immedi-

ately demands. In the course of a few days I shall trouble you with more general remarks in answer to "S. Y.'s" objections, to which the contents of your next number may possibly enable me to add something in further reply to Mr. Cheverton.

Mr. Cheverton says, in allusion to the comparative amount of resistance on the two lines, "Mr. Badnall will not undertake the task (of showing how trivial is the difference), because it will disclose the poverty of his scheme." In the same breath, also, he observes, that "space will not allow him (Mr. Cheverton,) to show how trivial one is in comparison to the other."

Thus Mr. Cheverton, in a most unwarrantable manner, accuses me of withholding the truth when I have the power of publishing it, which truth, if exposed, would (he says) prove the poverty of my scheme; and yet, after nearly a twelvemonth's discussion, he, for want of space, declines to touch upon this subject. I appeal to all your readers, is this generous?

But Mr. Cheverton endeavors to sweeten this bitter observation, by saying, "I cannot believe that there is any intention to deceive, yet it suits his (Mr. Badnall's) purpose better, (though it is not dealing fairly with the public,) to take a very short distance, such as 147 yards," &c. &c.

There is no intention of deceiving, and yet I am not dealing fairly with the public!! I trust Mr. Cheverton will have the good feeling to revoke these expressions, or, at least, to explain them; and if not, I trust he will exclude Mr. R. Stephenson, Mr. Daglish, Mr. Dixon, and the other engineers under whose joint inspection and superintendence most of the experiments were made, from any participation in a wish to deal unfairly with the public.

I am not one, Mr. Editor, who feels disposed to quibble about trifles, or, in discussions of this kind, to be disturbed by every burst of anger from an opponent whom, in this instance, I feel within my grasp; but I offer my unqualified protest against the right or propriety of any man attributing unjust motives to another, without a cause which he is able to substantiate.

Mr. Cheverton's remarks about inertia and gravity are becoming as familiar to me as my "hic, hæc, hoc."

His simile of "the two boys with a swing," would, I should have imagined, (as some time ago alluded to by your correspondent "Saxula,") have led him to reflect rather more deeply on the subject before us. Had I told him, before this discussion was entered upon, that I could, by means of my own arm, and without the aid of any assistant artificial power, raise a ton weight above the level of my head, he would not, perhaps, have believed me; yet he knows very well, that if a ton weight were suspended but a few inches from the earth by a rope of sufficient strength and length, and from a prop of sufficient strength, there could be no difficulty, by gradually increasing the oscillations of the load, in attaining the required elevation,—nay, by the simple application of an equally simple contrivance, to retain the load at that very elevation when attained. Now, although throughout each oscillation of this pendulum, the effect of gravity from each descent of the weight may be said to be destroyed in the corresponding ascent, would the power of gravity, or would it not, be auxiliary in the accomplishment of this task?

With regard to 147 yards being too limited a distance to suit the trial of a fair experiment, Mr. Cheverton must blame the locomotive engine, not me. The inclined plane is $1\frac{1}{2}$ mile in length, and if the Rocket engine had not sufficient power to reach a higher elevation, was it my fault? The experiments which were last tried will surely satisfy Mr. Cheverton that he has done me injustice, in supposing that I chose the worst engine, from any supposition that it would best support my arguments on this subject.

As it appears that the deductions which are

drawn by engineers from these experiments, are not fully understood by many who have perused the particulars of them, I shall beg your insertion of a diagram, published by the editor of the Manchester Guardian, which will probably be found to render my ideas as clear as they can be rendered on this subject:—



A B is a level line—B C, equal to B D, forming an undulation B B C, whose summits are of equal altitude.

The train of loaded carriages, weighing 150 tons, and moved by two engines, one dragging, the other propelling the load, had acquired from A to B (the length of this line being one mile on the railway,) a velocity of 20.28 miles an hour. On arriving at B the steam of the propelling engine was shut off, and the engine stopped. The train, then, partly by the momentum acquired in travelling over the level railway, and partly by the power of the remaining engine, ascended the inclined plane to the point C, viz. 575 yards, which was as far as the united locomotive force of one engine and the momentum could carry it. The power was then reversed, and the engine pushed the carriages back from C down the inclined plane to B, at which point it was found that the descending velocity was 31.70 miles an hour. Now, as the velocity of 20.28 miles an hour at B was sufficient, with the aid of one engine, to carry the whole train from B to C, what man living will dispute that a velocity of 31.70 miles an hour, at the same point, would, with the same engine, have enabled the train to ascend the line B D, which is supposed to be precisely equal to the line B C? On the contrary, would there not be a given velocity generated at the point D, which, the effective power of the engine being still continued, would have enabled the train to pass over another like undulation? If so, one engine could move 150 tons along the undulation C B D, which amount of tonnage she could not move on a level road, and which on a level road, whatever velocity was given to the train at starting, would bring the engine gradually to a halt.

But let Mr. Cheverton direct his attention to the two last experiments which were tried. If a momentum (momentum only), arising from a velocity at the point B of 19.04 miles per hour, carried the train 323 yards—say as far as e on the inclined plane B C—would not a momentum, arising from a velocity of 20.04 miles per hour, carry the same train to the point f up the ascent B D? If so, the Firefly engine proved her capability of moving 150 tons along an undulation e B f, by the employment of her power throughout only half the distance, and if this were the case over one undulation, will Mr. Cheverton deny that such would have been the case over succeeding undulations?

During the next week I may, perhaps, have an opportunity of trying a few more experiments: if so, they shall be transmitted to you. I have expressed my opinions to the Liverpool Directors, that the Firefly engine is capable of conveying from one summit of an undulation to another the enormous load of from 200 to 250 tons. I may have exceeded the limits of her power in this prophecy; but will Mr. Cheverton admit one point before he hears the result of any further experiments? viz. that if the Firefly, or any other engine, can move even 200 tons from summit to summit of one undulation, that she is capable of moving an equal load from one summit to another summit of a second or greater number of like undulations?

If so, what becomes of his weakest and most untenable argument, that all I gain is the comparatively trifling advantage which gravity gives me at the commencement of locomotion? I am, Sir, with great respect, your very obedient servant, RICHARD BADNALL.

October 29, 1833.

N. B.—The subject of friction, (trivial as Mr. Cheverton thinks it,) I shall not be ashamed to discuss in my general answer to "S. Y."

STEAM-CARRIAGES ON COMMON ROADS.—In the December number of the Repertory of Patent Inventions, we find the following account of the performance of a steam-carriage on common roads, which is deemed by many to be conclusive evidence of their ultimate success.

Steam-Carriages on Common Roads; with a Notice of the Journey to Stoney Stratford. [From the Repertory of Arts, &c.]

We are not disappointed in the expectations we hold out, that "steam-carriages might soon be expected on our common roads," a company being now formed for improving the roads, and running steam-carriages between London, Birmingham, Liverpool, and Holyhead: to be called the "London, Holyhead, and Liverpool Steam-Coach and Road Company," Consulting Engineer, Thomas Telford, Esq., Acting Engineer, John Macneill, Esquire.

From the moment that Sir Charles Dance introduced his carriage to Messrs. Maudslay and Field—and those gentlemen saw enough to induce them to undertake to make repairs and changes in the practical details—we were satisfied that the day was not far distant when this description of conveyance would become general; and it only required that the old carriage should be vamped up sufficiently to perform a journey of some extent, carrying such parties as could duly appreciate the performance; and who, from their practical experience, would judge whether sufficient had been done to justify them in lending their characters in the future advancement of this important project. The Brighton journey, from the admirable manner in which it was performed, naturally turned the attention of scientific men to the subject; and the regular running of the carriage between London and Greenwich for eight successive days (Sundays excepted), added to the general feeling, that enough had been accomplished to warrant that more decided steps should be taken to advance the introduction of steam conveyance on our common roads. Hence it was proposed by a number of influential individuals, that a further trial should be made of the engine, with a view to forming a company between London and Holyhead, should Mr. Telford and other engineers be of opinion that the application of steam on common roads had become practicable; and a proposition was made to Sir Charles Dance, that his steam-coach should run to Birmingham. We have already expressed our opinion that the carriage had performed more than could have been expected, from the inequality of many of its parts; and it would probably (as far as the public opinion was concerned) have been desirable not again to have put the carriage on the road; this was the opinion of many, particularly of Sir Charles Dance himself. The liberal manner however in which Mr. Telford and other engineers and scientific men had taken up the matter, and had tendered their talent to bring the carriage before the public, at once induced Sir Charles to give his approbation to the journey, more particularly as the engineers gave it as their opinion, that although they might not arrive at Birmingham, owing to the state of the carriage, together with the badness of some parts of the roads, they would be equally

well able to form a decided opinion from what the present carriage was capable of performing, as to what more might be expected from a new carriage built by practical workmen, and with due attention to the proper distribution of strength. The question to be decided was, whether the principle was good; if, after a fair trial, the answer should be in the affirmative, then there would be no doubt that, placed in practical hands, engines would be produced capable of performing with as much certainty as any other means of conveyance, and with an increased degree of speed and safety: on the other hand, should the opinion prove unfavorable, and the principle be considered defective, this knowledge must have determined Sir Charles Dance on abandoning all further attempts to realize his great undertaking. Having given these introductory remarks, we cannot but express our pleasure in recording the liberal manner in which the engineers and other scientific men have come forward to advance so great a national undertaking, and by their characters and talent have given weight to the cause in which Sir Charles has so long, so arduously, and we may now add, so successfully labored. We are happy in being able thus to state, that the question of the practicability of steam conveyance on our present roads is now set at rest; because we are aware that many and various reports have gone abroad with respect to the Birmingham trip; but we doubt not that the results which we have given will show, that what was performed on that day convinced all parties present that enough had been done.

We will conclude our notice of this subject, by giving a few particulars of the journey of the steam carriage from London to Stoney Stratford, taken from the note book of one of the gentlemen present. "On Friday, the first of November, 1833, Sir Charles Dance's steam carriage started from Gray's Inn Road, at about twenty minutes after three o'clock, A. M., passing through Highgate Archway, arrived at the Wellington (between five and six miles) in thirty-three minutes, the road being on the rise all the way. At this place coke and water were taken in. When again about to start, it was discovered that the weld at the joint of one of the tubes had given way, and that the water was flowing copiously; the carriage was run into the yard, and the fire put out, in order to repair the defect. Mr. Field, on examination, directed the man to cut out the defective part, and plug the ends; this was a work of time, owing to the want of tools. The object however was accomplished, and after four hours' delay the fire was again lighted, and the carriage once more took the road, and without further accident arrived at Stoney Stratford, fifty-two miles; at which place it was determined to dine and stay the night, and proceed forward next day to Birmingham. In the morning, on lighting the fire, it was discovered that the pipe was still defective, and would require to be removed that good joints might be made; this must necessarily cause delay. On a conversation of the parties it was generally agreed, that the practicability and economy of employing steam carriages as a means of transport for passengers on turnpike roads was fully established. The carriage remained at Stoney Stratford on Sunday, and was to have returned to town on Monday; but there being a meeting of magistrates and commis-

sioners of public works on that day, who expressed a desire of seeing the performance of the carriage, it was determined to delay the return till Tuesday, on which day it came to town, a distance of fifty-two miles, in four hours and forty-five minutes, even with the bad state of the roads.

"We have with pleasure spoken of the liberality of one party of individuals, we cannot pass over in silence the illiberality of others. Immediately on its being determined that the steam carriage should go to Birmingham, Mr. Macneill (one of the engineers of the Holyhead roads), assisted by Mr. Gordon, undertook to make arrangements for supplies of coke and water at proper distances; by this means it soon became generally known that the carriage was expected: and in addition to the already bad state of this portion of the roads (the St. Alban's trust), soft gravel to the depth of ten inches was laid over many parts, with a view to stop the carriage; but we leave this disgraceful conduct to receive its proper notice in the annual report to government of the commissioners and engineers of the roads. With the exception of this trust, the most liberal feeling was displayed by all parties and every facility afforded."

One of the principal roads having thus been taken up, and countenanced by some of our most celebrated engineers, leaves no doubt that attention will soon be called to other roads. An important benefit attending improving the present roads is, that the course of the traffic will remain unaltered; and thus the immense interests embraced on the "road sides," throughout the country, will retain and perhaps increase their value.

The subject of road making becoming thus a matter of the greatest importance, we hope to be able to give some particulars of the improvements which have been judiciously made on the Holyhead road; and we shall be happy to receive any information on this subject from our correspondents; for we are anxious to see every possible improvement introduced in our means of conveyance, whether on canals, railways, or common roads; we are advocates for all, for each means has its advantages; and we do not hesitate to say, that England is as much indebted for her prosperity to the facility of conveying her produce, as to any part of her economy.

Since writing the above, we have been favored with a copy of the report of the engineers who accompanied the carriage, which we subjoin.

Report of the Result of an Experimental Journey upon the Mail-Coach Line of the Holyhead Road, in Lieutenant Colonel Sir Charles Dance's Steam Carriage, on the 1st November, 1833.

Public attention having been attracted to the practicability of travelling with locomotive engines upon ordinary turnpike roads, by a report of a Committee of the House of Commons, of the 12th of October, 1831, stating that, in the opinion of the committee, the practicability of such mode of travelling had been fully established; and more recently by a report of a journey to and from Brighton having been successfully performed by Lieutenant Colonel Sir Charles Dance's steam carriage, as well as by the fact that the same carriage was daily in use between London and Greenwich, conveying numerous passengers through the crowded sub-

urbs of the metropolis without the slightest inconvenience to the public, we were desirous of personally making an experiment of the facility with which a carriage of that description could perform a journey of considerable length; and having selected the mail coach line of the Holyhead road for the purpose of such experiment, we made an arrangement with Sir Charles Dance for the use of his Carriage, on Friday, the 1st inst.

*The weight of the carriage, with the water, coke, and three persons upon it, was about 3 tons, 5 cwt.

The weight of the omnibus coach attached to it 1 " 0 "

The weight of the passengers, their luggage, and some additional sacks of coke, about 1 " 15 "

Making the gross weight moved, 6 tons, 0 cwt.

The motive power was an engine with two cylinders, seven inches in diameter and sixteen inches stroke. The pressure of steam on the tubes constituting the boiler, or generator, was not allowed to exceed 100 lbs. per square inch.

Before the carriage had proceeded six miles, one of the tubes of which Sir Charles Dance's boiler is composed was found to leak so fast as to render repair absolutely necessary: it was also apparent, that the size of the engine was not sufficient to carry so great a weight along a heavy road at any high velocity.

The weather was by no means favorable, there having been much rain in the course of the night and morning, so as to make the road heavy, added to which the winter coating of new materials had, in many places, been laid upon the road. Notwithstanding these obstacles, upon our arrival at Stoney Stratford, 52½ miles from town, it was found by Messrs. Macneill and Carpmal, who had taken accurate minutes of the loss of time occasioned by stoppages, that the average rate of travelling had been seven miles per hour.

Thus there can be no doubt, that with a well constructed engine of greater power, a steam carriage conveyance between London and Birmingham, at a velocity unattainable by horses, and limited only by safety, might be maintained; and it is our conviction that such a project might be undertaken with great advantage to the public, more particularly if, as might obviously be the case, without interfering with the general use of the road, a portion of it were to be prepared and kept in a state most suitable for travelling in locomotive steam carriages.

THOMAS TELFORD, President of the Society of Civil Engineers.

JOHN RICKMAN, Secretary and Commissioner of Highland Roads and Bridges.

C. W. PASLEY, Lieut. Col. Commanding the Royal Engineers, Chatham.

BRYAN DONKIN, Civil Engineer.

TIMOTHY BRAMAIT, Civil Engineer.

JOHN THOMAS, Civil Engineer.

JOSHUA FIELD, Civil Engineer.

JOHN MACNEILL, Engineer to the Holyhead Roads.

ALEX. GORDON, Civil Engineer.

WM. CARPMAEL, Civil Engineer.

J. SIMPSON, Engineer to the Chelsea Water-Works.

London, November, 1833.

* These facts have been ascertained by Mr. Joshua Field, Mr. John Macneill, and Mr. Alexander Gordon, civil engineers.

Rochester, Feb. 28, 1834.

To the Editor of the Railroad Journal:

SIR,—Agreeably to your request, I forward the estimated expense of construction of the wood work on the plan suggested in my communication.

Reported expense to the directors of the Buffalo and Black Rock Railroad Company:

10560 feet, lineal measure, of round timber hewed on one side, at 2½ cts.	\$264 00
\$6960 feet of plank, \$12 per M.	443 52
7040 feet oak scantling, 2 by 4 inch, \$7, 49 28	
2640 lbs. spike, 8 in. (4 to the lb.) 8½ cts.	224 40
16 tons iron, 2 in. by ½ an in. \$55,	880 00
Additional security at the end by sills and iron, distribution of materials, incidentals, &c.	100 00
Labor in putting down road, (sills placed in the grade by the contractor for grading.)	84 00

Expense per mile, \$2045 20

The estimated cost of the construction of the Tonewanda railroad from Rochester to Attica, 43 miles, on this plan, with sills 12 inches in diameter, plank 2½ inches thick, 20 tons of iron per mile, spike 3 to the pound, as reported to the directors, is, per mile, \$2544 63.

The principal saving in the expense is in the grading. Where the surface conforms nearly to the level of the road, the line is cleared, the sills placed in their proper position, and ample ditches cut to form the grade. More than half of the distance of the Tonewanda railroad line is of this description, and can be prepared at a small expense per mile, in consequence of the change in the form of the wood work.

I have made arrangements for putting down with lime, in April, one mile on the Buffalo road, to be done in the following form, viz.: using 2½ bushels of stone lime per rod, 1½ bushels slacked and placed on the sills and over the surface of the grade before putting down the plank; one bushel made into grout and applied to the surface of the planking when the road is completed, covering the surface and filling the joints of the timber, and then covered with sand: Requiring 800 bushels per mile, at 10 cents,

Labor 20 00

Expense per mile, \$100 00

You have anticipated on this form of road the use of common carriages. This manner of using the road was submitted to the commissioners of Tonewanda railroad in November last, with a view principally of using the first twenty miles from Rochester for market teams, allowing them to enter the road at certain hours in the forenoon, and afternoon to return, and so arranged as to not interfere with trains of cars; which would require the track to be five feet wide, in place of four feet nine inches, the usual width, which would not be materially objectionable. This question must be decided by experiment and circumstances.

I am, respectfully, yours,

ELISHA JOHNSON, Civil Engineer.

AMERICAN PATENTS IN ENGLAND.—The following extract of a letter from a gentleman in England, to his friend in this country, may be useful to those who desire to take out patents in Europe.

Extract of a letter from London, dated 14th December, 1833.

"It may be of use to apprise inventors of mechanical improvements in the United States, that it is essential to the security of their interests, if they design to take out patents for their inventions in this country, not to disclose the secret of their inventions in the United States until they have secured a patent here. There are many ingenious mechanics in the United States, in correspondence with their friends in this country, constantly upon the watch to seize any thing new and likely to be

useful, and to transmit the particulars to their friends, and thus forestal the rights and interest of the original inventor."

On the Causes of Spontaneous Combustion.

By J. A. B. [From the Journal of the Franklin Institute.]

I wish, through the medium of your Journal, to solicit the attention of some of your scientific readers to the causes of spontaneous combustion, generally; and with a view particularly to the investigation of those causes that are liable to produce it in cotton, woollen, and paper factories, from the stock, or waste, being accidentally impregnated with oils, or other substances.

As very few manufacturers are sufficiently acquainted with chemistry to determine accurately the causes of the effects which they may observe, it is therefore desirable that men of science, who have leisure, inclination, and information, (our correspondent has forgotten an important item, viz. means,) adequate to the task, should undertake and perform a series of experiments on the intermixture, or chemical combination, of different materials, together with the proportions, situations, degrees of heat, &c., requisite, in each case, to produce spontaneous combustion, and that publicity should be given to the same through the pages of this Journal.

The vast amount of capital invested in various kinds of manufactures, and the large number of mechanics and workmen of every grade and description, who are interested, either directly or indirectly, in the safety and prosperity of our factories, whose daily support and almost sole means of accumulating property are derived from their employment therein, all unite in the requisition.

It is confidently believed that many buildings have been destroyed by fire, originating in spontaneous combustion, and that there is frequently great danger, where it is least suspected.

To aid in the inquiry, agents and superintendents, as well as the observers in the several departments of factories, should unite in communicating such cases as may have come within their notice, together with such facts and circumstances as attended them.

To contribute my mite, I will give an account of the few instances that are within my knowledge, although my statements cannot be as detailed as I could wish, from my not having paid much attention to the subject at the time the observations were made.

The first instance of spontaneous combustion, or that which was apparently so, and was not otherwise accounted for, was in a quantity of wood ashes.

The ashes were in the body of an old waggon, with boards above, at the sides and ends, and had been accumulating for more than two years, to the amount of fifty bushels, or more. The ashes belonged to a very careful man, if the epithet is not altogether inapplicable to a person who would deposit ashes in a wooden vessel, whose constant custom was to have his ashes taken up from the hearth in a metallic vessel, and stand therein until entirely cold, before they were put into the usual place of deposit, and no danger was apprehended from this practice.

One evening about sunset, smoke was perceived to issue from the body of ashes, and it was first supposed that one of the domestics had, contrary to strict orders, put in some hot embers; but, on inquiry, it did not

appear that any ashes had been added for three days, and this appeared the more probable, as several vessels were then found standing full of ashes which had been taken up.

When the fire was discovered, it was expected that it was confined to a small spot only, and that a small quantity of water would be sufficient to extinguish it, but, on pouring water on the mass, the ashes were scattered very extensively, and on further examination it was found that the boards in several places were burnt almost through, and that the whole quantity of ashes was in a state of ignition like embers immediately from the fire. Nothing but a timely discovery prevented the destruction of a large portion of a village, for the buildings were all of wood, and so situated that the chance of saving one out of twenty would have been but very small.

I should be glad to throw some further light on this subject, but every thing else in relation to it was mere conjecture, and whether some oily substance was accidentally intermixed with the ashes, or was introduced by carelessness, or otherwise, or from what cause the combustion was produced, remains entirely unknown.

Instances have been known in which cotton has taken fire by wiping up with it oil that had been spilled, both linseed and sperm oil.

Weavers' harnesses in factories are varnished with a varnish made of the following materials, the same, in greater or less proportions, being used by different manufacturers: the usual ingredients are, linseed oil, spirits of turpentine, litharge, red lead, shellac, umber and India rubber. The composition is boiled down to a thick varnish, or laid on to the harness with a brush. The harness is usually made of cotton twine.

I once knew an instance in which a hank of twine, which was varnished for mending harness, took fire, spontaneously, while hanging to dry.

I mention this circumstance, because in many factories it is customary to varnish and hang the new harness to dry in the garret, or some other spare room of the mill, and likewise to lay away the old worn-out harness in the same place, and with very little caution as to the quantity that comes in contact: a practice that may lead to dangerous and destructive consequences.

I hope my remarks will not be considered irrelevant. It will readily be perceived that my object is, at this time, more to obtain than to communicate useful information.

Pittsfield, N. H., December 2, 1833.

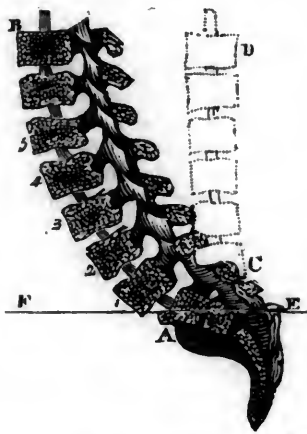
PRESERVATION OF SUBSTANCES BY MEANS OF ALKALIS.—M. Payen has preserved, during many months, polished instruments of iron and steel, by keeping them in solutions of potash and soda,—saturated solutions diluted with one, two, or three times their weight of water. He at first thought that the preserving power depended upon the disappearance of the air, and the carbonic acid in the alkaline mixture, but he afterwards concluded that alkalinity acted an essential part in the phenomenon. In fact, a very small quantity of alkali is sufficient; thus, $\frac{1}{2000}$ and even $\frac{1}{1000}$ of caustic potash in water will preserve from oxidation bars of iron, &c. immersed in it. Lime water, diluted with its own weight of water, or of course without dilution, answers the same purpose. Alkaline carbonates and borax have the same effect, but they must necessarily be stronger.—[Revue Encyclopedique.]

Animal Mechanics, or Proofs of Design in the Animal Frame. Continued from page 120. [From the Library of Useful Knowledge.]

The human spine rests on what is called the *pelvis*, or basin: a circle of bones, of which the haunches are the extreme lateral parts; and the sacrum, (which is as the keystone of the arch) may be felt at the lower part of the back. To this central bone of the arch of the pelvis, the spine is connected; and, taking the similitude of the mast, the sacrum is the *step* on which the base of the pillar, like the heel of the mast, is socketed or morticed. The spine is tied to the lateral parts of the pelvis by powerful ligaments, which may be compared to the shrouds. They secure the lower part of the spine against the shock of lateral motion or rolling; but instead of the stays, to limit the play of the spine forwards and backwards in pitching, or to adjust the rake of the mast, there is a very beautiful contrivance in the lower part of the column.

The spine forms here a semi-circle, which has this effect: that, whether by the exertion of the lower extremities, the spine is to be carried forward upon the pelvis, or whether the body stops suddenly in running, the jar which would necessarily take place at the lower part of the spine, A, if it stood upright like a mast, is distributed over several of the bones of the spine, 1, 2, 3, 4, and, therefore, the chance of injury at any particular part is diminished.

Fig. 6.



For example, the sacrum, or centre bone of the pelvis, being carried forward, as when one is about to run, the force is communicated to the lowest bone of the spine. But then the surfaces of these bones stand with a very slight degree of obliquity to the line of motion; the shock communicated from the lower to the second bone of the vertebræ is still in a direction very nearly perpendicular to its surface of contact. The same takes place in the communication of force from the second to the third, and from the third to the fourth; so that before the shock of the horizontal motion acts upon the perpendicular spine, it is distributed over four bones of that column, instead of the whole force being concentrated upon the joinings of any two, as at A.

If the column stood upright, as indicated at C D, it would be jarred at the lowest point of contact with its base. But by forming a semi-circle A B, the motion which, in the direction E F, would produce a jar on the very lowest part of the column, is distribu-

ted over a considerable portion of the column A B; and, in point of fact, this part of the spine never gives way. Indeed, we should be inclined to offer this mode to the consideration of nautical men, as fruitful in hints for improving naval architecture.

Every one who has seen a ship pitching in a heavy sea, must have asked himself why the masts are not upright, or rather why the foremast stands upright, whilst the main and mizen masts stand oblique to the deck, or, as the phrase is, rake aft, or towards the stern of the ship.

The main and mizen masts incline backwards, because the strain is greatest in the forward pitch of the vessel; for the mast having received an impulse forwards, it is suddenly checked as the head of the ship rises; but the mast being set with an inclination backwards, the motion falls more in the perpendicular line from the head to the heel. This advantage is lost in the upright position of the foremast, but it is sacrificed to a superior advantage gained in working the ship; the sails upon this mast act more powerfully in swaying the vessel round, and the perpendicular position causes the ship to tack or stay better; but the perpendicular position, as we have seen, causes the strain in pitching to come at right angles to the mast, and is, therefore, more apt to spring it.

These considerations give an interest to the fact that the human spine, from its utmost convexity near its base, inclines backwards.

CHAPTER III.

OF THE CHEST.—In extending the parallel which we proposed between the structure of the body and the works of human art, it signifies very little to what part we turn; for the happy adaptation of means to the end will every where challenge our admiration, in exact proportion to our success in comprehending the provisions which Supreme Wisdom has made. We turn now to a short view of the bones of the chest.

The thorax, or chest, is composed of bones and cartilages, so disposed as to sustain and protect the most vital parts, the heart and lungs, and to turn and twist with perfect facility in every motion of the body; and to be in incessant motion in the act of respiration, without a moment's interval during a whole life. In anatomical description, the thorax is formed of the vertebral column, or spine, on the back part, the ribs on either side, and the breast bone, or sternum, on the fore part. But the thing most to be admired is the manner in which these bones are united, and especially the manner in which the ribs are joined to the breast bone, by the interposition of cartilages or gristle, of a substance softer than bone, and more elastic and yielding. By this quality they are fitted for protecting the chest against the effects of violence, and even for sustaining life after the muscular power of respiration has become too feeble to continue without this support.

If the ribs were complete circles, formed of bone, and extending from the spine to the breast bone, life would be endangered by any accidental fracture; and even the ruts and jolts to which the human frame is continually exposed, would be too much for their delicate and brittle texture. But these evils are avoided by the interposition of the elastic cartilage. On their fore part the ribs are eked out, and joined to the breast bone

by means of cartilages, of a form corresponding to that of the ribs, being, as it were, a completion of the arch of the ribs, by a substance more adapted to yield in every shock or motion of the body. The elasticity of this portion subdues those shocks which would occasion the breaking of the ribs. We lean forward, or to one side, and the ribs accommodate themselves, not by a change of form in the bones, but by the bending or elasticity of the cartilages. A severe blow upon the ribs does not break them, because their extremities recoil and yield to the violence. It is only in youth, however, when the human frame is in perfection, that this pliancy and elasticity have full effect. When old age approaches, the cartilages of the ribs become bony. They attach themselves firmly to the breast bone, and the extremities of the ribs are fixed, as if the whole arch were formed of bone unyielding and inelastic. Then every violent blow upon the side is attended with fracture of the rib, an accident seldom occurring in childhood, or in youth.

But there is a purpose still more important to be accomplished by means of the elastic structure of the ribs, as partly formed of cartilage. This is in the action of breathing, or respiration; especially in the more highly-raised respiration which is necessary in great exertions of bodily strength, and in violent exercise. There are two acts of breathing—*expiration*, or the sending forth of the breath, and *inspiration*, or the drawing in of the breath. When the chest is at rest, it is neither in the state of expiration nor in that of inspiration; it is in an intermediate condition between these two acts. And the muscular effort by which either inspiration or expiration is produced, is an act in opposition to the elastic property of the ribs. The property of the ribs is to preserve the breast in the intermediate state between expiration and inspiration. The muscles of respiration are excited alternately, to dilate or to contract the cavity of the chest, and, in doing so, to raise or to depress the ribs. Hence it is, that both in inspiration and in expiration, the elasticity of the ribs is called into play; and, were it within our province, it would be easy to show that the dead power of the cartilages of the ribs preserve life by respiration, after the vital muscular power would, without such assistance, be too weak to continue life.

It will at once be understood, from what has now been explained, how, in age, violent exercise or exertion is under restraint, in so far as it depends on respiration. The elasticity of the cartilages is gone, the circle of the ribs is now unyielding and will not allow that high breathing, that sudden and great dilating and contracting of the cavity of the chest, which is required for circulating the blood through the lungs, and relieving the heart amidst the more tumultuous flowing of the blood which exercise and exertion produce.

CHAPTER IV.

DESIGN SHOWN IN THE STRUCTURE OF THE BONES AND JOINTS OF THE EXTREMITIES.—That the bones which form the interior of animal bodies should have the most perfect shape, combining strength and lightness, ought not to surprise us, when we find this in the lowest vegetable production.

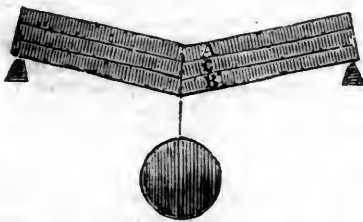
In the sixteenth century, an unfortunate man who taught medicine, philosophy, and

theology, was accused of atheistical opinions, and condemned to have his tongue cut out, and to suffer death. When brought from his cell before the inquisition, he was asked if he believed in God. Picking up a straw which had stuck to his garments, "If," said he, "there was nothing else in Nature to teach me the existence of a Deity, even this straw would be sufficient?"

A reed, or a quill, or a bone, may be taken to prove that in Nature's works strength is given with the least possible expense of materials. The long bones of animals are, for the most part, hollow cylinders, filled up with the lightest substance, marrow; and in birds the object is attained by means (if we may be permitted to say so) still more artificially. Every one must have observed, that the breast bone of a fowl extends along the whole body, and that the body is very large compared with the weight; this is for the purpose of rendering the creature specifically lighter, and more buoyant in the air; and that it may have a surface for the attachment of muscles, equal to the exertion of raising it on the wing. This combination of lightness with increase of volume is gained by air cells extending through the body, and communicating by tubes between the lungs and cavities of the bones. By these means the bones, although large and strong, to withstand the operation of powerful muscles upon them, are much lighter than those of quadrupeds.

The long bones of the human body being hollow tubes, are called cylindrical, though they are not accurately so, the reason of which we shall presently explain; and we shall at the same time show that their irregularities are not accidental, as some have imagined. But let us first demonstrate the advantage which, in the structure of the bones, is derived from the cylindrical form, or a form approaching to that of the cylinder. If a piece of timber, supported on two points, thus—

Fig. 7.

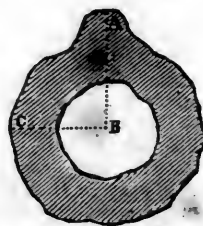


bearing a weight upon it, it sustains this weight by different qualities in its different parts. For example, divide it into three equal parts (A, B, C): the upper part, A, supports the weight by its solidity and resistance to compression; the lowest part, B, on the other hand, resists by its toughness, or adhesive quality. Betwixt the portions acting in so different a manner, there is an intermediate neutral, or central part, C, that may be taken away without materially weakening the beam, which shows that a hollow cylinder is the form of strength. The writer lately observed a good demonstration of this: a large tree was blown down, and lay upon the ground; to the windward, the broken part gaped; it had been torn asunder like the snapping of a rope. To the leeward side of the tree, the fibres of the stem were crushed into one another and splintered, whilst the central part remained entire. This, we presume, must be always the case, more

or less; and here we take the opportunity of noticing why the arch is the form of strength. If this transverse piece of timber were in the form of an arch, and supported at the extremities, then its whole thickness, its centre, as well as the upper and lower parts, would support weight by resisting compression. But the demonstration may be carried much farther to show the form of strength in the bone. If the part of the cylinder which bears the pressure be made more dense, the power of resistance will be much increased; whereas, if a ligamentous covering be added on the other side, it will strengthen the part which resists extension, and we observe a provision of this kind in the tough ligaments which run along the vertebrae of the back.

When we see the bone cut across, we are forced to acknowledge that it is formed on the principle of the cylinder; that is, that the material is removed from the centre, and accumulated on the circumference, thus:

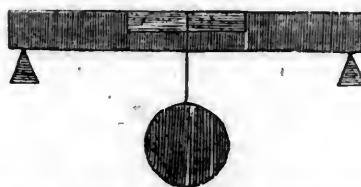
Fig. 8.



We find a spine or ridge running along the bone, which, when divided by the saw in a transverse direction, exhibits an irregularity, as at A.

The section of this spine shows a surface as dense as ivory, which is, therefore, much more capable of resisting compression than the other part of the cylinder, which is common bone. This declares what the spine is, and the anatomists must be wrong who imagine that the bone is moulded by the action of the muscle, and that the spine is a mere ridge, arising by accident among the muscles. It is, on the contrary, a strengthening of the bone in the direction on which the weight bears. If we resume the experiment with the piece of timber, we shall learn why the spine is harder than the rest of the bone. If a portion of the upper part of the timber be cut away, and a harder wood inserted in its place, the beam will acquire a new power of resisting fracture, because, as we have stated, this part of the wood does not yield but by being crushed, and the insertion of the harder portion of wood increases this

Fig. 9.



property of resistance. With this fact before us, we may return to the examination of the spine of bone. We see that it is calculated to resist pressure: first, because it is farther removed from the centre of the cylinder, and, secondly, because it is denser, to resist compression, than the other part of the circumference of the bone.*

* As the line A B extends farther from the centre than B C, on the principle of a lever, the resistance to transverse fracture will be greater in the direction A B than B C.

This explanation of the use of a spine upon a bone gives a new interest to osteology.* The anatomists ought to deduce from the form of the spine the motions of the limb; the forces bearing upon the bone, and the nature and the common place of fracture; while, to the general inquirer, an agreeable process of reasoning is introduced in that department, which is altogether without interest when the "irregularities" of the bone are spoken of, as if they were the accidental consequences of the pressure of the flesh upon it.

Although treating of the purely mechanical principle, it is, perhaps, not far removed from our proper object to remark, that a person of feeble texture and indolent habits has the bone smooth, thin, and light; but that Nature, solicitous for our safety, in a manner which we could not anticipate, combines with the powerful muscular frame a dense and perfect texture of bone, where every spine and tubercle is completely developed. And thus the inert and mechanical provisions of the bone always bear relation to the muscular power of the limb, and exercise is as necessary to the perfect constitution of a bone as it is to the perfection of the muscular power. Jockies speak correctly enough when they use the term "blood and bone," as distinguishing the breed or genealogy of horses; for blood is an allowable term for the race, and bone is so far significant, that the bone of a running horse is remarkably compact compared with the bone of a draught horse. The reader can easily understand that the span in the gallop must give a shock in proportion to its length; and, as in man, so in the horse, the greater the muscular power the denser and stronger is the bone.

The bone not being as a mere pillar, intended to bear a perpendicular weight, we ought not to expect uniformity in its shape. Each bone according to its place bears up against the varying forces that are applied to it.

* Osteology, from the Greek words, signifying discourse on bone, being the demonstration of the forms and connection of the different bones.

THE JACKSON COTTON GIN.—Mr. James Lynch, an ingenious mechanic of this place, has invented a new kind of Cotton Gin, to which he has given the above title. We should suppose from the name that it was intended to operate with a powerful impulse.

We have seen a model of the gin; but owing to the fact that we are not much acquainted with machinery of the kind, we are unable to speak with certainty of its advantages. It differs from the common gin in these respects: it contains three separate sets of cylindrical pickers, which are shorter and smaller than the common saw cylinder—and the teeth are finer. The arrangement of these pickers is one above another, the largest set being below, and presenting a front a little convex. The breast or ribs are of a peculiar form, not easily described, and wrought or cast of one piece of sheet metal. The seed cotton rolls in the hopper as in other gins, and is taken from all the pickers and thrown out at the flue, by one cylindrical brush. All the cylinders turn upon points, and are driven by two belts, passing over a drum in the rear of the machine.

The advantages of this gin are supposed to consist in its despatch; its requiring less power; occupying less space; being less

apt to cut or injure the staple; picking cleaner; being less liable to take fire from friction; and from its being less liable to choke and get out of repair, than those now in use.

Mr. Lynch intends going to Pittsburg shortly, with a view of procuring castings for this and other machinery. We wish him much success in the laudable enterprize.

AGRICULTURE, &c.

[From the New-York Farmer.]

SHORT HORN DURHAM AND DEVON CATTLE.—

A writer in the Genesee Farmer, under the signature of Ulmus, has collected the opinions of breeders on the comparative merits of these cattle, and given his in favor of the Durham, particularly for the heavy pastures of the West. He has omitted to state one objection to this breed. Butchers in New-York, and we believe generally, have prejudices against them. They think their meat is coarser and darker, and that the great depth or thickness of the flesh, unlined or unmarbled with fat, makes this beef more difficult to be cut up for retail with a suitable proportion of flesh and fat. If these objections are well founded, they should have consideration with those who are about to enter into this branch of husbandry. It should be recollected, too, that we have not, as in Great Britain, a large navy and army to consume our heavy beefs, but must depend on our large cities and towns for a market for fine beefs.

LIME SPREADING.—We last week had an opportunity of witnessing the performance of a machine for spreading lime invented by Mark Wilson, of this county, and by him patented. Although the machine was much worn, being one of the first constructed, it spread near a hundred bushels in an afternoon. It is quite simple, and could be made, with the exception of the cog-wheels, by any one accustomed to the use of the saw and hatchet. It spreads the lime in any proportion desired, from 10 to 70 bushels to the acre, and with more uniformity than can be done with a shovel. The machines are made for one or two horses, and it is ascertained that two men can spread, with a two-horse machine, four hundred bushels per day. It can be used in windy as well as in calm weather, no inconvenience arising from the dust therefrom.

We conceive it to be an improvement of much consequence to farmers, who make use of lime as manure, entirely doing away a most disagreeable yet necessary branch of their business. The machines, for two horses, cost about 30 or 35 dollars, and as no one farmer could have constant use for them, by three or four joining together, the expense would be so trifling that we should presume every neighborhood would be able to have among them one of these labor-saving machines.—[Bucks Co. Intell.]

ON THE CULTURE OF THE GARDEN BEAN.—I have been very successful for half-a-dozen years in obtaining two crops of beans from the same plants. In the summer of 1826, my first crop of magazan and early long-pod beans was, by a very strong and violent wind, blown down; this was done when the beans were in full blossom. The crop from the blossoms which the plants then possessed was very fine and abundant, and gathered during July. In three weeks after the beans were prostrated, each stem pushed forth from near the root one or more, in some instances four to six fresh stems; these bloomed freely and produced an abundant crop, which was gathered during September. Since that grew, I have uniformly bent down, so as to break the stalk near the root, my first and se-

cond crops of beans; I have by this means obtained four crops of beans from two sowings, and which supplied me from July 1st to 31st October. By this method only half the seed was required which I had been accustomed to use, and the greatest advantage to me was that only half the ground was required, so that my advantages by this method are fourfold. I always pinch out the tops when the plants are in full bloom; this throws the vigor into the production of fruit instead of a continued increase of stem and foliage.—[Mr. James Falkland, Pentonville, in the Gardener's and Forester's Record, No. 3.]

ON BREEDING HORSES.—[By T. A. KNIGHT, Esq. of Downton, Herefordshire.]—Having introduced, for the use of my tenants, a high priced stallion, of the breed of the large London dray horse, I wish to state to agriculturists the grounds upon which I anticipate much advantage from the introduction of so large an animal. He will, I have reason to believe, be, when full grown, not less than seventeen hands high, and very compact in form.

I conceive myself to have proved, by many experiments, of a part of which an account was published some years ago in the Philosophical Transactions, that the length of the legs of the offspring of all those animals which nature has intended to accompany their parents in flight, at an early age, is governed wholly by the habits of the female parent. This tribe of animals comprehends the horse, the cow, the sheep, and deer, and many others. If the female parent be of low stature, and descended from a breed of a similar form and size, the length of the legs of the offspring will be short, and will not be increased in length, though they will in strength, by any influence of its male parent, however tall and large that may have been; and the converse of this proposition will be found to be equally true.

The experience of almost every farmer must have taught him that horses with drop shoulders and bodies, and capacious chests, are more capable of bearing hard and long-continued labor than those of which the shoulders, and of course the chests, are shallow, and the legs long; but comparatively few know how rapidly the powers of draught of any animal mechanically decrease with the increasing length of the legs, comparatively with the depth of the shoulders and body. If a horse, proportioned as English horses now generally are, be sixteen hands high, his fore legs, measured from the elbow joint, will be about three feet, or nine hands high, and his shoulder about two feet four inches, or seven hands high. If such a horse be able to raise, by means of a cord passed over a pulley, a weight of a thousand pounds, another horse similar to that in every other respect, except that of having its legs eight inches shorter, would, on account of the mechanical advantage of its form, be able to raise twelve hundred and fifty pounds, or one-fourth more, with considerably less exertion; for his power would increase with the diminished length of his legs, nearly in the same proportion as the power of the weight upon the longer arms of the steelyards is increased by being made to recede from the point of suspension; and if the length of the leg of such horse, comparatively with the depth of the shoulder, were further diminished, its power would increase in an accumulating ratio. The enormous strength of a bull of mature age affords familiar evidence of the truth of these positions; and I doubt much whether the offspring of a Norwegian pony, and a strong and low draught mare, would not be found capable of drawing a heavier weight up hill, to any considerable distance, than the largest horse of the ordinary form and proportion; whilst it would not, probably, exceed two-thirds of its weight, nor require more than two-thirds the quantity of food; and it would possess much more activity, and be much less subject to accidents. And I have good reason to believe that more perfect animals, for supplying mankind with food, may generally be obtained by cross-breeding from

females of small, and male animals of large size, than from any breed of fixed and permanent habits, relatively to size.—[Farmer's Magazine.]

CALVES.—The following method of managing calves strikes us as being correct, particularly when the cow gives an abundance of milk. When the supply is small, we should suppose the calf would require additional food besides the milk.

"A friend of ours," says the Genesee Farmer, "has been very successful for many years in producing veal of the finest quality, by the following method: During the first fortnight, the calf is allowed one-half the milk, three-quarters during the third week, and the whole during the fourth week. This is his rule for common cows. In extraordinary cases, he allows more or less, according to circumstances; but deems it of great importance that the calf should be full fed during the last week.

"The reason which is given for this practice is, that if the calf takes all the milk at first, it will grow fast, and soon become too large for its supply of nourishment; but if it be stinted at first, its mother's milk will be commonly sufficient to fatten it at the close of the month."

FEEDING LIVE STOCK IN WINTER.—There is perhaps nothing relating to rural economy in which farmers differ more, both in theory and practice, than in feeding their cattle in the winter season. We speak not now of the different kinds of fodder, or of their comparative value in the feeding of stock, but merely of the manner and frequency with which the cattle are fed.

Many farmers believe it indispensable, both as to the good condition of their stock and the greatest economy of fodder, to feed them five times, at least, each day, during the winter; while others practise feeding but three or four times in a day; and again, others but twice.

Experiment alone can prove which of these modes of feeding will carry stock through the winter in the highest order, and with the least expense of fodder. Our own experience, on the subject, is decidedly in favor of feeding but twice in a day. More than twenty years' observation and experience in the keeping of stock, in a climate where, on an average, dry fodder is required to be given more than seven months in the year, has given us an opportunity to test the value of the several modes of feeding above mentioned. We were first induced to try the experiment of feeding twice in a day only, from information communicated to us by a very intelligent and successful farmer, in a neighboring town. He said he had, a few years before, had occasion to call on a farmer's widow to aid in the appraisal of several cows, and found them near the end of the winter in such high order as to draw his particular attention.

He inquired of the widow, particularly, the manner in which they had been kept, and found she had given them nothing but hay, through the winter; and that in consequence of having no man or boy to attend her stock, she had been obliged to do it herself; and being in rather feeble health, she had never fed them but twice a day. This led him to examine particularly as to the kind and quality of the hay with which the cows had been fed. He found the hay not so good as his own, while the cows were in much higher order than his; though his had been fed five times a day through the winter.

From a knowledge of these facts, he afterward adopted the same mode of feeding, giving his cattle just so much twice in each day, as they would eat up perfectly clean, and no more; and has since found it, by experience, both a saving of fodder and a benefit to his stock. From this information we adopted the practice of feeding but twice in a day, something more than ten years ago, and have found, or think we have found, the same favorable results.—[Northern Farmer.]

NEW-YORK AMERICAN.

MARCH 1-7, 1834.

LITERARY NOTICES.

No. XVII.

Dorr Prairie. (Indiana.) Dec. 29, 1833.

Being now on the mail route between Detroit and Chicago, I am travelling very comfortably in a four-horse wagon, with the gentleman mentioned in my last. I found my horse's back so sore at White Pigeon, that it was unpleasant to use him longer under the saddle; and having met with my trunk at Niles, which was forwarded from Monroe by a friend, I am in a measure compelled to adopt what is certainly the most agreeable mode of travelling at this season through a bleak prairie country.

The cold winter moon was still riding high in the heavens, as we ferried over the St. Josephs at Niles this morning. A low-sided scow was the means of conveyance; and after breaking the solid ice near the shore, to loose us from our moorings, it required some pains to shun the detached cakes, which came driving down the centre of the dark rolling river, which, near the opposite shore, had become so wedged and frozen together, that it required considerable exertion to break a way with our long poles, and make good our landing. At length, ascending the bank, a beautiful plain, with a clump of trees here and there upon its surface, opened to our view. The establishment of the Casey Mission, a long, low, white building, could be distinguished afar off, faintly gleaming in the moonlight, while several lodges of the Pottawattamies, three or four hundred of which tribe inhabit this fine district, were plainly perceptible over the plain. The moon, indeed, shone with an effulgence such as I have never witnessed, except beneath the pearly skies of the West. Morning came at last, still, but excessively cold, our horses' manes and our own clothes being covered with hoar-frost, while each blade of grass that shot its wilted spear above the snow, glistened like a diamond's point beneath the uprising sun.

About 10 o'clock, we reached a shantec on Terre Coupee prairie, and finding only a boy of six years old at home, rummaged the whole establishment to find the materials for a breakfast, which we cooked ourselves. Our next stage carried us over a rolling prairie to Laporte. The undulating surface resembled the ground swell of the sea, and nothing could be more dreary at this season when the bright sky of the morning became overcast, than moving mile after mile over this frozen lake—for such it appeared—with nothing but its monstrous swell to catch the eye, wherever its glances roamed.

It was afternoon when we reached the little settlement of Laporte, which is situated on a pretty lake in a prairie of the same name, the skirts of which are beautifully timbered. There was just light enough remaining when we reached our present stopping place, a comfortable log cabin, to see the opening ahead through the timber from which this prairie takes its name. It forms a door opening upon an area of the Grand Prairie which runs through the States of Michigan and Illinois, and extends afterwards, if I mistake not, to the base of the Rocky Mountains. I am now in the land of the *Hooshers*, and find that long-haired race much more civilized than some of their Western neighbors are willing to represent them. The term "*Hooshers*," like that of *Yankee*, or *Tuckahoe*, first applied contemptuously, has now become a sort of national epithet, by which the inhabitants of this fine State are proud to be distinguished. This part of the State is as yet but thinly settled, but the land is now rapidly coming into market; and it is calculated to support a dense population. A new town and harbor called "*Michigan City*," about 30 miles off, on the shore of the Lake, is fast coming into notice, and giving a spur to the settlements in these parts. The

country is, however, still wild enough, and I have a wilder yet to pass, before reaching Chicago.

Chicago, Jun. 1, 1834.

We left the prairie on the east, after passing through the door, and entered a forest, where the enormous black walnut and sycamore trees cumbered the soil with trunks, from which a comfortable dwelling might be excavated. The road was about as bad as could be imagined; and, after riding so long over prairies as smooth as a turnpike, the stumps and fallen trees over which we were compelled to drive, with the deep mud-holes into which our horses continually plunged, were anything but agreeable. Still, the stupendous vegetation of the forest interested me sufficiently to make the time, otherwise enlivened by good company, pass with sufficient fleetness, though we made hardly more than two miles an hour, throughout the stage. At last, after passing several untenanted sugar camps of the Indians, who, of course, were elsewhere at this season, we reached a cabin prettily situated on the banks of a lively brook, winding through the forest. A little Frenchman waited at the door to receive our horses, while a couple of half intoxicated Indians followed us into the house, in the hope of getting *a netos* (vulgarily a treat) from the newcomers. The usual settlers' dinner of fried bacon, venison cutlets, hot cakes, and wild honey, with some tolerable tea and Indian sugar, as that made from the maple tree is called at the West, was soon placed before us, while our new driver, the frizzly little Frenchman, already mentioned, harnessed a fresh team, and hurried us into the wagon, as soon as possible. The poor little fellow had 30 miles to drive before dark, on the most difficult part of the route of the line between Detroit and Chicago. It was easy to see that he knew nothing of driving, the moment he took his reins in hand; but when one of my fellow-travellers mentioned that little Victor had been preferred to his present situation of trust from the indefatigable manner in which, before the stage route was established last season, he had for years carried the mail through this lonely country—swimming rivers and sleeping in the woods at all seasons,—it was impossible to dash the mixture of boyish glee and official pomposity with which he entered upon his duties, by suggesting any improvement as to the mode of performing them. Away then we went helter skelter through the woods—scrambled through a brook, and galloping over an arm of the prairie, struck again into the forest. A fine stream, called the Calamine, made our progress here more gentle for a moment.—But immediately on the other side of the river was an Indian trading post, and our little French Phaeton, who, to tell the truth, had been repressing his fire for the last half hour, while winding among the decayed trees and broken branches of the forest, could contain no longer. He shook the reins on his wheel horses, and cracked up his leaders with an air that would have distinguished him on the Third Avenue, and been envied at Cato's. He rises in his seat as he passes the trading house; he sweeps by like a whirlwind; but a female peeps from the portal, and it is all over with poor Victor. That backward glance which he now casts behind to see the impression he has made upon the fair, is fatal to his triumph. The infuriate car strikes a stump, and the unlucky youth shoots off at a tangent, as if he were discharged from a mortar. The whole operation was completed with such velocity, that the first intimation I had of what was going forward was on finding myself two or three yards from the shattered wagon, with a tall Indian in a wolfskin cap standing over me.—My two fellow passengers were dislodged from their seats with the same want of ceremony; but though the *disjecta membra* of our company were thus prodigally scattered about, none of us providentially received injury. Poor Victor was terribly crest fallen; and had he not

unpacked his soul by calling upon all the saints in the calendar in a manner more familiar than respectful, I verily believe that his tight little person would have exploded like a torpedo.—A very respectable looking Indian female, the wife probably of the French gentleman who owned the post, came out and politely furnished us with basins and towels to clean our hands and faces, which were sorely bespattered with mud, while the grey old Indian before mentioned assisted in collecting our scattered baggage. The spot where our disaster occurred was a sequestered, wild-looking place. The trading establishment, consisted of 6 or 8 log cabins of a most primitive construction, all of them grey with age, and so grouped on the bank of the river as to present an appearance quite picturesque. There was not much time, however, to be spent in observing its beauties. The sun was low, and we had 29 miles yet to travel that night before reaching the only shantec on the lake shore. My companions were compelled to mount two of the stage horses, whilst I once more put my saddle on mine, and leaving our trunks to follow a week hence, we slung our saddle bags across the cruppers and pushed directly ahead. A few miles easy riding through the woods brought us to a dangerous morass, where we were compelled to dismount and drive our horses across, one of the party going in advance to catch them on the other side. A mile or two of pine barrens now lay between us and the shore, and winding rapidly among the short hills covered with this stunted growth, we came suddenly upon a mound of white sand at least fifty feet high. Another of these desolate looking eminences, still higher, lay beyond. We topped it; and there, far away before us, lay the broad bosom of Lake Michigan—the red disk of the sun just sinking beneath it, and the freshening night-breeze beginning to curl its limpid waters on the shore; and now having gained their verge, whichever way we turned, there was nothing discernible but the blackening lake one side and these conical hills of shifting white sand on the other. Some of them, as the night advanced and objects were only discernible by the bright starlight, assumed a most fantastic appearance, and made me regret that I could not visit the "*Sleeping Bear*" and other singularly formed mounds which many miles farther to the north, swell from two to three hundred feet above the level of the lake. The deep sand into which our horses sunk to the fetlocks was at first most wearisome to the poor beasts, and having twenty miles yet to travel entirely on the lake shore, we were compelled, in spite of the danger of quicksands, to move as near the water as possible. But though the day had been mild, the night rapidly became so cold that, before we had proceeded thus many miles, the beach 20 yards from the surf was nearly as hard as stone, and the finest McAdamized road in the world could not compare with the one over which we now galloped. Nor did we want lamps to guide us on our way. Above, the stars stood out like points of light, while the resplendent fires of the Aurora Borealis shooting along the heavens on our right, were mocked by the livid glare of the Kankakee marshes burning behind the sand hills on our left. The lake alone looked dark and lowering; though even its gathering waves would smile when touched with light as they broke upon the shore. The intense cold seemed to invigorate our horses; and dashing the fire from the occasional pebbles, they clattered along the frozen beach at a rate that brought us rapidly to our destination for the night. It was a rude cabin, built of the trunks of the stunted pines around, standing behind a sandy swell about two hundred yards from the shore. My fingers were numb with cold; and seeing a rough looking fellow moving from the door towards the horses of my companions, I requested him to take mine also; but upon his politely rejoining that "*he was nobody's holder but his own*" I could only wish him a more civil master, and proceeded to take care of the

animal myself. A brake of stunted evergreens, near by, supplied the place of a stable; and passing a whisp of dry grass over the reeking limbs of my four-footed friend, I flung my cloak over his back and tethered him for the night. The keeper of the rustic hostelry came up just as I got through with this necessary task, and explaining to me that the insolent loungee was a discharged stage driver, returned with me to the house for a measure of corn; while I, guided by the light flickering through the crevices of his frail dwelling rejoined my companions nestled with two other half-frozen travelers around the grateful fire within. The strangers were both western men; one the brother of a distinguished poet in New York, for sometime settled in Illinois; and the other an Indian trader of long standing in Chicago. Warlike incidents in border story and the pacific dealings between the whites and Indians, formed the chief subjects of conversation, which soon became general, and was prolonged to a late hour: finally the late treaty held at Chicago—at which, as you have probably seen in the newspapers, several thousand Indians were present—was discussed, and the anecdotes that were told of meanness, rapacity, and highway robbery; (in cheating, stealing, and forcibly taking away) from the Indians, exasperated me so that I expressed my indignation and contempt in unmeasured terms. The worthy trader, who was a middle aged man, of affable, quiet good manners, seemed to sympathize with me throughout; but the whole current of my feelings was totally changed; when, upon my observing shortly afterwards to another gentleman that "I should have liked to have been at Chicago a year ago," my warm coadjutor ejaculated from under the blanket where he had in the meantime bestowed himself—"ah, sir, if you had, the way in which you'd have hooked an Indian blanket by this time would be curious." The chivalric knight of La Mancha, himself, could not have sustained heroics under such a home thrust, but must have burst into the hearty laugh in which I was joined by all present. The hour of sleep for all at last arrived, and a couple of wooden bunks, swung from the roof, falling to the lot of those who had come in first, I wrapped myself in a buffalo skin and placing my saddle under my head for a pillow, soon "slept like a king;" a term, which, if

"Uneasy lies the head, that wears a crown," be true doctrine, is, probably, *quasi lucus* &c.

Our transient acquaintances parted from us in a most friendly manner in the morning; and after waiting in vain till near noon to see if by any chance little Victor might not be able to forward our trunks, to this point, we mounted once more, and pushed ahead with all speed to accomplish the remaining 20 or 30 miles between the shantee and Chicago. Our route was still along the shore; and after passing around the end of the lake and taking a northwardly direction, the way in which the ice would come down the bleak shore of the lake "was curious." We galloped at full speed, every man choosing his own route for himself along the beach, our horse's hoofs ringing the while as if it were a pavement of flint beneath them. The rough ice piled up on the coast prevented us from watering our beasts; and we did not draw a rein till the rushing current of the Calamine, which debouches into Lake Michigan some 10 miles from Chicago, stayed our course. A cabin on the bank gave us a moment's opportunity to warm, and then being ferried over the wintry stream, we started with fresh vigor, and crossing about a mile of prairie in the neighborhood of Chicago, reached here in time for an early dinner. Our horses this morning seem none the worse for this furious riding, their escape from ill consequences being readily attributable to the excellence of the road and the extreme coolness of the weather while travelling. For my own part, I never felt better than after this violent burst of exercise. We had

not been here an hour before an invitation to a public ball was courteously sent to us by the managers; and though my soiled and travel-worn riding dress was not exactly the thing to present one's self in before ladies of an evening, in my earnestness to see life on the frontier, I easily allowed all objections to be overruled by my companions, and we accordingly drove to the house in which the ball was given. It was a frame building, one of the few as yet to be found in Chicago, which, although one of the most ancient French trading posts on the lakes, can only date its growth as a village since the Indian war 18 months since. When I add that the population has *quintupled* last summer, and that but few mechanics have come in with the prodigious increase of residents, you can readily imagine that the influx of strangers far exceeds the means of accommodation, while scarcely a house in the place, however comfortable looking outside, contains more than two or three finished rooms. In the present instance, we were ushered into a tolerably sized dancing-room, situated over a lath and plastered parlor and bar-room, and having its once green walls so ingeniously covered with pine branches and flags borrowed from the garrison, that with the finished ceiling above, it presented a very complete and quite pretty appearance. It was not so warm, however, that the fires of cheerful hickory which roared at either end could have been readily dispensed with. An orchestra of unexplained boards was raised against the wall, in the centre of the room, the band consisting of a tall dandy negro, with his violin, a fine military-looking bass drummer from the fort, and a volunteer citizen, who alternately played an accompaniment upon the flute and triangle. Blackee, who flourished about with a great many airs and graces, was decidedly the king of the company, and it was amusing, while his head followed the direction of his fiddle bow with pertinacious fidelity, to see the Captain Manuel-like precision with which the soldier dressed to the front on one side, and the nonchalant air of importance which the cit attempted to preserve on the other. As for the company, it was such a complete medley of all ranks, ages, professions, trades and occupations, brought together from all parts of world, and now for the first time met together that it was amazing to witness the decorum with which they commingled on this festive occasion. The managers, (among whom were some officers of the garrison,) must certainly be *au fait*, at dressing a lobster and mixing champagne punch in order to have produced a harmonious compound from such a collection of contrarieties. The gayest figure that was ever called by quadrille playing, Benoit, never afforded me half the amusement that did these Chicago cotillions. Here you might see a veteran officer in full uniform balanceing to a tradesman's daughter still in her short frock and trowsers, while there the golden aiguillette of a handsome surgeon flapped in unison with the glass beads upon a scrawney neck of 50. In one quarter the high placed buttons of a lindsey woolsey coat, would be *dos a dos* to the elegantly turned shoulders of a delicate looking southern belle, and in another a pair of cinderella like slippers would chassee cross with a brace of thick soled broghans, in making which, one of the lost feet of the Colossus of Rhodes, may have served for a last. Those raven locks dressed a *la Madame*, over eyes of jet, and touching a cheek where blood of a deeper hue mingling with the less glowing current from European veins, tell of a likeness drawn from the original owners of the soil; while these golden tresses floating away from eyes of heaven's own color over a neck of alabaster recall the Gothic ancestry of some of "England's born." How piquantly do these trim and beaded leggings peep from under that simple dress of black, as its tall nut-brown wearer moves as if unconsciously through the graceful mazes of the dance. How divertingly do those inflated gigots, rising like windmills from that little Dutch-

built hull, jar against those tall plumes, which impend over them like a commodore's pennant on the same vessel. But what boots all these incongruities, when a spirit of festive good humor animates every one present. "It takes all kinds of people to make a world" (as I hear it judiciously observed this side the mountains) and why should not all these kinds of people be represented as well in a ball-room as in a legislature? At all events, if I wished to give an intelligent foreigner a favorable opinion of the manners and deportment of my countrymen in the aggregate, I should not wish a better opportunity, after explaining to him the materials of which it was composed, and the mode in which they were brought together from every section of the Union, than was afforded by this very ball. "This is a scene of enchantment to me, sir," observed an officer to me, recently exchanged to this post, and formerly stationed here. "There were but a few traders around the fort when I last visited Chicago, and now I can't contrive where the devil all these well-dressed people have come from!" I referred him to an old resident of three months' standing, to whom I had just been introduced, but he could throw no light upon the subject, and we left the matter of peopling Chicago in the same place where philosophers have put the question of the original peopling of the continent. I made several new acquaintances at this New Year's ball, and particularly with the officers of the garrison, from whose society I promise myself much pleasure during my stay. The geographical position of Chicago is so important, that I must give you a more minute description of the place in my next. Would that in folding this, I could enclose you half the warm wishes for your welfare which the season awakens in my bosom. H.

THE AMERICAN ANNUAL REGISTER, for 1831-2: BRATTLEBOROUGH, (Vt.) FESSENDEN & Co. BOSTON.—We did intend to go into a somewhat detailed account of the merits of this most useful publication, in the hope of awakening attention to it commensurate with its real value, and that might in the event lead to a patronage more adequate than any it has yet received to the labor and talent with which it is prepared and conducted, and to the admirable manner as to typography, paper, &c., in which it is got up. But we have no space in our sheet—and sooth to say little leisure of our own—to devote to it at present such a notice as it should receive—as at some future day it shall receive from us.

Meantime, we make from the number before us two extracts, each of interest in its way. The first which is annexed, treats the policy of unduly hastening the settlement of the public lands, in a proper American spirit, and with a far-reaching view of the benefits to distant generations of our own native citizens, for such a nursery for freemen.

There is no necessity of settling the West faster than the natural increase of the nation will do it; and the descendants of American citizens, who have been nurtured in the habits of devotion to the Union, and of respect to its laws, will furnish a better stock, than those who have been driven by improvidence or necessity from their native soil, to a country of whose institutions and laws, they are utterly ignorant, and to which they can consequently, bear no well founded attachment. The public domain now presents territory, where the surplus population of the Union can extend itself for centuries to come; and from its extent and fertility it affords a strong security, that the American people will not be forced by density of population to that extremity of misery and crime, which is exhibited in Ireland and in the more populous counties of England. In extending themselves slowly over the continent, they will do it surely.

Time will be allowed for their political institutions to take root and to fasten themselves upon the attachments of the people. The federal government, known to them as first organizing them into political communities, and as protecting them from the inroads of savages and from intestine commotions, will be regarded with affection and confidence. They will become strongly bound to the Union by ties of early association, and the descendants of emigrants from the pleasant hills of New England, the verdant banks of the Hudson, and the sunny shores of the Chesapeake, when associated in new communities and states beyond the Rocky Mountains, will turn with feelings of respect and fraternal attachment towards the glorious scenes of that great political drama, that opened upon the field of

Lexington, and received its crowning triumph upon the plains of Yorktown. This brilliant prospect, however, cannot be realized through a policy, which would rapidly fill this vast territory with a population, driven by the improvidence of their fathers, or the cruelty of their governments from the shores of Europe. Ignorant, poor, discontented, and unfit to struggle with the difficulties of the wilderness, they would at best form a heterogeneous mass with all their early associations in favor of different institutions and other countries.

The second we give mainly to rebut a charge which we have seen made in the Globe, and in other party papers, that the facts of history purport to be given in this Register, are misrepresented through party bias. A more unfounded imputation was never uttered; for, though the Editor entertains, and in a proper way expresses, when needful, very positive political opinions, they in no instance interfere with facts or truth, in his manner of recording events.

The rejection of Mr. Van Buren by the Senate of the United States, is thus stated and commented upon:

After a full discussion on this nomination with closed doors, the Senate finally, by the casting vote of the Vice President, resolved not to confirm the nomination, yeas 23, nays 23. Mr. Van Buren was accordingly rejected; and after having presented his credentials at the Court of St. James, was compelled to return to the United States. As this was the first time that a minister had been compelled to return from his post, on account of the refusal of the Senate to concur in his appointment, great excitement was produced by this decision. The reasons set forth were subjected to severe criticism, and the rejection was by many imputed to party feeling and personal jealousy.

The friends of the Executive were urged to sustain him against an attack, which it was said was aimed at him. He was induced to come before the public and avow himself to be the author of the objectionable instructions; and his party was persuaded to bring forward Mr. Van Buren as a candidate for the Vice Presidency, as the only means of vindicating the honor of the President from a censure, which by his own confession ought to have been bestowed upon him. It was also urged, that if the Senate had been sincere in asserting, that the character of those instructions was a disqualification for a diplomatic office, Mr. McLane should have shared the same fate with Mr. Van Buren. If the instructing a minister to invite a foreign government to interfere in the domestic politics of the United States, furnished a sufficient reason why the author should not represent the republic abroad, surely the execution of those instructions ought to have excluded that minister from the cabinet councils, where measures to vindicate the honor and advance the interests of the country, are originated.

The lofty sense of national honor, which could tolerate the employment of the author of instructions so derogatory to the character of the country, would never have consented to the elevation of the ambassador by whom they were executed. This exalted feeling makes no compromise with expediency, and it regards with equal disdain, the author of a policy, which places the republic in the attitude of supplicating a foreign government, and the envoy who hesitates between the loss of his office and the presenting to object a request at the foot of the British throne. No distinction could be made between them, which justified the different fates awarded to the ex-secretary and the minister, and the country was at a loss to comprehend the reason, why one was rejected and the other was confirmed.

In the contest that ensued, consequently, the opposition lost the advantage of the principle upon which it had rested the recall of Mr. Van Buren, and left the public to infer, that other motives had contributed to swell the vote against his appointment.

ANGEL'S SERIES OF COMMON SCHOOL BOOKS, FROM 1 TO 6.—Philadelphia: MARSHALL CLARK & Co. Providence, (R. I.) MARSHALL, BROWN & Co.—Mr. Oliver Angel, the author of these books, has twenty years' experience as a practical teacher, in one of the Providence district schools. His aim in preparing this series seems to have been, to carry on the learner from the first lessons in A B C, to a comprehension and appreciation of the finest compo-

sitions in the language, by a regularly progressive system—each book presenting something more advanced and consequently more difficult than the preceding.

No. 1. sets forth the first steps—gives the alphabet, and a series of short words not exceeding two syllables.

No. 2 advances into larger words, longer sentences, and some short stories, care being taken in each to select the words required to be spelled, out of the reading lessons.

No. 3 arrives at figures and numbers, and the multiplication table, pursuing a progressive march as in other things.

Nos. 4, 5 and 6 are chiefly reading books, each a little more advanced than the other, until No. 6 becomes a large and well filled volume of extracts from approved writers. In each of these books questions are annexed to the extracts, in order that the fidelity with which scholars learn may be tested. The whole seem to us executed with sound judgment.

A portrait of the late Bishop Moore, of New York, intended for the forthcoming No. of the Protestant Episcopal Pulpit, has been sent to us. It is a fine engraving, and forcibly recalls the meek, spiritual, and venerable head of that truly Christian Bishop.

Music.—Major Jack Downing's March, composed and arranged for the Piano, by J. T. Norton, and published by Hewitt & Co., is the only piece of music we have recently to acknowledge.

FOREIGN INTELLIGENCE.

TWO MONTHS LATER FROM CANTON.—We have been favored with commercial advices from Canton to Oct. 22d. The Thos. Dickason was expected to sail for New York about Nov. 10th, but with few or no teas. U. S. Bank's exchange on London sold at 4s. 4d. per dollar. No sail of private bills. Ship Morrison, hence, arrived at Canton Oct. 17th.

In port, Nabob, Liberty, Eliza, Superior, Tartar, Cabot, Sumatra, Hope, Vancouver, Thos. Dickason, Col. Howard, Brighton, Panama, Omega, Martha, Neponset, Merchant, [Timor, Sabina, Hellespont, arrived Oct. 12th and 13th.] Morrison, and Italy.—Sailed, Oct. 15, brig Jehn Gilpin, for Manila.—[Jour. of Com.]

[From the Journal of Commerce.]

LATEST FROM MEXICO.—By the ship Mexican, Capt. Davis, we have Vera Cruz papers to February 3d inclusive. Not the least important subject which at present occupies the attention of the Mexicans, relates to ecclesiastics and the church. One article is written to show that ecclesiastics ought to take no part in temporal affairs; several others are occupied in commenting very freely upon the conduct of the Pope towards Don Pedro, and his party; another is headed "The Jesuit religion, the cause of immense evils to the State;" another is taken up in discussing the nature and origin of ecclesiastical property; another in favor of toleration, &c.

Great complaints are made of the depredations of robbers, in various parts of the country. A Mexican paper of Jan. 24th says, "The stage was robbed twice last week, and once this week."

MEXICO, Jan. 27.—The Mexican capital is so plagued with robbers, that the peaceable inhabitants do not find themselves safe even in the most frequent places.

It is stated that Col. Austin had been arrested in Saltillo.

Gen. Pedraza has been appointed a member of the General Direction of public instruction.

LATER FROM EUROPE.—By the ship Henri IV. Captain Castoff, we have Paris dates of the 29th, Havre of the 30th, and London of the 27th.

In Portugal, the Queen's party have gained another victory, which promises important results.

The dates from Madrid are only two days later than before received by an arrival at Boston. The change of Ministry is confirmed, and it is also announced that orders have been issued for the convocation of the Cortes.

LONDON, JAN. 27.—Brilliant Victory over the Mi-

guelites.—"We have received important news from Portugal. Gen. Saldanha has entered Leiria, capturing the whole of Miguel's forces which were in that town. The news was brought to London this morning by an officer who landed at Falmouth, and immediately posted to London. The following is a private letter with which we have been favored:

"Lisbon, JAN. 18.—I transmit you here the Cronica of yesterday and this day, by which you will see the result of the first movement of the Conde de Saldanha's division. Those who are intimately acquainted with the situation of Leiria will know that by the next packet you will hear that our army is in Coimbra, the third city of the kingdom; and his having effected a combination with the army in Oporto will speedily leave an unbroken communication between that city and Lisbon. The Miguelite force in Santarem will be obliged to retire to the southward, pursued by the 11,000 men whom we have in observation at that place; and I feel persuaded you will very shortly learn that they are completely upon the frontier of Spain. Here all is enthusiasm and confidence, and the Government feels itself more secure than ever." This is Gen. Saldanha's report to the Minister of War, contained in the Chronica of the 17th and dated Leira, January 15:

"Army of Operations.—Most Illustrious and Excellent Senhor,—His Imperial Majesty's orders are executed. Leiria is in our possession. Of the garrison, which was composed of 1,476, and 46 cavalry, only three officers and six cavalry soldiers were able to escape, taking the road to Coimbra. The Governor, Brigadier Jose de Mello Pita Osorio, two superior officers, the Capt. Mor, and many other prisoners are in our hands, as well as four pieces of artillery, and the Ensign of the regiment of militia of Leiria. The Corregidor, a perverse man, was killed; in a word, the overthrow could not be more complete. To-morrow I shall have the honor of sending to your Excellency the details of this day, and of the movements which preceded it. A corporal of Olcadores, No. 5, wounded; this is all our loss! The affair of Alcaacer is well avenged. God preserve your Excellency.

(Signed) "CONDE DE SALDANHA."
"Postscript—All the enemy's baggage fell into our power."

Gen. Saldanha, though intending to move towards Coimbra, remained at Leira on the 16th, and on that day sent a despatch to the Government, giving a full account of his proceedings from the time of leaving the army before Santarem on the 12th, and details of his success at Leira. The Miguelites, it appears, gave up their strong position in the Castle, apprehensive of having their retreat cut off. As they were moving away, they were attacked by the cavalry under the orders of Colonel Bacon, and completely routed. The result is stated in the despatch already quoted. Beside the Governor, Col. Don Jose de Mello Freire Pita Osorio, Saldanha has captured a considerable number of officers and soldiers. The news from Santarem is also of importance. By the Chronica of the 18th, it appears that on the 15th, the day of the last accounts, the cholera morbus was raging violently at Santarem, and that provisions and forage were getting so scarce, that since the 16th more than twenty have died per day. The Pedroites have gained an advantage also at Marvao; and, according to all these accounts, the Miguelites cannot possibly long hold out. Even Miguel himself is said to be very ill, and has of late not allowed himself to be seen.—[Courier.]

SPAIN.

Convocation of the Cortes.—The Indicateur of Bordeaux of January 25th says: "We yesterday learnt officially by a courier extraordinary, that the Spanish Government has issued two Ordinances for the immediate convocation of the Cortes per estamentos."

Extract of a letter from Madrid, dated the 17th instant: "It is certain that the Great Powers have complained to England and France of the late excursions of the Spanish troops into Portugal, and that the British Cabinet has delivered to ours a note protesting against their being renewed under any pretence, and declaring that his Britannic Majesty would consider any future violation of the Portuguese territory by a Spanish army as an act of aggression against Great Britain, in consequence of the union which exists between that nation and Portugal, founded on ancient treaties. This had an ill effect at the court of Spain." No intelligence had been received from Madrid subsequent to the 17th; At that time the population of the capital was full of enthusiasm at the accession of M. Martinez de la Roda to the ministry.

The Sentinelle des Pyrenees of Bayonne has the

following, of the 17th inst. from Aldudes;—"It is said that the port of Guetataria is in the power of the Carlists, and that two British vessels have landed 10,000 muskets, and equipments for 10,000 men.

Colonel Bayona, who took refuge in France, having learnt that the Carlists had retired, immediately returned to the ironworks of Orbaiceta, of which he is director. The Spanish families, who, for some days past, have lived in huts on the French frontier, will doubtless return to their homes without delay."

FRANCE.

M. Laffitte's Hotel, in the Rue Laffitte, was put up to auction yesterday at an upset price of 978,000 fr., but there being no bidder the sale was postponed to an indefinite period.

PARIS, JAN. 28.—The Budget Committee have signified their dissent from the number of men laid in the estimate of the Minister of War, for 1833, Marshal Soult proposed a conference with them, and the Committee assembled for that purpose on Sunday, at the Palace of the Chamber of Deputies. In the estimates the effective of the army was fixed at 374,000 men, but the Marshal consented to reduce it to 310,000, the same number as voted for 1834. Some of the members of the Committee were for reducing it to 294,000 men, and others for fixing it at 310,000. The Minister declared that the honor and interest of the country did not allow him to descend below 310,000 men, and that if this number were refused Ministers would resign in the mass.

Postscript to a letter from the French Admiral Baron Hugon, commanding the French squadron on the Levant, by which he announces to the Minister of the Marine the loss of the French ship of the line *La Superbe*.

"P. S. I opened my letter to announce that the *Cornelia* has just been despatched. I have also learnt that the American ship the *United States*, Commodore Patterson, which left the Bay of Smyrna a few hours before the *Superbe*, after having lost some of her masts, had her sails torn away, and her boats carried off, and being nearly embayed off the coast of Andros, and expecting every moment to be lost, a sudden gleam of light enabled her to discover the narrow passage between Tina and Andros, she was enabled to get through it and gain the harbor of Milo."

The *Iphigenie* frigate, bearing the flag of Rear-Admiral Baron Hugon, and the *Duquesne*, of the line, Capt. Casey, arrived at Toulon on the 26th inst. from Nauplia, bringing with them 446 men of the crew of the *Superbe*, (wrecked)

FOREIGN VARIETIES.

THE ARTS IN AUSTRIA.—The care taken by the Austrian Government to prevent the people from mixing themselves up with politics, has the natural consequence of driving them to the study of the arts and sciences. Thus there are few countries in which we find so many savans and amateur artists as in Austria. Every person in comfortable circumstances gives himself up to the study of some favorite branch of art or science, to which he consecrates all his leisure hours; and what lover of such pursuits has not admired the beautiful galleries of pictures of the Princes Esterhazy and Liechtenstein, as well as the splendid libraries of Count Czarnin, Lamberg, &c., and the treasures of M. de Hammer, who possesses a greater number of Oriental manuscripts than are to be found at Constantinople or the College of Ispahan? M. Trost, directed by another kind of love for Eastern curiosities, has made a collection of all the varieties of pearls which are found in the fisheries of the Persian Gulf, at Ceylon, or in the divers harbors of the Indian Ocean; and M. Pehl, a collection of Brazilian flowers not to be equalled in Europe. Collections of herbs, medals, minerals, libraries full of rare books, and galleries of pictures, are found in every town of the least consequence in the Austrian empire. At Milan, the Chevalier Litta Blinni exhibits his colossal map of Italy; and at Pesth, M. Janowich does the honors of his rich collection of Hungarian antiquities. It will appear, therefore, that it is not only in the capital that precious and varied treasures are to be seen. Vienna, however, distinguishes herself above all the towns of Austria for her cultivation of music.

A stranger visiting Vienna would think that on music actually depended the existence of the people, for music of all descriptions strikes the ear in every direction. To enumerate all the Unions and Societies, public and private, instituted for the propagation of this science, would be perfectly impossible. The chief public institutions is the Imperial Music School, at which pupils may become members gratuitously. The Society of Amateurs, esta-

lished about twenty years, also has had a great influence on the development of the science of music in Austria. The archives of this Society possess more than 800 concerted pieces, and the library 1240 works on the theory and practice of music; besides a fine gallery of portraits of the most celebrated composers, a large collection of autographs, and a museum of rare, ancient and modern musical instruments. The Royal Library is truly one of the richest depots of ancient and modern music. It consists of sixteen large apartments, containing 4000 musical works, which number 6500 volumes. Amongst the private collections, that of Count de Fuchs is most worthy of notice, consisting of upwards of 1000 concerted pieces and M. Alexander Fuchs, brother of the former, has a collection of autographs of the most celebrated musical composers, amounting to 500. To the lovers of a cremona the collection of instruments of M. Francis Rzehacek would offer a great treat; it consists of upwards of 200 violins, violincellos, and double basses.

The Whigs and the Church.—We have, hitherto, in every question of politics in which we have presumed to say a word, endeavored to appear at once open and honest. Not to be open is, indeed, to be dishonest. But we have also, when stating our opinions, stated them with due reference to the judgments of our superiors; and we shall, as respects this important question, do as we have done on former occasions.

Our opinion here is not wavering, though it may be wrong. It is decided; we are sorry to hear of those proceedings at Gateshead, the object of which, as we understand the reports, is to make a first attack upon the House of Lords at a point where it is by far the least vulnerable. We are not amongst those who like to see the church supported by such "pillars" only as are set up by the solicitation of a king's minister or the intrigues of a royal mistress. But, supposing the election of bishops to be proper, we have no hesitation to declare that in this country, which has a state established church, the bishops have at least as much claim to respect and confidence, that they are, at the very least, as members of the Upper House, as necessary to the state as the other lords. If the saying, "*Ordo Episcoporum robur reipublice*," be found to be not true, the whole of the *ordo* *Liacorum*, with which the bishops are associated in the House of Lords, had better quickly prepare themselves with proofs to show what strength they afford to the nation. "Bishops," it has been said, "should not take part in matters of state." Why not, since the department over which they preside is a part of the state? Much better, it seems to us, that both they and their doings should appear in the House of Lords, than that, being hidden by obscurity, they should be perhaps more under the beck of corruption than a seat in the House can make them.

Probably we are letting out all we think at a moment when some who would disagree with us have views undeclared. If so, any such advantage against us is unfair. There are some who have, indeed, been pretty open in their avowals. But there are a great many who would do their best towards effecting the whole of that, the greater part of which they profess not to aim at. What then are the propositions to be discussed?—what is the end in view, and the whole of it? To undermine the church in general; to remove only its main supports; to put an end to bishops, merely to make a hit at the hereditary lords through the bishops, or to abolish the joint bench, spiritual and temporal, altogether.

If the church is now in danger, the danger is owing to the wisdom of the whigs; the whigs, who have been pound-wise for themselves and penny-wise for the people. What a faction has this been! What a new trait gained to the character of dishonesty, revealing by the delusion of confidence, when those who became the pilots in the storm turn into pirates over a wreck of their own making, and, clinging on to the last, surviving all they had taken in charge, are half cocked with a surfeit of plundering the sunk before their own noses are under water!—[Cobbett's Magazine.]

National Education in France.—The Bill regulating Primary Instructions in France, termed the *Projet de Loi*, introduced to the Chamber of Deputies by M. Guizot on the 2d of January last, and passed into a law on the 28th of June, provides for the establishment of schools of three descriptions. Every commune or parish is bound to provide, either by itself or conjointly with one or more neighboring parishes, one primary school of the lowest order. In this school moral and religious instruction is to be given to the children, reading, writing, the principles

of the French language, ciphering, and an acquaintance with the authorized system of weights and measures are to be taught. The master of this establishment is to be furnished by the parish with a suitable house and fixed salary, the minimum of which is to be 200 francs, *bt. 6s. 6d.*, and in addition he is to receive from such of the parents of the children as can afford it, fees or quarter pence. The fees are to be exacted, not by the master himself, but by a public officer on his account. County towns and parishes having a population exceeding 6,000 souls, are bound, individually or conjointly, to maintain a school of the second class, in which, in addition to the instruction given in the first or lower order of schools, the children are taught the elements of geometry, with its ordinary applications, particularly to linear drawing and land measuring; the elements of the physical sciences and of natural history, as they are applicable to the common uses of life; singing; the elements of history and geography, and especially the history and geography of France.—The wishes of the fathers must, however, be consulted and complied with as to their children's participation in the religious instruction given. As this second class of schools are designed for the children of parents above want, there is no gratuitous admission except in the case of extraordinary talents in the poor scholar of the lower species, who receives the advantage of a higher education as a reward; but, in order that the rate of payment may be very moderate, the master is to receive a fixed salary, of which the minimum is 400 francs, (16*l.* 13*s.*) along with the fees. In this class of schools, as well as the former, the fixed salary of the master is to be paid wholly by the parish, if possible, *or, if not*, partly by the department or county, and the state itself is to come in aid as a *dernier resort*. The third class of schools, styled the *Normal*, are for the training of masters, and of these there is to be one in every department.

New Gigantic Telescope.—A great work has just been completed in all its essential parts, in Urzschneider's manufactory of optical instruments at Munich. It is a gigantic telescope, on Fraunhofer's principle, of 15 Paris feet focal distance, and an aperture of 10 1/2 inches. It surpasses in size and power the largest telescopes made in the lifetime of the illustrious Fraunhofer. It has been tried with the greatest strictness by the professors of astronomy in the University of Munich, and declared to be a perfect masterpiece. The clearness and distinctness of a heavenly body seen through it, is, to that of the Dorpat telescope made by Fraunhofer, of thirteen feet focal distance and nine inches aperture, as 21 to 18, and the intensity of the light as 136 to 100. It magnifies far above 1000 times, and the ordinary expression of bringing an object nearer may be literally applied: thus, when Saturn at its smallest distance from the earth, is 165,000,000 of geographical miles distant, it seems, when magnified 816 times by this telescope, to have approached to the distance of 192,000 geographical miles; and the moon, at her smallest distance from the earth, seems, when magnified in the same manner, to have approached within 68 geographical miles, which is but little more than the distance, in a direct line, from Athens to Constantinople.

The number of State Pensioners in France, on January 1, 1833, was 162,175, who are thus divided: peers, 128, receiving 1,564,000 francs; civil pensioners, 2593; receiving 1,733,400 fr.; pensioners of July, 1408, receiving 613,700 fr.; military pensioners, 127,011, receiving 46,603,221 fr.; ecclesiastical pensioners, 28,186, receiving 4,662,463 fr.; *donataires*, 2,952, receiving 1,480,084 fr. Total, 162,175 pensioners, receiving 56,735,874 fr.

MAXIM.—When you have made a good bargain be sure you clench it with a deposit before the other party has time to retract. Often when a man may be bargaining with you in jest, if the advantage be on your side, you may pretend you thought him in earnest; and so sometimes, make a very good piece of business of it. It will not only be of good to you, but it will benefit him by teaching him never to jest about business. I will tell you a story:—A man that I am very well acquainted with, and who was not always so well to do in the world as he is now—I do not say it was myself, but it was a Scotsman who had risen from a very low beginning. His outward dress did not always tally with the lining of his pocket; indeed, the pocket when he went to market was but ill held up by the rags which it was sewed to; to look at him you would not have thought him worth a plack. Well, one morning, a cargo of hides coming into port, he went and asked the owner what he would sell his whole cargo for?—Looking at him from head to foot, the owner could

hardly refrain from laughing outright. "My good friend," said he, "I think it matters little to you the price of the cargo: a single hide, I should imagine, would exhaust your whole purse." "When folk come to buy," said our Scotsman, "they expect to be treated with civility. Will you answer me a plain question? What's the price of the whole cargo of hides on board your ship *Prosperity*, now in harbor?" The shipowner still thought the man was daft or joking, and he said, "What will you give me for the cargo, ready money down upon the table?" "Gude sir, it's not for me to put a price upon your goods; tell me what is the lowest price you'll take?" The owner still carrying on the joke, (as he thought,) named a price not half the actual value. The merchant, of frugal appearance, put his hand in his pocket, took out a shilling, and clapped it into the hands of the owner, crying aloud, "A bargain! my friend, and before these witnesses?" turning to those who had been amused with the conversation that had passed. Viewing the man still in the same light, and never suspecting that he had to do with a man of money, the considerate owner proffered back the shilling to the man of rags, saying, "Here my good man, though I have been cutting some severe jokes upon him, I would not wish to rob you of a shilling; judging from appearances you have very few to spare." The buyer advanced with a firm step, and looking him in the face, said, "Sir, judging from appearances, it may be so; but I can tell you I did as give ye that shilling that it might be returned in the character of an almshouse: that shilling is the arles o' my purchase of the whole of your cargo; tell me, therefore, when you will deliver it, and receive your money! or, said, he (taking out of his pouch the foot of an old stocking, well darned and patched, heavy with gold and crumpled with bank notes, "if any substantial person will be responsible for the delivery, I'll pay ye the ailler down on the table this minute." Every attempt at explanation or accommodation was in vain; and at last the owner was compelled to give up his cargo of hides at less than half their value; and he received the money agreed upon forthwith. As it was the only cargo that had arrived in the market for some time, the ragged man of money sold his hides at almost his own demand; and he aye said it was the best bargain he ever made in his life. A ragged coat, ye see, has its advantages as well as a good one; but mind, never joke about business.—[Glasgow Courier.]

SUMMARY.

Extract of a letter from a gentleman at Prairie du Chien, Upper Mississippi, Feb. 1.

I wrote to — from Mineral Point, since which I have heard that the Sacs and Foxes have killed 16 Winnebagoes, and my friend and gossip Whirling Thunder is about to come down upon the Black Hawk people with 700 warriors at his back. He swears he will exterminate Black Hawk's band. The fighting, if any takes place, will be far in the rear of me. I may see some of the fun, however, when I return.

[From the Philadelphia papers of yesterday morning.]

DEADLY DISASTER—LOSS OF LIFE.—The most serious disaster that has ever occurred on the Delaware, took place yesterday afternoon. The steamboat *William Penn*, Capt. Jeffries, on her way from New Castle to this city, took fire just before she reached the Point House, and was run ashore immediately above the Point. There were upwards of one hundred and fifty passengers on board at the time, and the awful scene that ensued can be better imagined than described. It is impossible to state at this time the number of persons who perished, as there are various contradictory rumours in circulation. Three dead bodies, two male and one female, reached this city last evening. Every exertion was made to restore life, but in vain. The names of the sufferers are, Colonel Joseph S. Porter, of this city—the Rev. John Mitchell Moore, of Lewistown, Del., and an unknown female. It is stated that the latter sprang into the water from the stern of the boat, and Mr. Moore immediately after her—that when taken up, both were alive, but they died from fright, suffering, and cold. One individual, a passenger, stated to us that he observed another female spring into the water and sink before assistance could be rendered.

The conduct of the officers of the boat, from the moment the accident occurred, is represented to have been of the most praiseworthy character. The place where the boat grounded is within about fifty

yards of the Banks of the Delaware, on the Pennsylvania side, and the passengers, male and female, were compelled to wade some distance in mud and water, to the depth of several feet. Of course they were wet to the skin, and their cloths disfigured with mud. Several lost their hats, others their shoes, &c. Most of the baggage was saved, also the Southern Mail.

As soon as the fire was discovered, a number of small boats hastened to the assistance of the sufferers—also, the South street steamboat, one of the Market street boats, and the Burlington from Chesnut street wharf. The passengers, for the most part, were brought up in these vessels. Thousands of our citizens lined the wharves from the moment the fire was discovered, until long after nightfall. Great anxiety was felt by those who expected friends and relatives, and hundreds of persons rushed to catch a glance at the dead bodies, fearful that some one dear to them had passed into the valley of death. The fire is said to have originated in the wheel-house. When first discovered, an effort was made to check it, but it was soon found impossible, and to escape from the devouring element became the object of all.

The boat continued burning for several hours, and presented a beautiful but a melancholy spectacle. About half past six o'clock she floated from the shore, and came up the river, still burning, as far as the island opposite the city, where she again went ashore, and was burnt to the water's edge. We regret to learn that the loss sustained will be about \$70,000.

Such are the leading particulars of this melancholy catastrophe, the first accident accompanied with loss of lives that has occurred on the Delaware since the introduction of steamboat navigation.

THE STEAMBOAT WILLIAM PENN.—Another of the passengers in this boat has perished, Mr. Walter W. Buckley, of Connecticut. He died from the effects of cold and exposure.

The body of the female has not yet been recognized. A ring upon her finger has the following words: "Let love abide forever. J. B."

Further search has led to the conclusion, that two large portmanteaus, containing the letters from Baltimore city and the west, embracing as is supposed, Cincinnati, Ohio State (south) Illinois, Indiana, Kentucky, West Tennessee, Maryland Western Shore, and Washington, Brownsville, Union Town, and New Geneva, Pa. and for distribution, have been entirely consumed.

A newly discovered vegetable, called the *Oxalis Crenata*, a rival to the potato, has lately been imported from Chili and cultivated with great success in Suffolk (England.) The flavor of the root is decidedly superior to that of the common potato, and it is equally prolific.

The steamboat *Wm. Gibbons*, which left New York on Saturday, at 4 P. M. was seen on Monday, at 6 A. M. 40 miles north of Hatteras—wind fresh from the northward.

More and More.—The New Orleans Bee of Feb. 17th, announces the arrival of the schr. *Creole* from Tampico, with about FOUR HUNDRED THOUSAND DOLLARS IN SPECIE.

A curious blunder occurred in the business of the Common Council on Wednesday evening. Isaac Auld, was appointed weigh-master vice Albert Cox deceased, and yet Mr. Cox is in good health, and one of the most extensive weighers in this city.

It is stated that the Fire Insurance Offices in this City have decided not to insure any steamboat unless provided with a force pump or engine and hose, sufficient to throw water to any part of the boat, if on fire. Such means of protection, if on board the *William Penn*, might have saved the destruction of the boat and lives of those who perished.

Disaster.—The packet ship *Mississippi*, Captain Robinson, from New Orleans, for this port, went ashore on Wednesday afternoon, at six o'clock, in a thick fog, on Brigantile Shoals, twenty miles south of Barnegat knocked off her false keel and thumped considerably. She has on board a full cargo and \$100,000 in specie for the United States Bank. The *M.* is a new and superb ship. She is insured in Boston, and the cargo in New York. The passengers left her soon after she struck in a schooner which was passing, and arrived in the city yesterday afternoon. A steamboat was immediately despatched and several lighters in the hope of saving the cargo, and if possible the ship.

APPOINTMENTS BY THE PRESIDENT.

By and with the advice and consent of the Senate.
David Hodge, Register of the Land Office at Steubenville, Ohio.

James C. Sloo, Register of the Land Office at Shawanetown, Illinois.

Charles Prentiss, Register of the Land Office at Vandalia, Illinois.

William L. May, Register of the Land Office at Springfield, Illinois.

Robert S. Garnett, Collector and Inspector at Tappanhook, Va.

Henry S. Whitely, Collector and Inspector at Wilmington, Del.

John W. Smith, Surveyor and Inspector at Portland, Maine.

Levi Fagan, Collector and Inspector at Plymouth, N. C.

Archibald W. Hyde, Collector and Inspector at Alburg, Vt.

William Beach, Collector at Gloucester, Mass.

Mahlon D. Canfield, Collector and Inspector at Great Egg Harbor, N. J.

Martin T. Morton, Collector and Inspector at Nantucket, Mass.

The above are all re-appointments.—[Globe.]

Edward Livingston, to be Envoy Extraordinary and Minister Plenipotentiary to the Court of His Majesty the King of the French.

Thomas Pennant Barton, to be Secretary of the Legation of the United States at Paris.

Arthur Middleton, Jr. to be Secretary of the Legation of the United States at Madrid, in the place of Charles S. Walsh, removed.

Joseph S. Cabot, to be Commissioner under the law to carry into effect the Convention between the United States and His Majesty the King of the Two Sicilies, concluded on the 14th of October, 1832, in the place of Peter V. Daniel, resigned.

Romulus M. Saunders, to be Commissioner under the law to carry into effect the Convention between the United States and His Majesty the King of the French, concluded on the 4th of July, 1831, in the place of Thomas H. Williams, resigned.

John W. Overton, to be Clerk to the Commission under the law to carry into effect the Convention aforesaid, between the United States and His Majesty the King of the Two Sicilies, in the place of George Breathitt, deceased.

James Collinsworth, to be Attorney of the United States for the Western District of Tennessee. Re-appointed.

John Patterson, to be Marshal of the United States for the District of Ohio. Re-appointed.—[Globe.]

Appointments by the Governor and Senate, February 26, 1834.

ALBANY.—William Weaver, inspector and admeasurer of wood and timber; also, measurer of stone. John W. Stilwell and Philo Booth, inspectors of beef and pork. Harmanus S. Van Ingen, Theodore Olcott, Henry Bartow, Thomas W. Olcott, Philip S. Van Ingen and Frederick H. Pepoon, notaries public.

BROOME.—George T. Ray, auctioneer.

SCHENECTADY.—Rowell Perry and Wm. Freeman auctioneers. Cornelius G. Palmer, Wm. Strong, Wm. Meeker, Robert Barker, Jacob Switz, Joshua D. Harman, Abraham Van Ingen, Stephen A. Daggett, James M. Bouck and Henry Fuller, commissioners of deeds.

CWENANGO.—Walter M. Koney, notary public.

OSWEGO.—John Reynolds, judge of county courts. Lewis Parker and I. Foot Turner, auctioneers.—Wm. F. Allen, examiner in chancery. Avery Skinner, judge of county courts.

TIOGA.—Silvester Sexton and Walker Canfield, inspectors of lumber.

CAYUGA.—Ezekiel Williams, Bradley Tuttle, Ulysses F. Doubleday, Thomas Y. How, Jr. and John Garrow, inspectors of the State Prison at Auburn.

CATTARAUGUS.—Albert C. Burge, supreme court commissioner. Moses Beecher, surrogate.

DUTCHESS.—Robert S. Livingston, judge of county courts. David V. N. Radcliff, supreme court commissioner. James Grant, Jr. and Alexander Forbus, notaries public. Joseph Gunn, Jacob Barringer, Stephen Jennings and Samuel Gunn, inspectors of beef and pork. Lemuel Conklin, inspector of flour and meal. John Lewis, James Montfort, John Ward, Jr. and Henry Gale, auctioneers. John Brush, examiner in chancery.

RICHMOND.—Jacob Tyson, first Judge; Daniel Merseman and Samuel Barton, judges of county courts. Richard Crocheron, surrogate. Robert M. Hazard and Wm. S. Root, notaries public. Philip Gibson, Abraham Autin, Wm. Shea, and Andrew B. Decker, auctioneers.

CLAIMS ON FRANCE.—Notice has been given by the Board of Commissioners under the Convention with France, that all claimants, whose memorials are not yet filed, or are not received in consequence of some defect, must file them with the Secretary, on or before the first Monday in May next; after which period no new one will be received, unless good cause be shown why it was not previously filed.—These are required to be prepared and verified according to the former regulations of the Board, and are to be set down for examination, at the expiration of the month from the date of their reception. So much of the previous orders, as directs that no document shall be received by way of proof or otherwise after the memorial is set down for examination, is suspended until the first Monday in May, to which time the Board, on the 21st instant, voted to adjourn, with the intention of then proceeding to the examination of the several memorials.—[Daily Adv.]

MOBILE, Feb. 14.—There were no papers from the East today. We have now eight paper mails due from New York, and six from Washington.

SHIPWRECK.—The schooner Pomona from Nassau, at Savannah, on the 19th February, reports that brig Encomium, P. Sheffield, master, from Charleston, S. C. bound to New-Orleans was wrecked on Abaco, when only 56 hours from Charleston. All the crew and passengers, including 45 slaves, was saved. The latter on landing were liberated. The following letter is from a passenger—

"Nassau, Feb. 12, 1834.

"From the time we left Charleston, we had uncommon fine weather, and was under the impression that we would certainly reach New-Orleans in a week at least, but on Monday night, precisely at twelve o'clock, the vessel struck on Abaco Reef, and filled in twenty minutes afterwards; the masts were immediately cut away to lighten her, but all in vain; she began to thump so violently that the Captain ordered all hands to secure themselves, for he said she would not hold together another hour. Young Smith and myself lashed ourselves to the mainmast, as well as the rest of passengers, amounting in all to sixty-nine souls. After being in this situation a few hours, the vessel went down bow foremost, and only a few feet of her stern remained above the surface of the water. We then began to make preparations to secure our lives a little longer, for death appeared to us inevitable. In attempting to get the small boat, which was the only one we had, on the lee side she filled twice, and it was with the utmost difficulty she could be kept free. Eight of us left the wreck in her before the dawn of day, to seek for land. As soon as daylight came we discovered land, about five miles distant. It proved to be Fish Key, a small island inhabited only by a single family of fishermen. On this desolate place, we remained four days, subsisting on what we could catch, having scarcely enough to keep us alive. We were then carried by the fishermen to Green Turtle Key, where we remained a day and a night, and lastly we were brought to this place completely destitute."

MR. AUDUBON.—The following whimsical letter written by this enthusiastic bird hunter to a gentleman in Boston, is from the Transcript.

"* * * When we left New York, I expected to be obliged to sail instant for Old England. We passed through Philadelphia, working there like horses—my good wife and I—packing birds, 3500 skins, for Europe. Had to collect money due me there—and had other trouble. Pushed for Baltimore. Had to shave every day. Ran up and down both sides of the streets. Procured four new subscribers—collected some cash—and off to Washington city to see the Grandees. Received grandly. No subscribers—no cash. Heavy bill at the Hotel—Town dull—country shockingly poor. Cleared at the Custom House, for Baltimore again—took to the water. Had a storm. Not lost—but tremendously scared. Saw Norfolk by night, and James River by day. Reached Richmond. Pleasant reception. Made and received many calls. Handful of promises, but not a jot done for us. Crops short—produce low. Huzza for the South! Coach to Petersburg. Only fourteen passengers—four harps, three violoncellos, one bass, and sundry tambourines. Have you travelled the Petersburg Rail Road? No. Well don't. Like to have been starved and roasted to boot—travelled hard, and fared harder. Coaches full—horrid brutes—eat like pigs, and swear like devils. Reached Fayetteville. Good

boiled eggs—excellent substitute for stones, in this country. Got to Columbia—saw the College and President Cooper. Hired a private carriage to Charleston. The horse laid down on the road.—Hired another at seven dollars per diem, and three more for his blades. Rode slow—saw nothing strange, and, thank God, at last reached Charleston, and the hospitable mansion of our worthy friends, the Rev. J. B.'s family. Have worked hard ever since.—Have thought of writing to you one good hundred times, but whenever I was about to make a pen, my brushes stared me in the face, and not only so, but actually said to me, (for my brushes speak) "Finish those Birds of America before you write"—and so I did.

"* * * My plans have been frustrated. I feel I shall have to go to England, instead of the Southern Swamps and Western Prairies. If it be determined that I go to Europe, you will see me in Boston in less than a month after you receive this. If not, I shall write to you. I have been so constant at my great pine table, that I have been out shooting only twice—and once only to dine out. Evening parties you knew I abhor—unless I am invited to dance! My good friend has been copying my Biography for publication. * * * We are well. * * * Thank you for Smith on Fish; but I prefer Grouse to Fish—Chickens to Grouse—and Blue-winged Teal to Canvas-Back Ducks. * * * Yours, truly, J. J. A.

There is a degree of humor and arch satire in the annexed article—which has long been waiting a place—that few alone seem master of, now-a-days.

The fastidiousness which renders the most noble Marquess of Snowden so reluctant to be seen emerging from an Omnibus, under any circumstances, is not entirely without a parallel among some of our most *recherchés* personages.

LIFE IN AN OMNIBUS.—Lord Snowden has just broken a shaft of his cabriolet, on a wet day, upon Barnes Common; an omnibus rattles up, and the Tiger, no house nor aid being near, persuades his lofty master, the destined Governor General of India, to 'get in.'

The Marquess stepped in, and the conductor gave the word, 'all right,' but this was done so soon after the admission of his Lordship into the vehicle, and he was so long picking out a clean place to sit down upon, that the jerk threw his Lordship forward into the lap of the fattest woman that ever was seen out on a caravan at a fair, who, unfortunately, was carrying a jar of pickled onions on her knee, which was upset by the Marquess's tumble, and in its fall saturated the front of his Lordship's waistcoat and stock with its fragrant juice.

The dirty dandy in the corner, as soon as he saw the voluntary contortions of poor Lord Snowden's countenance, as the huge thing bumped up and down, and twisted first one way and then another, began to affect a similar distaste for the conveyance; and to mark his sympathy with the new arrival, forthwith bumped himself up close to him. He looked at the Governor-General Bahander for a moment or two, and then pulling out a sort of whitey-brown paper funnel, which did duty for a snuff box, offered it to the Marquess.

After a short delay, during which several aristocratic carriages rolled by—at which periods the Marquess adopted the celebrated system of *ostrichism*, and hid his head—the omnibus rattled on towards town. At Waltham-green, two tall scraggy girls from a boarding-school,

Sickly, smiling, gay, young, and awkward, were poked in. A gentleman with very red mustachios, was picked up at the Queen's Elm gate; and a poulterer's boy, with a couple of skinned rabbits in a tray, was added to the party at the corner of Sloane-street, the said rabbits on their way back to a poulterer's in Duke-street, St. James's, because they were not fresh.

The Marquess made a thousand well-bred apologies, and was got up upon his legs by the exertions of the fat woman, whose struggles to rescue herself from the imposing weight of nobility, materially assisted the efforts of a good-natured dirty little man in the corner, and a thin spare woman, who was carrying a bantam-cock and three hens in a basket to London, having on her other hand a large faced child, with great blue eyes, and a cold in its head. It wore a brown skin cap, with a gold band round it, while a green and white net comforter was twisted round its chin and body; its dress, generally, bearing very strong evidence that the dear little thing was an extremely bad traveller.

Near the door, and over whose shins the Marquess first tumbled upon getting in, was placed a stout, blue-aproned market-gardener; and opposite to him, a smartish looking man, with a Mosaic gold chain round his neck, and a bunch of oily curls coming out from his hat just over his hair—he was the dandy of the party.

Off went the omnibus—rattle went all the windows—slap went the weather boards, bang went the axle-trees; and away went the whole concern at a rate and with a noise, of which the Marquess till that moment had but a very faint conception.

At the top of St. James's street the caravan stopped. The day had cleared up; the pavement was dry. The King was in town; there were many people about. Lord Snowden just peeped through the windows, and saw groups collected—men he knew. Here it was clear he could not get out—whither should he go? how far—what place was safe? At length he resolved upon going the whole journey to the Bank, so that he might emerge in the city, and then enveloping himself in a hackney-coach, reach the habitable part of the town, without fear of discovery.

'Any body for White Oss Cellar?' said the man on the steps. Out went the dirty dandy, the man with the apron, and the boy with the rabbits. But their places were instantly supplied by a portly gentleman lugging in a small sized green garden-engine with a fan spout, and three fishing-rods, which he had just bought at the corner of Albemarle street, and a fond mother who had provided herself with a heap of toys for her six children.

Still the Marquess kept peering out of his prison—nobody saw him—and it was pleasant to peep through the loop-holes thus unobserved. In a few minutes all was right, but the pavement in Piccadilly was up; it was necessary, therefore, that the huge machine should go down St. James's street; and so it did; but short was its progress in that line of march—all the bumpings and thumpings which its rapid course in the earlier part of its journey had excited now were to be compensated for. The driver smacked his whip, the horses obeyed the sound; when bang went something, and in an instant the whole fabric came down with a crash like thunder, exactly in front of White's.

The shrieks of the women, the cries of the men, the noise of the fall, all combined to attract a thousand spectators. Fifty heads were out of Crockford's Coffee-room; all the guardmen rushed into the balcony; and in the bow-window of White's itself, which was instantly thrown up, were heard the well-known voices of the leaders of the *clique*, in a sort of war-hoop, which, like the whistle of Rhoderick Dhu, roused the whole clan to observe the dreadful *dénouement*.

In detail were the passengers extricated. The dear little boarding-school girls jumped out first: the fat man with his garden-engine, stuck in the doorway, and was only ejected by the ponderosity of the still fatter woman, with what she called her 'union jar,' clasped like a lovely baby to her bosom; the lady with the toys was trampled under foot; the sick child was jammed under the dirty man in the corner, and the thin woman who took care of it, getting anxious about its fate, unwillingly abandoned the poultry; and when the most noble, the Marquess of Snowden, K. G. and Governor General of India, emerged, amidst the cries of 'take care of the old gentleman,' he came out without his hat, with a fine bantam cock perched upon his head, and a couple of fuzzy-legged hens roosting upon his shoulders.—[Hook's Sayings and Doings.]

THE SPANISH ARMADA.

[From Southey's lives of British Admirals.]

"Meantime, though the negotiations at Ostend were still carried on in policy by the Spanish commissioners, there was on the part of the Spanish government a disdainful disregard of secrecy as to its intentions, or rather a proud manifestation of them, which, if they had been successful, might have been called magnanimous. The great king had determined upon putting forth his strength, and so confident were his subjects of success, that in the accounts which were ostentatiously published of its force, they termed it 'the most fortunate and invincible Armada.' The fleet, according to the official statement, consisted of 130 ships, having on board 19,295 soldiers, 8450 mariners, 2088 galley-slaves, and 2630 great pieces of brass; there were, moreover, twenty caravels for the service of the fleet, and ten six-oared *falua's*. The names of the most popular Romish saints and invocations appeared in the nomenclature of the ships; and holier appellations, which ought never to be thus applied, were strangely associated with the Great Griffin and the Sea Dog,

the Cat and the White Falcon. There were in the fleet 124 volunteers of noble family, having among them 456 armed servants.

There was no noble house in Spain but had a son, a brother, or a nephew in the voyage, embarked either at their own cost, or in the king's pay. The religioners who embarked for the service of the fleet, and for after operations, were 180, consisting of Augustinians, Franciscans, Dominicans, and Jesuits. Don Martin Alarcon embarked for the good of the heretics, as vicar-general of the holy inquisition; and implements of conversion of a more cogent kind than argument or persuasion are said to have been embarked in sufficient quantity. The business of reconciling England to the Romish see was committed to Cardinal Allen, as it had formerly been to Cardinal Pole, and an English translation of the pope's bull was ready for circulation as soon as a landing should be effected. The galleons, being above sixty in number, were 'exceeding great, fair, and strong, and built high above the water, like castles, easy, (says a contemporary writer,) to be fought withal, but not so easy to board as the English and the Netherlands ships; their upper decks were musket proof, and beneath they were four or five feet thick, so as no bullet could pass them. Their masts were bound about with oakum, or pieces of fazed ropes, and armed against all shot. The galleasses were goodly great vessels, furnished with chambers, chapels, towers, pulpits, and such like: they rowed like galleys, with exceeding great oars, each having 300 slaves, and were able to do much harm with their great ordnance.' In place of the Marquez de Santa Cruz, who was dead, the Duque del Medina Sidonia was general of this great armament; Don Juan Martinez de Ricalde, admiral."

The following addition will be considered very curious:

The Invincible Armada, as it was to have been, according to the Plan of the Duke of Alva.—The Invincible Armada with which Philip the Second designed to subdue England is sufficiently well known. His treasury was exhausted by the sums which he expended on it, and never after recovered its pristine palmy state. For the times, this armament was the largest which had ever been fitted out, for it contained no less than 130 ships of war, of which 65 were of the line, their tonnage was 57,868 tons. They carried no less than 2431* guns and mortars, 123 790 shot, 5175 hundred weight of powder, 1238 hundred weight of lead for the arquebuses (plomo para la arcabucera,) and 30,658 men, together with the necessary provision. They were accompanied by 180 priests and friars, being at the rate of one for every 155 men. There were also on board, of biscuit 11,000 cwt., bacon 6000 cwt., and cheese 3000 cwt. This, however, was not by any means the Invincible Armada originally proposed by Alva, and the design of which he sketched with such a degree of accuracy, that we must honor him as a man of genius, while we condemn him as a tyrant. Whether England could have made any resistance had Philip II. been able to accomplish this plan, may reasonably be doubted:—According to Alva, the fleet was to have numbered 150 ships of the line (the real Armada consisting, as we have seen, of but 65;) their tonnage would have been 77,250 tons. In addition to these ships of the line, there were also to have sailed 446 frigates, transports, and small vessels, with the tonnage of 33,500 tons; so that the whole tonnage amounted to 110,750 tons. The crews were estimated at 30,100, whose pay for eight months was to be 500,000 piasters. The land troops were to have amounted to 55,000 men. Let us only consider the times in which this was to have taken place. Even in our own days the largest fleet scarcely lands more than 20,000 men. The expedition which was in 1820 to have subjected South America, consisted of only 15,000 men. Spain, Naples, and Germany, joined to form this formidable array. On landing, it was to have had an artillery of 136 pieces of cannon, that of the fleet numbering 4,150* pieces. The service of the land artillery was reckoned at 28,000 cannon-balls, and 2,200,800 cwt. of powder. In those times, compared with our own, the guns were fired slowly and seldom, so that the ammunition seems but slenderly

* 5175 cwt. of powder is manifestly too little, while on the other hand, 2,200,800 is as plainly too much.

† 4150 pieces of cannon are far too few for 150 ships of the line, and 446 frigates; for if we reckon that each ship of the line carried at least 50 guns, they would have amounted to 7500; to which we may add 200 frigates at 20 guns each, giving 4000 more, making an aggregate of 11,500 guns.

provided. For the conveyance of the artillery when landed, Alva intended to ship 1400 mules; the rest of the service was to be supplied by 1200 horses.—The whole number of men on board the Armada would have amounted to 94,000. We cannot proceed farther with the items; but what we have already stated is sufficient to show the enormous scale, for the times, in which the expedition was planned. The original document containing this plan, was lately, and, we believe, for the first time, published in Spanish and German in Schepeler's *Beitragen zur Geschichte Spaniens*. He obtained it, and other ancient papers, in 1814, while serving in Spain.

THE OLD MAN'S RELICS.

I have been young, and wild, and gay,
To all but beauty blind;
And sighed all night, and sung all day,
To ladies stern or kind;
I've told my tale in many prose,
I've written it in rhyme;
And now I'm crown'd with age's snows,
The scent of yonder withered rose
Recalls that pleasant time.
O then were hopes that chased my sleep,
And fears that made me thin;
And many subtle wiles and deep
My proud one's heart to win;
And raptures past the poet's guess
To wear so sweet a chain;
And now, perforce, content with less,
A gleam from yonder golden trees
Revives it all again.
O then were feasts in lighted halls,
And vows beneath the moon,
And fairy tales and madrigals
In garden bowers at noon;
And wanderings with my ladye love
Around the haunted hill;
And now my hand can hardly move,
It needs but touch the brocaded glove,
And she's beside me still.
You smile at all these simple things
I hold in treasured store;
You ask the worth of flowers and rings
When love exists no more:
I wish to-morrow were my last,
If cold or careless grown,
To dame or wind I dared to cast
The precious relics of the past.
And joys for ever gone!

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street,
J31 6t corner of Maidenlane.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy;—also, a Railroad Goniometer, with two Telescopes;—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 8 Dock street,
Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails;—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.
Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.
E. H. GILL, Civil Engineer.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Germantown, and Norrist. Railroad

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Noth's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assistance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J 35 1f

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' instruments of your Manufacture, particularly Spirit levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustment.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing & Heartte.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark; by my self, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same.

The schr. Manuelita, which was captured by the Nimble, Br. schr. of war, and sent into Havana, was supposed to be the fastest sailing slaver out of the port, having been chased a number of times by cruisers, and escaped. She was 102 ft. 6 inches on deck, 24 9 beam, and drew 17 feet water. Crew amounted to 34. Her safety was as confidently anticipated, that a great part of her cargo (had 185 negroes when taken) were sold previous to her arrival.

Disaster.—The ship Montpelier, from New Orleans for this port, went ashore at Squam Beach, 15 miles north of Barnegat, on Tuesday morning, at 4 o'clock.

The Department of State has received information from the Chargé d'Affaires of the Netherlands, announcing the total disappearance of the Asiatic Chelera from that kingdom; and expressing the desire of his government, that any restrictions which may have been laid upon ships or goods coming from thence, in consequence of the prevalence of that disease, should be taken off.

Circular to Collectors, Naval Officers and Surveyors.
TREASURY DEPARTMENT,
Comptroller's Office, Feb. 18, 1834.

Sir—According to the decision of Mr. Secretary Duane, communicated in the circular from this office, dated the 12th of August, 1833, namely—that all Wines, excepting those of France, were from and after the 3d day of March, 1834, to pay one half of the duty existing at the date of the decision, and French wines were to pay half the duty to which they were subject, under the act of 14th July, 1832; all wines, whether imported before or after the 31st of December, 1833, and remaining under the control of the proper officers of the Customs, after the 4th day of March, 1834, will, in conformity with the provisions of the 3d section of the act of 2d March, 1833, entitled "An act to explain and amend the 18th section of an Act, to alter and amend the several acts imposing duties on imports, approved the 14th July, 1832," be entitled to the reduction of one half the duties respectively specified in that circular, in relation to which reduction the third section of the said Act of 2d March, 1833, contains the following directions, namely:

"If any higher duty shall have been paid, such excess shall be refunded out of any money in the Treasury not otherwise appropriated, to the person placing the same in the custody of the Customs; and any outstanding bond or bonds, which may have been given for the duties on the same shall be cancelled."

In order that there may not be any misunderstanding, however, in relation to the Wines which have been imported since the 31st December, 1833, and which may remain under the control of the proper officers of the Customs, after the 4th March, 1834, it is deemed proper to state that, in case the duties on any Wines thus imported, exceed 20 per cent on the value, they will not, besides the reduction of one half of the duties already allowed, be also entitled to a deduction of the one-tenth part of such excess.

With a view to an uniformity of practice in the execution of the laws referred to, it is deemed proper to state that the reduction is, in all cases, to be made with reference to the amount actually paid or secured on the quantity as ascertained at the time of the deposit.

In these cases in which the whole of the duties shall have been paid before 4th March next, a Certificate is to be given by the officers of the Customs to the persons who may be entitled to the same agreeably to the subjoined form mark A, which certificate is to be presented to the Treasury for payment.

But when only a moiety of the duties shall have been so paid, as such moiety will constitute the amount of duty to which the Government will be entitled, the bond for the remaining moiety is to be cancelled; and where no part of the duties shall have become due and payable before wines shall be applied for to be withdrawn from the Custom House stores after the 4th March next, you are to take bonds with sureties to your satisfaction (provided the party has no bond due and unsatisfied) payable in three and six months after date of importation, calculating the duties at the rates which will be in force after that day.

It is deemed proper to add that a certificate agreeably to form A, is in no case to be issued to the party claiming it, if any debt he may owe to the Government be due and unsatisfied at the time.

All such cases are to be reported to the Department, and thereupon special instruction in relation to them will be given.

In the views thus communicated, the Secretary of the Treasury concurs. Respectfully,

Signed. Jos. ANDERSON, Comptroller.

BANK OF THE UNITED STATES.

March 5, 1834.

At a meeting of the Board of Directors held this day, Mr. Eyre, from the Committee on the Offices, presented the following report, which was read.

REPORT.

The Committee on the Offices having now ascertained by an experience of several months, the progress in the reductions in the business of the Bank, ordered by the Bank on the 8th of October last, avail themselves of the monthly returns from the Bank and all its offices, made up for the month of March, to present a statement of those reductions.

The design of the Board in directing them, was to protect the institution, and to provide the means of paying the Deposites of the Government, so as to press with as little injury as possible on the community. How far that purpose has been accomplished, will be seen from the following statement of the amount of loans, deposites, specie, and circulation of the Bank; from the 1st of October, 1833, to the 1st of March, 1834.

	Discounts.	Dom. Bills.	Total.	Pub. Deposites.	Pr. Deposites.	Total.	Specie.	Circulation.
1833-Oct. 1.	42,236,275	431,127	2,667,027	51,000,000	92,523	9,849,425	59	8,008,802
Nov. 1.	41,002,813	94,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041
Dec. 1.	38,700,817	104,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041
1834-Jan. 1.	38,700,817	104,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041
Feb. 1.	38,700,817	104,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041
Mar. 1.	38,700,817	104,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041
1833-Oct. 1.	42,236,275	431,127	2,667,027	51,000,000	92,523	9,849,425	59	8,008,802
Nov. 1.	41,002,813	94,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041
Dec. 1.	38,700,817	104,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041
1834-Jan. 1.	38,700,817	104,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041
Feb. 1.	38,700,817	104,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041
Mar. 1.	38,700,817	104,116	1,477,700	44,572,010	604	8,293,311	11	7,293,041

The general result of the operations of the Bank during the last five months, have been,

1st, That the reduction of the loans has not been by upwards of four millions of dollars as great as the reduction of the deposites—and

2d, That the withdrawal of nearly eight millions of dollars, of those funds on which the Bank had based its accommodations to the community, has not yet been followed by a reduction of accommodations equal to one half of the amount of funds thus withdrawn.

3d, That from the 1st of January to the 1st of March, the increase in the line of domestic bills amounted to nearly two millions and a half of dollars.

4th, That during the same period there has been an actual increase in the total loans of the Bank of \$1,256,368 16.

The Committee cannot regret the smallness of this reduction during the last five months, not even the actual increase of its loans since the first of January; because both have arisen from the strong desire of the Bank to give every relief to the community consistent with its own safety. But they cannot forbear to express their deliberate conviction, that these reductions are much less than are required for its security during the present unsettled state of the currency, and that it has now become the duty of the

Bank, gently, but steadily to diminish the amount of the claims upon it, by continuing to lessen its business. Whereupon, on motion of Mr. Newkirk, the following resolution was unanimously adopted:

Resolved, that as much misapprehension appears to exist throughout the country, in regard to the reduction of the loans of the Bank since the removal of the public deposites, the foregoing report, be published for general information.

Extract from the minutes.

S. JAUDON, Cashier.

List of Subscribers to the Railroad Journal who have paid in advance to Jan. 1, 1835, —continued from February 22, 1834.

R. L. Livingston, Clermont, N. Y.
S. Fitch, Mystic, Ky.
J. M. Porter, Easton, Pa.
W. Cowdry, New Hamburg, Dutchess co. N. Y.
A. Barrett, Hamilton, N. Y.
W. J. McAlpine, Hamilton, N. Y.
John Higgins, Billerica, Mass.
Thos. F. Purcell, Williamsport, Md.
Peter Stewart, Amsterdam, N. Y.
A. B. Warford, Columbia, Pa.
O. R. Van Benthuyzen, Albany, N. Y.
James Tolfree, Ithaca, N. Y.
James Stewart, Williamstown, Pa.
J. Dana Allen, Clinton, N. Y.
Joseph Lomas, Newburgh, N. Y.
Alexander Twining, West Point, N. Y.
J. Richardson, Wilmington, Del.
S. S. Durfee, Hudson, N. Y.
D. Crawford, Newburgh, N. Y.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of **Duffee, May & Co.** offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Esq. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Dutchess county, New-York, January 29, 1835.

RAILWAY IRON.

Flat Bars in
Ninety-five tons of 1 inch by 1 inch, length 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. 1 1/2 do.
40 do. 1 1/2 do. 1 1/2 do.
800 do. 2 do. 2 do.
800 do. 2 1/2 do. 2 1/2 do.
soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 24, 28, 30, 32, 34, and 36 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

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LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

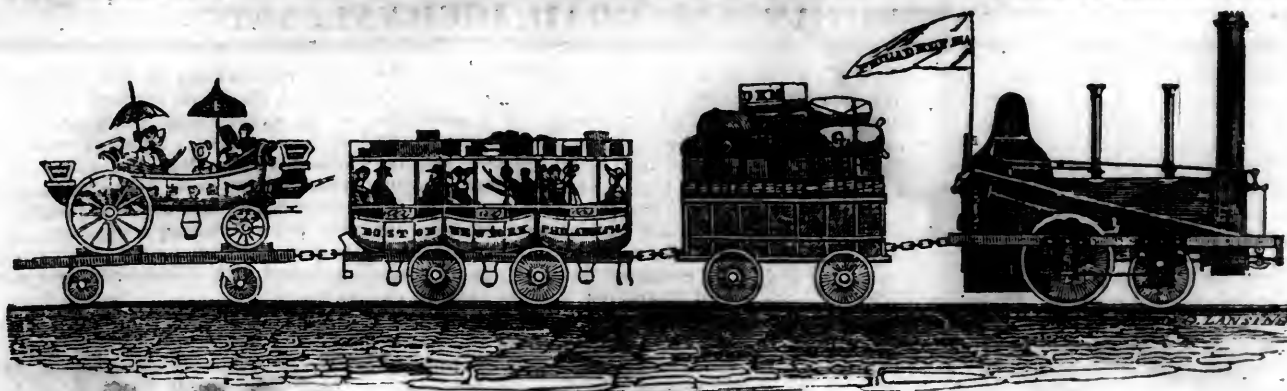
All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772 of this Journal.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, MARCH 15, 1834.

[VOLUME III.—No. 10.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 15, 1834:

TO CORRESPONDENTS.—Our friends will not, we trust, withhold their valuable communications, because they are sometimes delayed. They must recollect that the times are ‘out of joint,’ and that we have other duties to attend to just now.

We are gratified to learn that the **ITHACA AND OWEGO RAILROAD** will probably be in use by the middle of April, through its *whole line*.

ENGINEER'S MANUAL.—We publish the following extract from the preface of a forthcoming work, believing that in so doing we shall confer a favor on many of our readers. The author of the work is a practical engineer, engaged upon one of our western railroads, and has often furnished us with valuable communications for the Journal, signed “V. D. G.” We hope to be able to make further extracts from the work itself, by which those most interested in it may be able to judge of its utility to the profession.

In presenting the present little work to the notice of the public, the author is actuated with the hope of contributing in a small degree to the collection of such principles as are daily required in locating railroad curvatures with ease, accuracy, and despatch. The author has not possessed an opportunity of ascertaining extensively what may be the various methods of calculation at present resorted to by scientific and skillful engineers generally, in determining the relative positions of given points in the different curves and tangent lines which frequently come under consideration in the field; and the principal formulas which are here offered to the public, embracing these

cases, are therefore *such only* as have been used with advantage by himself. The only methods of calculation which he knows to be *now in use by others*, and which are sufficiently commodious for purposes in the field, are of an approximative kind; and under circumstances which often occur, the use of those approximative results is attended with inconvenience and delay. It is therefore hoped that the different formulæ which will be here found investigated and arranged for use will be acceptable to those who may not be in possession of more convenient methods of computation, which are sufficiently rigorous to pass a *long curve* through a given point at the first attempt.

The second part of this Manual is devoted to the methods of constructing the elliptical curve. It is well known that the true curve of an ellipsis is produced by an oblique section of a cylindrical surface, whether that surface be circular or elliptical; and hence it is that the true figure of an ellipsis should be traced with precision in the construction of skew bridges, having either circular or elliptical arches. Other cases in the department of a civil engineer might be mentioned, in which a perfect ellipsis is required; and there is no method available in practice hitherto published, which is known to the author, for constructing an oval, consisting of given circular arcs, and approaching with sufficient precision to the curve of an ellipsis.

A table of natural sines and cosines is to the engineer almost of daily use. Such a table is therefore subjoined to this work. It is also thought desirable to add a table of the square and square roots of numbers; which not only very frequently saves labor, but will also be the means of diminishing the liability to err in numerical calculations. Indeed, those two tables, or others of a similar kind, will be considered indispensable to the skillful prosecution of all field operations, by those *who know* the facilities which may be derived from them.

A speed of 40 miles an hour with a light load, has been obtained upon the Manchester railway; and Mr. G. Stephenson, the engineer, has stated his opinion that an engine might be constructed to run 100 miles within the hour, although he acknowledges that “at that rapidity of motion the resistance of the atmosphere would be very considerable.” Engines are now made with eight times the power of the Rocket, yet with little more weight resting on each rail, the load being equally divided upon six wheels, and the machinery placed in a more advantageous situation than formerly. The tubes of the boiler are made smaller and more numerous, and of brass instead of copper. The last engine put on the railway ran 23,000 miles with the most trivial repairs, taking every day four or five journeys of thirty miles each.

The following communication was received in due time, but delayed by a press of other matter previously in hand.—[Ed. R. R. J.]

Internal Improvements, No. IV. By F. To the Editor of the American Railroad Journal and Advocate of Internal Improvements.

SIR,—Before taking leave of the subject of turnpike roads, we must intreat your further indulgence for a few moments, to make a brief reply and offer a few remarks in relation to an objection that has been frequently advanced against the indiscriminate adoption of M'Adam's system of construction. It may be true, as has been stated, that there are spots highly favored in themselves as to natural advantages,—rich in every mineral and agricultural resource—but at the same time so sequestered and shut out beyond the pale of intercourse with more populous parts of the country, as to render them unavailable, except to a very limited extent. Capitalists, however, cannot be induced to embark in projects that offer but little promise of profit, and that little uncertain and remote. They require something more tangible, and will not seek in distant quarters for that which they may have without seeking at home; and it therefore stands to reason, that so long as safer and more advantageous investments are to be met with here by greater facilities, such places, however strong their claim to notice may be, must of necessity remain in a state of crude, uncultivated nature, or be content with such modifications of approved plans as may be in some degree commensurate with their available means.

We are no friends to the forcing system, and would at any time use our best efforts to discourage any project having a tendency to that end; but, we still think that some substitute might be safely recommended to meet such cases as those alluded to above, without in any manner compromising the great end of Internal Improvements, which is to bring out to the best advantage the resources of a country by any means that the nature and extent of those resources will justify. If a substitute be adopted, it should combine in its qualifications a hard and even surface, with great cheapness of construction. These are qualities indispensably necessary to the furtherance of the end in view—and as they seem to be embodied in a plan recently proposed by an engineer of some eminence in Ohio, we shall content ourselves in referring to a former number of this journal for a full explanation of its principles, by observing that much depends upon the quality and seasoning of the timber used in the formation of the ways. Evaporation principally takes place in the direction of the fibres of the wood;

and the juxtaposition of the parts where green timber is used must therefore prevent the whole escape of the natural juices. Decay, under these circumstances, is soon engendered, and the durability of the road thereby materially affected. The originality and real merit of the plan, however, recommend it warmly to notice; and, as applicable to the cases alluded to above, where preliminary measures are necessary to the introduction of more perfect means, it is particularly deserving of attention. For the end ever to be kept in view in the introduction of all improvements and innovations, should be the best interest of the particular section of country through which it may pass; and to this effect such measures only should be adopted as a calm and deliberate examination of its condition, with a careful investigation of its capacity of improvement, may dictate as most conducive to the speedy development of its natural resources. It will be admitted that every district possesses certain capabilities, which are only prevented from being brought into action by its distance from some sea-port town; and that every place having a tendency to increase its facilities of intercourse therewith must exercise a corresponding influence on the improvement of its condition. It is still, however, of vital importance to the early and successful establishment of prosperity, that the infantine exertions of such district be carefully fostered and guarded against all undue encroachments—thus, an avenue being laid open, no further apprehension need be entertained. A change of condition will soon be manifested by increased activity and prosperity; and its necessities will thenceforth be promptly met by additional facilities: for, as the motive that first incites to action stimulates with greater force to perseverance, so the enjoyment of increased prosperity animates to still greater exertions for its consummation.

As civilization attains a higher degree of perfection, and commerce becomes more generally extended, the luxuries and comforts of life demand the adoption of some new mode of communication more suitable to the advanced state of the arts and manufactures. Railroads and canals thence took their rise; and all countries to which ancient history directs our attention, seem to have availed of them according as necessity has dictated or circumstances justified. Indeed, it is a remarkable fact, that the only countries which have never emerged from their primitive state of barbarism and ignorance are those which are destitute of the means of inland navigation. This is strikingly exemplified in the inland parts of Africa, and in that part of Asia lying north of the Euxine and Caspian—the ancient Scythia and the modern Tartary and Siberia. On the other hand, wherever these means have been enjoyed, there civilization has prospered, and the arts and sciences have flourished. Thus, Egypt was the birth-place of agriculture and manufactures—the banks of the Nile were the sites of its towns and villages, which, together with those of the ancient Indians and Chinese, derived their prosperous condition and immense wealth almost exclusively from their inland navigation.

The experience of past ages therefore proves to us that every means, having for its end the promotion of internal commerce, is deserving the consideration of all civilized communities, and particularly of one like our own, in the enjoyment of every variety of soil and climate, and capable of every species of production, either of agriculture or manufactures. The system of society is so complex in its character, and its various orders so mutually interwoven by natural causes, that a good effect cannot be produced in any one part without exercising a corresponding happy influence over the other; generating thereby a mutual dependence among all classes—the high, the low—the rich, the poor—the agriculturist, the manufacturer. The interests of each converge towards the same point; and it should, therefore, be the duty of each, collectively and individually, to concentrate

their energies, and unite their efforts, to the accomplishment of the same great end. Once establish a mutual interchange of the different products of industry, by facilitating the means of intercourse between distant places, and the very objects of that industry thence become more varied, and the general commerce of the country less liable to interruption from the effects of artificial causes; and the action of any particular calamity, to which every society in its social character is more or less exposed, would thence produce but a temporary and partial evil, and would find its own correction in the reaction produced by a continuation of the exciting cause.

These remarks will not, of course, apply to a country exclusively possessing agricultural industry. In such country, the influence of foreign competition on its peculiar staples exercises a direct tendency to stimulate production to an extent that is calculated to overstock and glut the market. The price of the article thence becomes insufficient to meet the expense of raising it; and the cultivator, as a consequence, unless speedily relieved by the introduction either of new staples or new markets of consumption, must sooner or later sink under the pressure, and be reduced to the lowest state of poverty. A most deplorable instance of this truth has already been experienced in some of the Southern States of this Union—where the very articles that, for many years, proved a fertile source of revenue to the cultivator, became, not long since, owing to an excessive production, so reduced in value as to be altogether inadequate to the task of maintaining him above actual want.

But, however palpable the causes by which these effects are produced may appear, it is still a prolific source of speculation among philanthropists how far the rapid extension of manufactures, through the medium of machinery and internal improvements, is advantageous to a country as regards its moral and social condition. It has been observed, and cannot be denied, that every improvement in machinery, by which manual labor is materially lessened, is calculated to produce distress with a certain class of the community, by depriving them of their usual means of employment, and obliging them thereby to recommence the world, so to speak, in the adoption of some new vocation. But, at the same time, it must be remembered that the direct tendency of the operation of any improvement of this kind, is to increase the consumption of the product of its labors by lessening its nominal value. A wider field is thus at once opened to enterprise—additional resources made attainable,—and, therefore, while the evil complained of is only temporary, and confined to a limited, a very insignificant, numerical portion of that community, the benefit conferred is permanent and diffused throughout the whole mass of society. Besides, what tends more to elevate the condition of the poor—to exalt and ennoble the character of man—than the encouragement of all such means as will supersede the necessity for application of mere animal force? It is the degrading tendency of his occupation which alone reduces the poor operator to the lowest grade of human depravity—hardens his conscience—and stifles in his breast every natural feeling of moral excellence. Relieve his mind from this sense of degradation, and his ambition will soon take a loftier flight. He will feel a superiority over the brute creation that will elevate him above his former sphere and urge him on to greater efforts. The faculties of mind thus awakened will be thenceforth directed to the accomplishment of those means of luxury and enjoyment that before were only attainable at unceasing toil and labor.

It is unnecessary to pursue this subject further; for it is obvious that every improvement in machinery must be attended by results highly beneficial to the community at large; and internal communications, as a step preliminary to their introduction and application, should engage a large share of attention from

every well wisher to his country. Let every channel, therefore, through which information on the subject can be derived, be opened to public inspection; let its sources be examined with a view to the general good; and let its stream flow pure and unadulterated by the poison which has hitherto polluted it, and we then hazard nothing in the assertion that, under its genial influence, the arts of peace will be cherished and commercial reciprocities cultivated. F.

New-York, February 8, 1834.

The late Experiments made on the Liverpool and Manchester Railway, to determine the accuracy of the Undulating Railway Theory.
[From the London Mechanics' Magazine.]

SIR,—The truth of Mr. Badnall's statements of the experiments on the Sutton inclined plane being of importance to those who have no other means of forming their judgment upon the undulating railway theory, I take the liberty of asking that gentleman, through the medium of your Journal, which contains his account of the trials on the 23d and 24th of September (see No. 530,) how it happens that your printed statement doth vary from the verbal one which he was so polite as to give me at the Star hotel, Liverpool, on the evening of the said 24th, in the presence of Mr. Perkins the engineer, and several other gentlemen? Mr. Badnall read from his note-book, carefully and distinctly, while I wrote down his words (in ink), which, at my request, were repeated by him to prevent mistakes, and I have now the memorandum before me. Mr. Badnall will recollect, that I told him the same night that the results did not accord with each other, if the inclination of that part of the Sutton plane, upon which the experiments were tried, was really as great as he had assumed it to be—namely, 1 in 96.

The statement which Mr. Badnall then deliberately gave me was as follows, and refers only to the first, second, and eleventh experiments:

"Weight of the Rocket engine and tender, 6½ tons; wheels 4 feet 9 inches diameter. First.—Began the ascent (without steam) at the rate of 18 miles an hour (equal to 18 strokes of the piston in 10 seconds), and ran up the inclined plane to a distance of 217 yards, by momentum. Second.—Returned to the foot of the inclined plane (using the full power of the engine), and acquired a velocity of 22 miles an hour (or 22 strokes of the piston in 10 seconds); shut off the steam, and ran, on the level plane, to a distance of 454 yards, by momentum. Eleventh.—Two engines took a load of 35 tons on the level, and reached the foot of the inclined plane with a velocity of 12 miles an hour (or 12 strokes of the piston in 10 seconds). One of the engines being left behind, the other (the Rocket) shut off the steam, and ascended a space of 177 yards, by momentum."

The statement with regard to the last experiment, it will be seen, agrees with your printed account; but the two first do not, as to the fact of the acquired velocity; yet it is a truth which Mr. Badnall will not deny, that I at first understood him to say "twenty to twenty-two miles an hour"; but, upon my repeating those words, thinking the expression too vague, he corrected me or himself by saying, "twenty-two precisely." I feel sorry for the necessity of calling upon Mr. Badnall to explain how it was that, four days afterwards, he should send you so different an account for publication. Did he mean to deceive me, or your readers? In either case, I opine, he will be considered as having rather too much of "the man of the world" in his composition. I should have taken this step before now, had I seen the paper in No. 530 sooner; but I did not get it till the 2d inst. in the last monthly part, and have since then been closely engaged in my regular vocation.

Being desirous of finding out the error, for I felt assured of its existence, and Mr. Badnall hav-

ing returned to the Isle of Man, I wrote to Mr. Booth on the subject, of which letter the following is a copy:

"SIR,—Having been invited by Mr. Badnall to witness the experiments on the Sutton plane on Tuesday, the 24th ult., I went there on that day, but, as you will probably recollect, was too late for personal observation; for, at the moment I arrived, the Rocket engine had received some damage, and Mr. Badnall, with yourself, was on the point of returning to Liv-

erpool by the same train. Mr. Badnall gave me the principal results on our arrival at his hotel in Liverpool, which I cannot at all reconcile, upon the supposition that the inclination of that part of the Sutton plane is 1 in 96. Perhaps the quarter-mile post which you assumed as the foot of the plane is not precisely so, or some alteration may have taken place since their first construction. If accurate levels are taken, I am inclined to think the section will be found as follows:

"Should you think it necessary to have actual levels taken for the purpose of corroborating the other facts, will you have the goodness to favor me with the result? And you will further oblige by informing me when you next try experiments with reference to the undulating theory, and by allowing me to be present during the trial. I am, sir, your obedient servant,
H. S.

"Sheffield, Oct. 1, 1833."

"Postscript.—I ventured to tell Mr. Badnall on the same evening, that there must be some material error, and that I thought it was in the assumption of 1 in 96 for the inclination. This well-meant observation, however, did not appear very palatable."

"To Henry Booth, Esq., Treasurer to the Liverpool and Manchester Railway Company."

It is to be regretted, for the sake of truth, and Mr. Booth's acknowledged character as a gentleman and a lover of science, that all the notice of this communication which I have had the honor to receive, is contained in a postscript of an unlooked-for letter from Mr. Badnall, dated October 19th. He says,—“Your letter to Mr. Booth may lead you to a better acquaintance with the precise inclination of the Sutton inclined plane; but, however the inclination may vary from the reputed rise, it cannot affect the proportionate result of experiments.” True, it cannot; but it affords the means of checking the statement of Mr. Badnall; and there would have been another check, if that had been done which on the 24th September I said ought to have been done, namely, accurate observations recorded of the length of time occupied in traversing the respective spaces by means of the acquired momenta. This hint, it appears, has not been forgotten in trying the subsequent experiments, and its being acted upon may be attributed to Mr. Robert Stephenson, of Pendleton, who perfectly agreed with me in opinion as to its propriety. [See *Liverpool Mercury* of October 18.]

As soon as I am more at leisure I shall send you some further ideas on the undulating railway theory, which I will endeavor to condense as much as possible, and will not forget the friendly notices of your correspondents “Junius Redivivus” and “S. Y.” Yours, respectfully,
HENRY SANDERSON.

Sheffield, Nov. 10, 1833.

Mr. Badnall's Explanation of the Alleged Discrepancies in the Reports of the Recent Experiments on the Liverpool and Manchester Railway, to determine the correctness of the Undulating Railway Theory. [From the *London Mechanics' Magazine*.]

SIR,—I feel indebted by the opportunity you have afforded me of explaining the cause of the difference between the statements alluded to by Mr. Sanderson, and those sent by me to you for publication. I have no doubt that Mr. Sanderson copied my observations correctly; and those observations, at the time I communicated them to him, I believed to be perfectly correct. Mr. Sanderson is aware that, on the day the experiments were tried, I was laboring under severe indisposition; and, as the weather was extremely inclement, I did not take the same active part in the experi-

ments as Mr. Booth, Mr. Rae, and Mr. Scott. The observations I made, as they appear in my note-book, in regard to the velocity of the engine and train at the foot of the ascent, were founded on my own calculation of the number of strokes which the engine appeared to be working when she passed the spot on which I stood. The spaces passed over were measured, and the particulars agree with the statement which I gave to Mr. Sanderson. Immediately after the experiments were concluded I proceeded to Liverpool with Mr. Sanderson, whom I met in one of the railway carriages; and the same evening I gave him the particulars to which he alludes. He will perfectly recollect that the following day I was not, through indisposition, able to get up till one o'clock; and, having an arrangement at Manchester, I could not, on that day, compare my notes with Mr. Booth's. At two o'clock I left for Manchester, and gave, at Newton, the same particulars which I had given to Mr. Sanderson to Mr. Alcard. On the 26th of September I left Mr. Sanderson in Manchester, and returned to Liverpool; and, previously to addressing you, I considered it better to have an interview with Mr. Booth, who was in possession of the notes taken by Mr. Rae and Mr. Scott, and who had himself carefully taken down all the particulars. At this interview I found that I had over-estimated the velocity at which the piston was moving; and the statements, therefore, which I sent to you were not my own, as given to Mr. Sanderson, but those of three other individuals, which decidedly told more against my principle than my own would have done.

For instance, had the engine been travelling at eighteen miles an hour at the foot of ascent, before rising the hill, and twenty-two miles an hour at the same point, after descending the hill, which are the particulars given to Mr. Sanderson, the result would have shown a greater gain by the undulating system than when the velocities were fifteen strokes of the piston (or about fifteen miles an hour) before ascending, and sixteen strokes of the piston (about sixteen miles an hour) after descending, as published in your Magazine.

I have only to add, that in all the statements of the experiments which I have sent to you, I have cautiously avoided laying myself open to the slightest charge of error or partiality. On the contrary, my notes have always been corrected by, and compared with, the notes of others.

With regard to the particular inclination of the Sutton inclined plane, it has always been understood to be about one in ninety-six. After my first experiments were made, however, the levels were taken afresh, and it was found, that towards the foot of the plane the inclination was considerably less than the average rise. For instance, from the point from which the ascent of the Rocket engine, &c. was calculated, the plane rises as follows:

1st	88 yards,	- - - -	1 in 122.
2d	do.	- - - -	1 in 105.
3d	do.	- - - -	1 in 97.
4th	do.	- - - -	1 in 94.
5th	do.	- - - -	1 in 92.
6th	do.	- - - -	1 in 89.
7th	do.	- - - -	1 in 89.

And the entire distance here denoted exceeds

that to which, in any of the experiments, the train ascended.

It must, however, be evident, that however a variation in the inclinations may affect Mr. Sanderson's calculations, it cannot possibly,—which he will, no doubt, allow,—affect the comparative results of the experiments.

I remain, sir, yours, &c.,

RICHARD BADNALL.

Farm-hill, near Douglas, Nov. 19, 1833.

N. B.—There can be no doubt as to the measurement of time being the best test; which test was adopted in all the subsequent experiments, as agreed upon by the engineers present.

[From the *Mechanics' Magazine*.]

ERICSSON'S CALORIC ENGINE.—In our number for December we promised a description of Mr. Ericsson's Caloric Engine as soon as it could be procured. We have much satisfaction in being thus early able to redeem that pledge. The following is from the *London Mechanics' Magazine*:

The susceptibility for heat, possessed by gaseous and fluid bodies, is known to be nearly unlimited. Neither density nor pressure seems to exercise the smallest counteracting influence. The densest medium will take up a given quantity of heat with as much facility as the rarest; and when two mediums of unequal temperatures are brought in contact, they become equalized immediately, no matter how different their densities may be.

We have now to direct the attention of our readers to a mode of applying these physical truths to the production of mechanical power, which seems to us to be not only decidedly novel, but to be fraught with results of the greatest public importance.

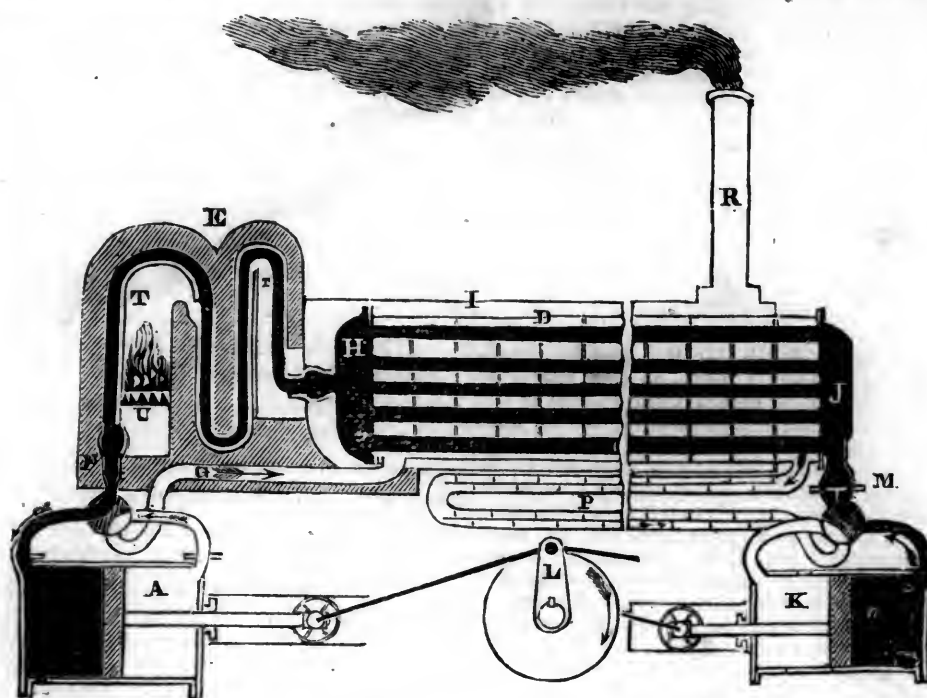
We allude to the patent recently taken out by Mr. Ericsson, for what he calls his “Caloric Engine.” The grand feature by which this engine is distinguished from the steam engine, and all other power machines, is this, that the same given quantity of heat which sets it in motion is used over and over again to keep up that motion, and that no additional supply is wanted beyond what is requisite to compensate for a small loss incurred by escape and radiation.

We have seen, as well as hundreds of others, during the past week, an engine constructed on this plan actually at work, and can bear our personal testimony to its working as powerfully and equably as any steam engine could do.

The engine which we saw at work is, in all external respects, saving only the small space which it occupies, exactly similar to a high pressure steam engine. It is calculated to be of five horse power. There are two cylinders: one called the cold cylinder, 10½ inches in diameter, and the other the working cylinder, 14 inches in diameter, both with an 18 inch stroke. The engine was worked under a pressure of 35 lbs. to the square inch, and its power checked by a break, loaded with 4,000 lbs., acting on the circumference of a wheel of 2 feet diameter.

The circulating medium employed in this engine is simply atmospheric air; but of course that or any other fluid medium may be employed with equal facility for the purpose of using the heat over and over again—some perhaps with much greater facility.

To describe the interior arrangements, by which motion is given to the engine, would lead us into a multiplicity of details, not at all necessary for the comprehension of the



principle of its action. All that is needful for this purpose the reader will find in the simplified diagrammatic arrangement exhibited in the prefixed engraving.

D D is a cylindrical vessel termed the "regenerator," which, in the actual engine, is 7 feet 6 inches long, and 8½ inches in diameter, fitted with small tubes, which pass through both ends, and terminate in the caps H and J. It also contains a number of division plates, through which these tubes pass, and which plates have segments cut out alternately from their tops and bottoms. The tubes themselves likewise contain a number of small divisions, tapering off towards the centre, each placed in an opposite direction to the other. T T is one of a series of bent tubes, inclosed in a stove, E, and acted upon by the fire, U, the combustion being supported by the draft produced by a chimney, R. The pipes in the stove are all connected with two larger pipes, the one of which communicates with the cap, H, and the other, as shown by the diagram, communicates with a four-way cock, attached to the passage-pieces of a cylinder, A, which is the working cylinder of the engine. P represents one or more pipes, exposed to some cooling medium, and is termed the "cooler;" it contains also a number of division plates, similar to those in the tubes of the regenerator, as also with the four-way cock attached to the cylinder K.

The whole of the apparatus, namely, the body of the regenerator, its tubes, the caps H and J, the pipes in the stove, the cooler P, pipe G, and the two cylinders, with their passage-pieces, we will now suppose to be all charged with common air, or any other æriform substance. We will suppose also that the portion of that air which is marked black in the diagram is kept under greater pressure or more compressed than the rest, which is left blank. Let us suppose farther, that the air which the cylinder A, the stove pipes T, the cap H, and the pipe G, contain, is raised to some considerable temperature, and that the air contained in the body, as well as the air in the tubes of the regenerator, is nearly of the same temperature of that

nearest to the cap H, gradually lessening towards the cap J, so as to be there of an equal temperature with the surrounding atmosphere. Now, since that portion of the air contained in the apparatus which is marked black has been changed to a greater pressure than the rest, and as the cylinder A, with its piston, is larger than the cylinder K, with its piston, it follows that motion must be produced in the direction shown by the arrow marked on the crank L.

The force thus exerted will, of course, depend on the difference of the areas of the pistons, and on the difference in pressure given to the circulating medium. It is evident that the hot air, which, by the motion of the piston, must escape from the cylinder A through the pipe G, will, in its winding passage through the body of the regenerator towards the cooler P, give out its heat to the cold air forced from the cylinder K, the particles of the latter being also in a constant state of change in passing through the tubes towards the stove pipes. The pistons having performed the full stroke, the two four-way cocks are then reversed, when a retrograde action takes place; the motion of the opposite currents in the regenerator still continuing the same as before. A constant motion will thus be produced, and a constant transfer of heat kept up. The object of the cooler P is to abstract the heat, which, on account of the different capacities for heat of the two currents, is not taken up in the regenerator, and the object of the stove is to supply the heat thus carried away, as well as to compensate for losses by radiation, and to raise the temperature at the commencement.

It need hardly be stated that the lesser volume of air coming from the cold cylinder fills the larger space in the hot cylinder, because it gets heated in passing through the regenerator and through the stove; while on the other hand, the larger escaping volume from the hot cylinder finds room in the lesser space of the cold cylinder, because it parts with its heat before getting there.

By charging the apparatus, the circulating medium may, of course, be kept under any desirable pressure, and thus the power

of the engine varied at pleasure. High pressure will naturally produce the greatest proportionate effect, the loss by radiation being the same under whatever pressure.

We were anxious to satisfy ourselves as to the equality of the action of the engine, and with this view timed it repeatedly: the number of strokes was regularly 56 per minute.

The total consumption of fuel, when the engine is working at this rate, is stated to be no more than two pounds per horse power in the hour; and the entire loss of heat incurred by the transferring process (that is, the whole heat carried away by the cooler,) is estimated, not to exceed the product of 3 lbs. of fuel per hour. That the fuel required is not even less than two pounds, is solely owing to the great radiating surfaces unavoidable in an engine on a small scale, and to these radiating surfaces not having in the trial engine been covered by any non-conducting substances.

Mr. Ericsson has published a pamphlet explanatory of the principle and construction of his caloric engine. We extract from it the following additional information:

"By keeping the pipes in the regenerator so charged with air as to support a column of mercury 56 inches high, the greatest effect is produced in the trial engine. By the manner in which the side-valves are worked, the pressure in the body of the regenerator always adjusts itself, so as to support a column of mercury 18 inches high; so that an effective pressure, equal to 38 inches of mercury, is kept up. A break, well oiled and loaded, with 5,000 lbs. weight acting on the circumference of a wheel of two feet diameter, fixed on the fly wheel shaft, will at the above pressure keep the speed of the engine at 55 revolutions per minute. At this speed, 176 cubic feet of heated air, of a mean pressure of 17 lbs. to the square inch, are admitted into the working cylinder per minute, thereby exerting a force equal to 431,970 lbs. moved through the space of one foot: thus $\frac{431,970}{33,000} = 13$ horses' power are communicated to the main crank of the engine. The estimating this power is, however, of no other use than to give an idea of the amount of friction to which the crank-engine is subjected. In the same space of time, or a minute, 94.6 cubic feet of cold air, of a mean resistance of 14 lbs. to the square inch, are forced or put into circulation by the cold cylinder, and equal to a resistance of 190,575 lbs. moved through the space of one foot. This amount, divided by 33,000, will give 5.7 horses' power required to work the cold cylinder—hence the two cranks give and receive the power of upwards of 18 horses. By communicating the power of the hot cylinder to the cold cylinder in a direct manner, the available power, setting frictions aside, would be $431,970 - 190,575 = 241,395$ lbs. moved through the space of one foot. This is equal to $\frac{241,395}{33,000} = 7.3$ horses' power—deducting 2.3 horses for frictions would leave 5 horses. On these grounds the trial engine has been estimated at 5 horses' power. The transferring process has succeeded to such an extent, that out of the 10 lbs. of fuel which the engine consumes per hour, the product of heat from 3 lbs. of fuel only are wasted or carried away by the cooler. This important fact has been ascertained by immersing the cooler in a cistern containing precisely 1081 lbs. of water, and by observing the elevation of temperature

after an hour's work of the engine; and the increase of temperature in that time is not quite 20 degrees—one pound's weight of fuel being capable of raising the temperature of 9,000 lbs. of water, it follows that the 1081 lbs. contained in the cistern would be raised 8.3 degrees by the combustion of 1 lb. of fuel, and hence that the actual increase of 20 degrees of temperature is effected by the combustion of less than 3 lbs. of fuel. The great discrepancy between the quantity of fuel thus wasted, and that actually consumed by the engine, must be accounted for by the fact, that a considerable extent of radiating surfaces are exposed to the cooling influence of the atmosphere without being surrounded by any imperfect conductors."

[FROM THE NEW YORK AMERICAN.]

Ithaca and Onego Railroad Company.—It will gratify the holders of the Stock of this Company to learn that there is now every reason to expect that the whole road will be ready for use, by the middle of next month. As very little if any authentic information has been given on the subject of the prospective revenue of the Company; we take the liberty of supplying the deficiency, by giving the following extract from the speech of the Hon. Charles Humphrey, in the debate on the subject of the Tompkins County Bank.

I will not trespass upon the indulgence of the House, by entering minutely into a detail of the various production of the surrounding country, which find a market at Ithaca. As some of the leading articles besides lumber, I may mention between three and four hundred thousand dollars worth of wheat and flour; between three and four hundred tons of butter; large quantities of pork; coarse grains, &c. which were exported by way of the Erie canal the last year. And notwithstanding the exports, from seven hundred to a thousand laborers, in addition to the ordinary inhabitants of the county, many of them with families, were supplied during the same period with provisions at this market; and large quantities were transported to the south and east by land carriage. I also find among my statements, derived from sources entirely to be relied upon, live stock sent from the country, to more than \$150,000 in value; cotton and woollen goods to more than \$100,000; between 2 and 300 tons of ashes; and several hundred tons of whiskey. The Lord only knows where this last article came from—we claim no credit for having manufactured it. There were from seventy to one hundred canal boats employed in the commerce of the county for the last year, of the average value of \$500 each. Without going more into particulars, the exports are known to have exceeded one million five hundred thousand dollars; and the imports more than one million of dollars in value. And I am authorized from authority that admits of no doubt, to say that the commerce of the county of Tompkins pays at least one-tenth of all the tolls received upon the Erie canal, besides what finds an outlet through the Seneca Lake. Part of the town of Hector, embracing a coast upon the Seneca Lake, of about ten miles, a densely populated, fertile and delightful country, sends its produce and receives much of its imports through that Lake, and pays its tolls at the Geneva Office.

The village of Ithaca is compactly built, mostly inhabited by respectable and thriving mechanics; and almost all the various articles required by the surrounding country, are there manufactured. It has several handsome public buildings. As an evidence of its comparative importance, I can state, that on some days of each week, fifteen mails are opened and closed, five daily stages arrive and depart, beside several three times, twice, and once a-week; a steamboat also traverses the Lake daily.

The stockholders may, for themselves, judge what will be the probable receipts on a road over which a large portion of the business which pays one-tenth of the tolls of the Erie Canal will pass.

A STOCKHOLDER.
New-York, March 10th.

ANIMAL WEATHER GLASS.—In Germany there will be found, in many country houses, an amusing application of zoological know-

ledge, for the purpose of prognosticating the weather. Two frogs are kept in a glass jar, about eighteen inches in height, and six in diameter, with the depth of three or four inches of water at the bottom, and a small ladder reaching to the top of the jar. On the approach of the dry weather, the frogs mount the ladder—but when wet weather is expected, they descend into the water. These animals are of a bright green.

AMERICAN FISHERIES.—In a recent number, we gave some interesting facts relative to the American Whale Fishery, which we are pleased to learn has been well received and extensively copied. The Whale Fishery is a very important part of our national industry, but the Cod and Herring departments of our fisheries are by no means of small consequence. As early as 1504, vessels from Biscay, Bretagne, and Normandy, were employed in the Cod Fishery on the coasts of Newfoundland. In 1507, the French, Spanish, and Portuguese, had vessels in this lucrative trade. In 1615, the number of British increased to 250; those of other nations to 400. The pilgrim fathers of New-England were obliged to draw their first support from the sea, and then began from necessity, and was continued for profit. Previously to the American Revolution, the Cod Fishers of Massachusetts employed 28,000 tons of shipping and 4000 seamen. The annual value of their industry and enterprise was about 1,000,000 dollars.

The absurd restrictions by which Lord North attempted to deprive the Colonies of their fishing rights are well known, as also the indignant exclamation of Burke against such arbitrary conduct. The struggle which followed was, of course, injurious to this, as to all other branches of national industry, but with the peace it again revived. In 1790, Massachusetts made a representation to Congress, asking some encouragement, in the form of bounty on exported fish, which was granted, and the trade rapidly increasing in consequence of this stimulus, in 1807, 71,000 tons of shipping were employed in the Cod Fishery alone, and the exports for that and the four preceding years averaged 3,000,000 dollars.

The disputes with Great Britain respecting the orders in council gave a new check to this trade, which was, however, only temporary, for the very year after the peace was concluded, we find 68,000 tons, employing 10,000 fishermen, on the ocean; since then there has been a constant increase, so that in 1831, in the Barnstable district alone, licenses were granted to 188 vessels, averaging 58 to 100 tons each, manned by about 1000 men and boys, the gross proceeds of which fishery were estimated at 319,000. The quantity of Cod thus annually destroyed is immense, but it is more than counter-balanced by their powers of reproduction, the roes of a single female being calculated to contain more than 9,000,000 eggs.

Mackerel, from the immense numbers which are annually taken, off Massachusetts, furnish a most important part of American trade, thousands and hundreds of thousands of barrels being annually sent to the West Indies. In 1803, the Legislature of Massachusetts passed a law for an inspection of fish. The following table will exhibit the surprising alterations, and amazing extent of this important business. The number of vessels employed in 1831 did not fall short of 400; number of men, 4000. The probable

value of the proceeds of the Mackerel Fishery, for that year, exceeded a million and a half of dollars.

In 1803 the number of barrels was 8,079½

1805	8,936½	1818	47,210
1806	8,473	1819	105,433
1807	10,904½	1820	236,243
1808	7,788½	1821	111,009½
1809	8,865½	1822	160,294½
1810	13,058½	1823	145,006
1811*	19,632	1824	191,650½
1812	5,018½	1825	254,381½
1813	3,822½	1826	158,740½
1814	1,349	1827	196,310
1815 12 th	16,349½	1828	237,324½
1816	30,021	1829	225,882
1817	37,982	1830	309,462

Herrings are also an important article: they are certainly migratory, though their migrations may have been overruled. Their taking, it is said, the regular circuit of the sea, gives interest to their history: one immense army leave the Polar regions in the spring, equalling in extent the whole surface of Great Britain. As they advance, squadrons begin to separate from the main body. By September, England, Ireland, and Scotland are surrounded by them. From these parts, the forces move South-West, across the Atlantic, and make their appearance on the coast of Georgia about the last of January; detachments then begin to move eastward, till ultimately the whole coast of North America is lined with them, furnishing food for great numbers.—[Maryland P. Cou't.]

* The first year after the division of the state from Maine.

COMPRESSION OF WATER.—Mr. Jacob Perkins has invented an apparatus, which, by hydrostatic pressure, compresses water to an extent equal to a fourteenth part of its volume. The force employed is equivalent to a pressure of 30,000 lbs. to the square inch, and is applicable to other fluids. In most of our works on natural philosophy, water is treated as incompressible and non-elastic; by this apparatus the opposite of these two propositions is clearly shown. There was a considerable difficulty in getting a vessel capable of resisting so high a pressure; and the chief feature of this instrument is the manner of constructing the cylinder, which is formed of a series of concentric tubes: thus the inner or smaller tube is first formed by welding, and is turned accurately on the outer surface; the next tube is then formed, and is accurately turned on the inner surface, and the bore of this second or outer tube is just too small to receive the first tube, but, in order that it may do so, it is heated, till, by expansion, it is capable of receiving the first tube within it, and in cooling, the second tube shrinks on the first tube and strongly embraces them together; a third tube, a fourth, and so on, are similarly put on, till a cylinder is produced capable of withstanding any pressure.—[Repertory of Patent Inventions.]

IMITATION OF GOLD.—"A Chemist," of Washington City, publishes the following recipe for a preparation, which, applied to iron, will make it look like gold:

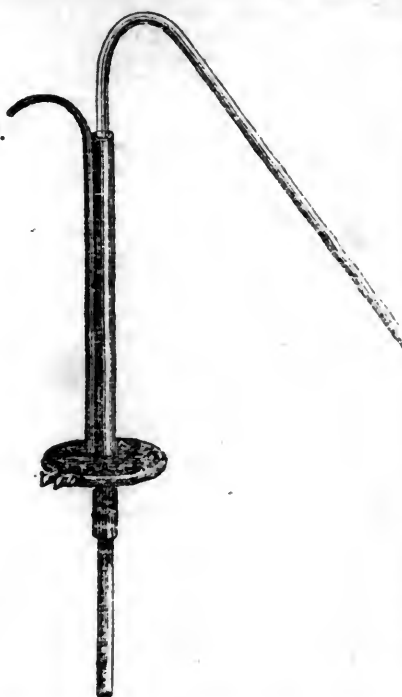
"Take of linseed oil, three ounces; tartar, two ounces; yolk of eggs, boiled hard and beaten, two ounces; aloes, half an ounce; saffron, five grains; turmeric, two grains. Boil all these ingredients in an earthen vessel, and with it wash the iron, and it will look like gold. If there be not linseed oil enough you may put in more."

DOMESTIC SILK HANDKERCHIEFS, the product of the native mulberry, have been manufactured in Dayton, Ohio, which are said to exceed the imported ones in durability.

Fig. 1.



Fig. 2.



Improved Syphons. By R. HARE, M. D., Professor of Chemistry in the University of Pennsylvania. [Communicated by the Author.]

Annexed are engravings of two syphons, which I have found useful in my laboratory. Of these, one represents the more complete method of execution; the other, that which can be more easily resorted to by chemists in general, who have no easy access to skilful workmen.

The construction last alluded to is represented by fig. 1. A cork is perforated in two places parallel to the axis. Through one of the perforations the longer leg of the syphon passes; into the other, one end of a small lead tube is inserted. In order to support this tube, it is wound about the syphon until it approaches the summit, where a portion, of about three or four inches in length, is left free, so that advantage may be taken of its flexibility to bend it into a situation convenient for applying the lips to the orifice. About the cork, the neck of a stout gum elastic bag is tied air tight. The joinings of the tubes with the cork must also be air tight. The lower half of the gum elastic bag is removed, as represented.

In order to put this syphon into operation, a bottle must be used, having a neck and mouth of such dimensions as to form an air tight juncture with the bag when pressed into it. This object being accomplished, the air must be inhaled from the bottle until the diminution of pressure causes the liquid to come over and fill the syphon. After this, on releasing the neck of the bottle, the current continues, as when established in any other way.

Fig. 2 represents the more complete construction. In this are two metal tubes, passing through perforations made for them in a brass disc, turned quite true. Through one of these tubes, which is by much the larger, the syphon passes, and is cemented air tight. The other answers the purpose of the leaden tube described in the preceding article. The brass disc is covered by a piece of gum elastic, which may be obtained by dividing a bag of proper dimensions. The covering thus procured is kept in its place by a brass band

or clasp, made to embrace both it and the circumference of the plate, and to fasten by means of a screw.

Before applying the caoutchouc, it was softened by soaking it in ether, and a hole, obviously necessary, was made in the centre by a hollow punch.

There is no difference between operating with this syphon, and that described in the preceding article, excepting that the juncture of the syphon with the bottle is effected by pressing the orifice of the latter against the disc covered with gum elastic.

DESCRIPTION OF THE VOCAL ORGANS.—[We are allowed to extract the following description of one of the most interesting parts of the human frame, from the Anatomical Class Book, by Dr. J. V. C. Smith, —the pioneer, we believe, of popular textbooks on this subject.]

By voice, animals have the power of making themselves understood to their own species—and these sounds are either *articulate* or *inarticulate*.

Language is an acquired power, having its origin in the wants of more than one individual. Man, without society, would only utter a natural cry, which sound would express nothing but pain.

Supposing a human being to have been entirely forsaken by those of his species, in that state of infancy when he could have no recollection of any thing pertaining to his race, his voice would, in essence, remain the cry of an infant, only strengthened in tone, at a particular age, by the development of the vocal organs to their destined size.

But let two individuals be placed together, but without communication or knowledge of the existence of beings similar to themselves, the natural cry of each would undergo modifications: the one would make a sound, to express a particular sensation, which in time would be understood by the other: a repetition of the same note would be the sign of that sensation in future.

An additional sensation, having an intimate connection with the first, would require a variation of tone,—and this would also be.

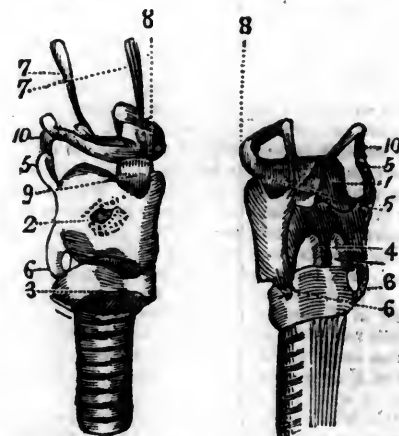
come a symbol of two sensations. Here then would be the origin of language. Multiply the species, and each new member of the society would express some other sensation or want, by another modification of the original cry. Here we discover the certain commencement of a spoken language; these different sounds becoming classified, constitute a dictionary, in which each word is the mark or sign of particular sounds; thus, if an individual can imitate the sound, or a series of sounds, he masters a language. Let it be remembered that man could never arrive to this perfection in sound or language, if his vocal organs were not differently constructed from brutes. Such is the mechanism theirs, that so many sounds, and no more, can be made; but in man's organs, there is no limitation—no sound appreciable that he cannot imitate.

The Vocal Box, or Larynx.—Directly under the integuments on the front side of the neck, is a cartilaginous tube, the *trachea*, or wind-pipe, built up of a series of narrow strips, which are portions of a ring; therefore, it is always kept free and open. At its lower end it divides into two branches, going to the lungs on either side, but its upper portion is enlarged, just under the chin, and finally opens in common with the tube of the stomach and mouth. This enlarged part, quite prominent in man, is the *larynx* or vocal organ.

Several cartilages assist in its formation, viz., the *thyroid*, *cricoid*, the *arytænoïd*, and the *epiglottis*. The cricoid is the foundation; the thyroid is the wall around it; the arytenoid are appendages to the back of the cricoid; and the epiglottis is a valve, opening and closing the entrance into the windpipe, like the valve of a bellows.

Fig. 1.

Fig. 2.



Explanation of figures 1, 2.—The five cartilages are—1, the epiglottis; 2, the thyroid cartilage; 3, the cricoid auxiliary; and 4, the two arytenoid cartilages; 5, the two superior horns of the thyroid cartilage; 6, the two inferior horns; 7, the suspensory ligament of the os hyoides; 8, the os hyoides; 9, the azygos ligament, connecting the os hyoides to the thyroid cartilage; 10, the two lateral ligaments connecting the horns of the os hyoides to the superior horns of the thyroid cartilage.

One of these diagrams presents a front and the other a back view of the *larynx* or vocal box. The bone of the tongue is seen, like half of a hoop, marked 8, in both plans. 2 is the front of the *thyroid cartilage*, felt under the skin—protruding in the form of an irregular tumor. The wind-pipe is the tube

AGRICULTURE, &c.

[From the New-York Farmer.]

MANAGEMENT OF BEES IN CASHMERE.—Those who take an interest in the rearing of bees will not be deterred from reading this article on account of its length.

Every farmer in Cashmere has several beehives in his house, and in some houses I have counted as many as ten. A provision is made for these in building the house, by leaving appropriate cavities in the wall, and which somewhat differ in size, but agree in their general form, each being cylindrical, and extending quite through the wall. The tube thus formed is lined by a plastering of clay mortar, about an inch in thickness, and the mortar is worked up with the chaff or husk of rice, or the down of thistles, which latter is employed for clay mortar in general, being the first application of this substance to the use of man I have yet witnessed. The dimensions of a hive are, on an average, about fourteen inches in diameter, and when closed at both ends, about twenty or twenty-two inches in length. The end of the cylinder nearest the apartment is closed by a round plaster of red pottery ware, a little convex in the middle, but with the edges made flush with the wall by a luting of clay mortar, and the other extremity is shut by a similar disk, having a circular hole about a third of an inch in diameter in the centre. It does not appear that there is any particular rule for the height of these hives from the ground, as they are sometimes confined to the walls of the lower basement story, generally appropriated to cattle in the farm-houses of Cashmere; others are inserted into those of the first floor, and are frequently in both situations in the same house, as well as the walls of its outbuildings. So great difference exists betwixt the practice ordinarily pursued in Cashmere and in Europe, in respect to having new swarms when the honey is taken, that it deserves imitation. Although the season for taking the honey had passed when I visited Cashmere, in the beginning of November, the cottagers indulged my wish of seeing the process by which this was effected, but with little injury to the bees and with perfect safety to the individuals concerned in its management, and which was as follows:—Having in readiness a wisp of dry straw, and a small quantity of burning charcoal in an earthen dish, the master of the house, with a few strokes of the point of the sickle, disengaged the inner plaster of the hive, bringing into view the combs suspended from the roof of the hive, and almost wholly covered with bees, none of which, however, offered to resent the aggression, or to enter the room. Having placed the straw upon the charcoal, and holding the dish close to the mouth of the hive, he blew the smoke strongly against the combs, but removed the dish the instant the straw took fire, to prevent it burning the bees, and quenched the flame before he employed it again. Almost stifled by the smoke, the bees hurried out of the outer door with such rapidity, that the hive was cleared of its inhabitants within a few minutes, when the farmer, introducing the sickle, cut down the combs nearest to him, which were secured into a dish previously slid under them, and left undisturbed about one-third of the combs, which were almost close to the outer door. He then re-placed the inner plaster, and brushing off hastily a few bees that clung to the combs, though apparently in a state of stupefaction, threw them out of the house. Observing many other bees lying motionless on the floor of the hive, I inquired whether they were dead or only stupefied, and was answered that they would recover; preparations for continuing my journey at a very early hour on the following morning, having unluckily prevented my examining the spot where they had been thrown out, until poultry had for some time been feeding near it. The expelled bees returned as soon as the

at the bottom of each larynx. The vocal cords—the membranes which vibrate to produce sound, as the current of air rushes by—are concealed, being placed inside. From the remarks in the text, together with the references, a very correct idea will be formed of the structure of this curious organ. By blowing through the wind-pipe of almost any animal, soon after it is slain, provided the larynx has not been injured, the vocal cords may be put in motion, and the sound which is produced will bear considerable analogy to the natural voice of the animal.

Within the larynx, and consequently below the valve, are four delicate membranes, two on each side, put upon the stretch—being, in fact, like shelves—their thin edges nearly meeting from the opposite sides, so that there is scarcely any space between them. These are the vocal cords.

When the air rushes out from the lungs through the wind-pipe, it must obviously pass through the larynx,—in doing which it strikes the tense edges of the cords, and produces a vibration. This vibratory motion given to the current of air produces sound. In the cavities of the bones of the face, forehead and nose, its power is increased, and in the mouth it undergoes further modifications, and ultimately becomes articulate language. The teeth, tongue, lips, nose and fauces, have each an influence in the production of articulate sounds. Hence grammarians have arranged the human voice under the appropriate divisions of *guttural*, *nasal*, *dental* and *labial* sounds,—expressive of the agency which each of these organs exert on the original tone.

Shrillness or roughness of voice depends on the diameter of the larynx,—its elasticity, lubricity, and the force with which the expired air is propelled through the *rima glottidis*, or slit-like chink, between the vocal cords.

It is because the larynx is smaller in women, and more elastic, that their voice is of a different character. The breaking of the voice, (*vox rauca*), noticeable in boys, at a peculiar age, depends partly on the enlargement of the apartments within the bones, which generally takes place at that important crisis of their lives, when the whole constitution undergoes a sudden change.

But the mechanism of voice would have been incomplete, were there not a number of exceedingly delicate muscles, which graduate the diameter of the narrow slit through which the sound escapes into the mouth. Unconsciously, they effect the requisite contractions; forever varying, according to the rapidity, intensity, or strength of the voice, in singing, conversation, or declamation.

Finally, the larynx is a musical wind instrument, of the *reeded* kind, on the principle of the hautboy. The nearness of the vocal cords to each other resembles the reed precisely. All the tones of reeded instruments are effected by finger holes,—but the tones of the human voice are varied by the extrinsic and intrinsic muscles, which shorten or elongate the vocal tube. Thus the same result is produced by this process,—increasing or diminishing the diameter of the larynx, that is accomplished in the clarinet, bassoon, flute and hautboy, by a graduated scale of finger holes.

Is not this another beautiful mechanical evidence of the existence of a Being superior to ourselves!

cavity was freed from smoke, without stinging a single individual, and the whole business was completed in less than ten minutes, without, as was asserted, any perceptible loss. The honey was light-colored, and of a taste as pure and sweet as that of Narbonne. It possessed less of the cloying quality generally attending this substance, than any other I recollect to have met with; nor could I learn that the farmer had any suspicion of its ever being intoxicating or poisonous, as in the case occasionally with that made by the Bhoura (*Apis irritabilis*), or large wild bee in the northern mountains of Gurwhal, from feeding, as it is reported, on the flower of the monkhood. I was directed more particularly to inquire upon this subject, by having observed this plant in flower in the valley of Bunga, a few miles to the eastward of the bee district, and think probable that it extends to these mountains. The peasantry of Cashmere are unacquainted with the employment of honey as the basis of a fermented liquor, but eat it raw or mixed with articles of common food, whilst the most wealthy substitute it for sugar in preserving fruits. It is customary to take the hive every year; about the end of September or beginning of October is found the best season for this operation, a little time still remaining for the bees to add to the portion left for their support during five months. This amounts to about one-third of the whole produce, and would appear to suffice, as swarms seldom die, and the Cashmeres substitute no other article of food. It is stated that an old swarm yields more honey than a young one, and that families seldom die except of old age. I was informed that it was no uncommon circumstance to preserve the same community for ten or even fifteen years; and some instances were quoted of a family having been retained for twenty years; but this was held to be a very rare occurrence. In consequence of the bees being thus literally domesticated, they acquire a mildness of conduct far more decided than those of Europe; and it is possible that the confidence thus gained, subduing their natural irascibility, may generate an increase of industry, or at least an increase of produce in relation to the number and size of the individuals of each community. It is also clear, that the situation of the hive keeps many of the natural enemies of the bees at a distance. The bee of Cashmere is a little smaller than that of Europe, though a little larger than the domesticated bee of Kumavon and of Gurwhal. The Bhoura, the rock bee of Gurwhal, or the bee of the southern mountains, is, on the other hand, greatly larger than the domesticated bee of Europe, and greatly exceeds it also in the number of individuals in each community, and in the size and weight of its combs. But its honey is sometimes contaminated by an intoxicating quality, and the temper of the insect is so irritable, as to be brought into a dangerous state of activity by a slight show of aggression. The former quality is suspected, upon probable grounds, to be caused by the secretion of the aconite eaten by the bee, and its irritability of disposition to be owing partly to the exposed situation of the combs suspended from the lower surface of a ledge of rock, and partly to the occasional attempts of bears to carry them off. But these deductions from the merits of this bee are merely the result of localities; and under due precautions, it is presumed its irascibility might be so far subdued as to render it just as safe an inhabitant of a wall-hive as the smaller variety of bee. In a portion of the Punjab, near the hills, this bee is also met with; and I have seen the under surface of the principal branches of a large Peepul tree studded with so many colonies, individually of such great strength as to deter the neighboring peasantry from attempting to deprive them of their stores, notwithstanding it was conjectured that there were several hundred weight of combs on the tree. The largest of these assemblages of combs—the probable accumulation of many

seasons—was of such a size as I think it not prudent to cite; but from the specimens I have seen of the produce of this bee, I conceive their domestication, if introduced into Europe, would prove a most valuable acquisition to this branch of farming, although I must confess myself unable to devise any safe and easy plan for transporting such a colony.—[Mr. William Moorcroft in the Journal of the Royal Geographical Society.]

ITALIAN RYE GRASS.—In the Transactions of the Highland Society, we find an article on this subject, by Mr. Charles Lawson:

This plant is said to be distinguished from the common rye grass (*Lolium perenne*), by its larger leaves, by its being of a deeper green, and by the greater height to which it grows. It is usually sown in autumn, as is the general practice with grass seeds in the south of Europe. After the field is harrowed, it is sown at the rate of from 16 to 18 lbs. per acre, and the seed rolled in. In the following autumn, the turf is covered like an old meadow, and the crop of the following year is more than double. It may be also sown in spring. If it be sown with clover or lucerne, its growth is so rapid, that it will quickly choke them. It is eaten greedily by cattle, whether green or dry, and yields fifty per cent. of hay.—[Bulletin des Sciences Agricoles.]

USE OF THE ROLLER.—A very small proportion of the farmers in Western New-York are provided with this valuable implement, and I am confident that very few of them would be without it, if they knew its value.

When my wheat came up in the autumn of 1832, I discovered that in one field my hired man had not sowed it evenly; but it was then, as I thought, too late to remedy it. In the spring it presented the same unpromising appearance, being so thin in many places that I anticipated a short crop. Being disappointed in receiving my clover seed for the same field as early as I wished, I was apprehensive of a failure in that also, and to prevent it, directed my son to roll the field. Witnessing the effect, in completely pulverising the crust which had formed on its surface, I was led to conclude that the operation had not only placed the clover seed in a favorable situation to vegetate, but would benefit my wheat also; and therefore directed the residue of my wheat to be rolled. Business called me from home for several weeks, and on my return was astonished to find that my wheat had spread so as to stand nearly as thick as I wished; and at harvest it appeared to be perfectly even, and produced a fine crop. I think that I must have gained by rolling at least one-fourth. My clover seed took well.

Last spring I rolled after sowing and harrowing my oats, which came up very soon and regularly and produced a heavy crop.

The past autumn I rolled one wheat field immediately after harrowing, and I think it came up more equally and sooner for the operation. I have also rolled a part of two other fields, in order to ascertain whether rolling in autumn is beneficial to the wheat, the result of which I may hereafter communicate. The only doubt I have as to its utility, arises from the belief that snow lying on wheat is advantageous, and a fear that rolling the ground will cause it to be more easily blown off. The above mentioned trial of rolling in the spring is conclusive as to its benefits at that season. Another benefit resulting is, that the ground is left in so smooth a state that the crop is much easier cut, and gathered with less waste.

I have also experienced great benefit from the use of the roller on green sward ploughed in the fall, and left in a rough state through the winter. By passing the roller over it previous to harrowing, the inequalities are removed, and the operation of harrowing rendered much more effective.

I am led to believe that in all cases where

green sward is turned under for a crop, rolling must be beneficial, even when it is to be a naked fallow, closing the interstices, and the compression having the effect to produce a more equable and thorough decomposition of the sward.

The effect of a roller on mowing grounds is to enable the mower to cut the grass closer, and to prepare the land for the use of the horse-rake: an implement which, with a horse and boy, will do the work of six men.

Now is the time for every farmer not already furnished with a roller, to procure a stick of heavy white oak, two to two and a half feet diameter, and six feet long; use gudgeons made of one and a half inch iron; drive them in the centre of the stick, then raise it so that the gudgeons will rest on blocks, when there will be no difficulty in bringing it to the shape of an exact cylinder. All that remains to be done is to make a stout frame and tongue, the latter well braced.—[Gen. Far.]

NATIVE GRAPES.—The following is the testimony of N. Longworth, Esq., one of the most extensive vine growers in this country:

The Catawba is superior as a wine and table grape to the Isabella, and matures its fruit better, though a less abundant bearer. We have native grapes in most of our states, could a selection be made, that would leave us little cause to regret that foreign grapes succeeded so badly with us.

DAIRY HUSBANDRY OF HOLLAND.—Some idea may be formed of the great importance and extent of the dairy husbandry in Holland, by examining the official returns of importation into this kingdom. In the year ending 5th January, 1830, it appears that out of 143,164 cwt. of butter imported from foreign countries, 116,233 cwt. were imported from Holland; and of 168,900 cwt. cheese, 167,913 cwt. were imported from that country. The duty alone on these two articles from Holland, at 20s. per cwt. on butter, and 10s. 6d. on cheese, amounted to £204,386, and these quantities must have cost the consumers, the butter, £523,048; the cheese, £292,282; total, £815,330.—[Mr. Mitchell on the Dairy Husbandry in Holland.]

SUBSTITUTE FOR SWEET POTATOES.—The cocoanut squash, cut into pieces, and roasted like sweet potatoes, is found to be fully equal to them, and so closely to resemble them in flavor that it would be difficult to distinguish between them. It grows freely in this climate, and may be kept till mid-winter.—[Goodsell's Farmer.]

CULTURE OF SILK.—Wednesday, in the House, the bill to encourage the cultivation of Mulberry Trees and the production of Silk was passed to a third reading. This bill gives a bounty of two dollars for every hundred of trees set out at the rate of 600 to the acre, and one dollar for every pound of domestic reeled silk. The consideration of the above bill was attended by a very interesting debate, in which the following gentlemen took part: Messrs. Gray, Moseley, Rockwell, Eustis, Thayer, Chapman, Forward, M'Kay, Lincoln, and Kinsman. Mr. Moseley communicated much interesting information. He stated that the mulberry tree would grow in any country between 20 and 50 degrees of latitude—that sandy and gravelly soil suited it best—that the required labor could be performed by children—and that 600 lbs. of silk, worth \$3 per lb., could be obtained from the worms fed on the trees which could be raised on one acre of ground.

Mr. Chapman, of Greenfield, who opposed the bill, made some judicious remarks as to such articles as are ornamental, and such as are useful. But the question was not whether our people had better wear silk, but whether,

if they will wear it, it is best that a good part of it should be produced in this country, or that nearly the whole should be imported. He wished our farmers' wives and daughters should be able to procure silks at 50 cents a yard, rather than at a dollar. Domestic competition may effect this. But, if we do not choose to wear silk, we may produce it to export.—[N. E. Farmer.]

SOIL AND AGRICULTURE IN OHIO.—The bottom lands are low and subject to occasional floodings, but are of a very rich soil. Pickaway county is nearly square in outline, being twenty-two by twenty-one miles in extent, and contains sixteen thousand inhabitants. The Scioto river passes through it from N. to S. dividing it into two nearly equal portions. The lands on the east side are of a very excellent quality, and produce all the different kinds of grain in the most luxuriant abundance. The county contains four varieties of soils, wood lands, barrens, plains and prairies. On suitable soils, from forty to forty-five bushels of wheat are produced, and in early days, before the rich prairies were reduced by successive crops, one hundred bushels of corn per acre were not uncommon. By the rich farmers, cultivation is carried on in a style and grandeur proportionate to the exuberance of the crops. Fields of one hundred acres of wheat, or of corn, are often seen, and frequently they are extended to three or four hundred. A few years since, when wheat commanded a dollar per bushel, a rich farmer on the Pickaway plains cultivated one thousand acres in a single field, which, when undulating under a gentle breeze, might not unaptly be called an ocean of verdure. In all the counties bordering on the canal, there has, since it was opened, been an increase in the value of wheat of from ten to fifteen cents per bushel, and so of many other articles: the canal giving them the advantage of the New-York markets, whereas, before, they had only that of the Mississippi.—[Silliman's Journal.]

APPLICATION OF STEAM TO AGRICULTURE.—We hope the day will never come when there shall be so much ignorance and prejudice in this country that our farmers will be in that condition mentioned in the last sentence of the following paragraph, taken from the London Gardener's Magazine.

The application of steam to agricultural purposes is said to have lately called forth a powerful and effective engine in France; and it has at the same time produced a steam digging machine in England. This engine, an imperfect model of which we saw three years ago, has lately been so far improved that a patent has been taken out for it by Mr. Philips. It will be found figured and described in Gordon's Journal of Locomotion, for February, 1833. We have lately seen the model of another machine, which may be applied to the same purpose, and, as it appears to us, with much greater chance of success. At one operation it could be made to plough, pulverize, roll, sow, and harrow, a breadth of 10 feet or 12 feet, at the rate of 5 or 6 miles, and consequently between 7 and 8 acres per hour. The machine might, no doubt, be impelled at double that rate; but it is questionable whether at such a velocity the work of sowing could be properly performed. The present, however, is not the time for bringing out such a machine in

England, where the farmers, in most districts, are obliged to take down and conceal the wheels of their threshing machines, if these have not been already burned by their laborers.

CHINESE ROSES may be propagated from single buds, as grape vines are propagated. The single bud, with a quarter of an inch of the stem, both above and below it, is placed just under the soil, under a bell-glass; the leafstalks and leaves standing upright as in a cutting. A single bud of *Rosa semper-florens sanguinea* was planted on July 26, and on September 8. October 9 it was six inches high, and side shoots were being produced.—[Charles M. Willich, London, Oct. 3, 1833.]

GYP-SUM.—The editor of the Farmer's Register says he has found gypsum very efficacious on a soil which, before it had been marled, exhibited no beneficial effects.

MANURE IN DRY SEASONS.—Dr. J. P. Beekman, of Kinderhook, in writing to the editor of the Farmer's Register, says, "There is an ameliorating and fructifying quality about the sod that imparts its powers to the grain that succeeds it, which is not discernible in the properties of the manure; and in dry seasons the effects of this last are *almost entirely lost*." We should be pleased to learn from Dr. Beekman, whether this manure was properly fermented, or in its coarse unrotted state? It seems to us a subject of much importance to avoid this loss of manure and time.

Suggestions relative to Gardeners' Work for March. By the Editor.

The month of March, like a fickle and inconstant person, is neither admired nor loved. Sometimes, indeed, it puts on a cheering and smiling aspect, inviting us to visit its lawns and its promenades, and to listen to the first notes of spring music. Again, all is chill and gloom; no cordiality, no welcome reception, but all is forbidding and stormy. Its character being known, very little is expected from it; and consequently, most people are on their guard against its fickleness and deceptive appearances. Most gardeners venture to do little more than to make diligent preparations for the more mild, uniform, and lovely April.

In reference to early and late sowing, we refer our readers to the article in this number, page 66. Although late sowing may insure greater crops, yet, after a long winter, it is very desirable and very natural to have early vegetables. Should March be proportionably mild, as the past February has been, vegetation will be some ten or fifteen days earlier than usual. The seeds of many kinds of vegetables may be put in boxes and pots, and placed in the kitchen, or other warm situations; and when the season is sufficiently advanced, the young plants should be removed with the dirt or soil into the ground in the open air. Peas may very easily be advanced in this way. Some plant their peas, beans, and potatoes, on inverted sods of earth, placed in convenient boxes, and kept moist. When the time arrives to transplant them into the garden, the sods are easily taken up with growing vegetable, and properly placed in their permanent place.

RHUBARB. *Rheum rhabonticum.*—Those who have this vegetable should, if they have

not done it before, place over each plant a barrel, or large box, which, if covered with heating horse manure, will soon cause them to grow and be beautifully blanched. In the latter part of the month, or early in April, the leaves will be sufficiently large for making the much admired rhubarb pies.

TRANSPLANTING.—As soon as the ground is thawed, those who conveniently can, should begin to transplant. It is much better to commence early this month than to run the risk of delaying until vegetation starts. Those who are desirous to have fruit trees already in bearing, and their premises embellished with sizeable ornamental trees, should immediately undertake the business.

MANURE.—Whatever diversity of opinion may be entertained respecting rotted and unrotted manure in field culture, there should be none in reference to garden operations. Let the manure be well fermented and in a moist state, particularly in a sandy soil. A more uniform growth and greater certainty of maturity are the consequences of using fermented manures. For flowers and vegetables, bone manure has advantages.

Cultivation of Peach Trees. By D. B. [For the New-York Farmer and American Gardener's Magazine.]

In the New-York Farmer for January, page 2, is an article on the cultivation of the peach tree, by R. H. B., in which he says that "peach trees may be preserved by good management, twenty, and probably forty or fifty years." Whether it be true, as he asserts, that the peach tree is "destroyed by a worm which feeds on the inner bark of the tree, at its root," I am not about to admit or deny. If, however, it is true, as he asserts, "that the peach tree, if the worm is kept out of the root, will live at least twenty years; and that this may certainly be done by attacking them the first year of its growth, and continuing to extract them for three or four years in succession," it would seem that any means by which a "lodgment" of the worm in the "inner bark of the tree could be prevented, would conduce more to the general health and vigorous growth of the tree than any attack upon them, after, a "lodgment" was once effected, could possibly do. Now, my object is not controversy, but to suggest to R. H. B., and others, what I deem an effectual method of preventing a "lodgment" of the worm in the "inner bark of the tree." Previous to 1832 I had made repeated trials to cultivate the peach tree, with the same uniform ill success. Till the second or third, and sometimes till the fourth year, my trees were healthy and their growth vigorous, when they would begin to decline and soon die, and often without any apparent injury from the worm. From repeated failures, I had wholly abandoned their cultivation as hopeless. In the spring of that year a friend of mine, agent for the Messrs. —, had a lot of peach trees consigned to him for sale. They were offered for a time at private sale, and finally advertized to be sold at auction; but a part only could be sold, the trees having been out of the ground so long, and the season so far advanced that there remained no prospect of selling them. I had from the agent the offer of a bundle of the trees, and found them, as I supposed, refuse trees, probably taken from a part of the nursery which was to be cleared to make room for a new crop. Unpromising as they were, I made them the subjects of the follow-

ing experiment. A hole was dug, large enough to admit the roots in their natural position; after which, sufficient earth was hauled over the roots to cover the smaller ones, and support the tree in its position. A kettle of common tar was at hand, warmed so as to enable me to spread it freely over the larger roots, and up the body of the tree several inches above the surface of the ground. The holes were then filled with earth as usual. All the trees thus treated, (23 in number,) started, but the greater part of them, as I expected, from the unfavorable circumstances already related, died in the course of the summer. Those that survived the first summer, (8 or 10 in number,) have grown very vigorously, and are now apparently as healthy as any trees I have of any description. I have from time to time examined them, and, as often as appeared necessary, have removed the earth and made a fresh application of tar, and again replaced the earth. This is in no case necessary more than twice in a year, generally once is sufficient; and, perhaps, as a general rule, the fall would be the best season, if but one dressing was given in a year, for the reason that the winter would not perceptibly diminish the quantity; and if applied in the fall, would always be in season to prevent the early ravages of the worm.

Granting what R. H. B. assumes to be the fact, that the worm is the cause of the destruction of peach trees, it is certainly important, if possible, to prevent its ravages. He proposes a "remedy," which he says "consists in searching for the openings in the bark at the root, and taking them out." In this, as in every other case, *preventive* is better than "remedy." Let then R. H. B., and all others who would prevent a "lodgment" of the worm "at the roots" of their peach trees, try the application of tar as above directed; and if faithfully done, I hesitate not to say that the *preventive* will be found more effectual, and attended with less trouble, than the "remedy," and may, by wholly excluding the worm, help to settle the question, whether it is the cause of the decay of peach trees, or only a consequence of it.

D. B.
Ridgefield, Ct., February, 1834.

LOVE OF MUSIC BY SHEEP.—We were surrounded by a large flock of sheep which were leaving their fold to go to pasture; one of our party took his flute out of his pocket, and saying, "I am going to turn Corydon, let us see whether the sheep will recognize their pastor," began to play. The sheep and goats, which were following each other towards the mountain with their heads hanging down, raised them at the first sounds of the flute; and all, with a general and hasty movement, turned to the side from whence the agreeable noise proceeded. Gradually they flocked round the musician, and listened with motionless attention. He ceased playing; still the sheep did not stir. The shepherd with his staff obliged those nearest to him to move on. They obeyed; but no sooner did the fluter begin again, to play, than his innocent auditors returned to him. The shepherd, out of patience, pelted them with clods of earth, but not one of them would move. The fluter played with additional skill; the shepherd exasperated, whistled, swore, and pelted the fleecy amateurs with stones. Such as were hit by them began to march, but others still refused to stir. At last the shepherd was obliged to entreat our Orpheus to cease his magical sounds. The sheep then moved off, but continued to stop at a distance as often as our friend resumed his instrument.—[Vic de Haydn par Bombat.]

NEW-YORK AMERICAN.

MARCH 8—14, 1834.

LITERARY NOTICES.

Owing to the distant region in which our accomplished correspondent—whose letters under the initial H. have been so eagerly and justly sought after—is now travelling—as well as to the irregularity of the mails, we have no letter from him to present to-day.

We must add, too, that although we have on our table several interesting and valuable publications claiming notice, we are so absorbed in the all-important political discussions of the day, that we must for a while ask the indulgence, both of our literary readers and friendly publishers. We can only to-day speak of a few.

LETTERS OF MAJOR JACK DOWNING, 1 vol. New York: Harper & Brothers.—The celebrity of *Major Jack Downing* is not surpassed at this day in the U. States, by that of any individual, however exalted. The public voice has unanimously awarded to his letters the praise of a consistent graphic record of the acts and doings of the President and his advisers—which, without ever violating the unity of the *old General's* character, uses up, without stint, the interested speculators who betray his confidence.

This volume—which we need hardly say contains the letters originally published in the *Daily Advertiser*—is well printed, and illustrated with some amusing and spirited engravings.

HISTORY OF SCULPTURE, PAINTING AND ARCHITECTURE: by J. S. MEMENT, L. L. D. 1 vol. Boston: CLAPP & BROADUS.

It is not without justice that we may claim as Americans to have already produced in our short career as a nation many remarkable painters—the names of some of whom will certainly live. In Sculpture we have been less distinguished; though Greenough, and Auger, and Frazee, are in that branch of the fine arts, too, winning renown; but in Architecture, all is blank with us. The bump of building, if phrenologists will allow us so to speak—we have abundantly; but that of architecture has not, to our knowledge, as yet been practically developed on any American head. Hence, we are gratified in seeing this number of *Cenotaph's Miscellany* re-published in this country; and commend it to our readers in the persuasion that they will find it agreeable in its style and abounding in information imparted with good taste.—We have marked some extracts which at a future day we shall publish.

THE AMERICAN MONTHLY MAGAZINE, FOR MARCH.—We can give unstinted praise to this periodical—which goes on with talent, industry, and spirit; and we are glad to learn with increasing success. We copy part of a very spirited article—"passages of the Life of Mary Stuart." The ill-fated *Chastelar* having just discovered to Mary his love, and been indignantly dismissed—the scene is thus continued:

An hour had scarcely elapsed, before the lights were extinguished throughout the vaulted halls of Holyrood; the guards were posted for the night, the officers had gone their rounds, the ladies of the royal circle were dismissed, and all was darkness and silence. In Mary's chamber a single lamp was burning in a small recess, before a beautifully executed painting of the virgin, but the light was not sufficient to penetrate the obscurity which reigned in the many angles and alcoves of that irregular apartment, although the moonbeams were admitted through the open casement.

Her garb of ceremony laid aside, her lovely shape scantily veiled by a single robe of spotless linen, her auburn tresses flowing in unrestrained luxuriance almost to her feet, if she had been a creature of perfect human beauty when viewed in all the pomp of royal pageantry, she now appeared a being of supernatural loveliness. Her small white feet, unsandalled, glided over the rich carpet with a grace, which a slight degree of fancy might have deemed the motion peculiar to the inhabitants of ano-

ther world. For an instant, ere she turned to her repose, she leaned against the carved mullions of the window, and gazed pensively, and it might be, sadly, upon the garden, where she had so lately parted from the unhappy youth, whose life was thus embittered by that very feeling, which above all others should have been its consolation. Withdrawing her eyes from the moonlit scene, she knelt before the lamp and the shrine which it illuminated, and her whispered orisons arose, pure as the source from which they flowed—the prayers of a weak and humble mortal, penitent for every trivial error, breathing all confidence to Him, who can alone protect or pardon; the prayers of a Queen for her numerous children, and last and holiest of all, a woman's prayers for her unfortunate admirer. Yes, she prayed for *Chastelar*, that strength might be given to him from on high, to bear the crosses of a miserable life, and that by divine mercy the hopeless love might be uprooted from his breast. The words burst passionately from her lips, her whole form quivered with the excess of her emotion, and the big tears fell like rain from her uplifted eyes. While she was yet in the very flood of passion, a sigh was breathed so clearly audible, that the conviction flashed like lightning on her soul, that this most secret prayer was listened to by other ears than those of heavenly ministers. Terror, acute terror, took possession of her mind, banishing by its superior violence every less engrossing idea. She snatched the lamp from its niche—waved it slowly around the chamber, and there, in the most hallowed spot of her widowed chamber, a spy upon her unguarded moments, stood a dark figure. Even in that moment of astonishment and fear, as if by instinct, the beautiful instinct of purely female modesty, she snatched a velvet mantle from the seat on which it had been cast aside, and veiled her person even before she spoke—"Oh God it is *de Chastelar*."

"Sweet Queen,"—replied the intruder—"bright, beautiful ruler of my destinies, pardon—"

"What ho!"—she screamed in notes of dread intensity—"à moi! à moi mes Français.—My guards!—Seyton—Carmichael—Fleming—will ye leave your Queen alone! alone with treachery and black dishonor!—Villain! Slave!"—she cried, turning her flashing eyes upon him, her whole form avelling as it were with all the fury of injured innocence—"didst thou dare to think that Mary—Mary, the wife of Francis—the anointed Queen of Scotland, would brook thine infamous addresses—Nay kneel not,—or I spurn thee—What ho! will no one aid in mine extremity—"

"Fear nought from me—" faltered the wretched *Chastelar*, but with a voice like that of some inspired Pythoness she broke in—"FEAR! think'st thou that I could fear a thing, an abject coward thing, like thee?—a wretch that would exult in the infamy of one whom he pretends to love. FEAR thee—by heavens, if I could have feared, contempt must have forbidden it."

"Nay—Mary—hear me! hear me but one word, if that word cost my life—"

Thy life—had'st thou ten thousand lives, they would be but a feather in the scale against thy monstrous villany. "What ho!"—again she cried, stamping with impotent anger at the delay of her attendants—"Treason! My guards—Treason!" At length the passages rang with the hurried footsteps of the startled inmates of the palace—with torch, and spear, and brandished blades, they rushed into the apartment—page, sentinel, and chamberlain, ladies, with dishevelled hair, and faces blanched with terror.—The Queen stood erect in the centre of the room, pointing with one white arm bare to the shoulder towards the wretched culprit, who with folded arms and head erect awaited his doom in unresisting silence. His naked rapier, with which alone he might have foiled the united efforts of his enemies, lay at his feet—his brow was white as sculptured marble, and no less rigid, but his eyes glared wildly, and his lips quivered as though he would have spoken. The Queen, still furious at the wrong which he had done her fame, marked the expression. "Silence!" she cried—"Degraded!—would'st thou meanly beg thy forfeit life—Wert thou my father, thou should'st die to-morrow!—Hence with the villain!—Bid Maitland execute the warrant—Ourselves—Ourselves will sign it—away! *Chastelar* dies at day break!"

"Tis well—" replied he calmly—"it is well—the lips I love the best pronounce my doom; and I die happy, since I die for Mary!—Would'st thou but pity the offender, while thou dost doom the offence, *de Chastelar* would not exchange his shortened span of life, and violent death, for the brightest crown of Christendom. My limbs may die—my love will live for ever! Lead on minions—I am more glad to die,

than ye to slay!—Mary—Beautiful Mary—think! think hereafter upon *Chastelar*!"

The guards passed onward—last of the group, unfettered and unmoved, *de Chastelar* stalked after them. Once, ere he stooped beneath the low browed portal, he paused, placed both hands on his heart, bowed lowly and then pointed upwards, as he chanted once again the words *Pensez à moi—Noble Dame—Pensez à moi*. As he vanished from her presence, she waved her hand impatiently to be left alone—and all night long she traversed and re-traversed the floor of her chamber in paroxysms of the fiercest despair. The warrant was brought to her—silently, sternly, she traced her signature beneath it,—not a sign of sympathy was on her pallid features, not a tremor shook her frame; she was passionless, majestic, and unmoved. The secretary left the chamber on his fatal errand—and Mary was again a woman. Prostrate upon her couch she lay, sobbing and weeping as though her very soul was bursting from her bosom, defying all consolation, spurning every offer at remedy. "'Tis done!" she would say—"Tis done!—I have preserved my fame, and murdered mine only friend."

The morning dawned slowly—and the heavy bells of all the churches clanged the death peal of *Chastelar*. The tramp of the cavalry defiling from the palace gates struck on her heart as though each hoof dashed on her bosom. An hour passed away—the minute bells still tolling—the roar of a culverin swept heavily downwards from the castle, and all was over!—He had died as he had lived, undaunted—as he had lived, devoted!—"Mary, divine Mary,"—were his latest words—"I love in death, as I have loved in life—these and thee only." The axe drank his blood, and the Queen of Scotland had no truer servant left behind, than he, whom for a moment's frenzy she was compelled to slay—yet was his last wish satisfied, for though the Queen might not relent, the woman did forgive, and, in many a mournful hour did Mary think on *Chastelar*. H.

LUCIA, THE BETROTHED, from the Italian of *Alessandro Manzoni*, 2 vols; New York, G. DEARBORN.—This translation from a novel—if so we must call a work full of the finest developments of character, and tending to the highest moral aims—renowned in Italian literature, is a welcome contribution to our own. It furnishes a view of Italian manners and society in the commencement of the seventeenth century, of great power and interest; its historical details are curious and instructive; and in the extract we make, descriptive of a city laboring under the panic and sufferings of a pestilence, the vigor of the author's pen will be acknowledged and felt by all. It is a remarkable coincidence, that the same delusion which, during the plague of Milan in 1628-9, affrighted the populace with the idea that secret poisons were producing all the mischief, prevailed during the existence of the Cholera in Paris, more than two centuries afterwards, namely in 1832.

The translation is, throughout, faithful almost perhaps to a fault:

The council of ten then requested the cardinal to order a solemn procession, for the purpose of carrying through the streets the body of San Carlos.—The good prelate refused; this confidence in a doubtful means disturbed him, and he feared, if the effect should not be obtained, confidence would be converted into infidelity, and rebellion against God. He also feared that if there really were poisoners, this procession would be a favorable occasion for their machinations, and if there were not, so great a collection would have a tendency to spread the contagion.

The doors of public edifices and private houses had been again plastered with venomous substances; the news of the discovery flew from mouth to mouth; the people, embittered by present suffering, and irritated by the imminence of the danger, embraced the belief voluntarily; as the idea of subtle instantaneous poison was more than sufficient to explain the violence, and the most incomprehensible circumstances of the disease. Adding to it the idea of enchantment, by which any effect was possible, any objection rendered feeble, every difficulty was explained. If the effects did not immediately succeed the first attempt, the cause was easy to assign; it had been done by those to whom the art was new, and now that it was brought to perfection, the perpetrators were more confirmed in the infernal reso-

lution. If any one had dared to suggest its having been done in jest, or denied the existence of a black intrigue, he would have passed for an obstinate fool, if he had not incurred the suspicion of being himself engaged in the plot. With such persuasions on their minds, all were on the alert to discover the guilty; the most indifferent action excited suspicion, suspicion was changed to certainty, and certainty to rage.

As illustrations of this, the chroniclers cite two examples which we will relate.

In the church of Saint Antonio, on the day of some great solemnity, an old man, after having prayed for some time on his knees, rose to seat himself, and before doing so, wiped the dust from the bench with his handkerchief. "This old man poisons the bench," cried a woman, who beheld the action.—The crowd in the church threw themselves upon him, tore his white hair, and after beating him, drew him out half dead, to carry him to prison and to torture. "I saw the unfortunate man," says Ripamonti, "I never knew the end of his painful story, but at the time I thought he had but a few moments to live."

The other event occurred the next day, it was as remarkable, but not as fatal. Three young Frenchmen having come to visit Italy, and study its antiquities, had approached the cathedral, and in passing by, stopped; a circle was formed around them; they were not lost sight of for a moment, having been recognized as strangers, and especially Frenchmen. As if to assure themselves that the wall was marble, the young artists extended their hands to touch it. This was enough. In a moment they were surrounded, and with imprecations and blows dragged to prison. Happily however, they were proved to be innocent, and released.

These things were not confined to the city; the phrensy was propagated equally with the contagion. The traveller encountered on the high road; the stranger whose habits or appearance were in any respect singular, were judged to be poisoners. At the first intelligence of a new comer, at the cry even of a child, the alarm bell was rung; and the unfortunates were assailed with showers of stones, or seized and conducted to prison. And thus the prison itself was, during a certain period, a place of safety.

Meanwhile, the council often, not silenced by the refusal of the wise prelate, again urged their request, which the people seconded by their clamors. The cardinal again resisted, but finding resistance useless, he finally yielded; he did more, he consented that the case which enclosed the relics of San Carlos, should be exposed for eight days on the high altar of the cathedral.

The Tribunal of Health, and the other authorities did not oppose this proceeding; they only ordained some precautions, which without obviating the danger, indicated too plainly their apprehensions. They issued severe orders to prevent people from abroad entering the city, and to ensure their execution, commanded the gates to be closed. They also nailed up the sequestered houses; "the number of which," says a contemporary writer, "amounted to about five hundred."

Three days were employed in preparation; on the 11th of June, the procession left the cathedral at day break; a long file of people, composed for the most part of women, their faces covered with silk masks, and many of them with bare feet, and clothed in sackcloth, appeared first. The tradesmen came next, preceded by their banners; the societies, in habits of various forms and colors; then the brotherhoods, then the secular clergy, each with the insignia of his rank, and holding a lighted torch in his hand. In the midst, amid the brilliant light of the torches, and the resounding echo of the canticles, the case advanced, covered with a rich canopy, and carried alternately by four Canons, sumptuously attired. Through the crystal were seen the mortal remains of the saint, clothed in postifical robes, and his head covered with a mitre. In his mutilated features might still be distinguished some traces of his former countenance, such as his portraits represent him, and such as some of the spectators remembered to have beheld and honored. Behind the remains of the holy prelate, and resembling him in merit, birth and dignity, as well as in his person, came the Archbishop Federigo. The rest of the clergy followed him, and with them the magistrates in their robes, then the nobility, some magnificently clothed, as if to do honor to the pomp of the celebration, and others as penitents, in mourning habits and bare feet; each one, however bearing a torch in his hand. A vast collection of people terminated the procession.

The streets were ornamented as on festival days;

the rich sent out their most precious furniture; and thus the fronts of the poorest houses were decorated by their more wealthy neighbors, or at the expense of the public. Here, in the place of hangings, and there, over the hangings themselves, were branches of trees; on all sides hung pictures, inscriptions, devices; on the balconies were displayed vases, rich antiquities, and valuable curiosities; with burning flambeaux scattered throughout. From many of these windows the sequestered sick looked upon the pomp, and mingled their prayers with the people as they passed. The procession returned to the cathedral about the middle of the day.

But the next day, whilst presumptuous confidence and fanatical assurance had taken possession of every mind, the number of deaths augmented in all parts of the city, in a progression so frightful, and in a manner so sudden, that none could avoid confessing the cause to have been the procession itself. However—astonishing and deplorable power of prejudice! this effect was not attributed to the assemblage of so many people, and to the multiplicity of fortuitous contact, but to the facility afforded to the poisoners to effect their infernal purposes. But as this opinion could not account for so vast a mortality, and as no traces of strange substances had been discovered on the passage of the procession, recourse was had to another invention, admitted by general opinion in Europe—magical and empoisoned powders! It was asserted that these powders scattered profusely in the road, attached themselves to the skirts of the gowns, and to the feet of those, who had been on that day barefooted; thus the human mind delights itself with struggling under the weight of phantoms of its own creating.

We conclude the review—not inappropriately—with the following notice from a correspondent.

Mr. Editor:—I have before me a small pamphlet containing Professor Faraday's remarks on the prevention of Dry Rot in Timber. This is a subject almost as interesting here as in England, and from the facts stated, it seems that a remedy for this evil has finally been discovered by a Mr. Ryan. It consists in an application of corrosive sublimate to the wood, which either destroys the seeds of cryptogamous plants vegetating in the wood, or combines with the albuminous matter existing in wood, both of which circumstances have been considered the original causes of the decay, called Dry Rot.

Mr. Ryan, under the sanction of the Admiralty, made many experiments for years, and they appear to have been eminently successful. The timber is prepared by being soaked in a solution of corrosive sublimate; a cube of wood thus prepared, was put into the capstan hole, at Woolwich, a place subject to the fungus rot; at the end of three years it was taken out—it was sound, while the other timber was entirely decayed; it was replaced for two years; at the expiration of five years, it was found perfectly hard and sound, and exhibited no symptoms of the least decay. Other experiments equally satisfactory are related.

The application has been made to canvass, &c. placed in a damp cellar for months; the prepared pieces came out sound, while the unprepared were so decayed as not to be capable of being unrolled—the texture of the cloth appears not to suffer by the application. Mr. Ryan has taken a patent for his important invention.

Without any practical knowledge on the subject, I thought a reference to it might excite the attention of some of your readers, better able to investigate the merits, and appreciate the advantages of the discovery.

FOREIGN INTELLIGENCE.

From Paris we have by the Sully our files to the 2d February. They do not furnish any special information.

The Gazette de France of 1st February says, in relation to Spain, "letters from the frontiers speak vaguely of the convoking of the Cortes. The partisans of Don Carlos appear to be concentrating their forces upon Aspetitia. The struggle leads to terrible reprisals, prisoners on either side being daily shot."

We do expect later news, however, from Spain. Meantime we give the annexed from the *Indicateur de Bordeaux*: "What we have before stated as certain, that the new Minister, *Martinez de la Rosa*, would only consent to enter the Ministry on condition that the Cortes should be convened, has been realized. It was communicated by express on the 25th January, in Bordeaux, that orders had just been issued by the Spanish Government for immediately convening the Cortes, *par estamentos*."

The capture of *Leyria*, midway between Oporto and Lisbon, on the 15th January, by the troops of the Queen, seems to have been received in Lisbon as a decisive event. It re-establishes the line of communication between the two principal cities of Portugal.

Miguel's troops still held Santaren, contested by 12,000 men, under the *Duke de Terceira*.

The duel between General Bugeaud and M. Dulong arose from a discussion in the Chamber of Deputies respecting military obedience. General Bugeaud said—"a soldier's duty was to obey." M. Dulong interrupted—"what, obey even to the extent of becoming a gaoler! even to ignominy!" This allusion was to General Bugeaud's having been the commandant at *Blaye* when the Dutchess of Berri was prisoner there. M. Dulong was just forty years old, and appears to have been much esteemed.

The debate in the Chamber of Deputies above alluded to, was produced by a measure taken by the government in relation to incorporating naval officers with the artillery, which had been resisted by the officers of the latter corps, many of whom had in consequence been imprisoned.

Pais, 30th Jan.—A duel had taken place between General Bugeaud and Mr. Dulong, both members of the Chamber of Deputies, in which the latter was killed. The duel arose from a political quarrel.

In our papers, which only go back to the 24th, we do not find any allusion in the Chamber to the Convention of Indemnity with this country.

It is asserted in various letters published in the French papers, that the loss of the French line of battle ship *Superbe* in the gale of 14th and 15th December, (in which the frigate *United States* was also damaged) was occasioned by the insubordination and refusal to do duty, of the crew.

SPAIN

[From the *Journal du Commerce* of 31st Jan.]

MADRID, 18th Jan.—The whole capital is delighted with nomination of Martinez de la Rosa, who enjoys unbounded confidence. It is to be hoped that the monarchy will flourish under his wise and liberal administration. The Cortes are to be convoked, it is said, by the first of May. The news of the retirement of M. Zea is received with enthusiasm throughout the provinces.

M. Vasquez Figueroa, the newly appointed minister of Marine, has declined in consequence of ill health.

The Count of Toreno, has congratulated the Queen in the name of the provinces. This gentleman is much esteemed by the Government, and it may be expected that he will soon form part of the administration.

The national guard is to be reorganized, upon the same basis as previous to the dismissal of M. Zea, but the government will reserve to itself, the selection and appointment of its officers.

The government will soon publish a political manifesto. As the principles of M. Martinez de la Rosa are well known, there is no doubt of its being well received by the public.

The King of Denmark has already accredited an ambassador at the government of Elizabeth II. as have the governments of the Hanseatic towns of Germany.

The departure of a Spanish ambassador for Lisbon is spoken of.

The Carlist bands are every where destroyed, thanks to the courage and devotion of the people; with the exception of the inhabitants of Navarre and Biscay, for the obstinacy of the inhabitants of the provinces cannot yet be overcome.

Several individuals attached to the administration, and suspected of Carlistism, have been dismissed.

The Duke of Medina Coeli, grandee of Spain, and member of the council of regency, has given up for

the benefit of the treasury, his salary, amounting to 30,000 francs per annum.

The Director General of the Treasury, Mr. Perez, has announced to the Government that the national expenses for the first quarter of the year 1834, will be promptly met, the estimated revenue for that period having already been secured.

The financial system of M. Gargolis is generally disapproved of. This is not astonishing, for Martinez de la Rosa would not form part of a Cabinet, which would announce a refusal of the engagements of the years 1820 and 1821. Mr. Martinez has always supported the principle that the nation should recognize any debt contracted in the name of Spain by its government.

The Journal des Debats of the 30th January, says that a report had obtained prevalence that day, that Don Carlos had entered Spain at the head of 8000 men. They add, that in all probability there is no foundation for the report, as probably it grows out of a rumor, that the Carlists would renew their efforts during Lent, when the whole of Spain is under the complete dominion of the clergy. They likewise express an opinion that these prophesied disturbances will meet with the same result as those in France, and be entirely unattended to.

We give the following further particulars from PORTUGAL.

PARIS, 20th January.—The news from Lisbon, by way of London, are favorable to the cause of Donna Maria: her forces have obtained more important advances than have yet signalled their efforts.

Gen. Sandaha, at the head of a division of 5000 men, reinforced by a detachment from the garrison of Peniche, took possession on the 15th January of the city of Leyria, a very strong position between Lisbon and Oporto, and about equidistant between the two. Coimbra it is said, can offer no further resistance, and there is little doubt of the junction of the troops under the command of Sandaha, and those under the command of General Stubbs at Oporto.

The Duke of Terceira, with 12,000 men, is pressing the blockade of Santarem. The force of the Miguelites is reduced to a most deplorable situation. The capture of Leyria has spread great joy through Lisbon—it is considered as decisive of the fate of the nation. Portugal bonds rose in London on the receipt of the news 3 per cent.

PRUSSIA.

BERLIN, 21st January.—It is generally rumored that since the travels of the hereditary prince, he has become strongly inclined in favor of constitutional institutions. There is no doubt that the views of the heir of the throne of Prussia will have a great influence over the proceedings of the Congress of Vienna.

Later from Cadiz.—The ship *Alciopé* has arrived at Bezen from Cadiz, whence she sailed on the 7th ultimo. She brings Cadiz papers to the 3d February and Gibraltar papers to the 30th January.

A proclamation was issued by the Governor of Cadiz on the 26th —, which, after reciting that the night before, the rest of the peaceful inhabitants had been disturbed by parties of men perambulating the streets with musical instruments, and sending forth loud cries, and terrific expressions, which the organs of the law alone have a right to utter—made known his Excellency's willingness to sanction decent diversions on the application of respectable persons who could not answer for the maintenance of order, but at the same time strictly prohibited, and denounced the severest penalties against any one who should, by day or by night, send forth cries calculated to offend others, to disturb public tranquillity, or to rouse the passions of the multitude.

In future, the prisoners taken from the insurgents are to be compelled to serve six years, viz: the non-commissioned officers in the regiments or companies belonging to settlements on the coast of Africa or the Havana, and the privates in the corps stationed in Cuba, Porto Rico, and the Philippine Islands. As to the leaders of bands, they will, as heretofore, be dealt with according to law.

Correspondence of the Journal of Commerce.

MARACAIBO, Feb. 14, 1834.

Generals Montilla and O'Leary, left this place yesterday, in the English man-of-war brig *Victor* for Jamaica, on their way to England and France, as Commissioners from Venezuela. There is no news of any kind.

SUMMARY.

United States Ship Fairfield.—It appears from a statement in the Norfolk Beacon, that on the night of November 25th, when President Flores recaptured Guayaquil from Gen. Rocafuerte, a boat was sent on shore from the United States Ship Fairfield, then in the harbor, to ascertain the cause of the firing.

About 11 o'clock the boat returned, having been fired into by the troops of Flores; two of the boat's crew were wounded; one of them, *Henry Young*, had six balls in him, two of which were in his head; he died about half an hour after getting on board; the other man, *Wm. Gunnerson*, had two balls thro' his body, and his left arm broken; he was recovering. The Fairfield was at Payta 13th Dec. to sail in ten days for Callao, and thence in a few days for Valparaiso.—All well.

OFFICIAL.—The following statement is from John E. Forrest, Secretary to the Commission under the Convention with France, which accompanies a bill now before Congress:

Statement.—The act establishing the commission required that the Board should assemble on the first Monday in August, 1832; but, in consequence of the short interval of time between its passage and the day fixed for the meeting, only one Commissioner attended on that day, and a full meeting was not effected until the 17th September. At this session the Board passed the necessary orders for the government of the claimants in the preparation of their memorials, and adjourned on the 18th September, to meet on the 17th December.

Second session, commenced 19th December, and continued until the 5th March, 1833. During this session 751 memorials were filed; which being examined and disposed of, and the board having no other business before it, adjourned to meet on the 10th of June following.

Third session, commenced 10th June, and continued until the 13th July. During this session 1,314 memorials were filed; and the board having examined and disposed of them, and there being no other business before it, adjourned to meet on the 21st October.

Fourth session, commenced 21st October, and continued until 19th February, 1834. During this session 555 memorials were examined and disposed of, and 230 claims examined, with the proofs filed in support of them.

The whole number of memorials filed, it will be seen, from the foregoing statement, amount to 2,591, and they were disposed of as follows:

- 1,792 received as setting forth good claims.
- 485 suspended for further consideration.
- 142 not received, for defect of form.
- 172 rejected.

2,501

[From the National Gazette.]

STEAMBOAT WILLIAM PENN.

The undersigned, a Committee of the Board of Directors of the Newcastle and Frenchtown Railroad Company, having examined into the circumstances connected with the destruction by fire of their fine boat William Penn, on the evening of Tuesday, the 4th instant, which was unfortunately attended with the loss of four lives, submit the following as the result of their investigations:

About half past 5 o'clock on the evening aforesaid, the William Penn, on her return from Newcastle, having on board about 150 passengers, and being about one mile this side of Gloucester Point, was discovered to be on fire, the flames bursting out with great violence on the windward side of the boat, outside of the larboard boiler near the after end of it. The committee are satisfied that it was communicated to the wood near the boiler by means of a fissure through the sheet-iron-work of one of the return flues of the furnace which had either escaped the vigilance of the workmen by whom it had been examined two days previously, or which was of still more recent origin. The wood which first became ignited was unusually dry, and therefore burnt with great rapidity, and the combustible nature of the bulkheads, and slight upper deck of the boat, together with a strong westerly wind, aided its progress, so that in a few minutes but little hopes were entertained of being able to save the boat. The efforts of Captain Jeffries and his crew to do so, seem, nevertheless, not to have been abated which the slightest chance of success remained. A hole was cut through the upper deck, and a large quantity of water was thrown on the fire, without producing any sensible effect: the hose was rigged to the forcing pump near the bow of the boat, but

so great was the press of passengers in its vicinity, that it could not be worked; and in the meantime the progress of the flames and the alarm had reached such a pitch, that nothing remained to be done but to run the boat ashore, in order to preserve the lives of the individuals on board. The tiller ropes having been burnt, this was promptly effected by means of the starboard engine—when all the passengers (except three, who jumped overboard into deep water and were drowned) were safely landed. The bodies of those who threw themselves into the river, were immediately recovered and conveyed to the city, where every effort was made that medical skill could devise to resuscitate them, but in vain.

One of these unfortunate persons was in the bow of the boat, out of danger, and rushed towards the stern, through the flames to meet his death, by precipitating himself into the water, although begged by Captain Jeffries to remain where he was. The fourth passenger who is deceased was in feeble health, and died the day succeeding the disaster, it is supposed in consequence of having been in the water.

Several horses, a portion of the mails, and the largest part of the baggage, were saved; and no doubt exists in the minds of the Committee that all the passengers might have been rescued without difficulty, but for the panic which is natural, and perhaps unavoidable, on such an occasion. It appears, however, that the greatest presence of mind was preserved by the engineers, firemen, and crew generally, one of whom held up a portion of the bulk head which the fire had forced out, and called to the passengers to go forward, whilst he thus confined the flames and prevented the passage from being interrupted.

As soon as the fire was discovered, the safety-valves were raised, to prevent the additional danger of explosion of the boilers.

Captain Jeffries remained on board, exerting himself to save the property of the passengers after all were out of the boat, and was himself the last person to leave her.

The Committee, in giving these details of the above melancholy disaster, deem it their duty to express their thanks, on behalf of the company, to the master ferryman and the captains and crews of the steam and other ferry boats, both of this city and Camden, as well as to many others, who so promptly repaired to the William Penn, and rendered every assistance which the nature of the case would permit.

The Committee, after a very close investigation, are enabled to state their decided conviction, that the persons already announced as dead are all that lost their lives on this distressing occasion.

On the whole, the Committee consider the fire to have been entirely accidental; and while they are of opinion that it ought to induce additional care on the part of those engaged in steam navigation, they are unable to perceive that any want of prudence or caution can be attributed to Captain Jeffries or the persons employed under him; on the contrary, they deem Captain Jeffries entitled to every confidence, and believe that his conduct in the trying circumstances in which he was placed was deserving of the highest praise.

JAMES LEFEBVRE,
S. NEVINS,
WM. D. LEWIS,
WM. J. WATSON,
Philadelphia, March 11, 1834.

} Committee.

Extract from a printed circular of Messrs. Baring, Brothers & Co. of London, dated Jan. 22d.

"There has been some demand for American stocks since the beginning of the month, but at low prices; and the amount of various descriptions in the market being large, we do not look for any improvement, particularly as the financial difficulties in the U. S. alarm our capitalists."

LOWER CANADA.—The address to the King, embodying ninety-two resolutions, demanding the impeachment of the governor-in-chief, &c. finally passed the assembly on the night of the 1st inst., yeas 43, nays 26. An address to the governor, praying him to transmit the address to the King, was also adopted; and the governor received the assembly with their address on the 4th inst. Mr. Morin had been appointed to go to London, as bearer of the resolutions, and about £300 had been subscribed for that purpose.

To the Editor of the New York American :

SIR—I sincerely hope the Hebrew language will henceforth attract the attention of American ladies as much as it has attracted that of their sex in Europe of late years. The advertisement in your columns leads me to cherish this hope. No one, ignorant of the sacred language, can conceive the exquisite feelings which accompany the reading of it. I can never forget my delight at the sweet simplicity of such sentences as—"And behold it was very good;" "Fear not Abraham," &c. The awe with which I read those words full of majesty—"Let there be light, and there was light;" nor my wonder when I understood the grammatical meaning of the name of Jehovah. To the refined and pious mind, the reading of the Hebrew Bible is accompanied with pleasure ever new, ever varied, ever thrilling. There, indeed, we drink at—

Siloa's brook that flow'd
Fast by the oracle of God.

Without an intimate acquaintance with Hebrew, we can neither understand many important passages in our Bible, nor feel those many beauties in our own language, which may be called Hebraisms—the incorporating of which, speak so highly in praise of the piety of our forefathers. The illustrious poet of the English language, whom I have just quoted, constantly indulges in these Hebraisms; and his free use of them, has gained for his immortal poem the merit of more sublimity than either the Iliad or the Æneid. The female of taste and education, who has spent days of delight over the Paradise Lost, and thinks she appreciates the sublime bard, must learn Hebrew; and then she will confess, that, comparatively speaking, she had really tasted very few of his refined allusions, and those in a very slight degree. How quickly is the poet appreciated by the Hebrew scholar when he reads Milton's translation of the word *metrachepesth*, in the 2d v. of the 1st chapter of Genesis, as we have it in his invocation :—

Thou from the first
Wast present; and with mighty wings outspread
Dove-like sat'st brooding on the vast abyss,
And mad'st it pregnant.

The remark has been made by a truly learned man, that the fate of the English scholar was a hard one; since he could not really be called such till he had attained an acquaintance with Hebrew. Had he known, as well as I do, the facility with which it is acquired, compared with Latin or Greek, he would have blessed the difficulty which he continued to deprecate all his life. SARNIA.

NORFOLK vs. NEW YORK.—The proprietors of the New York and London line of Packets, have recently announced their intention to reduce the freight of tobacco to 25 shillings per hogshead. This is intended to bring shipments of the article from southern ports, and will have a ruinous effect upon the southern lines of Packet. The line established between James river and Liverpool will be rendered wholly useless by the measure, as it cannot afford to carry the article for less than thirty-five shillings per hogshead. This anticipated result has greatly irritated the good people of Norfolk. Their papers contain several fiery protests against it, and some hot-headed simpleton even talks about "a recurrence to first principles." The fact is, that it is vain, in matters of business, to expect men to be guided by a sense of the interests of others. If New York can make money by the new arrangement, the Norfolk line will have to retire before the superior facilities of their northern competitor.

NAVAL LYCEUM.—We published some days ago, the letter of James Madison, accepting an honorary membership of this institution. We now have pleasure in publishing the letter of JOHN QUINCY ADAMS. Commodore Chas. G. Ridgely, New York, President United States Naval Lyceum:

WASHINGTON, FEB. 24, 1834.

SIR:—I have received your letter of the 14th instant, notifying me of the honor done me by the members of the United States Naval Lyceum, in electing me an honorary member of that institution. I pray you, Sir, to tender to the members of the Lyceum my thanks for this gratifying mark of distinction, and to accept them for the obliging manner in which you have communicated it.

Taught from my infancy to consider the Navy of this Union as our most effective wall of defence; a witness in childhood of that gallantry which, from

that day to the present, has so eminently signalized the career of the mariners in her service, I cannot but take pride in finding myself associated with the members of a profession alike adapted to promote the honor of their country in Peace, as to protect her interests in War, and in the pursuit of purposes which may give energy to the practical skill to be displayed on its appropriate element, by investing it with the progressive improvements of science, and the embellishments of literature and the arts.

I am with great respect, Sir, your ob't serv't,
JOHN QUINCY ADAMS.

THE ANGEL APPEARING TO THE SHEPHERDS.—We have not yet found a moment ourselves to go and look at this new, and as we hear on all sides, fine picture, by COLE. A friend, however, who has just come from there asks room, which we cheerfully make, for the annexed remarks.

COLE'S NEW PICTURE.—We visited the Academy in Barclay street in order to see the new production of one so well known to the public. The picture is certainly beautiful, and the subject appears to us for many reasons, admirably adapted to the pencil. It refers to the solemn communication by the Angel to the Shepherds of the advent of Christ, and the promise of peace and good will on earth to man. The Shepherds are watching their flocks on the plains of Bethlehem; the star which led the wise men shines out in bland radiance, over the sacred spot, while on the other side, the Heavens are drawn aside, and the messenger announces to the affrighted herdsmen the tidings of great joy—"Unto you is born this day a Saviour." The lights are well managed, and the repose and stillness of the scene are beautifully portrayed. The figure of the elder shepherd is effective, and the gradations of terror and amazement in all three, is happily conceived. The watchfulness of the dog is contrasted with the sleeping of the goat, who, though standing up, is evidently taking his nap.

We think this picture will add to the reputation of Mr. Cole, and we are sure no one will regret having paid it a visit or two."

[From the Intelligencer of yesterday.]

The President yesterday re-nominated to the Senate the three persons lately rejected as Government Directors of the Bank of the United States. The reasons which he assigned to the Senate for this unusual step, if any, were communicated in confidence, and are of course unknown to us.

OHIO.—The Legislature of this State adjourned on the 3d inst. The Columbus Journal furnishes the following list of monied incorporations created by the Legislature at the recent session:—

NAMES.	CAPITAL.
Ohio Life Insurance and Trust Company	\$2,000,000
Lafayette Bank of Cincinnati	1,000,000
Clinton Bank of Columbus	300,000
Bank of Cleveland	300,000
Bank of Massillon	200,000
Bank of Circleville	200,000
Bank of Wooster	100,000
Bank of Xenia	100,000
Bank of Sandusky	100,000
Bank of New Lisbon	100,000
Total	\$4,400,000

[From the Charleston Courier of March 3.]

COTTON.—There was less doing in this article than during the previous week, owing, in a great measure, to two or three days of bad weather, and the Races. Holders, however, have remained firm, and former prices were fully maintained. The late news from Liverpool, received on Saturday, had no visible effect upon the prices in this market—sales having been made after the receipt of these accounts, at about former rates. The total sales of Upland amounted to upwards of 3000 bales, viz:—35 bales at 10 cents—20 at 10½—50 at 10¾—104 at 10¾—332 at 10¾—376 at 11—260 at 11¼—284 at 11¼—363 at 11¼—67 at 11½—80 at 11½—351 at 12—152 at 12¼—537 at 12¼. The transactions in Sea Island and Mains were fair at from 90 to 25 for common, and upwards for finer description. Sales of all description meet with ready sales.

We quote Sea Island and Mains, common, 20 at 25; fine do. 26 and upwards; Santos, 18 a 21; Short Staple, inferior to middling, 10 a 10½; fair to good, 11 a 11½; prime to choice, 12 a 12½.

RICE.—We have no alteration to make in the price of this article. A little more inquiry was experienced for middling qualities, and holders are generally firm. The sales amounted to upwards of 9000 bbls. viz:—197 bbls. at 24—264 at 23 16—830 at 24—231 at 24—176 at 24 16—185 at 24—130 at 24—150 at 24.

New England Banks.—The amount of Country Bank notes exchanged at the Suffolk Bank during the last year, was eight millions of dollars, of \$386,000 a day.

[From the Roseville (Ohio) Telegraph.]

INDIAN HOSTILITIES NEAR HOME.—The following are the incidents of an affray which has produced here considerable excitement:

Mr. L. B. Bartlett, agent of the celebrated Miami chief, Godfrey, passed through this place in company with Poqua, son of Godfrey, on their return from Cincinnati to the residence of the latter near For Wayne, Indiana, on Thursday, 7th inst. They stopped at a public House 4 miles west of this. A short time after going to bed, Poqua having gotten up on some false pretext, and provided himself with a dirk from his saddle bags, sounded the accustomed war whoop in the ear of his astonished fellow traveller, and stabbed him through the arm. Both instantly sprang to the floor, and a desperate struggle ensued—the Indian still uttering his fearful yell, and occasionally wounded Bartlett. The noise awakened a number of individuals who rushed into the room. Mr. Clendinning, the landlord, entered first with a candle; this the savage struck out and stabbed M. C. in the chest. Messrs. J. and W. M. Whitney next entered; the former of whom he wounded in the shoulder; the latter, like Achilles, received a stab in the heel. A Mr. Hipes next advanced—him he wounded in the arm. The next thrust was at Mr. Bruce, which passed through his clothes. Having lost his dirk accidentally he now commenced with his fists, and soon remained sole master of the room, where he was blockaded until morning, when he quietly gave himself up. He is now in our county jail. No adequate cause for his conduct has been assigned. The manner of the agent, Mr. B., towards him, appears to have been invariably kind, and Poqua has heretofore sustained a high character. It is supposed that none of the wounds are fatal, though Mr. Clendinning and Mr. Bartlett are seriously injured—the latter in five places.

NEW ORLEANS 25 FEB.—A Riot.—On Friday night last a serious disturbance took place among the Irish laborers employed in digging the upper canal and some of a different section of the country, who were employed in making and repairing the Levees down the coast. It appears that a man named Allahan had failed to obtain a job of work, and therefore was determined to impede its progress of his successful competitor, and in the course of Friday went down to the Coast with his band to put his threat in execution; finding his party too weak, he said he would fetch a gang that would flog them and left the ground. Late in the night he returned, with a gang from the Canal, and fell upon his opponents, and beat them, and maltreated them most brutally—the result of which was that three of them have died from their bruises and many more are severely hurt. During Saturday the Police were actively engaged in detecting some of the offenders, and three or four were arrested.—On Saturday night, however, the attack was again resumed, and the attention of the Police was called to a gang of the desperadoes, armed with musket and fowling pieces, collected on the Gentilly Ridge. They had worried and beaten, so we learn, several negroes on the different plantations. The guard immediately repaired to the spot, when they were met by a discharge of musketry, one ball striking the musket of one of the guard, cutting it asunder and wounding the man. The guard returned the fire and finished by taking 23 of these ruffian pioneers and bringing them to prison, where they are now confined. On Sunday night a party of these same men entered the miserable dwelling of an old woman and her daughters, and beat them most cruelly, and so they continued their practices until the Police checked them in their murderous career. Parties of three and four of these ruffians, armed, were met by the guard, and arrested, on Sunday night, and conducted to prison. It is really somewhat alarming that these men, disregarding the rights of their fellow men should thus put a whole community into commotion. Such acts as these can by no means have a beneficial tendency, and the result will be that rather than encourage them at all, other men will obtain a higher price for work, which, perhaps, will not be so well executed. We sincerely hope that the offenders will be brought to justice, and above all, the leader of this riot, Allahan.

Yesterday an affray took place on the Levee between two boatmen, which terminated in the death of one. The particulars of the quarrel we have no yet learned. The offender was immediately arrested by the police, and is now awaiting his examination before the Mayor.—[New Orleans Mer. Adv.]

The old line of Liverpool packets—the establishment of which all admit to have given the first great impulse to that regularity, despatch and certainty, which now characterize our intercourse with the chief ports of Europe—has recently, as we have before stated, passed into new hands.

Two regulations have been recently introduced, which seem to meet with universal approbation. The one fixing the price of passage at *one hundred and twenty dollars, without liquors*—thus exempting those passengers who do not use them, from contributing to pay for those who do—while to the latter the steward will always be prepared to supply at a fixed rate, such wines &c. as may be desired. The other is, that when the regular day of sailing falls on a Sunday, the vessel will be detained till Monday. This, as a mere matter of business, is a great convenience, as it gives to shippers, the chance of another day's mail to forward the latest accounts to their correspondents; and enables them, moreover, to close their most important letters on the very day of the vessels sailing; which, when that occurred on Sunday could not be. This will be felt by all merchants to be of itself a great advantage.

The line of London packets have, we understand, also adopted these regulations—which, it is reasonable to presume, receiving as they seem to do, the unanimous approbation of the business classes—will be in like manner adopted by the various other lines of European packets.

NAVAL LYCEUM.—Although, amid the mere grossing topics of the day, little has been lately said in our paper of this excellent institution, it does not, we are glad to find, cease to interest the public. We received, a day or two ago, a fine fruit piece from the Hope gallery, intended for the Lyceum; and now we have pleasure in publishing an excellent letter from JAMES MADISON, accepting an honorary membership in that association.

MONTPELIER, FEBRUARY 20, 1834.

Dear Sir:—I have duly received your letter, notifying the honorary membership conferred on me by the "United States Naval Lyceum, New York." The laudable objects of the Institute, and the names with which mine is associated, give the distinction a value, which claims the special acknowledgments which I beg may be accepted. I must at the same time express my sensibility to the very kind terms in which the communication is made to me, and the gratification I must always feel, in reflecting, that selections made for the Naval Service of the United States, whilst the Executive was in my hands, were so well justified by a brilliancy of career in war, and an honorable usefulness in peace.

Be pleased to accept for yourself my cordial respects and salutations. JAMES MADISON.

Commodore CHARLES G. RIDGELY.

JOHN BREATHITT, Governor of Kentucky, died of consumption, at the seat of Government, Frankfort, on Friday the 21st ult.

On Saturday, James T. Morehead, Esq. Lieut. Governor, was qualified and entered upon the duties of his office as Governor, in consequence of its vacation, by the death of Gov. Breathitt. James Guthrie, Esq. of Louisville, was elected Speaker of the Senate, in the place of the Lieut. Governor.

APPOINTMENTS—FEBRUARY 25, 1834.

By the Governor, with the advice and consent of the Senate.

NEW YORK—David Austin, William G. Bull, Thomas P. Bowne, John J. Bedient, Anthony W. Bleeker, James Bleeker, Jacob Burdett, Wm. J. Brown, Thomas Bell, Joseph W. Corlies, Richard Crawford, John P. Dieterich, Joseph Daymon, Isaac T. Doughty, Wm. H. Franklin, James Gourlay, Wm. Gerard, James N. Giffing, Lindley M. Hoffman, Peter M. Halstead, John Herriman, George Innis, Sidney P. Ingraham, Samson M. Isaacs, Elisha Kingsland, Aaron Levey, Richard Lawrence, John Langdon, Gilbert Lewis, Wm. M'Laughlin, Wm. M'Donnell, Wm. D. M'Carty, Rowland R. Min-

turn, James M. Miller, Robert Charles Morris, Geo. M'Kay Morrill, Geo. S. Munn, Aaron B. Nones, Samuel Philips, John Pearson, Thomas W. Pearsall, Lawrence Power, Henry L. Patterson, James C. Smith, Solomon Seixas, Daniel Sparks, Charles B. Spicer, Wm. Timpson, Edward G. Thompson, Abraham Waterhouse, Jacob Van Winkle, and Charles N. Yeoman, auctioneers. Samuel Satterlee, jr. measurer of grain. Judah Hammond, Justice of the marine court. John Wright, Samuel W. Disbrow, Isaac L. Tompkins, Oliver H. Tompkins, Cornelius Timpson, Samuel Clark, John Vredenburg, Lewis Smith, Jacob Brinckerhoff, J. G. Ketchum, Edward Webb, Oliver Holden, Ebenezer Briggs, Joseph Earle, Gilbert Perkins, Jobert T. Clark, and Tobias L. Stoughtenburgh, measurers of grain.

[From the Journal of Commerce.]

COUNTRY BANKS.—Through the kindness of a gentleman connected with one of our Banking institutions, we are enabled to lay before our readers a list of those country Banks which redeem their bills at Banks in this city. There are thirteen, of which the bills, of all denominations, are redeemable in New York; and of these, eight have assumed this new relation within the last ten days. The names of such are printed in italics. The other five have been long in the habit of redeeming their notes in this city. Of the whole thirteen, all are Safety Fund Banks except two. Seventeen other country Banks redeem their bills, of and above a certain denomination, at the Banks in this city. The annexed schedule gives the particulars:

List of Banks whose Bills are redeemed in New York.
New York Bank
Brooklyn Bank, L. I.
Long Island Bank, Brooklyn
Dutchess County Bank
Hudson River Bank
Poughkeepsie Bank
Bank of Troy
Farmers' & Mechanics' Bank, Rahway
State Bank, Elizabethtown
Newark Banking and Insurance Co.
Trenton Banking Co.
State Bank, Newark
Mechanics' Bank of Newark
State Bank, New Brunswick
State Bank, Morristown
Commercial Bank, Amboy
Belvidere Bank, N. J.
Orange Bank of Essex
Mech. & Merch. Bank, Middle'n Point
Bank of Albany
Saratoga County Bank
Commercial Bank, Albany
Lansingburg Bank
Troy City Bank
Several Banks issue mere or less Notes drawn payable in New York.

Disaster at Sea.—The schr. Mary Francis, Capt. B. Kirwan, of East River, which sailed from that place about 15 days ago, bound to the West Indies, returned there last Friday night in distress. She was run foul of, on the night of the 14th, in the latitude of Bermuda, by the ship Triton, bound to Portsmouth, (N. H.) from the South Sea. The ship had all sail set and was going nine or ten knots, and struck the schooner on the starboard quarter, knocked Capt. Kirwan and one of his men overboard; the man was lost, and Captain Kirwan had his right arm and leg broken, and otherwise dreadfully mangled; notwithstanding which he got hold of a rope with his left hand, and held on for half an hour, before his cries were heard, and then there were only two men on board, (the other two having got on board the ship when in contact.) It was two or three hours before the ship got in sail, and returned to the schooner; they lay by her until daylight, when she left her. The schooner is quite new, and is a very strong vessel, consequently did not receive as much damage as might have been expected; she lost three stanchions, the rail waist and part of the taffrail, but does not leak more than she did before the accident.—Capt. Kirwan's sufferings are most excruciating, and if his life is saved, it is feared he will lose his leg. The ship was before the wind, and the schooner was close hauled; they saw each other quarter of an hour before they came in contact, and Captain Kirwan used every exertion to get of the way, but as his vessel was under easy sail, he could not keep clear of the ship. Capt. Kirwan does not know how he got hurt, and has no recollection of any occurrence after the ship struck, and he was twenty yards astern of the vessel with a rope in his hand, and although she was going two or three knots, he contrived to haul himself up with one hand until he reached her before they heard him on board. The Captain of the ship was below. The ship's head and bowsprit were carried away, and part of the

head fell on the schooner's deck. The schooner is loaded with flour and corn, belonging to some persons in Fredericksburg; she will repair damages and proceed on her voyage the last of the week, under the command of Capt. Kirwan's son.—[Norfolk Beacon.]

APPOINTMENTS BY THE PRESIDENT.

By and with the advice and consent of the Senate.
 John G. Mawney, Surveyor and Inspector, East Greenwich, R. I.

Samuel Brown, Naval Officer, Providence, R. I.
 David Henshaw, Collector of Customs, Boston, Mass.

John McNeil, Surveyor and Inspector, for the same port.

George Brent, Collector of Customs, Alexandria, D. C.

(The above are all re-appointments.)

Armsted D. Carey, Receiver at Sparta, Alabama, in place of I. S. Hunter resigned.

James H. Weakley, Surveyor General of Public Lands in Alabama, in place of John Coffee, deceased.

Alexander Hunter, to be Marshal for the district of Columbia, in the place of Henry Ashton deceased.

Byrd Brandon to be Attorney for the Northern District of Alabama, re-appointed.

Garret D. Wall to be Attorney for the District of New Jersey, re-appointed.

Daniel Kellogg to be Attorney for the District of Vermont, re-appointed.

Benjamin F. Linton to be Attorney for the Western District of Louisiana, re-appointed.

David C. Wilson to be Marshal for the District of Delaware, re-appointed.

Augustus Jones to be Marshal for the District of Missouri, re-appointed.

Heman Lowry to be Marshal for the District of Vermont re-appointed.

William Lyon to be Marshal for the Eastern District of Tennessee, re-appointed.

John McCalla to be Marshal for the District of Kentucky, re-appointed.

Thomas B. Monroe to be Judge for the District of Kentucky in the place of John Boyle, deceased.

The Canals, according to a statement by authority in the Albany Argus, will be open for navigation on the 17th April. The water will be let in, and the whole extent be navigable on the morning of that day.

The Mobile Register of February 22d, says, "The Branch of the United States Bank in that City has resumed the purchase of foreign exchanges. The rates have not come to our knowledge.

The Mechanics' Bank of this city have received funds from the Government, with which to pay those pensioners whom the Bank of the United States have been prohibited, by the Secretary of War, from paying.

THE SILK WORM.—BY MRS. SARAH JANE HALE.

There is no form, upon our earth,
 That bears the mighty Maker's seal,
 But has some charm—to draw this forth,
 We need but hearts to feel.

I saw a fairy young girl—her face
 Was sweet as dream of cherish'd friend;
 Just at the age when childhood's grace
 And maiden softness blend.

A silk worm in her hand she laid,
 Nor fear, nor yet disgust was stirred;
 But gaily with her charge she play'd
 As 'twere a nestling bird.

She raised it to her dimple cheek,
 And let it rest and revel there—
 O, why for outward beauty seek!
 Love makes its favorites fair.

That worm—I should have shrunk, in truth,
 To feel the reptile o'er me move,
 But loved by innocence and youth,
 I deemed it worthy love.

Would we, I thought, the soul imbue,
 In early life, with sympathies
 For every harmless thing, and view
 Such creatures formed to please;

And when with usefulness combined,
 Give them our love and gentle care—
 O, we might have a world as kind
 As God has made it fair!

There is no form upon our earth,
 That bears the mighty Maker's seal,
 But has some charm—to call it forth,
 We need but hearts to feel.

There is good sense and sound argument in the annexed remarks from the Journal of Commerce.

EXCHANGE IN CHINA.—It is mentioned in the letters from Canton, that bills of Exchange drawn by the United States Bank upon their bankers in London, had been sold at the rate of 4s. 4d. per dollar, while there was no sale at all for private bills. The fact is worthy of a moment's consideration, as illustrating the importance of such an institution. The China trade was formerly carried on almost wholly by exporting silver dollars. But within a few years past, the Chinese, perhaps having satisfied themselves with making silver gods, have turned their attention to articles of more substantial importance. They purchase large quantities of British goods, which renders exchange on London as good to them as dollars and better. But at such a distance and under the circumstances which exist, it is impossible to establish private credit firmly enough to sustain so large a business, under all the fluctuations of opinion. Generally to be sure, private bills have been negotiated with success, but nothing short of a great national institution has sufficient notoriety and firmness of responsibility to resist the suspicions which occasionally spring up. By means of bills of exchange, our teas and silks from China are paid for by the products of our own soil. For, the bills drawn on London and sold in Canton, are met and paid by funds resulting from sales of Cotton and other articles in the ports of Europe. The great expense and risk of exporting specie is saved, and one cause of fluctuations in the money market avoided. A ship sails to Canton for a cargo of great value, and her whole outward cargo consists of three or four slips of paper, six inches by four. If the whole cargo is lost, every thing is saved. Pirates may capture it, or the fire burn it, still it is safe, and in possession of the rightful owner.

We know there are some persons who consider credit a dangerous thing. They say it induces over trading, and brings on fluctuations and ruin. If this were ever so true we prefer fluctuations to total inaction. It is better that there should be failures occasionally, and that some individuals should be disappointed in their golden expectations, than that the whole country should lie dormant and stupid. It is better that the nation should march on rapidly in wealth and comfort, though a few individuals may encounter misfortune, and share less than they wished, in the general prosperity.

In the case of the China trade, it is evident that the bills of exchange answer every purpose of specie. The credit is as good as the silver. And the saving of expense enables the people to be furnished with teas and other articles of comfort or luxury, much cheaper than they could otherwise be furnished. Why then should the specie be carried around the world, when credit is the most convenient and economical article. If it were necessary to embarrass enterprise at all, it might better be done in some cheaper way. But no such embarrassments are necessary or proper. It would be as wise to deny to men the use of steam, lest they should drive too furiously, as to deny them the use of credit lest they should overtrade. All that is necessary, is, a steady and wise management, and credit becomes as safe as cash, and steam as safe as the dullest donkey.

SINGULAR OLD SONGS.

The longer life, the more offence;
The more offence, the greater pain;
The greater pain, the less defence;
The less defence, the lower gain—
The loss of gain long ill doth try.
Wherefore, come, death, and let me die!
The shorter life, less count I find;
The less account, the sooner made;
The count soon made the merrier mind;
The merrier mind doth thought invade—
Short life, in truth, this thing doth try.
Wherefore, come, death, and let me die!
Come, gentle death the ebb of care;
The ebb of care, the flood of life;
The flood of life, the joyful fare;
The joyful fare, the end of strife—
The end of strife, that thing with I,
Wherefore, come, death, and let me die!

[From the Boston Atlas.]

TO A TYRANT—CONTEMPLATING A TRIP TO ARABIA.

Farewell! Go seek the desert sands,
Less barren than thy heart and brain;
And o'er the loving Arab hands,
In absolute dominion reign:
To ply they have stole their senses,
They thirst for battle and for spoil;
Prompt to all deeds of violence,
Eager for blood, and apt for spoil.
There every sight thou seest around,
A mirror of thy mind will be;
And every force, tumultuous sound
Will echo thine own thoughts to thee:
Thy present friends would only care
To help thee on a little faster;
Congenial horrors wait thee there,
Congenial souls will call thee MASTER!

TO STEAMBOAT COMPANIES.

PROFESSOR RAFFINESQUE, of Philadelphia, offers his services to render steamboats incombustible, and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and discarded by the public as unmindful of safety. Apply, post paid.
S. I. R. J. M. & F.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of **Duffee, May & Co.** offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon-dale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York,
January 29, 1833.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with **FRESH GARDEN SEEDS**, upon very favorable terms, and of the growth of 1833, warranted of the best quality. The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,
347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine.
MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.
In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.
Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.
Germantown, February, 1833.
For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Germantown and Norrist. Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J 25 11

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

JR ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing & Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any person desirous of perusing the same.
m26

[From the Token for 1834.]

FLOWERS—BY MRS. SIGOURNEY.

I'll tell thee a story, sweet,
Here under this shady tree;
If thou'lt keep it safe in thy faithful breast,
I'll whisper the whole to thee.

I had a lover, once,
In my early, sunny hours,
A fair and fanciful youth was he,
And he told his love in flowers.

I remember its waking sigh—
We roam'd in a verdant spot,
And he culled for me a cluster bright
Of a purple forget-me-not.

But I was a giddy girl,
So I toss'd it soon away,
And gather'd the dandelion buds,
And the wild grape's gadding spray.

He marked their blended hues,
With a sad and reproachful eye,
For one was the symbol of thoughtless mirth,
And one of coquetry.

Yet he would not be baffled thus,
So he brought for my crystal vase,
The rose geranium's tender bloom,
And the blushing hawthorn's grace.

And a brilliant and fresh bouquet
Of the moss-rose buds he bore—
Whose eloquent brows, with dew-drops pearl'd,
Were rich in the heart's deep lore.

I would not refuse the gift,
Though I knew the spell it wove,
But I gave him back a snow-white bud,
"Too young, too young to love."

Then he proffer'd a myrtle wreath,
With damask roses fair,
And took the liberty—only think—
To arrange it in my hair.

And he press'd in my yielding hand,
The everlasting pea,
Whose questioning lips of perfume breathed
"Wilt thou go, wilt thou go with me?"

Yet we were but children still,
And our love, though it seemed so sweet,
Was well express'd by the types it chose,
For it pass'd away as fleet.

Though he brought the laurus leaf,
That changes but to die,
And the amaranth, and the evergreen,
Yet what did they signify.

Oft o'er his vaulted love
Suspicious moods had power,
So I put a French marigold in his hat,
That gaudy, jealous flower.

But the rootless passion shrank
Like Jonah's gourd away,
Till the shivering ice-plant best might mark
The grades of its chill decay.

And he sail'd o'er the faithless sea,
To a brighter clime than ours—
So it faded that fond and fickle love,
Like its alphabet of flowers.

I'll be a fairy, and drink the dew,
And creep through the honied flowers,
And sleep in the violet's tender blue,
And dance in the evening hours.

My music shall be the soft low gales
Which sigh through the dark green trees;
And heaven's breath swell the gossamer sails
With which I swim the breeze.

The glow-worm shall be my gentle light,
And a lily's cup my bed;
And I'll warm me in the sweet moon-light,
And on fallen roses tread.

And ever fresh the grass shall grow
Around my mystic ring,
And little murmurs, sweet and low,
Shall answer when I sing.

And I will hold a fairy court,
And call each slumbering fay,
And wild and gaily will we sport,
As the twilight fades away.

I'll be a fairy and drink the dew,
And creep through the honied flowers,
And sleep in the violet's tender blue,
And dance in the evening hours.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lanesburgh, in the county of Renfrew, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machine throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lanesburgh—August 15, 1833. A29 J R M & F

Those papers with which the American exchanges, and in which the following advertisements are inserted, will confer a favor on the subscriber by giving the following a few insertions:

Subscribers who are indebted for the New York American, the Railroad Journal, Mechanics' Magazine, or New York Farmer, are respectfully requested to remit the amount by merchants, or other gentlemen visiting the city this spring, and, if possible, in notes of the United States Bank, or its Branches, as the expense of postage and the discount on notes of distant Banks, is a great tax upon the Office.

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in semi-monthly form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor. Jan. 22, 1834.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published. D. K. Minor also publishes the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

Also, the PLOUGH-BOY, a cheap agricultural publication, of eight quarto pages, is issued once a week, at \$1 50 per annum, in advance. It contains much interesting reading upon agriculture, &c.

All Letters and Communications for the above publications, may be addressed, free of postage, to D. K. MINOR.

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber. D. K. MINOR, 35 Wall street. New-York, August 14, 1833.

FOR SALE.

ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1832, with wood cuts, &c. dedicated in Historical and Natural Sciences, Botany, Agriculture, &c. at one dollar per annum.

MEDICAL FLORA OF THE UNITED STATES, in 2 vols. with 100 plates, containing also the economical properties of 300 genera of American plants. \$3.

MANUAL OF AMERICAN VINES, and Art of Making Wines, with 5 figures. 25 cents.

FISHES AND SHELLS OF THE RIVER OHIO. 1 dollar.

AMERICAN FLORIST, with 36 figures—price 36 cts.

Orders for these works, or any other of Professor Rafinesque's, received at this office. A29 J R M & F

TO RAILROAD COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1823, by his caveats filed in the Patent Office. Apply, post paid. 81 R J M M & F

INCOMBUSTIBLE ARCHITECTURE.

INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTIMONY, or Incombustible Varnish, at one dollar per lb.

Apply to C. S. RAFINESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 8th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushon & Aspinwall, Druggists. Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means. 81 R J M M & F

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in lengths of 14 to 16 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do.	do.
100 do. 1 3/4 do.	do.
800 do. 2 do.	do.
800 do. 2 1/2 do.	do.

soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, 5, and 6 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment. A. G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833. For further information on this subject see No. 49, page 772 of this Journal. dc

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation is now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

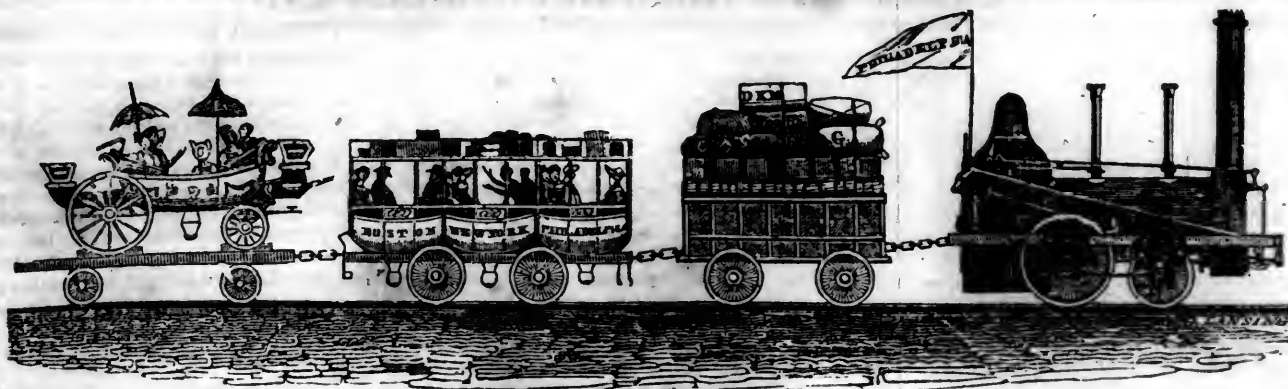
Troy, N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J28 iam

H. BURDEN.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, MARCH 22, 1834.

[VOLUME III.—No. 11.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 22, 1834.

ERRATA.—In the article on *Blanchard's boat*, page 117, vol 3, No. 3, 1st column, for "Dunkirk," read "*Portland*"; 2d column, for "enterprise of Philadelphia," read "*Pennsylvania*."

PENNSYLVANIA PORTAGE RAILROAD.—By the following extract from the *Pittsburgh Gazette*, we learn that the Portage Railroad is now ready for use. This is a very important link in the improvements in Pennsylvania. It opens a direct intercourse between Philadelphia and Pittsburgh, and notwithstanding the trouble and delay of a transfer of freight from boats to railroad cars, and again to boats, Philadelphia will derive immense benefit from the work.

Portage Railway Office,
Hollidaysburgh, March 13, 1834.

Dear Sir,—It will, doubtless, be gratifying to the citizens of Pittsburgh to learn that the Portage Railroad will be opened for public use on Tuesday, the 18th instant. The Western, Juniata, and Eastern Divisions of the Canal are filled, and ready for transportation—therefore, on that day, a line of communication will be opened, uninterrupted, between your city and Philadelphia.

The rates of Toll to be received on the Portage have been fixed by the Board of Canal Commissioners at double the amount chargeable on the Pennsylvania Canals.

Very respectfully, &c.

S. JONES, Superintendent.

Colonel Macerone's Steam Carriage.—Thursday, the Steam Carriage for which Colonel Macerone and Mr. Squire have obtained a patent, and which has been running from Oxford street to Edgware for the last fortnight, made a trip to Uxbridge, and, notwithstanding the extremely disadvantageous state of the road, owing at once to the long-continued rains, and to the quantity of loose gravel which is at present being laid down upon it, the trial afforded another unequivocal proof of the success which has attended the efforts of the patentees in bringing to a comparative degree of perfection the construction of locomotive carriages. The road, which, even in fine weather, is a very bad one, was, as before mentioned, in the worst possible condition, and yet the journey from the Regent's circus, Oxford street, to Uxbridge, was performed (not taking stoppages into account) in an hour and a quarter. The consumption of time in the stoppages for the purpose of taking in water and fuel was, of course, considerable, but that is a matter that can be easily remedied by the establishment of stations at proper distances, and with suitable apparatus, upon any road on which a carriage of the kind can be started. The first two miles were performed in seven minutes and a half, and the average rate of speed was 12, 14, and sometimes 16 miles an hour. Indeed, it was manifest that in summer, and upon a good road, the coach could go even 20 miles an hour. Up some of the hills, which had been thickly covered with gravel, it went at the rate of eight miles an hour. On his return to town, one of the Oxford stages in full gallop passed it, while taking in water at Kensington. After the lapse of a few minutes the steam carriage followed, came up with the stage, still at full gallop, passed it, and left it "no where" ere it had arrived at the commencement of Oxford street. This carriage, we understand, has already run 2500 miles without being detained on the road for a single minute by any derangement of the machinery, save the breaking of the axle-tree on its return from Windsor in last September—an accident to which every other species of vehicle is equally liable, and against the recurrence of which, in the instance of the steam-carriage, the patentees state they have effectually provided. It is the intention of the patentees, we believe, to continue running the carriage for some days longer to the Uxbridge, when it will be discontinued. They at the same time express their willingness to run the carriage, for the purpose of showing the power of the engine, upon any road in the kingdom.—[English paper.]

DIP AND DECLINATION OF THE NEEDLE IN AMERICA.—A manufacturer of compasses at Birmingham would feel much obliged to any of our American or other correspondents, who would supply answers to the following queries: What is the dip and declination of the needle in New-York? and the extent of the variation throughout that and the other states of the North American Union?

On the Location of Railroad Curvatures, being an investigation of the principal formulas required for field operations in laying curves to pass through given points. By J. S. VAN DE GRAAFF. To the Editor of the American Railroad Journal.

SIR,—Having been personally engaged in tracing the various curves for railroad lines, and being frequently under the necessity of making calculations relative to divergent curves and tangents, under a variety of existing circumstances, I was induced to enter into an investigation of certain formulas, embracing the principal cases which usually occur in practice. These formulas, the chief of which I believe to be new, are now offered to you for insertion in your Journal. This is done only with a view to the possibility of adding a small mite to the general stock of information upon that subject; for nothing can be better calculated to produce such an effect than a comparison of the different methods of computation which have been resorted to by different individuals engaged in the solution of such problems. A full investigation of this subject, embracing all the variety of cases which occur in the field, would require too much room in your columns, and I have therefore consulted brevity as much as perspicuity would allow. Very respectfully,

J. S. VAN DE GRAAFF.

ART. 1. Any two points being fixed in the general direction of a route, through which it is proposed to lay a line of railroad composed of several curves and tangent lines, the cost of construction is in most cases not the only requisite datum to fix the definite location of the intermediate points,—for there are very few varieties of ground, except in a very broken country, which will not admit of several different lines connecting the same points, all at nearly an equal expense of construction, and all within the same limits of curvature. It then becomes an object to make such a selection of right lines and curves, and such a distribution thereof, as will produce, at a given expense, the most efficient road.

But no particular rule can be given as a guide for the judicious arrangement of a line; and the general object here proposed is an investigation of such formulas as are required in the field. Let any two rectangular co-ordinate axes be assumed, and take any number of equal

straight lines, originating at the origin of the co-ordinate axes, and connected together at their extremities in such a manner, as that, when each point of connection is joined by a straight line to the origin, these latter lines will form, with one of the co-ordinate axes, a series of angles in *arithmetical progression*. It then follows, agreeably to the principles of elementary geometry, that each point of connection of those equal straight lines, will be situated in the circumference of a circle, passing through the origin, and touching that co-ordinate axis from which the arithmetical series of angles is counted. And this obviously suggests the common method of tracing a circular arc in the field by means of a chain whose length is each of those equal straight lines, and an instrument for measuring the arithmetical series of angles from the tangent line.

In all the formulas which will be deduced in the course of the present inquiry, it must be remembered that all measurements of distance are supposed to be made in chains, or decimal parts of a chain. The chain will therefore be the *unity* of length, and may have any value whatever; but as this will be a constant quantity in the field, it follows that the *curvature* of a line, traced in the manner just described, can only be made variable by different arithmetical series of angles. The *common differences* of these series of angles will therefore be called the *moduli* of curvatures, and will always be denoted by a letter *T*. That co-ordinate axis which coincides with the tangent line will be designated as the axis of *x*; the other being that of the ordinate *y*; and any curve will be considered given, or found, when the modulus of curvature is given, or found.

2. Let a given curve be traced from the origin of a system of rectangular co-ordinate axes, agreeably to the preceding article; it is proposed to investigate formulas which will express the values of the co-ordinates of the station at the extremity of the *n*th chain.

The inclinations of the different chains to the axis of *x*, in succession from the origin, are respectively *T*, *3T*, *5T*, &c.; and consequently their projections upon the co-ordinate axes are obviously *cos. T*, *cos. 3T*, *cos. 5T*, &c., and *sin. T*, *sin. 3T*, *sin. 5T*, &c. respectively. Hence, by taking the sums of those projections, the following equations will result:

$$\begin{aligned} x &= \cos. T + \cos. 3T + \cos. 5T + \\ &\quad \&c. \dots \dots \cos. \{T \cdot 2n-1\} \\ y &= \sin. T + \sin. 3T + \sin. 5T + \\ &\quad \&c. \dots \dots \sin. \{T \cdot 2n-1\} \end{aligned}$$

The last term in each of these two series will obviously be the *n*th term; and the sum of a terms of each series being taken, agreeably to the known principles of analytical trigonometry, the following formulas will be the result:

$$\begin{aligned} x &= \frac{\sin. 2nT}{2 \sin. T} \\ y &= \frac{1 - \cos. 2nT}{2 \sin. T} \end{aligned}$$

These are the expressions required; and they have that form which is most convenient for computation from a table of natural sines and cosines.

3. To find the radius of curvature.

It is sufficiently evident, that when *n* is made variable, the maximum value of *x* will be the radius of the described circle; but when *x* is a maximum, it follows that *sin. 2nT* will also be a maximum when *T* remains constant, as will readily appear from the expressions obtained in the last article. Now, the maximum value of *sin. 2nT* is unity, and consequently denoting the radius of the described circle by *R*, the result is,

$$R = \frac{1}{2 \sin. T}$$

4. Take two rectangular co-ordinate axes, having their origin at a given station in a tangent

line, from which a certain required curve is to be laid, passing through a point designated by the co-ordinates *x*, *y*; the given tangent line coinciding with the axis of *x*. Parallel respectively to each of the coordinate axes, let any number of rectangular lines be traced from the origin, and terminating in the point designated for the required curve to meet; these rectangular lines being selected in any convenient manner to pass any obstacle which may happen to occur. Let the algebraic sums of each of these rectangular lines be taken, agreeably to the axis to which they are respectively parallel. These sums will obviously give the values of the co-ordinates *x*, *y*; and from thence it is proposed to determine a formula expressing the value of the modulus of curvature of the required curve.

Let each of the two formulas obtained in art. 2 be squared; and let the second of the two formulas be then divided by the sum of the squares. The following expression will be the immediate result:

$$\sin. T = \frac{y}{x^2 + y^2}$$

And thus the modulus of curvature of the required curve becomes known. This is one of the most important formulas used in the field; for it can be applied under any circumstances, when the designated point is not visible from the origin. If that point can be seen from the origin, the curve sought is usually obtained in a more simple manner.

5. Suppose two curves to be laid upon the same tangent line, and take *b* to denote the distance between their origins. Let one of those curves have a given modulus of curvature denoted by *T*, and let it pass through a given point at the extremity of the *n*th chain. It is then proposed to find the modulus of curvature of the other curve such that it may also pass through the same given point.

The co-ordinates of the given point, taken with reference to the origin of the required curve, will obviously be *x ± b*, and *y*. Hence taking *T'* to denote the required modulus, it follows from the last article that, *sin. T' =*

$$\frac{y}{x \pm b + y^2}$$

Now substituting in this expression, for *x*, *y*, their values obtained in art. 2, and the necessary reductions being made, the following formula will be the result:

$$\sin. T' = \frac{1 - \cos. 2nT}{\sin. T} \pm 2b \sin. 2nT + 2b^2 \sin. T$$

This theorem will be found to be quite convenient in the field to answer several different purposes, when the curves are too long to be within the limits of the more simple approximative methods. With regard to the double sign, it must be observed, that the *negative* value obtains, when the origin of the curve sought is in advance of the origin of the given curve; and the *positive* value must be taken in the contrary case.

6. If the point designated for the required curve to meet does not coincide with the extremity of the *n*th chain of the given curve, as in art. 5 it is supposed, but varies a small distance to the right or left; yet, if the curves are long, the best method will always be to compute the value of *T'*, as though the required curve were intended to pass through the point considered in that article; and then the requisite small variation in the computed value of *T'*, to meet the case proposed, may be subsequently calculated by very simple approximative methods.

7. Suppose two given curves to be laid upon the same tangent line, and let *b* denote the distance between their origins. Take *T* and *T'* to represent the given moduli of curvatures; and *n* and *m* the number of chains contained in each curve respectively. It is proposed to determine the distance between the extreme stations of those two curves, and the inclination of the two tangents at those two extremities.

I will here take *T* to denote the modulus of curvature of that curve which is most in advance upon the tangent line, with respect to the directions in which the curves are laid from their origins. Let *x*, *y*, and *x'*, *y'*, be the respective co-ordinates of the two extreme stations, each originating at the origin of its respective curve. The difference of co-ordinates, when referred to any common origin on the tangent line, will then be *x + b - x'*, and *y - y'*. Hence, taking *w* to denote the distance sought, the common principle of analytical geometry gives the following expression:

$$w = \{x + b - x'\}^2 + \{y - y'\}^2$$

And from this equation the required distance becomes known; for, by art. 2,

$$\begin{aligned} x &= \frac{\sin. 2nT}{2 \sin. T} & x' &= \frac{\sin. 2mT'}{2 \sin. T'} \\ y &= \frac{1 - \cos. 2nT}{2 \sin. T} & y' &= \frac{1 - \cos. 2mT'}{2 \sin. T'} \end{aligned}$$

The inclination of each tangent to the common tangent at the origins is *2nT* and *2mT'*, respectively, and *2nT - 2mT'* will consequently express the required inclination of the two tangents to each other. These two tangents will converge when *2mT'* is less than *2nT*, and the determination of their point of intersection will be easily effected by the preceding principles.

8. When the two moduli of curvatures *T* and *T'* are equal, the problem considered in the last article becomes much more simple. For the value of *w* being developed, and the values of *x*, *y*, and *x'*, *y'*, substituted for them, and the necessary reductions being made agreeably to the known principles of analytical trigonometry, the following formula is the result:

$$w = \left\{ \frac{1 - \cos. \{2nT - 2mT'\}}{1 - \cos. 2T} + b \times \frac{\sin. 2nT - \sin. 2mT'}{\sin. T} + b^2 \right\}$$

This expression will be useful for a variety of purposes in the field.

9. The formulas which have been investigated in the 8 preceding articles are all *rigorously accurate*; and when long curves are under consideration, which embrace portions of circumferences containing more than 20° or 30°, these formulas will find their application; for in such cases, none of the *usual methods* of approximation are applicable.

The above very brief view of this subject will be only sufficient to illustrate the general fact, that all the necessary formulas are easily made to flow from the two principal formulas given in art. 2. Very useful approximative rules may also be easily derived from those already given; but I cannot continue this inquiry. The subject may perhaps be resumed in some future number of this Journal.

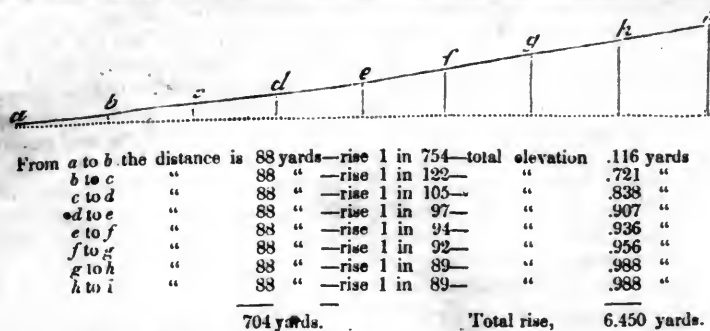
VAN DE GRAAFF.

Lexington, Ky., February, 1834.

The Undulating Railway. [From the London Mechanics' Magazine.]

SIR,—To prevent the possibility of any further misunderstanding in reference to the experiments recently made on the Liverpool and Manchester railway, I have this morning called upon Mr. Booth, and have compared with his statement thereof the following particulars of the rise of the Sutton inclined plane, from its base to a higher point of elevation than any which was attained in our experiments. To render this explanation more clear, on which reliance may be placed, I have accompanied it by a diagram, wherein is denoted the points from which the ascents and descents, during the experiments, were measured.

I am extremely sorry that these particulars have not before been published, as the want of them has evidently produced inconvenience to some of your correspondents, which, had it occurred to me, I ought not to have permitted.



The ascent of the Sutton inclined plane may be said (see diagram) to commence at the point a; although for a distance of 2½ miles before arriving at that point there is a trifling ascent of about 1 in 2,640—viz. from the Sankey viaduct to the foot of the plane.

Now, the series of experiments first published (see No. 531), and which were tried with the Rocket engine, were made from what was considered the foot of the plane, and which in the diagram is marked letter b.

The results of those experiments evidently proved to me that the inclination of that part of the plane on which they were tried was not, as generally supposed, 1 in 96. I perfectly recollect Mr. Sanderson alluding to some supposed error, though why the allusion was "*not palatable to me*" is a perfect mystery. It was not, however, until after I sent you the particulars of the experiments, and my return to Douglas, that I had an opportunity of making such calculations as led me to call a second time on Mr. Booth; viz. before the trial of the second series of experiments, and explain to him the discrepancy which appeared. For instance, see page 21, experiment 6:—The Rocket engine and a load of 35 tons ascended by momentum 134 yards, the velocity at the foot of the plane being 10 miles per hour, which ascent was equal to 4.1975 feet perpendicular elevation. Now, 10 miles per hour is 14.672 feet per second, and supposing friction out of the question, a body having gained a momentum of 14.672 feet per second, by gravity, would only ascend 3.36355 feet. Thus it was evident to me that 1 in 96 was not the proper inclination of that part of the plane. Previously, however, to the experiments afterwards detailed, the levels were taken afresh by the Messrs. Dixon,* and in the experiments tried with the Liver and load on the 16th (see No. 534), the ascents were measured from that part of the plane marked x in the diagram, at which point there is a cottage on the railway. On the Sunday following it was agreed by the engineers present that the place of starting should be again changed, and the experiments with the double load were all made from that part of the plane from which the Rocket had ascended, viz. from b. It will naturally occur to our readers—if Mr. Badnall were acquainted with all these particulars, why did he not lay them before the public? The fact is, that I considered the result of the experiments made with the Pluto and Firefly, with the double load, such as to render all explanation unnecessary with regard to the previous trials, and especially as I stated at page 71, that the inclination upon which those latter experiments were tried was about 1 in 99, which will be found to be the average. Moreover, I did not at the time consider a knowledge of the exact inclination of the plane at all necessary to a clear comprehension of the nature and results of the experiments, inasmuch as all I wished to prove was, that *whether velocity was generated by one or more engines at the foot of ascent, by which velocity*

(either with or without the continued assistance of one engine) a given elevation was surmounted, a greater velocity could be generated by descending the same distance, evidently proving, beyond all rational doubt, the correctness and value of the principle.

The discrepancy alluded to by "Kinclaven" will be explained, I trust, satisfactorily to him, by referring to the statement of the experiment to which he alludes. In that instance the word *momentum* is not introduced; on the contrary, the whole power of the Liver engine was employed throughout the *whole ascent*. Had this not been the case, there evidently must have been some great error. I need not say that I shall be most happy, not only to give every further information in my power, but if any of my opponents will propose any further practical test, upon the result of which they will cast the merits of the question, it shall be, if possible, immediately and most impartially tried.

As a proof of the impartiality with which I have recorded the experiments already tried, I refer to all the engineers present, whether the steam of the Pluto (see last experiment) was not shut off 155 yards before she arrived at the starting post, which made a very considerable difference in the rise by momentum. Seeing, however, that I had proved enough, I neither complained at the time, nor have I hitherto published my complaint. The error arose from the two conductors of the engines shutting off the steam of both engines when the flag dropped for the first engine to shut off on passing the mark, letter b.

May I again ask if Mr. Cheverton and "S. Y." will be satisfied that there is an advantage if a given locomotive engine will move, at a given velocity, *double* the load from summit to summit which she is capable of moving on the level at the same velocity? If so, will they, if not satisfied with the impartial judgment of our northern engineers, attend on an appointed day, of which they shall have due notice, and witness the experiments themselves? If they refuse to attend, and if they disbelieve the results of the experiments already tried, it is needless to make a single further comment on their opposition. On the other hand, if they do attend, and if they do witness a decided proof that a load, which *will not move on a level*, will move from summit to summit on an undulating at a *great velocity*, what becomes of the "ASSUREDLY NOT" of the *Champion*—and why is it necessary that "S. Y." should give such friendly advice to Mr. Ham, and to the subscribers of the *great western railway*? I am, however, happy in believing, that a full and impartial trial of the undulating principle will soon be made on rather an extensive scale; and I hope "S. Y." will state his *practical objections*, and that the *Champion's* rod may be most freely exercised before such trial takes place. As to the sickness which these gentlemen complain of, I am sorry I can administer no better restorative than my regret.

I am, sir, with great respect,

RICHARD BADNALL.

Manchester, November 28, 1833.

P. S.—I observe that "S. Y." makes some allusion to "*The Editor of the Manchester Guardian*." Probably he is not aware that Mr.

Garnett, the editor, is an opponent of mine, and one for whose mechanical attainments I have a very high opinion.

Improved Method of Packing Pistons. By T. B. S. To the Editor of the *Mechanics' Magazine*.

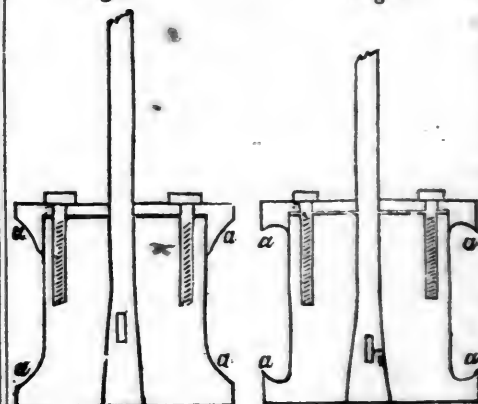
Knowing that many of your readers take a lively interest in whatever contributes to the perfection of the means by which the mighty energies of steam are directed in channels of usefulness, I submit a brief description of an improvement in a minute though an important part of the steam engine. Many expedients have been devised to avoid the use of hemp for the packing of the piston; various metallic substances have been substituted, and numberless other materials long since condemned after repeated trials.

While the piston as adopted by the ingenious Mr. Watt continues in almost universal use, and until a cheap and more enduring piston is discovered, it will doubtless continue to be the favorite plan. In one of its features, however, I consider it susceptible of improvement.

Heretofore engineers have considered it important to form the projecting parts of the piston and follower so as to crowd the hemp outward against the cylinder, as the follower is screwed down to its place. The sketch, fig. 1, is about the form usually given to the

Fig. 1.

Fig. 2.



metallic part of the piston, and shows the form of the recess for the reception of the packing. It is apparent that the obtuseness of the corners at a, a, a, a, are well calculated to avoid the packing as it becomes chafed by friction against the cylinder, while the general shape of the recess greatly conduces to an excessive friction near those angles. Fig. 2 represents the improved form of the piston as I have applied it in several instances, and with success. The acuteness of the edges, a, a, a, a, is calculated to preserve the packing from chafing, to hold it in a body to its place, and will retain it, even though worn to fragments, or otherwise reduced, as it may be liable from a variety of causes. Most of the engines in use have pistons of the former description, and the experiment may be tried with a trifling expense, simply by turning a cavity as near to the form of that in fig. 2 as the substance of the piston will allow.

In the hope that some may derive a benefit from the suggestions, as well as to contribute a mite to the interest of your valuable periodical, I offer them.

I am, yours, &c.

T. B. S.

New-York, Jan. 24, 1834.

* I had also an opportunity of comparing, this morning, my notes on the rise of the inclined plane with Mr. Dixon's, sen., from whom I had originally been favored; with them.

OF COMETS.

Of all celestial bodies, comets have given rise to the greatest number of speculations. In the ages of ignorance and superstition, they were believed to be the harbingers of divine vengeance, and to portend great political and physical convulsions. The most ancient opinion respecting their nature was, that they were enormous meteors formed in the earth's atmosphere. Yet many of the ancients entertained opinions respecting them agreeing with some parts of the *modern* hypothesis respecting these bodies; for they believed that they were so far of the nature of planets, that they had their periodical times of appearing, and that when they were out of sight they were carried aloft to an immense distance from the earth, but again became visible when they descended into the lower regions of the air, when they were nearer to us. Modern astronomers are now generally agreed, that they have no light of their own, and appear luminous only by the light of the sun. They have no visible disc, and shine with a pale whitish light, accompanied with long transparent trains, or tails, proceeding from that side which is turned away from the sun. When a comet is viewed through a good telescope, it appears like a mass of vapors surrounding a dark nucleus of different degrees of opacity in different comets. As these bodies approach the sun their light becomes more brilliant, and after they reach their perihelion, often exceed any of the planets in lustre. Their tails are also observed to increase, both in length and brightness, as they approach the sun. The opinions of astronomers respecting these tails have been very different. Tycho Brahe, who was the first that gave the comets their true rank in the creation, supposed that the tail was occasioned by the rays of the sun passing through the nucleus of the comet, which he believed to be transparent. Kepler thought that it was the atmosphere of the comet which was driven behind it by the force of the solar rays. Sir Isaac Newton maintained that the tail was a thin vapor, ascending by means of the sun's heat, as smoke does from the earth. Euler supposes that the tail is produced by the impulse of the solar rays driving off the atmosphere from the comet. Dr. Hamilton, of Dublin, supposes them to be streams of electric matter.

In any of these opinions there is little to entitle it to preference above the others; and till multiplied observations shall have added to the imperfect knowledge which we at present possess of these bodies, it is perhaps better not to give a decided preference to any of them.

From a number of observations made by Sir Isaac Newton on the comet that appeared in the year 1680, he was enabled to discover the true motion of these bodies.

Dr. Halley, following the theory of Newton, set himself to collect all the observations which had been made on comets, and calculated the elements of 24 of them. By computations founded on these elements, he concluded that the comet of 1682 was the same that had appeared in the years 1456, 1531, and 1607; that it had a period of 75 or 76 years; and he ventured to predict, that it would appear again about the year 1758, which it actually did; therefore it may be expected to appear again in the year 1835.

When a comet makes its appearance, it is only for a very short period, seldom ex-

ceeding a few months, and sometimes only a few weeks. Instead of moving from *west* to *east*, like the planets in orbits making small angles with the ecliptic, they are observed to cross it at all angles. Their progress among the fixed stars is in general more rapid than that of the planets, and their change of apparent magnitude is much more remarkable. When a comet retires from the sun, its tail decreases and nearly resumes its first appearance. Those comets which never approach very near the sun have nothing but a coma or nebulosity round them during the whole time of their continuance in view.

The tail of a comet is always transparent, for the stars are often distinctly visible through it, and it has even been said, that on some occasions they have been seen through the nucleus or head. The length and form of the tail are very different. Sometimes it extends only a few degrees, at others it extends more than 90 degrees. In the great comet that appeared in the year 1680, the tail subtended an angle of 70°, and the tail of the one which appeared in 1618, an angle of 104°. The tail sometimes consists of diverging streams of light: that of the comet which appeared in the year 1744 consisted of six, all proceeding from the head, and all a little bent in the same direction. The tail of the beautiful comet which appeared in 1811 was composed of two diverging beams of faint light, slightly colored, which made an angle of 15° to 20°, and sometimes much more. Both of them were a little bent outward, and the space between them was comparatively obscure.

The apparent difference in the length and lustre of the tail of comets has given rise to a popular division of these singular bodies into three kinds, namely, *bearded*, *tailed*, and *hairy* comets; but this division rather relates to the several circumstances of the *same* comet, than to the phenomena of different ones. Thus when the comet is *east* of the sun, and moves *from* him, it is said to be *bearded*, because the light precedes it in the manner of a beard; when the comet is *west* of the sun, and sets after him, it is said to be *tailed*, because the train of light follows it in the manner of a tail; and when the sun and comet are diametrically opposite, the earth being between them, the train or tail is all hid behind the body of the comet, except the extremities, which being broader than the body of the comet, appear to surround it like a border of *hair*, and on this account it is called *hairy*. But there have been several comets observed, whose discs were as clear, round, and well defined, as that of Jupiter, without either tail, beard, or coma.

The magnitude of comets has been observed to be very different; many of them without their *coma* have appeared no larger than stars of the first magnitude; but some authors have given us accounts of others which appeared much greater: such was the one that appeared in the time of the emperor Nero, which, as Seneca relates, was not inferior, in apparent magnitude, to the sun himself. The comet which Hevelius observed in the year 1652 did not seem to be less than the moon, though it was deficient in splendor, for it had a pale, dim light, and appeared with a dismal aspect. Most comets have dense and dark atmospheres surrounding their bodies, which weaken the

sun's rays that fall upon them; but within these appears the nucleus or solid body of the comet, which, when the sky is clear, will often give a more splendid light.

Respecting the nature of these singular and extraordinary bodies, philosophers and astronomers in all ages and countries have been very much divided in their opinions. The vulgar have, however, invariably considered them as *evil omens*, and forerunners of war, pestilence, famine, &c.; and to adopt the language of an old poet,

"The blazing star was viewed—
Threat'ning the world with famine, plague, and war;
To princes death; to kingdoms many crosses;
To all estates inevitable losses;
To herdsmen rot; to ploughmen hapless seasons;
To sailors storms; to cities civil treasons."

The Chaldeans, who were eminent for their astronomical researches, were of opinion that comets were lasting bodies, which had stated revolutions as well as the planets, but in orbits considerably more extensive, on which account they are only visible while near the earth, but disappear again when they ascend into the higher regions. Pythagoras taught that comets were wandering stars, disappearing in the superior parts of their orbits, and becoming visible only in the lower parts of them. Some of the ancient philosophers supposed they were nothing else but a reflection of the beams from the sun or moon, and generated as a rainbow; others supposed they arose from vapors and exhalations. The illustrious Aristotle was of opinion they were meteors. Modern philosophers have been equally perplexed as their predecessors in accounting for the nature of these magnificent celestial appearances.

The eccentric but learned Paracelsus gravely affirmed that they were formed and composed by angels and spirits, to foretel some good or bad events. Kepler, the celebrated astronomer, asserted that comets were monsters, and generated in the celestial spaces by an animal faculty! The sentiments of Bodin, a learned French writer of the 16th century, were yet more absurd; for he maintained that comets are spirits which have lived upon the earth innumerable ages, and being at last arrived on the confines of death, celebrate their last triumph, or are called to the firmament like shining stars!

James Bernoulli, a celebrated Swiss philosopher, formed a rational conjecture relative to comets, in viewing them as the satellites of some very distant planets invisible on the earth on account of its distance, as were also the satellites, unless when in a certain part of their course. Tycho Brahe, the illustrious but unfortunate philosopher of Denmark, supported a true hypothesis on this subject. He averred that a comet had no sensible diurnal parallax, and therefore was not only far above the regions of our atmosphere, but much higher than the moon; that few have come so near the earth as to have any diurnal parallax; yet all comets have an annual parallax; the revolution of the earth in its orbit causes their apparent motion to be very different from what it would be if viewed from the sun, which demonstrates that they are much nearer than the fixed stars, which have no such parallax.

Déscartes advanced another opinion, which is, that comets are only stars that were formerly fixed like the rest, but becoming gradually covered with *maculae* or spots, and at length wholly deprived of their light, cannot

keep their places, but are carried off by the vortices* of the circumjacent stars; and in proportion to the magnitude and solidity, moved in such a manner as to be brought nearer to the orb of Saturn; and thus coming within reach of the sun's light, are rendered visible.

The number of comets belonging to the solar system is said not to be less than 450; but the periods of not more than three of these are known. The velocity of these bodies, and their distance from the sun, when in the remotest part of their orbits, exceed all human comprehension. Sir Isaac Newton calculated the velocity of the comet of 1680, and found it to be 880,000 miles per hour, and its aphelion distance not less than 11,200,000,000 miles.

Respecting the use of these bodies, many conjectures have been formed. Mr. Whiston thought it probable that they were appointed by the Almighty as places of punishment for sinners after death, who would be alternately tormented with the most insupportable heat when nearest the sun, and in the opposite point with the greatest possible cold.

Sir Isaac Newton, amongst other purposes which he thinks they may be designed to serve, adds, "that for the conservation of the water and moisture of the planets, comets seem absolutely requisite, from whose condensed vapors and exhalations all the moisture which is spent in vegetation, and turned into dry earth, &c. may be supplied and recruited, for all vegetables grow and increase wholly from fluids; and again, as to their greatest part, by putrefaction into earth. Hence the quantity of dry earth must continually increase, and the moisture decrease, and be quite evaporated, if it did not receive a continual supply from some part or other of the universe;"—and I suspect," adds this philosopher, "that the spirit, which makes the finest, subtlest and best part of our air, and which is absolutely requisite for the life and being of all things, comes from the comets."

* Descartes supposed that every thing in the universe was formed from very minute bodies called atoms, which had been floating in open space. To each atom he attributed a motion on its axis; and he also maintained, that there was a general motion of the whole universe round like a vortex, or whirlpool. In the centre of this vortex was the sun, with all the planets circulating round him at different distances; and that each star was also the centre of a general vortex round which its planets turned. Besides these general vortices, each planet had a vortex of its own, by which its satellites (if it had any) were whirled round, and any other body that came within its reach.

FRIENDSHIP.—"When fortune smiles, and life is prosperous and fair, then it is that the nominal and true friend may seem alike sincere." Then it is that small and great, rich and poor, bond and free, bow at your shrine and prostrate themselves as it were at your feet. But when unfortunately the dark clouds of sorrow and disappointment gather thick around you, and you find yourself beset with troubles, losses, crosses, and disappointments, on every side, then you are ready to exclaim, "Fortune can create friends, but adversity alone can try them." Your friends of fortune will desert you. They will laugh at your misfortunes, and heap upon you shame and disgrace. They will sink you, if possible, lower, in point of honor and reputation, and in all your attempts to rise, cross and blight you at every turn.

But not so with the true friend. Though all your earthly prospects are cut off, he will

not desert you, but if possible administer to your relief. Let us, therefore, cultivate and cherish that friendship, and that alone which will not diminish, though sorrows oppress and afflictions invade us: that too which will cheer and animate us amid our darkest hours and shine brightest in affliction's night.—[Monthly Repository.]

MANKIND MUTUALLY DEPENDANT.

Not only the correct and excellent sentiments, and the accomplished expression of the following communication, but the source from which it emanated, give it a value for our part. It is one among numerous compositions furnished by the Ladies' Composition Class of the Boston Wesleyan Lyceum. This piece, like many others which have been prepared by this class, does credit to the intellect and still more to the heart of the author. The sentiment and spirit manifested are those of christian kindness: and if believed and practised by the whole human family, would light up our depraved and forlorn world with the brightness of pure felicity. Who is not ready to try the experiment?

The cold-hearted stoic may boastingly accede to the sentiment, that 'man is sufficient for himself;' but the philanthropist rejoices in the beautiful system of mutual dependance which unites him so closely with the whole human family. He views with pleasure the facilities which the genius of men has supplied for communication with other lands; for contributing to the necessities, convenience and ease of each other, by exchanging the products of different climes; he considers all men as the children of one Parent, improving the advantages with which they are favored, for the benefit of themselves and of their brethren.

Not only do these pleasurable feelings arise in the breast of him whose heart is deeply imbued with love for the whole human race, but a little reflection will excite them in the mind of one whose views are more selfish and contracted; and constrain him to acknowledge the wisdom of a system for the division of labor, and for the promotion of friendly intercourse, which mankind, as it were by mutual consent, have so universally adopted.

Every vocation in life depends on many others for its support. The agriculturists of New-England, said to be the most independent class of people, may be adduced as examples in favor of this assertion; the toils of the blacksmith, the carpenter, &c. are all put in requisition to enable them to cultivate the soil to advantage.

The rich are dependant on the poorer classes, and the poorer classes on the wealthy: without the former, commerce and manufactures would languish—and deprived of the latter, the fatigues of manual labor would be added to those mental vexations from which the affluent are seldom exempt.

The young look to their superiors in years for counsel and instruction, and the aged to the vigor of youth and manhood for support.

A mutual dependance exists between the inhabitants of one clime and those of another; the wealth of one nation is comprised in its mines of silver and gold, that of another in the products of its soil. Those who depend on the latter may be considered as peculiarly favored; for where the former exist, those arts which constitute the happiness and prosperity of a people are almost invariably neglected. From this circumstance, indolent habits, both of body and mind, are induced, and these in their turn generate many vices.

To the conquests of the Spanish in America, may be attributed the low state of morals, literature, and science, which prevails among them; for finding that they had ac-

quired, with an extensive territory, a resource for the supply of all their wants, the natural advantages of their natal land were disregarded.

The advantages occurring from this system of mutual dependance are many; the division of labor, or the devotion of every man's talent to some particular trade or profession, is an economy, not only of time, but of health and of money.

Should one man engage in the pursuits which are now apportioned among many, much time would be lost in the acquisition of knowledge in various branches; his health would be impaired from the attention bestowed on them; his gain would not be in ratio to the expenses incurred; and no opportunity would be afforded of attaining to perfection in any.

From the consideration that we are continually reciprocating favors with our fellow beings, and that there are none so humble as not to be able to render us assistance in one way or another, we should be excited to kindness and humility; under the influence of so beneficent a system, the asperities of life should lose their keenness, and all the social feelings of our nature be expanded. M. O.

MECHANICS' WIVES.—Speaking of the middle ranks of life, a good writer observes:

"There we behold woman in all her glory: not a doll to carry silks and jewels, not a poppet to be flattered by profane adoration, revered to-day, discarded to-morrow; always jostled out of the place which nature and society would assign her, by sensuality or by contempt; admired, but not respected; desired, but not esteemed; ruling by passion, not affection; imparting her weakness, not her constancy, to the sex she would exalt; the source and mirror of vanity. We see her as a wife partaking the cares and cheering the anxiety of a husband, dividing his toils by her domestic diligence, spreading cheerfulness around her; for his sake sharing the decent refinements of the world, without being vain of them; placing all her joys and her happiness in the man she loves. As a mother, we find her the affectionate, the ardent instructress of the children whom she has tended from their infancy; training them up to thought and virtue, to piety and benevolence; addressing them as rational beings; and preparing them to become men and women in turn. Mechanics' daughters make the best wives in the world."

RIDING.—On which side of the lady, on horseback, should the gentleman ride?

The translator of the Principles of the Art of Modern Horsemanship says: "When a gentleman accompanies a lady on horseback, he should take the left side of her horse. The custom of taking the right side is derived from the English mode of riding. The law of England directs the left hand to be taken; the gentleman therefore takes the right, to protect the lady from vehicles, &c. which pass on her left. Here the law directs the right hand of the road to be taken, consequently the gentleman should take the left side of the lady's horse. It seems to be best adapted to afford efficient assistance, whatever may occur. The right hand of the gentleman is perfectly free, and may be used either to stop the horse or rescue the lady from danger. He can on this side aid her in disentangling her dress, disengaging her foot from the stirrup, adjusting her reins, and lifting her off her seat, without exposing her to the accidents which might occur to him if he attempted to give her assistance from the other side. It is not so easy to afford assistance to the lady with the left hand, nor is it so easy for the rider to command his own horse with the right hand."

THE CHASSEUR ANTS OF TRINIDAD.—One morning my attention was arrested at Laurel Hill by an unusual number of black birds, whose appearance was foreign to me; they were smaller but not unlike an English crow, and were perched on a calabash tree near the kitchen. I asked the house negress, who at that moment came up from the garden, what could be the cause of the appearance of those black birds? She said, "Misses, dem a sign of the blessing of God; dey are not the blessing, but only de sign, as we say, of God's blessing. Misses, you will see afore noon-time how the ants will come and clear the houses." At this moment I was called to breakfast, and thinking it was some superstitious idea of hers, I paid no further attention to it.

In about two hours after this, I observed an uncommon number of *chasseur ants* crawling about the floor of the room: my children were annoyed by them, and seated themselves on a table, where their legs did not communicate with the floor. The ants did not crawl upon my person, but I was now surrounded by them. Shortly after this the walls of the room became covered by them; and next they began to take possession of the tables and chairs. I now thought it necessary to take refuge in an adjoining room, separated only by a few ascending steps from the one we occupied, and this was not accomplished without great care and generalship, for had we trodden upon one, we should have been summarily punished. There were several ants on the steps of the stair, but they were not nearly so numerous as in the room we had left; but the upper room presented a singular spectacle, for not only were the floor and the walls covered like the other room, but the roof was covered also.

The open rafters of a West India house at all times afford shelter to a numerous tribe of insects, more particularly the cockroach, but now their destruction was inevitable. The *chasseur ants*, as if trained for battle, ascended in regular thick files, to the rafters, and threw down the cockroaches to their comrades on the floor, who as regularly marched off with the dead bodies of cockroaches, dragging them away by their united efforts with amazing rapidity. Either the cockroaches were stung to death on the rafters, or else the fall killed them. The ants never stopped to devour their prey, but conveyed it to their storehouses.

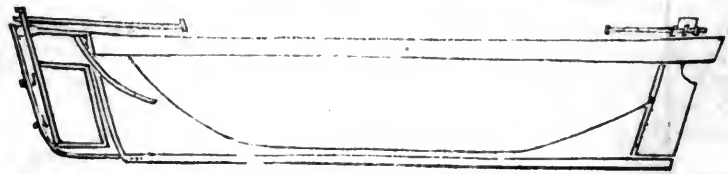
The windward windows of the room were of glass, and a battle now ensued between the ants and the *jack-spaniards* on the panes of glass. The *jack-spaniards* may be called the wasp of the West Indies; it is twice as large as the British wasp, and its sting is in proportion more painful. It builds its nest in trees and old houses, and sometimes in the rafters of a room. These *jack-spaniards* were not quite such easy prey as the cockroaches had been, for they used their wings, which not one cockroach had attempted to do. Two *jack-spaniards*, hotly pursued on the window, alighted on the dress of one of my children. I entreated her to sit still, and remain quiet. In an inconceivably short space of time, a party of ants crawled upon her frock, surrounded and covered the two *jack-spaniards*, and crawled down again to the floor, dragging off their prey, and doing the child no harm. From this room we went to the adjoining bedchamber and dressing-room, and found them equally in possession of the *chasseurs*. I opened a large military chest full of linens, which had been much infested; for I was determined to take every advantage of such able hunters. I found the ants already in possession of the inside; I suppose they must have got in at some opening at the hinges. I pulled out the linens on the floor, and with them hundreds of cockroaches, not one of which escaped.

We now left the house and went to the chambers built at a little distance, but these were also in the same state. I next proceeded to open a store-room at the end of the other house for a place of retreat, but to get the key I had to return to the under room, where the battle

was now more hot than ever. The ants had commenced an attack on the *rats* and *mice*, which, strange as it may appear, were no match for their apparently insignificant foes. They surrounded them as they had the insect tribe, covered them over, and dragged them off with a celerity and union of strength that no one who has not watched such a scene can comprehend. I did not see one rat or mouse escape; and I am sure I saw a score carried off during a very short period. We next tried the kitchen, for the store-room and boys' pantry were already occupied, but the kitchen was equally the scene of battle between rats, mice, and cockroaches, and ants killing them. A huckster negro came up selling cakes, and seeing the uproar, and the family and servants standing out in the sun, he said, "Oh, Misses, you've got the blessing of God to-day, and a great blessing it is to get such a cleaning."

I think it was about ten when I first observed the ants; about twelve the battle was formidable; soon after one the great strife began be-

tween the rats and the mice; and in about three the houses were cleared. In a quarter of an hour more the ants began to decamp, and soon not one was to be seen within doors. But the grass around the house was full of them; and they seemed now feeding on the remnants of their prey, which had been left on the road to their nests; and so the feasting continued till about four o'clock, when the black birds, who had never been long absent from the *calibash* and *pois doux* trees in the neighborhood, darted down among them, and destroyed by millions those who were too sluggish to make good their retreat. By five o'clock the whole was over: before sundown, the negro houses were all cleared in the same way; and they told me that they had seen the black birds hovering about the almond trees close to the negro houses as early as seven in the morning. I never saw the black birds before or since, and the negroes assured me that they were never seen but at such times.—[Mrs. Carmichael on the West Indies.]



A Bow Rudder. By W. ALDERSEY. [From the United Service Journal.]

The following plan is proposed for fixing and working a rudder at the bow of a vessel, to act in unison with the rudder at the stern, as calculated to embrace all the advantages proposed by that experienced and highly respectable officer in the East India Company's service, Capt. William Manning, as stated in p. 541 of the United Service Journal for December, 1831; and which, I think, will also be found to meet the objections of W. J. T. of Cambridge, page 260, in the number for October, 1832.

The plan consists in fixing an additional stem, made of iron, of sufficient strength, on the present stem of the vessel (already built), and securing the same by strong braces fixed securely on the bow, and hanging the rudder on the additional stem at the bow, precisely in the same way as the rudder at the stern is hung, as shown in the drawing.

The following results may be expected: 1st, The rudder at the stem is intended to act in unison with the rudder at the stern, by which means the same force would be exerted at each end of the vessel, and would unite in effect to bring the vessel round to the wind, and prevent her missing stays; 2d, When before the wind, or nearly so, the rudder on the stem might be allowed to swing, or be fixed, as thought necessary; 3d, When the tiller at the stem is put a little to leeward, and the rudder at the stern is made to act in unison with it, their combined influence would very much tend to keep the vessel to windward; 4th, The rudder at the stem would be an additional security in case of accident to the rudder at the stern, to which it is liable from going over a bar, and from other causes; 5th, The additional rudder at the stem appears particularly suitable for steam vessels, by which means the steersman at the bow would have it in his power to discover, and instantly avoid, every impediment in the ship's course; and would be particularly useful at night, and in foggy and boisterous weather, and in rivers crowded with vessels, both moving and stationary.

In the drawing, the keel is lengthened to

the extremity of the foot of the rudder, to show an easy and safe mode of protecting it from accident, when the ship touches the ground at the stern. In building a new vessel, the keel may be carried out, in the first instance, of sufficient length to have the additional stem built in the frame of the vessel to receive the bow rudder; and the tiller may be made in any form, and applied in any way, most convenient.

POPULAR ERRORS IN MEDICINE.—[By an Edinburgh Physician.]—A very common practice in eating such fruit as cherries is to swallow the stones, with the vague notion that these promote digestion. No error can be more fatally absurd. Many cases have occurred where such practices have been the cause of death, and that of a very excruciating nature. One instance is on record of a lady who died in great agony after years of suffering, and the cause was found to be several large balls lodged in the intestines, accumulated around clusters of cherry stones. The husks of gooseberries are often swallowed with the idea that they prevent any bad effects from the fruit. On the contrary, they are the most indigestible substance that can be swallowed, and pass the stomach without any change, although they cause excessive irritation, and not unfrequently inflammation in the bowels.

Many people put great faith in the wholesomeness of eating only of one dish at dinner. They suppose that the mixture of substances prevents easy digestion. They would not eat fish and flesh, fowl and beef, animal food and vegetable. This seems a plausible notion, but daily practice shows its utter absurdity. What dinner sits easier on the stomach than a slice of roast or boiled mutton, and carrots or turnips, and the indispensable potato? What man ever felt the worse of a cut of cod or turbot followed by a beef-steak, or a slice of roast beef and pudding? In short, a variety of wholesome food does not seem incompatible at meals, if one do not eat too much—here the error lies.

It is a practice with bathers, after having walked on a hot day to the sea-side, to sit on the cold rocks till they cool before going into the water. This is quite erroneous. Never go into the water if over-fatigued, and after profuse and long-continued perspiration, but always prefer plunging in while warm, strong and vigorous, and even with the first drops of perspiration on your brow. There is no fear

of sudden transitions from heat to cold being fatal. Many nations run from the hot bath and plunge naked into the snow. What is to be feared is sudden cold after exhaustion of the body, and while the animal powers are not sufficient to produce a reaction or recovery of the animal heat.

There is a favorite fancy of rendering infants and farther advanced children hardy and strong by plunging them into cold water. This will certainly not prevent strong infants from growing stronger, but it will, and often does, kill three children out of every five. Infants always thrive best with moderate warmth and a milk-warm bath. The same rule applies to the clothing of infants and children. No child should have so slight clothing as to make it feel the effects of cold—warm materials, loose and wide-made clothing, and exercise, are all indispensable for the health of little ones. But above all things, their heads should be kept cool, and generally uncovered.

Many people so laud early rising as would lead one to suppose that sleep was one of those lazy, sluggish, and bad practices, that the sooner the custom was abolished the better. Sleep is as necessary to man as food, and as some do with one-third of the food that others absolutely require, so five hours' sleep is amply sufficient for one, while another requires seven or eight hours. Some men cannot by any possibility sleep more than four or five hours in the twenty-four; and, therefore, true to the inherent selfishness of human nature, they abuse all who sleep longer. No man should be taunted for sleeping eight hours if he can.

Many people do not eat salt with their food, and the fair sex have a notion that this substance darkens the complexion. Salt seems essential for the health of every human being, more especially in moist climates such as ours. Without salt, the body becomes infected with intestinal worms. The case of a lady is mentioned in a medical journal, who had a natural antipathy to salt, and never used it with her food; the consequence was, she became dreadfully infected with these animals. A punishment existed in Holland, by which criminals were denied the use of salt; the same consequence followed with these wretched beings. We rather think a prejudice exists with some, of giving little or no salt to children. No practice can be more ridiculous.

AGRICULTURE, &c.

C. H. McCormick's Self-Sharpening Horizontal Plough. [Communicated by the Inventor for the Mechanics' Magazine.]

Be it known, that I, Cyrus H. McCormick, of Rockbridge county, and State of Virginia, have made an improvement in the useful arts, being a "self-sharpening horizontal plough," which is described as follows:

This plough, like most others, consists of a beam, handles, helve, mould-board, and share. In addition to these there is a latch-rod to make fast the mould-board and share, when changed to either side, and a main bolt to support the mould-board.

The beam, handles, and helve, are similar to those employed in other ploughs. The mould-board, represented at *a* in the annexed drawings, is made double, of cast iron, curved somewhat like other mould-boards, on both sides. The wings, *b b*, are united in part at *c*, and extend outward, making a suitable angle for turning over the earth. There is a brace, *d*, extending between the two wings, behind, supporting them firmly with projections, *e e*, on one side, for receiving the latch-rod, *f*, when changing the plough. Between the wings on the top, and near the front, is a brace, *g*, and another, *h*, near the middle, through which there are openings for the main bolts, *i*, to pass. Near the bottom of the mould-board are two other braces, *k, l*, at about one inch apart, for receiving the hinder end of the share, and between which it plays and turns. Near the ends of these braces, and upon the lower side of the mould-board, are two projections, *m m*, upon which the mould-board slides alternately. These projections can either be cast solid, with the mould-board, or be made of steel or cast iron, and be rivetted on. These projections serve also to hold and support the share when turned. At the front end of the mould-board is cast on it a projection, *n*, which serves as a pivot, on which the share turns.

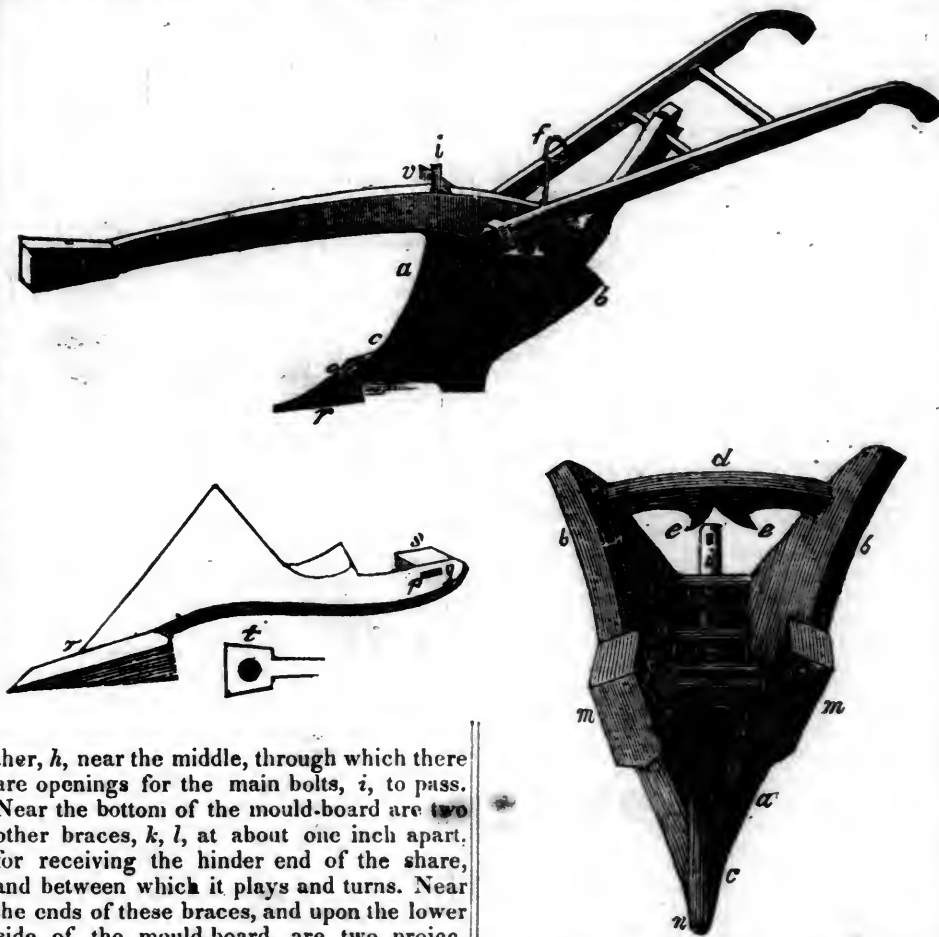
The share, *o*, is made of cast or wrought iron, in a triangular shape. It consists of the neck, *p*, (with or without a head,) and a slat, *g*, for a key, placed behind the braces; also, a point, *r*, either cast on the share or made separately, and fastened on it by being rivetted, or otherwise.

There is also a shoulder, or projection, *s*, by means of which and the latch-rod the share is kept in its place when changed. In the hinder end of the point is a cavity, *t*, to admit the point on the mould-board, upon which and the neck the share turns.

The main bolt, *i*, is made of wrought iron, and passes through the beam, and the two openings in the braces of the mould-board before mentioned having a head, *u*, on the lower end, and either a screw or key, *v*, on the head above the beam.

The latch-rod, *f*, is a plain curved rod of wrought iron, which extends from above the beam to the neck of the share, and is moveable from one side of the beam and mould-board to the other, passing between the beam and the projections on the brace of the mould-board, and entering between the neck of the share and the wing of the mould-board, and by which the mould-board and share are screwed in the position required.

OPERATION.—When required to plough on a hill-side, say the declination of the hill is on the right, the right wing of the mould-board and share must stand out from the beam



to the right, and the other wing of the mould-board being nearly parallel with the beam, forms the land-side, the latch-rod being put in its proper place. One furrow being made in this position, the latch-rod is taken out, and turning the plough, resting on the share, the share is turned on the point of the mould-board, to the other side, or left, and the mould-board also changes sides. The left wing projecting out to the left, the right wing forming the land-side, the latch-rod is passed between the other side of the beam and the other projection on the brace, the points entering again between the neck of the share and other wing of the mould-board, which pressing the shoulder on the share, above that on the mould-board, makes it fast. The neck of the share might be made to turn on a pivot or collar on the centre, instead of the opening between the braces. A nail or pin is driven in the helve, below the brace, to prevent the mould-board from sinking behind, or the beam from rising, to steady the plough.

The invention here claimed, and desired to be secured by letters patent, consists in the peculiar arrangement and construction of the several parts of the plough, as before described, and particularly the mode of forming the point at the end of the mould-board on which the share turns; and the two braces with the space between them, in which the neck of the share works; the brace near the centre of the mould-board; the two projections on which the mould-board slides; and the share, with the mode of turning and fastening it by the latch-rod.

Done at the city of Washington this 29th day of October, 1833.

CYRUS H. MCCORMICK.

HEDGING.—To ascertain in what way fields can be kept enclosed, with the least expense, is a matter of importance to every farmer in our country.

As a nation we are young in agriculture, and it is natural for us to refer back to those parts of the world from which our fathers emigrated for example, to aid us in our conclusions, on many subjects connected with our pursuits in life.

In order to form correct conclusions, in matters appertaining to agriculture, many things must be taken into consideration. The difference in the climate and soil of different countries is so great, that the course of cropping pursued in one country may be altogether improper for another; and plants which are found to succeed well in one climate on particular soils, may require different soils in other climates, or may not succeed at all on any soil.

Many experiments have already been made in this country, to establish the fact, whether, or not, hedges of any kind could be substituted for our stone and wood fences. Thus far the problem remains unsolved. Various experiments have been made with different plants, by different persons, and the results and reports have tended more to confuse than establish public opinion.

In looking abroad for examples, whereon to found our opinions, we naturally refer to England, Ireland, and France, as countries where agriculture as a science is better understood than in any other with which we have much intercourse.

In England and Ireland, hedges are more extensively cultivated, we believe, than in any other agricultural country. The soil and climate of England and Ireland may be counted very similar. The soil is of a rich secondary formation, and from their limited extent and being surrounded with water, the climate is temperate and humid. In summer the temperature rarely exceeds 75°, and during winter it seldom descends lower than 25° above zero, a variation not so great as has been known in this country within a few days.

From the scarcity of timber, and the consequent high price, methods are resorted to for enclosing their fields besides fencing with wood. Whenever stone can be procured at reasonable rates, they are preferred by farmers of every country to either wood fences or hedges.

Although from the peculiarities of the climate of England they have been successful in cultivating hedges, yet in France, where the temperature may be called temperate compared with ours, they did not find it for their interest to attend to their cultivation.

In England and Ireland the plant mostly cultivated for hedges is the quickset Haw-thorn, *Crataegus oxyacanthus*, a native of Britain, and is admirably calculated for that purpose. In France, where the climate is more warm and dry, the Haw-thorn does not flourish well; insects injure it, and it becomes covered with moss, stunted, and dies.

In America, or in this section of the United States, our summers are much warmer than they are in France, and our winters more severe, and we have never seen a haw-thorn hedge with us that had that healthy appearance that they have in England, which we consider as proof positive that our climate is not as congenial to their growth as that of the country in which they are found growing spontaneously.

The first proposition to be solved by our farmers is in what manner can their fields be securely fenced for a length of time at the least expense. To answer this, all circumstances must enter into the calculation.

Allowing that it is thought advisable in any locality in our country to attempt the cultivation of hedges, then it becomes important to know what plants will succeed best in a given locality.

On inquiring into the natural location of plants, we find them in belts extending from east to west, across continents, varying from a direct line, according to the humidity and temperature of the atmosphere and the nature of the soil on which they grow.

With plants, as with animals, different species require different degrees of heat to insure health, added to which light and moisture have material influence.

On inquiring for plants suited to different locations, not only is the natural climate of the plant to be consulted, but the growth and habits of it are equally important.

The following is a list of those plants which have been recommended for hedging by different writers on the subject, together with a short description of their habits, and the country from which they have been brought or where they are found growing naturally.

THORN.—This is a common name applied to a numerous family, many of which have been used for hedging from time immemorial; as the limbs of the different kinds are more or less armed with sharp spines or thorns, they are well calculated for this purpose.

HAW-THORN.—*Crataegus oxyacantha*.—This is the common hedge thorn of England. It is a native of Britain, where it grows to the height of fifteen or twenty feet, with many small limbs, which are armed with abundance of small sharp spines. It is found to be the best plant for hedging in England and Ireland that has ever been cultivated for that purpose.

EVER-GREEN THORN.—*C. pyracantha*.—This is a native of the south of Europe, and has been cultivated for hedges, but is less valuable for that purpose than the preceding.

COCKSPUR THORN.—*Scarlet flowering, Pear leaved, Yellow fruited*, and some others, are natives of America, are of larger growth than the hawthorn, and the limbs do not interlace as well. Most of the species of thorn are subject to be injured by insects during summer and field mice during the winter, in addition to which the stocks become in many localities covered with moss. We cannot recommend any of the above for hedges in this part of the state. They may be propagated from seed, which should be buried one year in the earth, after which they should be taken up and planted in rows as other seeds in the nursery.

HONEY LOCUST.—*Gleditsia Triacanthus*.—This is a native North American tree, found growing in the forests of the middle states, where it often attains the height of sixty feet, with a trunk proportioned to its height.

This tree has been recommended for hedging, but it is found impossible to keep it in a dwarf state. The limbs are large and not suitable for interlacing. As it is a native of the southern and middle states, it does not well endure our northern winters when young.

PRICKLY ASH.—*Zanthoxylum fraxineum*, and *tricarpum*.—Both these varieties are native American shrubs growing to the height of eight or ten feet, the limbs are armed with short thorns. These shrubs spread so much by sprouting from the roots that either of them would prove very troublesome when set for hedge.

BARBERRY OF BERBERRIS.—*Berberis canadensis*.—This is an American shrub which infests many parts of the New-England states, growing to the height of six or eight feet, with upright stems, which are armed with slender sharp spines. Although we have long seen this shrub growing about fences, we do not recollect to have seen it treated as a hedge. From the strong prejudice there is against it, entertained by the New-England farmers, we think it would be difficult to induce them to cultivate it.

BUCK THORN.—*Rhamnus catharticus*.—The English botanists claim this a native of Britain, and Professor Eaton says that it is found growing wild in New-England. From experiments made by E. H. Derby, Esq. of Massachusetts, it would appear that this is one of the most valuable plants for hedges in the northern states that has ever been tried. In this country it attains to the height of fifteen or twenty feet, the limbs are not long but thick, and are set with sharp spines. It endures the severity of our northern winters, and is not subject to be injured by insects. It is readily cultivated from seed, which are produced abundantly by old

trees. [See Report of the Massachusetts Society, with Mr. Derby's communication annexed, page 15 of Appendix to New-York Farmer, for March, 1834.]

OSAGE ORANGE.—*Maclura aurantica*.—This is an American shrub, found on the banks of the Arkansas and some other southern streams. The foliage is of a deep green, somewhat resembling that of the orange, and the limbs are set with sharp thorns. It does not endure our northern winters.

APPLES.—Both the common and crab apples have been tried for hedges in this latitude, but neither have succeeded so as to bear recommendation for this purpose. Like thorns, they are liable to be destroyed by insects in summer and by mice in winter.

If there is any tree or shrub that we can recommend to farmers at this time for the purpose of substituting for wood and stone fences, with hopes of being more economical, it is the *White Italian Mulberry*—*Morus alba*.

Professor Rafinesque, of Philadelphia, in speaking of different trees and shrubs with regard to their qualities for hedging, says, "I have left for the last this most valuable tree. It bears cutting, and is often raised in silk countries as a shrub and hedge, to collect the leaves easier. Grows with the utmost facility, lasting sixty years at least."

This tree, which is a native of China, appears perfectly naturalized in this country, or at least, coming from a country where the climate is not altogether different from our own, thrives well. It is easily cultivated, either from seed or cuttings. It grows to the height of thirty or forty feet, and somewhat resembles our common apple in shape and size.

As it appears well established now, that the raising of silk-worms and the making of silk in this country will be attended with a corresponding profit with other farming operations, there can be no danger in cultivating mulberry hedges, as it is allowed that it is the most profitable way to raise them when intended only for worms, and if they will answer the double purpose of feeding silk-worms and as a substitute for fences, the inducements to raise them must be very great.

When it is designed to raise plants from seed, they should be sown in the fore part of May, and one ounce of seed is thought to be sufficient for raising from eight to ten thousand trees.—[Goodsell's Genesee Farmer.]

CULTIVATION OF NATIVE GRAPE.—N. Longworth, Esq. has experimented extensively in the culture of American grapes. His opinions are, therefore, entitled to attention. We give an extract from an address recently delivered:

"I have found no foreign grape that will pay the expense of open culture in our climate. Native vines, planted on ground with no other preparation than deep ploughing, have thus far succeeded better than those on steep side-hills, where the ground was prepared with great expense. Those parts of my vineyards fully exposed to the north have often ripened their fruit better than those with a southern exposure. Some of the finest wines of France are made in a northern latitude, and on hills fully exposed to the north.

"Others are deterred from the cultivation of the vine, from an impression that great skill is necessary. The vine requires less science in its cultivation than the peach or apple tree; and the manufacture of wine is a more simple process than that of cider. Cleanliness and a careful exclusion of unripe and decayed fruit are the great requisites. Wines may be improved after they are completed, by a mixture of the strong with the weak, the dry with the sweet, the flavorless with that possessing a high flavor; but this is the province of the wine-merchant.

"Again, it is said we cannot succeed with the manufacture of wine, because the addition of sugar is necessary to our grapes to give them the requisite sweetness. I have wine of my

own manufacture, now six years old, the pure juice of the grape. But in all wine countries, unless it be in those where light hard wines are made, sugar is added, or its equivalent. In Madeira, Xeres, Oporto, various wines are resorted to. The grapes are pressed, and hang till a bunch of raisins can be pressed—or a portion of the must is boiled down, till its fermenting quality is destroyed, and its saccharine nearly doubled, or a portion of the unfermented must is mixed with such a quantity of brandy as to stop the process of fermentation, and these are added to the must or wine. After the wine is perfected, from five to twelve per cent. of brandy is added. Even in the sunny clime of Italy, to enable their wine to keep without the addition of sugar, they boil the must, and the wine so made is called 'Vino Cotto.' In Germany and France, sugar is frequently added. But in all these cases the fermentation is checked before its completion, and the leaven precipitated by sulphuring and frequent racking. From experience, I am perfectly satisfied that it is immaterial whether the saccharine principle be in the grape or added to the must in the form of sugar.

"The reason so many have failed in the manufacture of domestic wine, is that, instead of making American wine, they have, by the process of manufacture, attempted to produce an imitation of popular foreign wines.

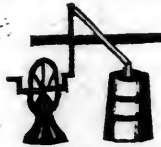
"The Schuylkill, Muscadell or Cape grape, the Isabella or Catawba, are the American grapes most in use for the manufacture of wine. The first by age becomes a good wine. The second will make a rich, sweet wine, by the process of manufacture necessary to accomplish this object, but it does not improve by age. From the Catawba, Major Adlum makes a rich, sweet wine. The wine which I manufacture from this grape is a light, dry wine, resembling those of the Rhine, and will successfully compete with any of them, but they are wines now for the first time coming in use among us, and command a high price.

"I have two other native grapes under cultivation, from which I have yet made only a few quarts of wine of great promise. They are also first-rate table grapes. The best wine of American manufacture that I have seen resembling Madeira, is made by a French gentleman of great intelligence, in S. Carolina, Mr. Herbermont. He sent me a sample. It is made from a grape called the Warren, or Herbermont's Madeira. I obtained this grape from him four years since, and do not hesitate to pronounce it an American grape, common in North Carolina, and to be found as far west as Missouri. As a table grape, it is equal to many imported varieties.

"In deciding how far the grape may be cultivated with us for profit, experience is better than theory. Nine years since I bought thirty acres of very broken ground four miles from the city, for which I paid three hundred dollars. There were about fifteen acres of cleared land, and about one half tillable. On this place I put an elderly German with a small family. He was to plant and cultivate a vineyard and have one half the product. Every thing raised by him on the place was for his own use. He spoke, no English; was not worth ten dollars; and possessed of no learning. The vineyard was neglected, and made a secondary object; whilst he supported his family by raising vegetables for market. At the end of seven years his vineyard was less advanced than it should have been at the end of four years. The eighth year a part of his vineyard produced one thousand seven hundred gallons of wine to the acre. This encouraged him: his garden was neglected and his attention devoted to the vineyard. This season, 1833, his share of the wine will enable him to purchase from the government five hundred acres of land; and he has already made a purchase for each of his children. He can cultivate the grape as his fathers have done before him, in Germany; but he can make no changes to suit the differences of our climate, and I would sooner de-

pend upon a man of good common sense, who had no experience in its cultivation, than most of the German vinedressers. I name this, not in disparagement of a frugal industrious part of our population, but to remove an impression that foreigners only are competent to the cultivation."

DUTCH CHURNS.—When the churning process was going on, I have observed the outside of the churn wrapped over with cloth, which I was told was for the purpose of keeping the outside clean. The Dutch have various ways of working the churn. At the large dairies it is generally with a horse; this I observed near Delft, at Ter Leide, near Leyden, and near Leuwarden, in Vriesland; at others they are churned by the hand, by turning a large fly-wheel,



(figure 1.) At Almenaar, near Harliugen, I saw a churn made to go by the feet, the weight of the body being moved alternately from one side to the other, on a platform fixed on a pivot (fig-



ure 2); to the one end of the platform a stalk being attached, which moved the churn-handle attached to another pivot. I observed at a farm near Gouda, that the churn was made to work from the ceiling in a very easy way; a piece of wood in the shape of an obtuse angle, was attached at the elbow to a pivot in one of the beams of the ceiling; the churn-stick was attached to the one end, and it was worked up and down by the hand at the other end, (figure 3.)



And in North Holland they churn by means of dogs in wheels, in a similar way to the turnspits.—[Quarterly Journal of Agriculture.]

Directions for the Use of Bone Manure. By Mr. OGDEN. [From the New-York Farmer and American Gardener's Magazine.]

MR. EDITOR: Sir,—Permit me, through the medium of your useful paper, to present to the agricultural community some hints on the use of ground bone for manure. The first and great object is to have the bone dust well fermented. The process is very simple—nothing more being necessary than to dampen it sufficiently to set it fermenting. The best method, however, is to make a compost of it with stable or yard manure, and let it ferment together. After it is fermented, it answers a very good purpose as top dressing for grass or winter grain, and may be applied early in the spring. If it is spread at the time of sowing, at the rate of 30 to 35 bushels per acre, it is harrowed in. This manure is applied with good effect to corn in the hill. Instances, however, of its too free use in this way have been known to fail; I should, therefore, recommend it to be applied broadcast. On a dry soil, especially, it is very beneficial to potatoes, particularly in a state of a fermented compost.

I would again repeat, that the great mystery in using bone is to have it fermented.

Even old bones, that have been bleaching for scores of years in the fields, when ground, will very easily ferment and make an enriching and active manure. Gardeners will find many advantages in the use of bone. It does not introduce weeds, nor insects, but is considered prejudicial to the latter. Its small bulk, lightness of carriage, and great durability, are some of its general recommendations. Brooklyn, February, 1834.

The Use of Ground Corn and Cobs. By Mr. OGDEN. [From the N. Y. Farmer.]

MR. EDITOR,—I have been for some time using corn and cobs ground together for my cattle, and with good effect. It is an impression among farmers that there are some injurious effects arising from its use. I will state how they may be avoided. In the first place, the corn should be perfectly ripe. In the second, a large quantity should not be ground at a time. It should be kept perfectly dry, for a little moisture will cause the cob to mould. In the third, when this food is used constantly, potatoes or carrots should be given two or three times a week. With these precautions, the cob and corn ground together will be a wholesome and cheap food for cattle. I give my horses eight quarts per day, and notwithstanding they labor hard, they gain in flesh and perform well.

I grind my corn and cobs in the bone mill, which will turn out many bushels in the course of an hour.

GOOD AND POOR FRUIT IN THE SAME ORCHARD.—The adjoining paragraph is from Dr. Thatcher's American Orchardist. It is generally supposed that the mixing of the farina will not effect the fruit, but the seed only—that this is the method of nature to obtain new varieties. It would be well, however, for those having opportunity, to make observation.

A precaution is suggested that apple trees bearing bad or ordinary fruit should not be suffered to grow with those which bear fruit of a superior quality. It is a fact with which gardeners are familiar, that the blossoms of cucumbers will greatly injure the flavor of melons that grow near them; and it is reasonable to suppose that fruits, while forming on the trees, are liable in like manner to suffer deterioration. The result of the following experiment would seem to strengthen the above conjecture. The experiment, it is said, has in numerous instances succeeded without a single failure. In an orchard containing a great variety of apple trees bearing sweet, and some very acid fruit, and others partaking of both these properties, in the vernal season, when the trees are in full blossom, the pollen (or impregnating dust) was taken from one tree (for example, where the fruit is very sweet,) and deposited on the flowers of a particular branch of another tree, whose fruit is extremely acid. The apples of that particular branch were found to combine these two properties for that season, and by this simple process, the experimenter asserts, he can easily provide himself with apples for that season perfectly to his taste, which he considers much more expeditious and equally as certain a process as that of grafting.

CLOVER AMONG CORN.—A friend of mine sowed red clover among his corn after going through with the cultivator the last time, the seed was protected from the heat of the sun by the corn, it consequently vegetated very soon, and after the corn was cut off, there was a luxuriant growth of clover, which afforded fine pasture for several successive seasons. The red clover is an excellent manure: I have raised a fine crop of wheat, by ploughing in the second growth after harvest.—[Am. Farmer.]

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In order to form correct conclusions, in matters appertaining to agriculture, many things must be taken into consideration. The difference in the climate and soil of different countries is so great, that the course of cropping pursued in one country may be altogether improper for another; and plants which are found to succeed well in one climate on particular soils, may require different soils in other climates, or may not succeed at all on any soil.

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From the scarcity of timber, and the consequent high price, methods are resorted to for enclosing their fields besides fencing with wood. Whenever stone can be procured at reasonable rates, they are preferred by farmers of every country to either wood fences or hedges.

Although from the peculiarities of the climate of England they have been successful in cultivating hedges, yet in France, where the temperature may be called temperate compared with ours, they did not find it for their interest to attend to their cultivation.

In England and Ireland the plant mostly cultivated for hedges is the quickest Haw-thorn, *Crataegus oxyacantha*, a native of Britain, and is admirably calculated for that purpose. In France, where the climate is more warm and dry, the Haw-thorn does not flourish well; insects injure it, and it becomes covered with moss, stunted, and dies.

In America, or in this section of the United States, our summers are much warmer than they are in France, and our winters more severe, and we have never seen a law-thorn hedge with us that had that healthy appearance that they have in England, which we consider as proof positive that our climate is not as congenial to their growth as that of the country in which they are found growing spontaneously.

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Allowing that it is thought advisable in any locality in our country to attempt the cultivation of hedges, then it becomes important to know what plants will succeed best in a given locality.

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The following is a list of those plants which have been recommended for hedging by different writers on the subject, together with a short description of their habits, and the country from which they have been brought or where they are found growing naturally.

THORNS.—This is a common name applied to a numerous family, many of which have been used for hedging from time immemorial; as the limbs of the different kinds are more or less armed with sharp spines or thorns, they are well calculated for this purpose.

HAW-THORN—*Crataegus oxyacantha*.—This is the common hedge thorn of England. It is a native of Britain, where it grows to the height of fifteen or twenty feet, with many small limbs, which are armed with abundance of small sharp spines. It is found to be the best plant for hedging in England and Ireland that has ever been cultivated for that purpose.

EVER-GREEN THORN—*C. pyracantha*.—This is a native of the south of Europe, and has been cultivated for hedges, but is less valuable for that purpose than the preceding.

COCKSPUR THORN—*Scarlet flowering, Pear leaved, Yellow fruited*, and some others, are natives of America, are of larger growth than the lawthorn, and the limbs do not interlace as well. Most of the species of thorn are subject to be injured by insects during summer and field mice during the winter, in addition to which the stocks become in many localities covered with moss. We cannot recommend any of the above for hedges in this part of the state. They may be propagated from seed, which should be buried one year in the earth, after which they should be taken up and planted in rows as other seeds in the nursery.

HONEY LOCUST—*Gleditsia Triacanthus*.—This is a native North American tree, found growing in the forests of the middle states, where it often attains the height of sixty feet, with a trunk proportioned to its height.

This tree has been recommended for hedging, but it is found impossible to keep it in a dwarf state. The limbs are large and not suitable for interlacing. As it is a native of the southern and middle states, it does not well endure our northern winters when young.

PRICKLY ASH—*Zanthoxylum fraxineum*, and *tricarpum*.—Both these varieties are native American shrubs growing to the height of eight or ten feet, the limbs are armed with short thorns. These shrubs spread so much by sprouting from the roots that either of them would prove very troublesome when set for hedge.

BARBERRY or BERBERIS—*Berberis canadensis*.—This is an American shrub which infests many parts of the New-England states, growing to the height of six or eight feet, with upright stems, which are armed with slender sharp spines. Although we have long seen this shrub growing about fences, we do not recollect to have seen it treated as a hedge. From the strong prejudice there is against it, entertained by the New-England farmers, we think it would be difficult to induce them to cultivate it.

BUCK THORN—*Rhamnus catharticus*.—The English botanists claim this a native of Britain, and Professor Eaton says that it is found growing wild in New-England. From experiments made by E. H. Derby, Esq. of Massachusetts, it would appear that this is one of the most valuable plants for hedges in the northern states that has ever been tried. In this country it attains to the height of fifteen or twenty feet, the limbs are not long but thick, and are set with sharp spines. It endures the severity of our northern winters, and is not subject to be injured by insects. It is readily cultivated from seed, which are produced abundantly by old

trees. [See Report of the Massachusetts Society, with Mr. Derby's communication annexed, page 15 of Appendix to New-York Farmer, for March, 1834.]

ORANGE ORANGE—*Machura aurantica*.—This is an American shrub, found on the banks of the Arkansas and some other southern streams. The foliage is of a deep green, somewhat resembling that of the orange, and the limbs are set with sharp thorns. It does not endure our northern winters.

APPLES.—Both the common and crab apples have been tried for hedges in this latitude, but neither have succeeded so as to bear recommendation for this purpose. Like thorns, they are liable to be destroyed by insects in summer and by mice in winter.

If there is any tree or shrub that we can recommend to farmers at this time for the purpose of substituting for wood and stone fences, with hopes of being more economical, it is the *White Italian Mulberry*—*Morus alba*.

Professor Rafinesque, of Philadelphia, in speaking of different trees and shrubs with regard to their qualities for hedging, says, "I have left for the last this most valuable tree. It bears cutting, and is often raised in silk countries as a shrub and hedge, to collect the leaves easier. Grows with the utmost facility, lasting sixty years at least."

This tree, which is a native of China, appears perfectly naturalized in this country, or at least, coming from a country where the climate is not altogether different from our own, thrives well. It is easily cultivated, either from seed or cuttings. It grows to the height of thirty or forty feet, and somewhat resembles our common apple in shape and size.

As it appears well established now, that the raising of silk-worms and the making of silk in this country will be attended with a corresponding profit with other farming operations, there can be no danger in cultivating mulberry hedges, as it is allowed that it is the most profitable way to raise them when intended only for worms, and if they will answer the double purpose of feeding silk-worms and as a substitute for fences, the inducements to raise them must be very great.

When it is designed to raise plants from seed, they should be sown in the fore part of May, and one ounce of seed is thought to be sufficient for raising from eight to ten thousand trees.—[Goodsell's Genesee Farmer.]

CULTIVATION OF NATIVE GRAPE.—N. Longworth, Esq. has experimented extensively in the culture of American grapes. His opinions are, therefore, entitled to attention. We give an extract from an address recently delivered:

"I have found no foreign grape that will pay the expense of open culture in our climate. Native vines, planted on ground with no other preparation than deep ploughing, have thus far succeeded better than those on steep side-hills, where the ground was prepared with great expense. Those parts of my vineyards fully exposed to the north have often ripened their fruit better than those with a southern exposure. Some of the finest wines of France are made in a northern latitude, and on hills fully exposed to the north.

"Others are deterred from the cultivation of the vine, from an impression that great skill is necessary. The vine requires less science in its cultivation than the peach or apple tree; and the manufacture of wine is a more simple process than that of cider. Cleanliness and a careful exclusion of unripe and decayed fruit are the great requisites. Wines may be improved after they are completed, by a mixture of the strong with the weak, the dry with the sweet, the flavorless with that possessing a high flavor; but this is the province of the wine-merchant.

"Again, it is said we cannot succeed with the manufacture of wine, because the addition of sugar is necessary to our grapes to give them the requisite sweetness. I have wine of my

own manufacture, now six years old, the pure juice of the grape. But in all wine countries, unless it be in those where light hard wines are made, sugar is added, or its equivalent. In Madeira, Xeres, Oporto, various methods are resorted to. The grapes are suffered to hang till a bunch of raisins can be plucked—or a portion of the must is boiled down, till its fermenting quality is destroyed, and its saccharine nearly doubled, or a portion of the unfermented must is mixed with such a quantity of brandy as to stop the process of fermentation, and these are added to the must or wine. After the wine is perfected, from five to twelve per cent. of brandy is added. Even in the sunny clime of Italy, to enable their wine to keep without the addition of sugar, they boil the must, and the wine so made is called 'Vino Cotto.' In Germany and France, sugar is frequently added. But in all these cases the fermentation is checked before its completion, and the leaven precipitated by sulphuring and frequent racking. From experience, I am perfectly satisfied that it is immaterial whether the saccharine principle be in the grape or added to the must in the form of sugar.

"The reason so many have failed in the manufacture of domestic wine, is that, instead of making American wine, they have, by the process of manufacture, attempted to produce an imitation of popular foreign wines.

"The Schuykill, Muscadell or Cape grape, the Isabella or Catawba, are the American grapes most in use for the manufacture of wine. The first by age becomes a good wine. The second will make a rich, sweet wine, by the process of manufacture necessary to accomplish this object, but it does not improve by age. From the Catawba, Major Adlum makes a rich, sweet wine. The wine which I manufacture from this grape is a light, dry wine, resembling those of the Rhine, and will successfully compete with any of them, but they are wines now for the first time coming in use among us, and command a high price.

"I have two other native grapes under cultivation, from which I have yet made only a few quarts of wine of great promise. They are also first-rate table grapes. The best wine of American manufacture that I have seen resembling Madeira, is made by a French gentleman of great intelligence, in S. Carolina, Mr. Herbe-mont. He sent me a sample. It is made from a grape called the Warren, or Herbe-mont's Madeira. I obtained this grape from him four years since, and do not hesitate to pronounce it an American grape, common in North Carolina, and to be found as far west as Missouri. As a table grape, it is equal to many imported varieties.

"In deciding how far the grape may be cultivated with us for profit, experience is better than theory. Nine years since I bought thirty acres of very broken ground four miles from the city, for which I paid three hundred dollars. There were about fifteen acres of cleared land, and about one half tillable. On this place I put an elderly German with a small family. He was to plant and cultivate a vineyard and have one half the product. Every thing raised by him on the place was for his own use. He spoke no English; was not worth ten dollars; and possessed of no learning. The vineyard was neglected, and made a secondary object; whilst he supported his family by raising vegetables for market. At the end of seven years his vineyard was less advanced than it should have been at the end of four years. The eighth year a part of his vineyard produced one thousand seven hundred gallons of wine to the acre. This encouraged him: his garden was neglected and his attention devoted to the vineyard. This season, 1833, his share of the wine will enable him to purchase from the government five hundred acres of land; and he has already made a purchase for each of his children. He can cultivate the grape as his fathers have done before him, in Germany; but he can make no changes to suit the difference of our climate, and I would sooner de-

pend upon a man of good common sense, who had no experience in its cultivation, than most of the German vinedressers. I name this, not in disparagement of a frugal industrious part of our population, but to remove an impression that foreigners only are competent to the cultivation."

DUTCH CHURNS.—When the churning process was going on, I have observed the outside of the churn wrapped over with cloth, which I was told was for the purpose of keeping the outside clean. The Dutch have various ways of working the churn. At the large dairies it is generally with a horse; this I observed near Delft, at Ter Leide, near Leyden, and near Leuwarden, in Friesland; at others they are churned by the hand, by turning a large fly-wheel.



(figure 1.) At Almenaar, near Harlingen, I saw a churn made to go by the feet, the weight of the body being moved alternately from one side to the other, on a platform fixed on a pivot (fig-



ure 2); to the one end of the platform a stalk being attached, which moved the churn-handle attached to another pivot. I observed at a farm near Gouda, that the churn was made to work from the ceiling in a very easy way; a piece of wood in the shape of an obtuse angle, was attached at the elbow to a pivot in one of the beams of the ceiling; the churn-stick was attached to the one end, and it was worked up and down by the hand at the other end, (figure 3.)



And in North Holland they churn by means of dogs in wheels, in a similar way to the turnspits.—[Quarterly Journal of Agriculture.]

Directions for the Use of Bone Manure. By Mr. OGDEN. [From the New-York Farmer and American Gardener's Magazine.]

MR. EDITOR: Sir,—Permit me, through the medium of your useful paper, to present to the agricultural community some hints on the use of ground bone for manure. The first and great object is to have the bone dust well fermented. The process is very simple—nothing more being necessary than to dampen it sufficiently to set it fermenting. The best method, however, is to make a compost of it with stable or yard manure, and let it ferment together. After it is fermented, it answers a very good purpose as top dressing for grass or winter grain, and may be applied early in the spring. If it is spread at the time of sowing, at the rate of 30 to 35 bushels per acre, it is harrowed in. This manure is applied with good effect to corn in the hill. Instances, however, of its too free use in this way have been known to fail; I should, therefore, recommend it to be applied broadcast. On a dry soil, especially, it is very beneficial to potatoes, particularly in a state of a fermented compost.

I would again repeat, that the great mystery in using bone is to have it fermented.

Even old bones, that have been bleaching for scores of years in the fields, when ground, will very easily ferment and make an enriching and active manure. Gardeners will find many advantages in the use of bone. It does not introduce weeds, nor insects, but is considered prejudicial to the latter. Its small bulk, lightness of carriage, and great durability, are some of its general recommendations.

Brooklyn, February, 1834.

The Use of Ground Corn and Cobs. By Mr. OGDEN. [From the N. Y. Farmer.]

MR. EDITOR,—I have been for some time using corn and cobs ground together for my cattle, and with good effect. It is an impression among farmers that there are some injurious effects arising from its use. I will state how they may be avoided. In the first place, the corn should be perfectly ripe. In the second, a large quantity should not be ground at a time. It should be kept perfectly dry, for a little moisture will cause the cob to mould. In the third, when this food is used constantly, potatoes or carrots should be given two or three times a week. With these precautions, the cob and corn ground together will be a wholesome and cheap food for cattle. I give my horses eight quarts per day, and, notwithstanding they labor hard, they gain in flesh and perform well.

I grind my corn and cobs in the bone mill, which will turn out many bushels in the course of an hour.

GOOD AND POOR FRUIT IN THE SAME ORCHARD.—The subjoined paragraph is from Dr. Thatcher's American Orchardist. It is generally supposed that the mixing of the farina will not effect the fruit, but the seed only—that this is the method of nature to obtain new varieties. It would be well, however, for those having opportunity, to make observation.

A precaution is suggested that apple trees bearing bad or ordinary fruit should not be suffered to grow with those which bear fruit of a superior quality. It is a fact with which gardeners are familiar, that the blossoms of cucumbers will greatly injure the flavor of melons that grow near them; and it is reasonable to suppose that fruits, while forming on the trees, are liable in like manner to suffer deterioration. The result of the following experiment would seem to strengthen the above conjecture. The experiment, it is said, has in numerous instances succeeded without a single failure. In an orchard containing a great variety of apple trees bearing sweet, and some very acid fruit, and others partaking of both these properties, in the vernal season, when the trees are in full blossom, the pollen (or impregnating dust) was taken from one tree (for example, where the fruit is very sweet,) and deposited on the flowers of a particular branch of another tree, whose fruit is extremely acid. The apples of that particular branch were found to combine these two properties for that season, and by this simple process, the experimenter asserts, he can easily provide himself with apples for that season perfectly to his taste, which he considers much more expeditious and equally as certain a process as that of grafting.

CLOVER AMONG CORN.—A friend of mine sowed red clover among his corn after going through with the cultivator the last time, the seed was protected from the heat of the sun by the corn, it consequently vegetated very soon, and after the corn was cut off, there was a luxuriant growth of clover, which afforded fine pasture for several successive seasons. The red clover is an excellent manure: I have raised a fine crop of wheat, by ploughing in the second growth after harvest.—[Am. Farmer.]

NEW-YORK AMERICAN.

MARCH 15—21, 1834.

LITERARY NOTICES.

THE WRITINGS OF GEORGE WASHINGTON, being his *Correspondence, Addresses, Messages, &c. &c.*, with a life of the author: by JARED SPARKS; vols. II and III: Boston, Russell, Odiorne & Metcalf, and Hilbard, Gray & Co.—In point of typographical embellishment and execution, these volumes are worthy of the matters and the name they are meant to illustrate. They are, in truth, admirable. Vol. I, to contain a life of Washington, is to be published while the work, which may extend to twelve volumes, is in progress. Of the two now given to the public, vol. II is occupied with letters and papers written by Washington before the American Revolution, and relate chiefly to the French war of 1756, in which he was so largely and so actively engaged. The whole of his career, from the time he joined Braddock till he retired from the army, is here recorded by himself. In an Appendix there is an elaborate and well reasoned article by the Editor, completely exonerating Washington from the only charge ever brought with any plausibility against his honor and good faith as a soldier—that of having commanded his troops, being then only 22 years of age, to fire on a French detachment commanded by Jumonville, sent to him, as the French allege, with a flag of truce; in the act of reading a peaceful summons to him to retire from lands claimed to be within the French limits, Jumonville fell. This story, founded originally upon the exaggerated report of a runaway French soldier, is most conclusively disproved; and it is shown that in firing on Jumonville's detachment, which had been lurking for some days around the camp of his own feeble band, Washington "did no more than execute the duty of a vigilant officer, for which he received the unqualified approbation of his superiors and of the public." Among the specimens, also given in the Appendix, of the early writings of Washington, there is a series of rules copied or compiled probably from various sources, entitled "Rules of civility and decent behaviour in company and conversation." We will, if we can find room to-day, annex some of these rules—if not, at some other time—as they manifestly exercised no little influence in the formation of Washington's character.

Vol. III., which commences the correspondence and papers relative to the Revolution, opens very appropriately with Washington's answer to Congress, on 16th June, 1775, accepting his appointment as commander-in-chief. The volume is devoted to letters and papers written in that capacity, to other general affairs to Congress, to provincial Congresses, and reaches to July, 1777. The political as well as personal considerations which led to the selection of General Washington, as commander-in-chief, and the noble devotion of New England, and of that thorough patriot, John Adams, one of her chief representatives, in suggesting and concurring in the choice of a Virginia general, to command armies wholly recruited at that time from the New England States, are ably exhibited in a note of the editor in the appendix.

Our only extract is the touching letter, so full of unfeigned humility—of true affection—and withal of unhesitating patriotism, in which General Washington communicated to his wife the news of his appointment to the command in chief. This is the only letter, Mr. Sparks says in a note, "from Washington to his wife, which has come into my hands. It is understood that Mrs. Washington destroyed all his other letters to her a short time before her death."

To MRS. MARTHA WASHINGTON.

Philadelphia, 18th June, 1775.

"My Dearest—I am now set down to write to you on a subject which fills me with inexpressible concern; and this concern is greatly aggravated and in-

creased, when I reflect upon the uneasiness I know it will give you. It has been determined in Congress, that the whole army raised for the defence of the American cause shall be put under my care, and that it is necessary for me to proceed immediately to Boston, to take upon me the command of it. You may believe me, my dear Patsy, when I assure you, in the most solemn manner, that, so far from seeking this appointment, I have used every endeavor in my power to avoid it, not only from a consciousness of its being a trust too great for my capacity, and that I should enjoy more real happiness in one month with you at home, than I have the most distant prospect of finding abroad, if my stay were to be seven times seven years. But as it has been a kind of destiny that has thrown me upon this service, I shall hope my undertaking is designed to answer some good purpose.

You might, and I supposed did perceive, from the tenor of my letters, that I was apprehensive I could not avoid this appointment, as I did not pretend to intimate when I should return. That was the case. It was utterly out of my power to refuse this appointment, without exposing my character to such censures as would have reflected dishonor upon myself and given pain to my friends. This, I am sure, could not, and ought not, to be pleasing to you, and must have lessened me considerably in my own esteem. I shall rely, therefore, confidently on that Providence, which has heretofore preserved and been bountiful to me, not doubting but that I shall return safe to you in the fall. I shall feel no pain from the toil or the danger of the campaign; my unhappiness will flow from the uneasiness I know you feel from being left alone. I therefore beg that you will summon your whole fortitude, and pass your time as agreeably as possible. Nothing will give me so much sincere satisfaction as to hear this, and to hear it from your own pen. My earnest and ardent desire is, that you would pursue any plan that is most likely to produce content, and a tolerable degree of tranquility; as it must add greatly to my uneasy feelings to hear that you are dissatisfied or complaining of what I really could not avoid.

"As life is always uncertain, and common prudence dictates to every man the necessity of settling his temporal concerns, while it is in his power, and while the mind is calm and undisturbed, I have, since I came to this place, (for I had not time to do it before I left home) got Colonel Pendleton to draft a will for me, by the directions I gave him, which will I now inclose. The provisions made for you in case of my death will, I hope, be agreeable.

"I shall add nothing more, as I have several letters to write, but to desire that you will remember me to your friends, and to assure you that I am, with the most unfeigned regard, my dear Patsy, your affectionate, &c."

We can desire nothing better for our country, than that in these days of party selfishness and political corruption, the pure self sacrificing virtue which is exemplified more and more, as new light is thrown upon the motives and character of Washington, may be widely studied and imitated.

ESSAYS ON THE PRINCIPLES OF MORALITY, AND OF THE PRIVATE AND POLITICAL RIGHTS AND OBLIGATIONS OF MANKIND; by JONATHAN DYMOND: with a Preface by the Rev. GEO. BUSH, M. A.; 1 vol. 8vo, pp. 432; N. York, HARPER & BROTHERS.—Considering the age, the calling, and the circumstances of the writer, this book may be pronounced in every way remarkable. JONATHAN DYMOND was a member of the Society of Friends, who kept a small linen draper's shop in a country town in England. He wrote and reasoned of the high matters with which the volume before us is fraught, "in a little room adjoining his shop, subject to frequent interruptions from customers in the midst of his most profound and interesting speculations," and died in the early morning of life. When, then, it is added that he has produced a work characterized by deep reflection, severe logic, and a forcible and well ordered style; a work founded on the Bible as the first, and original, and unerring code of ethics; a work which at once enters the lists with a writer like Paley, and taking up and examining his doctrines of expediency and utility as the basis of moral obligation, triumphantly "battles the fallacies of such spurious and dangerous" propositions, we

have said enough to call general attention to this volume. There are many opinions in it indeed tinged with the peculiar color of the author's sect—there are some from which most readers may dissent; but as a work dictated by the purest views and purposes, and resting on a foundation and sanction upon the book of God, it will command unqualified approval. Prof. Bush and the publishers have done good service to the cause of morals in thus bringing it before the American public. There are occasional notes by Prof. Bush, indicated by the initial B., which may serve to qualify the assent that might otherwise by unreflecting minds be given to some of the peculiar and perhaps erroneous notions of the author.

As a specimen both of the author's style and manner of viewing questions, we subjoin his chapter on the *Law of Honor*:

The Law of Honor.—The law of honor consists of a set of maxims, written, or understood, by which persons of a certain class agree to regulate, or are expected to regulate their conduct. It is evident that the obligation of the law of honor, as such, results exclusively from the agreement, tacit or expressed, of the parties concerned. It binds them *because* they have agreed to be bound, and for no other reason.—He who does not choose to be ranked among the subjects of the law of honor is under no obligation to obey its rules. These rules are precisely upon the same footing as the laws of free-masonry, or the regulations of a reading-room. He who does not choose to subscribe to the room, or to promise conformity to masonic laws, is under no obligation to regard the rules of either.

For which reasons, it is very remarkable that at the commencement of his moral philosophy, Dr. Paley says, the *rules of life* "are, the law of honor, the law of the land, and the Scriptures." It were strange indeed, if that were a rule of life which every man is at liberty to disregard if he pleases; and which, in point of fact, nine persons out of ten do disregard without blame. Who would think of taxing the writer of these pages with violating a "rule of life," because he pays no attention to the law of honor? "The Scriptures" communicate the will of God; "the law of the land" is enforced by that will; but where is the sanction of the law of honor?—It is so much the more remarkable that this law should have been thus formally proposed as a rule of life, because in the same work it is described as "unauthorized." How can a set of unauthorized maxims compose a rule of life? But further: the author says that the law of honor is a "capricious rule, which abhors deceit, yet applauds the address of a successful intrigue." And further still: "it allows of fornication, adultery, drunkenness, prodigality, duelling, and of revenge in the extreme." Surely then it cannot, with any propriety of language, be called a rule of life.

Placing, then, the obligation of the law of honor, as such, upon that which appears as its proper basis,—the duty to perform our lawful engagements—it may be concluded, that when a man goes to a gaming-house or a race-course, and loses his money by betting or playing, he is morally bound to pay: not because morality adjusts the rules of the billiard-room or the turf, not because the law of the land sanctions the stake, but because the party *previously promised* to pay it. Nor would it affect this obligation to allege, that the stake was itself both illegal and immoral. So it was; but the payment is not. The payment of such a debt involves no breach of the moral law. The guilt consists, not in paying the money, but in staking it. Nevertheless, there may be prior claims upon a man's property which he ought first to pay. Such are those of lawful creditors. The practice of paying debts of honor with promptitude and of delaying the payment of other debts, argues confusion or depravity of principle. It is not honor, in any virtuous and rational sense of the word, which induces men to pay debts of honor instantly. Real honor would induce them to pay their lawful debts *first*: and indeed it may be suspected that the motive to the prompt payment of gaming debts is usually no other than the desire to preserve a fair name with the world. Integrity of principle has often so little to do with it, that the principle is sacrificed in order to pay them.

With respect to those maxims of the law of honor which require conduct that the moral law forbids, it is quite manifest that they are utterly indefensible. "If unauthorized laws of honor be allowed to create exceptions to Divine prohibitions, there is an end of all morality as founded in the will of the Deity, and the obligation of every duty may at one time or other be discharged." These observations apply to those foolish maxims of honor which relate to duelling.—

These maxims can never justify the individual in disregarding the obligations of morality. He who acts upon them acts wickedly; unless indeed he be so little informed of the requisitions of morality that he does not upon this subject perceive the distinction between right and wrong. The man of honor then should pay a gambling debt, but he should not challenge, or accept it. The one is permitted by the moral law, the other is forbidden.

Whatever advantages may result from the law of honor, it is, as a system, both contemptible and bad. Even its advantages are of an ambiguous kind; for although it may prompt to rectitude of conduct, that conduct is not founded upon rectitude of principle. The motive is not so good as the act. And as to many of its particular rules, both positive and negative, they are the proper subject of reprobation and abhorrence. We ought to reprobate and abhor a system which enjoins the ferocious practice of challenges and duels, and which allows many of the most flagitious and degrading vices that infest the world.

The practical effects of the law of honor are probably greater and worse than we are accustomed to suppose. Men learn, by the power of association, to imagine that *that* is lawful which their maxims of conduct do not condemn. A set of rules which inculcates some actions that are right, and permits others that are wrong, practically operates as a sanction to the wrong. The code which attaches disgrace to falsehood, but none to drunkenness or adultery, operates as a sanction to drunkenness and adultery. Does not experience verify these conclusions of reason? Is it not true that men and women of honor indulge, with the least hesitation, in some vices, in consequence of the tacit permission of the law of honor? What then is to be done but to reprobate the system as a whole? In this reprobation the man of sense may unite with the man of virtue; for assuredly the system is contemptible in the view of intellect, as well as hateful in the view of purity.

Mer. and Pol. Phil. b. 3, c. 9.

THE AMERICAN QUARTERLY REVIEW, No. XXIX. Philadelphia: KEY & BIDDLE.—A number this—of great vigor of writing and variety of topics. We can only allude today to two or three of the papers. That on Theodore Dwight's History of the Hartford Convention is capital. It does ample justice to a work which itself does justice to a much calumniated set of public men and acts; and which will be hereafter received as *unquestionable* historical evidence, however party prejudice may at this day obscure its force. The paper on *England and America*, is searching and scorching. It is, we should be tempted to believe—though without having heard a word on the subject—from the same acute pen, and investigating mind, which produced the vindication of Sebastian Cabot. Mrs. Willard's letters from France are spoken of, without favor; and we must even admit, though harshly, without injustice. It were better, certainly, that they had remained in the portfolios of those to whom they were written. From the article respecting them, we extract some observations, on the tone and composition of French society, which we commend to our readers.

But Mrs. Willard's grand objection to Parisian society, is its want of a proper regard for morality.—Though we may feel inclined to smile at one of the causes she assigns for her belief in the justness of the charge—that “once, in a room where few persons were present, she saw, by a sudden turn, a lady of whom she never heard ill, touch her lips to the neck of a gentleman, as he stooped for some object beside her,”—it cannot altogether be denied. We really think, however, that the ideas generally entertained on that head, in our country, are greatly exaggerated. There may be vice, but it does not exhibit itself; our authoress acknowledges that “nothing” can be more modest than the demeanor in society of all she met, and as long as external propriety is preserved, there can be no risk for those who are not disposed to seek occasions for sin. As to her complaint of never hearing “characters scanned in Paris as in America, as to the moral tendency of their actions,” we do not know exactly whether to be amused or angry with it. The fondness of ladies for “scanning characters” is an old joke against them, and if we change the final syllable of the first word of the quoted phrase into *del*, we shall have the invariable result of the operation; but what business;

have people, either here or in Paris, to scan the characters of others, whose conduct, apparently, violates none of the rules of decorum? We would reverse the complaint, and lament that we do not imitate the Parisians in not meddling with the concerns of others, when we have no right or warrant for the interference. As long as no evil is inflicted upon the well-being of society by the visible conduct of our neighbors, we hold that its interests are best consulted by a universal regard to the venerable injunction, “mind your own business.” If the “moral tendency of the actions” of every one, is to be made the subject of reciprocal investigation, the millenium of dowagers is certainly at hand; but preserve us from becoming the theme of a knot of them firmly seated around a tea-table on a Sunday evening!

Whatever may have been the fact at a former period, we do not believe that, at present, a lady of disreputable character would be permitted to appear at the French court; and we do not doubt that, under proper guidance, a young lady might frequent the society of Paris with as much safety, as that of any city of the globe. We say under proper guidance, for, of course, in so varied and extensive an assemblage, no matter what might be its general excellence, circumspection and caution are indispensable. The freedom which is enjoyed in this country by the youthful portion of the sex, is only compatible with the smallness and compactness of our circles, where every one is, as it were, a guard upon every one.—Whenever fashionable intercourse here swells to the dimensions it possesses in the principal cities of Europe, that freedom must inevitably be abridged, and a system adopted with regard to young ladies similar to the one which is there pursued.

Would that we could model our society in some other respects upon that of Paris! that we could imitate the ease, the courtesy, the refinement, the disposition to please and to be pleased, the spirit of mutual concession, the faculty of extracting amusement from every thing and any thing, which never allow you there to ejaculate with the poet, in a fit of despondency and *ennui*,

Business is labor, and man's weakness such,
Pleasure is labor too, and tires as much;

but which, on the contrary, render pleasure that perfect relaxation so conducive afterwards to a cheerful and adequate attention to business. The French have unquestionably carried society to as high a degree of perfection as it can well be brought. Their talent, in this respect, almost strikes a stranger with wonder. A stupid party—a phrase, alas! which is as natural in an American mouth as freedom, liberty and independence—is a thing which they could scarcely be made to comprehend. Let any number of them congregate together, and megrim takes to flight with as much precipitation as the owl from the garish light of day. Every one contributes his or her quota to the general stock of amusement; a sombre visage is a mark of rudeness and ill-breeding; and on separating, all are disposed to repeat the exclamation of Moore's enraptured lover, “how swift the hours fly.” He that is pleased himself must always others please, is an observation of Shakespeare, which is no where so abundantly confirmed as in a Parisian *réunion*. Mere amusement, however, is not all that a stranger gains by “going out” in Paris. The manner in which men of the greatest distinction in every way, in politics, in science, in literature, in art, mix in society there, furnishes him with ample opportunity of gratifying a laudable curiosity, and blending instruction with pleasure. Wherever he goes he may be always sure of encountering some one whom he must feel a desire to see, and whose acquaintance he will find no difficulty in making. Their rational politeness and affability are sufficient to embolden him to trouble them for a while with his insignificance, and thus acquire a source of agreeable recollection—in all probability of material advantage. This circumstance of the constant communion of such men with society, imparts to it, in a certain degree, an atmosphere of intellectuality which relieves and vivifies, if we may so speak, its unavoidable frivolousness, and may be said to act as an antidote to the bane of dissipation. In our country, unfortunately, men of eminence are so little addicted to frequenting the scenes of fashionable enjoyment, or when they do appear in them, it is with so slight a desire to take the prominent parts which they should perform, that society has fallen entirely into the hands of the young, and presents that aspect on which foreigners have so often remarked, of being little better than a boys' and girls' romp, where aught that is intellectual is sadly out of place. This is the reason, indeed, which the older and wiser portion sometimes assign

for keeping in the back ground; but it is their own fault if it exists. Had they not resigned their proper stations at first, they would never have had cause to complain that society is totally destitute of attraction in their eyes; and should they now resume and exert their rights, a beneficial alteration must speedily ensue. Some standard of social distinction, of a more elevated order than spruce attire and proficiency in dancing, would then be introduced; young ladies would learn to appreciate other qualifications as more attractive and distinguished, and young gentlemen would feel a nobler ambition in relation to society than they can possibly do now, when mental cultivation and superiority are “of no mark or likelihood” whatever.

There are two other points in which it would be for the advantage of our society if the Parisian practice were followed. The first is that entertainment with the good things of this life, which seems to constitute in our minds the most important appurtenance of a party of every description. Eating is a never-ending, still beginning affair, on such occasions; your guests, like a ship before the wind, must constantly be “kept full;” and as this entails considerable expense, it may furnish one explanation why those really sociable meetings, which make so delightful a source of relaxation in Paris, are of such rarity here. The necessity, as it is deemed, of providing an abundance of amusement for the palate, no matter how small the assemblage, operates to prevent the keeping of open-house, which is so conducive to familiarity and good feeling, and imparts an air of pretension and formality, productive of a chilling effect upon “the genial current” of one's spirits. In Paris, a glass of lemonade, or orange and water, together with a little cake, if that—is all the provision which is made for your physical man, at a common *soirée*, and more would only annoy you by interrupting the course of amusement; but here, you can scarcely open your mouth unless to swallow a cup of coffee, an ice, a jelly, chicken salad, pickled oysters, or some other ethereal comestible, following each other in such rapid succession, that little else can be accomplished, than to do justice to them like every body else.—Then for a visitation, after you have retired to your couch, from that agreeable companion, the nightmare, or, the next day, from the pleasant sensations which dyspepsia occasions. The other point is the answering of invitations for an evening party—unless it be a sitting supper, where it is requisite to know what number is to be present, which is never done abroad, and is an inconvenience to the invited, and of no moment to the inviter. The latter may be always sure of a quorum, whilst the former, in many instances, may not be able to tell whether it will be in their power or not to appear, and acting upon this uncertainty, often send a refusal, when eventually they find that they might go. Besides, unnecessary trouble is given to servants in taking the answers, a useless consumption of their time is caused, and for one circulation generally in “the world,” writing so many notes is not the most fascinating mode of employing leisure moments.

As always happens, when we imitate others, whilst we have rejected those customs of European society which it would be beneficial for us to pursue, we have adapted one which we have no business with whatever—we allude to the habit of going at a late hour to a party. In Europe, where the whole arrangement of life is different, where, in particular, the dinner hour is six or seven o'clock, this is unavoidable, and in keeping with every thing else; but, in this country, where, at four o'clock, for the most part, the cloth is removed from the table, what can be more nonsensical than to delay to repair to a ball until ten? It is quite as dark in winter at seven as at any period of the night, and there is no reason why as much pleasure cannot be enjoyed then as afterwards. Were it fixed upon as the time for assembling, many a stupid moment, we doubt not, would be escaped by those who are waiting impatiently and idly for the hour when they may depart for the festive scene, without endangering their ton, and many a rose would continue to bloom in cheeks from which they have disappeared under the blighting influence of vigils protracted long beyond the stroke of the midnight bell.

ENGLAND AND AMERICA—A Comparison of the Political and Social State of both Nations. 1 vol.—N. York: Harper & Brothers.—This volume—of so swelling a title and of great pretensions—which has been absurdly enough ascribed to the pen of Bulwer—is conclusively shown by an article in the last *American Quarterly Review*, to be a re-publication

NEW-YORK AMERICAN.

MARCH 15—21, 1834.

LITERARY NOTICES.

THE WRITINGS OF GEORGE WASHINGTON, *being his Correspondence, Addresses, Messages, &c. &c., with a life of the author: by JARED SPARKS; vols. II and III: Boston, Russell, Odiorne & Metcalf, and Hildard, Gray & Co.*—In point of typographical embellishment and execution, these volumes are worthy of the matters and the name they are meant to illustrate. They are, in truth, admirable. Vol. I, to contain a life of Washington, is to be published while the work, which may extend to twelve volumes, is in progress. Of the two now given to the public, vol. II is occupied with letters and papers written by Washington before the American Revolution, and relate chiefly to the French war of 1756, in which he was so largely and so actively engaged. The whole of his career, from the time he joined Braddock till he retired from the army, is here recorded by himself. In an Appendix there is an elaborate and well reasoned article by the Editor, completely exonerating Washington from the only charge ever brought with any plausibility against his honor and good faith as a soldier—that of having commanded his troops, being then only 22 years of age, to fire on a French detachment commanded by Jumonville, sent to him, as the French allege, with a flag of truce; in the act of reading a peaceful summons to him to retire from lands claimed to be within the French limits, Jumonville fell. This story, founded originally upon the exaggerated report of a runaway French soldier, is most conclusively disproved; and it is shown that in firing on Jumonville's detachment, which had been lurking for some days around the camp of his own feeble band, Washington "did no more than execute the duty of a vigilant officer, for which he received the unqualified approbation of his superiors and of the public." Among the specimens, also given in the Appendix, of the early writings of Washington, there is a series of rules copied or compiled probably from various sources, entitled "Rules of civility and decent behaviour in company and conversation." We will, if we can find room to-day, annex some of these rules—if not, at some other time—as they manifestly exercised no little influence in the formation of Washington's character.

Vol. III., which commences the correspondence and papers relative to the Revolution, opens very appropriately with Washington's answer to Congress, on 16th June, 1775, accepting his appointment as commander-in-chief. The volume is devoted to letters and papers written in that capacity, to other general affairs to Congress, to provincial Congresses, and reaches to July, 1777. The political as well as personal considerations which led to the selection of General Washington, as commander-in-chief, and the noble devotion of New England, and of that thorough patriot, John Adams, one of her chief representatives, in suggesting and concurring in the choice of a Virginia general, to command armies wholly recruited at that time from the New England States, are ably exhibited in a note of the editor in the appendix.

Our only extract is the touching letter, so full of unfeigned humility—of true affection—and withal of unhesitating patriotism, in which General Washington communicated to his wife the news of his appointment to the command in chief. This is the only letter, Mr. Sparks says in a note, "from Washington to his wife, which has come into my hands. It is understood that Mrs. Washington destroyed all his other letters to her a short time before her death."

TO MRS. MARTHA WASHINGTON.

Philadelphia, 18th June, 1775.

"My Dearest—I am now set down to write to you on a subject which fills me with inexpressible concern; and this concern is greatly aggravated and in-

creased, when I reflect upon the uneasiness I know it will give you. It has been determined in Congress, that the whole army raised for the defence of the American cause shall be put under my care, and that it is necessary for me to proceed immediately to Boston, to take upon me the command of it. You may believe me, my dear Patsy, when I assure you, in the most solemn manner, that, so far from seeking this appointment, I have used every endeavor in my power to avoid it, not only from a consciousness of its being a trust too great for my capacity, and that I should enjoy more real happiness in one month with you at home, than I have the most distant prospect of finding abroad, if my stay were to be seven times seven years. But as it has been a kind of destiny that has thrown me upon this service, I shall hope my undertaking is designed to answer some good purpose.

You might, and I supposed did perceive, from the tenor of my letters, that I was apprehensive I could not avoid this appointment, as I did not pretend to intimate when I should return. That was the case. It was utterly out of my power to refuse this appointment, without exposing my character to such censures as would have reflected dishonor upon myself and given pain to my friends. This, I am sure, could not, and ought not, to be pleasing to you, and must have lessened me considerably in my own esteem. I shall rely, therefore, confidently on that Providence, which has heretofore preserved and been bountiful to me, not doubting but that I shall return safe to you in the fall. I shall feel no pain from the toil or the danger of the campaign; my unhappiness will flow from the uneasiness I know you feel from being left alone. I therefore beg that you will summon your whole fortitude, and pass your time as agreeably as possible. Nothing will give me so much sincere satisfaction as to hear this, and to hear it from your own pen. My earnest and ardent desire is, that you would pursue any plan that is most likely to produce content, and a tolerable degree of tranquility; as it must add greatly to my uneasy feelings to hear that you are dissatisfied or complaining of what I really could not avoid.

"As life is always uncertain, and common prudence dictates to every man the necessity of settling his temporal concerns, while it is in his power, and while the mind is calm and undisturbed, I have, since I came to this place, (for I had not time to do it before I left home) got Colonel Pendleton to draft a will for me, by the directions I gave him, which will I now inclose. The provisions made for you in case of my death will, I hope, be agreeable.

"I shall add nothing more, as I have several letters to write, but to desire that you will remember me to your friends, and to assure you that I am, with the most unfeigned regard, my dear Patsy, your affectionate, &c."

We can desire nothing better for our country, than that in these days of party selfishness and political corruption, the pure self sacrificing virtue which is exemplified more and more, as new light is thrown upon the motives and character of Washington, may be widely studied and imitated.

ESSAYS ON THE PRINCIPLES OF MORALITY, AND OF THE PRIVATE AND POLITICAL RIGHTS AND OBLIGATIONS OF MANKIND; by JONATHAN DYMOND: with a Preface by the Rev. Geo. Bush, M. A.; 1 vol. 8vo, pp. 432; N. York, HARPER & BROTHERS.—Considering the age, the calling, and the circumstances of the writer, this book may be pronounced in every way remarkable. JONATHAN DYMOND was a member of the Society of Friends, who kept a small linen draper's shop in a country town in England. He wrote and reasoned of the high matters with which the volume before us is fraught, "in a little room adjoining his shop, subject to frequent interruptions from customers in the midst of his most profound and interesting speculations," and died in the early morning of life. When, then, it is added that he has produced a work characterized by deep reflection, severe logic, and a forcible and well ordered style; a work founded on the Bible as the first, and original, and unerring code of ethics; a work which at once enters the lists with a writer like Paley, and taking up and examining his doctrines of expediency and utility as the basis of moral obligation, triumphantly "battles the fallacies of such spurious and dangerous" propositions, we

have said enough to call general attention to this volume. There are many opinions in it indeed tinged with the peculiar color of the author's sect—there are some from which most readers may dissent; but as a work inspired by the purest views and purposes, and reposing for its foundation and sanction upon the book of Truth, it will command unqualified approval.

Prof. Bush and the publishers have done good service to the cause of morals in thus bringing it before the American public. There are occasional notes by Prof. Bush, indicated by the initial B., which may serve to qualify the assent that might otherwise by unreflecting minds be given to some of the peculiar and perhaps erroneous notions of the author.

As a specimen both of the author's style and manner of viewing questions, we subjoin his chapter on the *Law of Honor*:

The Law of Honor.—The law of honor consists of a set of maxims, written or understood, by which persons of a certain class agree to regulate, or are expected to regulate their conduct. It is evident that the obligation of the law of honor, as such, results exclusively from the agreement, tacit or expressed, of the parties concerned. It binds them *because* they have agreed to be bound, and for no other reason.—He who does not choose to be ranked among the subjects of the law of honor is under no obligation to obey its rules. These rules are precisely upon the same footing as the laws of free-masonry, or the regulations of a reading-room. He who does not choose to subscribe to the room, or to promise conformity to masonic laws, is under no obligation to regard the rules of either.

For which reasons, it is very remarkable that at the commencement of his moral philosophy, Dr. Paley says, the *rules of life* "are, the law of honor, the law of the land, and the Scriptures." It were strange indeed, if that were a rule of life which every man is at liberty to disregard if he pleases; and which, in point of fact, nine persons out of ten do disregard without blame. Who would think of taxing the writer of these pages with violating a "rule of life," because he pays no attention to the law of honor? "The Scriptures" communicate the will of God; "the law of the land" is enforced by that will; but where is the sanction of the law of honor?—It is so much the more remarkable that this law should have been thus formally proposed as a rule of life, because in the same work it is described as "unauthorized." How can a set of unauthorized maxims compose a rule of life? But further: the author says that the law of honor is a "capricious rule, which abhors deceit, yet applauds the address of a successful intrigue." And further still: "it allows of fornication, adultery, drunkenness, prodigality, duelling, and of revenge in the extreme." Surely then it cannot, with any propriety of language, be called a rule of life.

Placing, then, the obligation of the law of honor, as such, upon that which appears as its proper basis,—the duty to perform our lawful engagements—it may be concluded, that when a man goes to a gaming-house or a race-course, and loses his money by betting or playing, he is morally bound to pay: not because morality adjusts the rules of the billiard-room or the turf, not because the law of the land sanctions the stake, but because the party *previously promised* to pay it. Nor would it affect this obligation to allege, that the stake was itself both illegal and immoral. So it was; but the payment is not. The payment of such a debt involves no breach of the moral law. The guilt consists, not in paying the money, but in staking it. Nevertheless, there may be prior claims upon a man's property which he ought first to pay. Such are those of lawful creditors. The practice of paying debts of honor with promptitude and of delaying the payment of other debts, argues confusion or depravity of principle. It is not honor, in any virtuous and rational sense of the word, which induces men to pay debts of honor instantly. Real honor would induce them to pay their lawful debts *first*: and indeed it may be suspected that the motive to the prompt payment of gaming debts is usually no other than the desire to preserve a fair name with the world. Integrity of principle has often so little to do with it, that the principle is sacrificed in order to pay them.

With respect to those maxims of the law of honor which require conduct that the moral law forbids, it is quite manifest that they are utterly indefensible. "If unauthorized laws of honor be allowed to create exceptions to Divine prohibitions, there is an end of all morality as founded in the will of the Deity, and the obligation of every duty may at one time or other be discharged."* These observations apply to those foolish maxims of honor which relate to duelling.—

These maxims can never justify the individual in disregarding the obligations of morality. He who acts upon them acts *wickedly*; unless indeed he be so little informed of the requisitions of morality that he does not upon this subject perceive the distinction between right and wrong. The man of honor therefore should pay a gambling debt, but he should not send a challenge, or accept it. The one is permitted by the moral law, the other is forbidden.

Whatever advantages may result from the law of honor, it is, as a system, both contemptible and bad. Even its advantages are of an ambiguous kind; for although it may prompt to rectitude of conduct, that conduct is not found upon rectitude of principle. The motive is not so good as the act. And as to many of its particular rules, both positive and negative, they are the proper subject of reprobation and abhorrence. We ought to reprobate and abhor a system which enjoins the ferocious practice of challenges and duels, and which allows many of the most flagitious and degrading vices that infest the world.

The practical effects of the law of honor are probably greater and worse than we are accustomed to suppose. Men learn, by the power of association, to imagine that *that* is lawful which their maxims of conduct do not condemn. A set of rules which incline to some actions that are right, and permits others that are wrong, practically operates as a sanction to the wrong. The code which attaches disgrace to falsehood, but none to drunkenness or adultery, operates as a sanction to drunkenness and adultery. Does not experience verify these conclusions of reason? Is it not true that men and women of honor indulge, with the less hesitation, in some vices, in consequence of the tacit permission of the law of honor? What then is to be done but to reprobate the system as a whole? In this reprobation the man of sense may unite with the man of virtue; for assuredly the system is contemptible in the view of intellect, as well as hateful in the view of purity.

Mor. and Pol. Phil. b. 3, c. 9.

THE AMERICAN QUARTERLY REVIEW, No. XXIX. Philadelphia: KEY & BIDDLE.—A number this—of great vigor of writing and variety of topics. We can only allude today to two or three of the papers. That on Thodore Dwight's History of the Hartford Convention is capital. It does ample justice to a work which itself does justice to a much calumniated set of public men and acts; and which will be hereafter received as *unquestionable* historical evidence, however party prejudice may at this day obscure its force. The paper on *England and America*, is scorching and scorching. It is, we should be tempted to believe—though without having heard a word on the subject—from the same acute pen, and investigating mind, which produced the vindication of Sebastian Cabot. Mrs. Willard's letters from France are spoken of, without favor; and we must even admit, though harshly, without injustice. It were better, certainly, that they had remained in the portfolios of those to whom they were written. From the article respecting them, we extract some observations, on the tone and composition of French society, which we commend to our readers.

But Mrs. Willard's grand objection to Parisian society, is its want of a proper regard for morality.—Though we may feel inclined to smile at one of the causes she assigns for her belief in the justness of the charge—that “once, in a room where few persons were present, she saw, by a sudden turn, a lady of whom she never heard ill, touch her lips to the neck of a gentleman, as he stooped for some object beside her,”—it cannot altogether be denied. We really think, however, that the ideas generally entertained on that head, in our country, are greatly exaggerated. There may be vice, but it does not exhibit itself; our authoress acknowledges that “nothing can be more modest than the demeanor in society of all she met,” and as long as external propriety is preserved, there can be no risk for those who are not disposed to seek occasions for sin. As to her complaint of never hearing “characters scanned in Paris as in America, as to the moral tendency of their actions,” we do not know exactly whether to be amused or angry with it. The fondness of ladies for “scanning characters” is an old joke against them, and if we change the final syllable of the first word of the quoted phrase into *dal*, we shall have the invariable result of the operation; but what business;

have people, either here or in Paris, to scan the characters of others, whose conduct, apparently, violates none of the rules of decorum? We would reverse the complaint, and lament that we do not imitate the Parisians in not meddling with the concerns of others, when we have no right or warrant for the interference. As long as no evil is inflicted upon the well-being of society by the visible conduct of our neighbors, we hold that its interests are best consulted by a universal regard to the venerable injunction, “mind your own business.” If the “moral tendency of the actions” of every one, is to be made the subject of reciprocal investigation, the millennium of dowagers is certainly at hand; but preserve us from becoming the theme of a knot of them firmly seated around a tea-table on a Sunday evening!

Whatever may have been the fact at a former period, we do not believe that, at present, a lady of respectable character would be permitted to appear at the French court; and we do not doubt that, under proper guidance, a young lady might frequent the society of Paris with as much safety, as that of any city of the globe. We say under proper guidance, for, of course, in so varied and extensive an assemblage, no matter what might be its general excellence, circumspection and caution are indispensable. The freedom which is enjoyed in this country by the youthful portion of the sex, is only compatible with the smallness and compactness of our circles, where every one is, as it were, a guard upon every one.—Whenever fashionable intercourse here swells to the dimensions it possesses in the principal cities of Europe, that freedom must inevitably be abridged, and a system adopted with regard to young ladies similar to the one which is there pursued.

Would that we could model our society in some other respects upon that of Paris! that we could imitate the ease, the courtesy, the refinement, the disposition to please and to be pleased, the spirit of mutual concession, the faculty of extracting amusement from every thing and any thing, which never allow you there to ejaculate with the poet, in a fit of despondency and *ennui*,

Business is labor, and man's weakness such,
Pleasure is labor too, and tires as much;

but which, on the contrary, render pleasure that perfect relaxation so conducive afterwards to a cheerful and adequate attention to business. The French have unquestionably carried society to as high a degree of perfection as it can well be brought. Their talent, in this respect, almost strikes a stranger with wonder. A stupid party—a phrase, alas! which is as natural in an American mouth as freedom, liberty and independence—is a thing which they could scarcely be made to comprehend. Let any number of them congregate together, and megrim takes to flight with as much precipitation as the owl from the garish light of day. Every one contributes his or her quota to the general stock of amusement; a sombre visage is a mark of rudeness and ill-breeding; and on separating, all are disposed to repeat the exclamation of Moore's enraptured lover, “how swift the hours fly.” He that is pleased himself must always others please, is an observation of Shakspeare, which is no where so abundantly confirmed as in a Parisian *réunion*. Mere amusement, however, is not all that a stranger gains by “going out” in Paris. The manner in which men of the greatest distinction in every way, in politics, in science, in literature, in art, mix in society there, furnishes him with ample opportunity of gratifying a laudable curiosity, and blending instruction with pleasure. Wherever he goes he may be always sure of encountering some one whom he must feel a desire to see, and whose acquaintance he will find no difficulty in making. Their rational politeness and affability are sufficient to embolden him to trouble them for a while with his insignificance, and thus acquire a source of agreeable recollection—in all probability of material advantage. This circumstance of the constant communion of such men with society, imparts to it, in a certain degree, an atmosphere of intellectuality which relieves and vivifies, if we may so speak, its unavoidable frivolousness, and may be said to act as an antidote to the bane of dissipation. In our country, unfortunately, men of eminence are so little addicted to frequenting the scenes of fashionable enjoyment, or when they do appear in them, it is with so slight a desire to take the prominent parts which they should perform, that society has fallen entirely into the hands of the young, and presents that aspect on which foreigners have so often remarked, of being little better than a boys' and girls' romp, where aught that is intellectual is sadly out of place. This is the reason, indeed, which the older and wiser portion sometimes assign

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of a tract originally put forth in London by a knot of private land speculators, who were desirous of entrapping the British government into a scheme of colonizing the paupers of England in Australasia, for the benefit of those who should previously have monopolized the property in the soil there. Failing in that, their attention seems to have been turned to the U. States, and the absurd hope conceived, that by representing the immense advantage to this country of a large and constant supply of laborers from Europe, in peopling our waste lands—the government might be induced to pay for importing these laborers—employing the agency of these speculators, who were to be a sort of Colonization Society; and who, by speculating in our lands and in the cost of transporting their pauper countrymen, were to find their reward.

Such is clearly established to be the character of this book; and as such, therefore, we leave it to the contempt of the reading public.

Good's Book of Nature, ABRIDGED FROM THE ORIGINAL WORK. Boston, ALLEN & TICKNOR.—This is a happy notion, happily carried out. It is—by extracting and putting in short sentences, and in plain and intelligible language, the various amusing and instructive facts contained in Good's Book—to adapt them readily to the comprehension of children and young people. This is further aided by numerous well executed cuts—and by annexing to each paragraph or section, a question, by the answer to which, it may be at once ascertained whether the fact imparted has been understood. We can recommend this little book unhesitatingly, to parents.

It may be had of Goodrich & Wiley.

THE EVERGREEN, a collection of stories for childhood and youth, with 20 plates. By—WEST—Boston, LILLY, WAIT & Co., This, like the foregoing, is another contribution to the cause of youthful instruction—by seeking to render it attractive, as well as beneficial—and interesting the youthful learner, by stories and plates adapted to his comprehension, in those moral lessons, which, in a less winning form, might be deemed repulsive. The stories are mostly original, and the plates are well executed.

FOREIGN INTELLIGENCE.

By the Caledonia, from Liverpool, we have London papers to the evening of 1st February. They have nothing as late from the Continent as we had previously received via Havre, and in England all seemed to be pretty tranquil. Parliament would meet for business on the 5th February. A few extracts are annexed:

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HOUSE OF LORDS, Tuesday, Feb. 4.

His Majesty this day opened the session of Parliament in person.

At half-past 1 the Lord Chancellor took his seat on the wool-sack.

His Majesty, attended by the usual Ministers of State, entered the House at a quarter after 2 o'clock. His Majesty, we are happy to say, looked very well. He appeared to be in excellent health.

The commons having been summoned, about 200 of them, headed by the Speaker, immediately presented themselves at the bar, when his Majesty proceeded to read, in a distinct and audible voice, the following gracious speech:

My Lords and Gentlemen.—In calling you again together for the discharge of your high duties, I rely with entire confidence on your zeal and diligence, on your sincere devotion to the public interests, and your firmness in supporting on its ancient foundations, and in the just distribution of its powers, the established Constitution of the State. These qualities eminently distinguished your labors during the last session, in which more numerous and more important questions were brought under the consideration of Parliament than at any former session, of equal duration. Of the measures which have in consequence received the sanction of the Legislature, one of the most difficult and important was the bill for the abolition of slavery. The manner in which that beneficial measure has been received throughout the British Colonies, and the progress already made in carrying it into execution, by the Legislature of Jamaica, affords just grounds for anticipating the happiest results.

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[From the London Courier.]

The address of the House of Lords last night was moved by the Duke of Sutherland in a neat and temperate speech, in which his Grace very adroitly paid a well merited compliment to the Earl of Mulgrave. He also dwelt with evident satisfaction on the union between France and England, rejoicing in the efforts which are now making to cultivate industry and the arts of peace among that warlike people.—Lord Howard of Effingham, in seconding the Ad-

dress, referred chiefly to Ireland, and strongly recommended moderation and good temper, while no interest should be looked to but that of the whole people.

The Duke of Wellington, the only Peer who spoke in opposition, while he professed his intention not to oppose the address, made a long, and we may say, a very unfounded attack on the Ministers, going again over all the grounds which he and the Earl of Aberdeen so repeatedly trod last session. His Grace attributed the continuance of the civil war in Portugal to the countenance of this Government. Earl Grey reminded the noble Duke that our ships were only sent to Portugal to protect our own subjects, and it had been alleged that those ships strengthened the cause of Don Miguel. The Duke said that the civil war in Spain grew out of the civil war in Portugal; assigning as the reason that Don Carlos had found refuge there instead of going to Italy. But would he not have found refuge there and support, had Don Miguel been seated on the throne? In the present temper of the Spanish nation, it is idle to suppose that the Apostolical party could have quietly retained possession of power; and whatever strengthened Carlos, like the success of Miguel, would only have made the contest more bloody and more protracted. Earl Grey, therefore, properly stated, that he could not contemplate the possibility of the Apostolical party being triumphant without a greater certainty of civil war in Spain. His Grace complained that we had not interfered against Mehmet Ali; saying, that we had only to send a fleet to the Mediterranean, and that our directions would be as readily obeyed by that Pacha as by one of our own Admirals. His Grace wished therefore to be a Dictator, not only at home, but over all the world. Is not this precisely that spirit and principle of which we now complain in Nicholas and of which we did complain in Bonaparte. Earl Grey properly said, "it was not the duty of the Government of the country to interfere in case of a war between the Sultan and his revolted vassal; that the government has remonstrated with the Viceroy, but that there had been nothing to justify us in making war on him;" and he stated that a fatal blow was given to the independence of Turkey by the Treaty of Adrianople, negotiated during the Duke of Wellington's ministry. On every point of his querulous complaints, the Duke was ably answered by Earl Grey, so as to leave nothing to be desired. With respect to the legality of the Corporation Commission, Earl Grey gave it to be understood that a similar Commission had been issued with the consent of the very person from whom the objection to the present Commission had proceeded. Earl Grey, we presume, alluded to Lord Eldon. The Noble Earl also stated, that he was desirous to put an end to the Corcoran Law, but that circumstances did not permit it. The debate in the Lords had no other result than to show a disposition in the Duke of Wellington to find fault, without any adequate reason. The Address was agreed to.

In the Commons, after new writs had been moved for Leaps, Dungarvon, and Ayr, Mr. O'Connell began by announcing his intention to move for a return of all taxes repealed during five years, with a view, of course, to show that injustice has been done to Ireland. We hope a return will also accompany it of the sums expended on Ireland. The Hon. Member also gave various other notices, among them one for a bill to secure the liberty of the press.

Mr. Littleton is to bring that part of the King's Speech which relates to tithes, under the notice of the House on the 20th of February.

Bills are to be brought in to disfranchise Warwick, Stafford and Carrickfergus. The announcement by the Solicitor General of a bill to abolish imprisonment for debt was received with cheers. Various other motions were given by individual members, such as a notice to exclude Bishops from the House of Lords, by Mr. C. Rippon, and a motion to repeal the Septennial Act by Mr. Chichester; but his Majesty's Government was chary of announcements, and they all relate to important matters.

The Dissenters.—Lord Althorp stated it is the intention of Government to propose a bill for the regulation of Dissenters' marriages, and that the Government will be ready to remedy the other evils under which they labor.

The Corn Laws.—In answer to a question put by Mr. Handley, Lord Althorp stated that it was not the intention of his Majesty's Government to propose any alteration in the corn laws, and that if any person brought forward a proposition to alter them, the Government would not support it. We must add, lest misunderstanding should prevail on this point, that the Noble Lord said the Government collectively;

and we have good reason to believe that several individuals belonging to the Government will support such an alteration in those laws as will substitute a reasonable fixed duty for the present graduated scale of duties. Mr. Hume and Mr. Hunt severally gave notice of motions on this subject.

The Address in answer to the Speech was moved by Mr. S. Lefevre, who made a speech much superior to the ordinary run of speeches on such occasions, but being a country gentleman, he very naturally dwelt more on the poor laws and on the state of the agricultural interest than other things. Mr. Morrison seconded the motion, and in a speech that was still more able than that of Mr. Lefevre's, entered at great length into the state of our manufactures, which he shewed to be in a state of prosperity. We are also happy to state, on the Hon. Member's authority, that this prosperity has in general extended to the laborer. The Hon. Member also shewed that the sufferings of Ireland since the Union, of which Mr. Connell complains so much, had been shared in by this country, and that it was beyond the power of the legislature to control the empire of fashion.

Colonel Evans made some severe remarks on the subject of the assessed taxes, but the Hon. Member declined to move any amendment. He bore a very flattering testimony, derived from personal observation, to the moderation with which Don Pedro has exercised his power.

Mr. Hume moved two amendments; the first, seconded by Mr. Warburton, was to pledge the House to take into consideration the state of the Established Church as to its temporalities, on which the House divided, and Mr. Hume was supported by 39 Members; the second was to pledge the House to make reductions in the establishment, which the Hon. Member did not press to a division.

Lord Althorp, in reply to Mr. Hume, stated, that great reductions might be made without detriment to the public service, and it was the intention of the Government to propose a reduction of taxes. He announced that he is to bring in a measure on the repeal of tithes, which would be satisfactory to the House, and the country at large, and he hoped that the question would be settled this Session.

Mr. Robinson opposed the views of Mr. Morrison, and Mr. Grattan censured the part of the Speech which relates to Ireland.

Mr. O'Connell, after a more moderate speech than was expected from him, moved to leave out the three last paragraphs of the address.

Mr. Littleton made an able reply to the Hon. Member for Dublin, so as to make it unnecessary for any person connected with the Government to speak, declaring, however, that if something were not done as to tithes he should consider the case of Ireland desperate.

Sir R. Peel stated the qualifications with which he supported the Address, which related chiefly to our foreign policy. After some observations from Lord Palmerston and Mr. Baring the Address was unanimously agreed to, and the House adjourned at the reasonable hour of a quarter before midnight.

LONDON, FEB. 4.—We have received by express the Paris papers of Sunday, together with letters from Madrid of the 21st and 22d ult. The particulars of M. Dulung's funeral, which took place on Saturday, occupy a considerable space of most of the Paris papers. It appears that there were 30,000 men under arms, for the purpose of suppressing any movement which might have threatened an *emeute*.

On Monday, a smack brought into Dover, George Pile, the second mate, and three seamen, and four passengers belonging to the Seaton Castle, of Whitby, from Liverpool to New York, wrecked in the Western Ocean. They were taken off the wreck, where they had remained twenty eight days.—[Kentish Gaz.]

SUMMARY.

DEATH OF MR. NEWTON, the distinguished American Artist. The London Literary Gazette says—

"It is with regret that we have this morning received intelligence of the death of Mr. G. S. Newton, the Royal Academician, which took place on this day week, after a short but melancholy illness. Mr. Newton could not have reached his fortieth year; and, we lament to add, has left a widow and an infant child only a few months old. The grace, beauty, and feeling of his compositions are two well known to need our praise (which, indeed, they have often received in the highest terms); and we can only express our deep sorrow for his premature loss."

PLANTERS' BANK, MISSISSIPPI.—The rumor of the failure of this bank is undoubtedly erroneous. It is

known that it has, in a Philadelphia bank of responsibility, a cash balance at this moment of \$60,000.—Letters from Cincinnati, of the same date as that containing the report, are silent on the subject.

To the Editor of the New York American:

SIR: Our community is at this moment so engrossed in the great financial dispute, that the notice which, with your customary prompt attention to the fine arts, you inserted in the American, of Cole's picture, may have been overlooked, or forgotten. Every American should be proud to pay the tribute of his homage to this surpassing production of the genius of his countryman. We can imagine no surer mode of expending (for a while at least) the carking cares of this world—of raising the mind above *deposits* and *discounts* and all mere temporary interests—than by a contemplation of the picture of the Angels appearing to the Shepherds, where the poetic painter has so powerfully illustrated the scene of the annunciation, that as you look on the beautiful scene you feel as if you were listening, with the Shepherds, to the good tidings of great joy which shall be to all people. We would earnestly recommend to mothers to avail themselves of this opportunity to impress on their children through the medium of the eye (which, as the engravers say, cuts in) one of the most interesting scenes in the religious history of man.

Is the cross in the Star of Bethlehem an original idea of Mr. Cole? If so, he must have the credit of an exquisite conception of genius. L.

Fire at Harrisburg.—Quite a destructive fire took place at Harrisburg on Friday last. It broke out about nine o'clock, in Second street between Locust and Pine, in a frame building occupied by Mr. George Boyer as a dwelling house and tallow chandlery, and immediately communicated to the adjoining buildings, spreading destruction and panic on all sides, and before it was arrested totally consumed it together with the house owned and occupied by Mr. Lawrence Lewis, Assistant Doorkeeper of the Senate; a house owned by Mrs. Balseley and occupied by Mrs. M'Elwee; a part of the house also owned and occupied by Mrs. Balseley; and a shop occupied by Mr. John Kunkle.—[Philadelphia Inquirer.]

GREAT FIRE AT SYRACUSE, MARCH 16.—Extract of a private Letter.—I regret to inform you that we had an awful fire last evening in this place. It was discovered in a store of wood opposite Syracuse House, at 11 o'clock at night. It burned, with the rapidity of lightning, the entire block of stores from the main bridge in front of Syracuse House on both sides of the Canal to the next street East.

The loss exceeds \$100,000, upon which there is an insurance of near \$50,000. About 30 active, industrious Merchants, by this fire, have been cast out of their places of business, and the greater portion of their goods burned and destroyed.

An entire block was saved by the timely aid of an engine from Salina.—[Jour. of Com.]

THE BLIND.

You see those flowers, my lovely child,
Are they not beautiful and bright?
Is not your little bosom wild
With gladness at so fair a sight?
Look at your sister's rosy cheek,
And in your mother's beaming eye;
Has language any words to speak
The loveliness you there espie?
Behold that bird whose pinions float
In grace and gladness o'er the air,
The beauty of whose warbling note
Can scarcely with his plumage compare.
And mark, too, yonder beaming bow,
Reflecting all the hues of heaven;
Is there a happiness you know
Sweeter than this bright form has given?
Even night hangs out its lamps to thee,
Like diamonds round its ebony throne;
And bids you gaze in ecstasy
On worlds revealed to sight alone.
Know you, my child, that there are eyes
That never gazed upon a flower,
Ne'er saw the rainbow's lovely dyes,
Beaming upon the summer shower?
That e'er beheld a sister dear,
Ne'er felt a mother's tender smile,
And knew no solace but a tear,
Thy endless midnight to beguile?
Then go with me and hear the song
That swells to cheer these saddened ones,
The sparkling eyes of all our throng
Shall to their darkness be as Suns.

of a tract originally put forth in London by a knot of private land speculators, who were desirous of entrapping the British government into a scheme of colonizing the paupers of England in Australasia, for the benefit of those who should previously have monopolized the property in the soil there. Failing in that, their attention seems to have been turned to the U. States, and the absurd hope conceived, that by representing the immense advantage to this country of a large and constant supply of laborers from Europe, in peopling our waste lands—the government might be induced to pay for importing these laborers—employing the agency of these speculators, who were to be a sort of Colonization Society; and who, by speculating in our lands and in the cost of transporting their pauper countrymen, were to find their reward.

Such is clearly established to be the character of this book; and as such, therefore, we leave it to the contempt of the reading public.

1 **Good's Book of Nature**, abridged from the original work. *Boston, Allen & Ticknor.*—This is a happy notion, happily carried out. It is—by extracting and putting in short sentences, and in plain and intelligible language, the various amusing and instructive facts contained in Good's Book—to adapt them readily to the comprehension of children and young people. This is further aided by numerous well executed cuts—and by annexing to each paragraph or section, a question, by the answer to which, it may be at once ascertained whether the fact imparted has been understood. We can recommend this little book unhesitatingly, to parents.

It may be had of Goodrich & Wiley.

THE EVERGREEN, a collection of stories for childhood and youth, with 20 plates. By—*WEST—Boston, Lillie, Wait & Co.* This, like the foregoing, is another contribution to the cause of youthful instruction—by seeking to render it attractive, as well as beneficial—and interesting the youthful learner, by stories and plates adapted to his comprehension, in those moral lessons, which, in a less winning form, might be deemed repulsive. The stories are mostly original, and the plates are well executed.

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Having delivered his speech, His Majesty retired. Prayers were then read, and the house was adjourned during pleasure.

[*From the London Courier.*]

The address of the House of Lords last night was moved by the Duke of Sutherland in a neat and temperate speech, in which his Grace very adroitly paid a well merited compliment to the Earl of Mulgrave. He also dwelt with evident satisfaction on the union between France and England, rejoicing in the efforts which are now making to cultivate industry and the arts of peace among that warlike people.—Lord Howard of Effingham, in seconding the Ad-

dress, referred chiefly to Ireland, and strongly recommended moderation and good temper, while no interest should be looked to but that of the whole people.

The Duke of Wellington, the only Peer who spoke in opposition, while he professed his intention not to oppose the address, made a long, and we must say, a very unfounded attack on the Ministers, going a gain over all the grounds which he and the Earl of Aberdeen so repeatedly trod last session. His Grace attributed the continuance of the civil war in Portugal to the countenance of this Government. Earl Grey reminded the noble Duke that our ships were only sent to Portugal to protect our own subjects, and it had been alleged that those ships strengthened the cause of Don Miguel. The Duke said that the civil war in Spain grew out of the civil war in Portugal; assigning as the reason that Don Carlos had found refuge there instead of going to Italy. But would he not have found refuge there and support, had Don Miguel been seated on the throne? In the present temper of the Spanish nation, it is idle to suppose that the Apostolical party could have quietly retained possession of power, and whatever strengthened Carlos, like the success of Miguel, would only have made the contest more bloody and more protracted. Earl Grey, therefore, properly stated, that he could not contemplate the possibility of the Apostolical party being triumphant without a greater certainty of civil war in Spain. His Grace complained that we had not interfered against Mehmet Ali; saying, that we had only to send a fleet to the Mediterranean, and that our directions would be as readily obeyed by that Pacha as by one of our own Admirals. His Grace wished therefore to be a Dictator, not only at home, but over all the world. Is not this precisely that spirit and principle of which we now complain in Nicholas and of which we did complain in Bonaparte. Earl Grey properly said, "it was not the duty of the Government of the country to interfere in case of a war between the Sultan and his revolted vassal; that the government has remonstrated with the Viceroy, but that there had been nothing to justify us in making war on him;" and he stated that a fatal blow was given to the independence of Turkey by the Treaty of Adrianople, negotiated during the Duke of Wellington's ministry. On every point of his querulous complaints, the Duke was ably answered by Earl Grey, so as to leave nothing to be desired. With respect to the legality of the Corporation Commission, Earl Grey gave it to be understood that a similar Commission had been issued with the consent of the very person from whom the objection to the present Commission had proceeded. Earl Grey, we presume, alluded to Lord Eldon. The Noble Earl also stated, that he was desirous to put an end to the Corrocion Law, but that circumstances did not permit it. The debate in the Lords had no other result than to show a disposition in the Duke of Wellington to find fault, without any adequate reason. The Address was agreed to.

In the Commons, after new writs had been moved for Leeds, Dungarvon, and Ayr, Mr. O'Connell began by announcing his intention to move for a return of all taxes repealed during five years, with a view, of course, to show that injustice has been done to Ireland. We hope a return will also accompany it of the sums expended on Ireland. The Hon. Member also gave various other notices, among them one for a bill to secure the liberty of the press.

Mr. Littleton is to bring that part of the King's Speech which relates to tithes, under the notice of the House on the 20th of February.

Bills are to be brought in to disfranchise Warwick, Stafford and Carrickfergus. The announcement by the Solicitor General of a bill to abolish imprisonment for debt was received with cheers. Various other motions were given by individual members, such as a notice to exclude Bishops from the House of Lords, by Mr. C. Rippon, and a motion to repeal the Septennial Act by Mr. Chichester; but his Majesty's Government was chary of announcements, and they all relate to important matters.

The Dissenters.—Lord Althorp stated it is the intention of Government to propose a bill for the regulation of Dissenters' marriages, and that the Government will be ready to remedy the other evils under which they labor.

The Corn Laws.—In answer to a question put by Mr. Handley, Lord Althorp stated that it was not the intention of his Majesty's Government to propose any alteration in the corn laws, and that if any person brought forward a proposition to alter them, the Government would not support it. We must add, lest misunderstanding should prevail on this point, that the Noble Lord said the Government collectively;

and we have good reason to believe that several individuals belonging to the Government will support such an alteration in those laws as will substitute a reasonable fixed duty for the present graduated scale of duties. Mr. Hume and Mr. Hunt severally gave notice of motions on this subject.

The Address in answer to the Speech was moved by Mr. S. Lefevre, who made a speech much superior to the ordinary run of speeches on such occasions, but being a country gentleman, he very naturally dwelt more on the poor laws and on the state of the agricultural interest than other things. Mr. Morrison seconded the motion, and in a speech that was still more able than that of Mr. Lefevre's, entered at great length into the state of our manufactures, which he shewed to be in a state of prosperity. We are also happy to state, on the Hon. Member's authority, that this prosperity has in general extended to the laborer. The Hon. Member also shewed that the sufferings of Ireland since the Union, of which Mr. Connell complains so much, had been shared in by this country, and that it was beyond the power of the legislature to control the empire of fashion.

Colonel Evans made some severe remarks on the subject of the assessed taxes, but the Hon. Member declined to move any amendment. He bore a very flattering testimony, derived from personal observation, to the moderation with which Don Pedro has exercised his power.

Mr. Hume moved two amendments; the first, seconded by Mr. Warburton, was to pledge the House to take into consideration the state of the Established Church as to its temporalities, on which the House divided, and Mr. Hume was supported by 39 Members; the second was to pledge the House to make reductions in the establishment, which the Hon. Member did not press to a division.

Lord Althorp, in reply to Mr. Hume, stated, that great reductions might be made without detriment to the public service, and it was the intention of the Government to propose a reduction of taxes. He announced that he is to bring in a measure on the repeal of tithes, which would be satisfactory to the House, and the country at large, and he hoped that the question would be settled this Session.

Mr. Robinson opposed the views of Mr. Morrison, and Mr. Grattan censured the part of the Speech which relates to Ireland.

Mr. O'Connell, after a more moderate speech than was expected from him, moved to leave out the three last paragraphs of the address.

Mr. Littleton made an able reply to the Hon. Member for Dublin, so as to make it unnecessary for any person connected with the Government to speak, declaring, however, that if something were not done as to tithes he should consider the case of Ireland desperate.

Sir R. Peel stated the qualifications with which he supported the Address, which related chiefly to our foreign policy. After some observations from Lord Palmerston and Mr. Baring the Address was unanimously agreed to, and the House adjourned at the reasonable hour of a quarter before midnight.

LONDON, FEB. 4.—We have received by express the Paris papers of Sunday, together with letters from Madrid of the 21st and 22d ult. The particulars of M. Dulung's funeral, which took place on Saturday, occupy a considerable space of most of the Paris papers. It appears that there were 30,000 men under arms, for the purpose of suppressing any movement which might have threatened an *emeute*.

On Monday, a smack brought into Dover, George Pile, the second mate, and three seamen, and four passengers belonging to the Seaton Castle, of Whitby, from Liverpool to New York, wrecked in the Western Ocean. They were taken off the wreck, where they had remained twenty eight days.—[Kentish Gaz.]

SUMMARY.

DEATH OF MR. NEWTON, the distinguished American Artist. The London Literary Gazette says—

"It is with regret that we have this morning received intelligence of the death of Mr. G. S. Newton, the Royal Academician, which took place on this day week, after a short but melancholy illness. Mr. Newton could not have reached his fortieth year; and, we lament to add, has left a widow and an infant child only a few months old. The grace, beauty, and feeling of his compositions are two well known to need our praise (which, indeed, they have often received in the highest terms); and we can only express our deep sorrow for his premature loss."

PLANTERS' BANK, MISSISSIPPI.—The rumor of the failure of this bank is undoubtedly erroneous. It is

known that it has, in a Philadelphia bank of responsibility, a cash balance at this moment of \$60,000.—Letters from Cincinnati, of the same date as that containing the report, are silent on the subject.

To the Editor of the New York American:

SIR: Our community is at this moment so engrossed in the great financial dispute, that the notice which, with your customary prompt attention to the fine arts, you inserted in the American, of Cole's picture, may have been overlooked, or forgotten. Every American should be proud to pay the tribute of his homage to this surpassing production of the genius of his countryman. We can imagine no surer mode of suspending (for a while at least) the carking cares of this world—of raising the mind above *deposits* and *discounts* and all mere temporary interests—than by a contemplation of the picture of the Angels appearing to the Shepherds, where the poetic painter has so powerfully illustrated the scene of the announcement, that as you look on the beautiful scene you feel as if you were listening, with the Shepherds, to the good tidings of great joy which shall be to all people. We would earnestly recommend to mothers to avail themselves of this opportunity to impress on their children through the medium of the eye (which, as the engravers say, cuts in) one of the most interesting scenes in the religious history of man.

Is the cross in the Star of Bethlehem an original idea of Mr. Cole? If so, he must have the credit of an exquisite conception of genius. L.

Fire at Harrisburg.—Quite a destructive fire took place at Harrisburg on Friday last. It broke out about nine o'clock, in Second street between Locust and Pine, in a frame building occupied by Mr. George Boyer as a dwelling house and tallow chandlery, and immediately communicated to the adjoining buildings, spreading destruction and panic on all sides, and before it was arrested totally consumed it together with the house owned and occupied by Mr. Lawrence Lewis, Assistant Doorkeeper of the Senate; a house owned by Mrs. Balsey and occupied by Mrs. McElwee; a part of the house also owned and occupied by Mrs. Balsey; and a shop occupied by Mr. John Koukle.—[Philadelphia Inquirer.]

GREAT FIRE AT SYRACUSE, MARCH 16.—Extract of a private Letter.—I regret to inform you that we had an awful fire last evening in this place. It was discovered in a store of wood opposite Syracuse House, at 11 o'clock at night. It burned, with the rapidity of lightning, the entire block of stores from the main bridge in front of Syracuse House on both sides of the Canal to the next street East.

The loss exceeds \$100,000, upon which there is an insurance of near \$50,000. About 30 active, industrious Merchants, by this fire, have been cast out of their places of business, and the greater portion of their goods burned and destroyed.

An entire block was saved by the timely aid of an engine from Salina.—[Jour. of Com.]

THE BLIND.

You see those flowers, my lovely child,
Are they not beautiful and bright?
(Is not your little bosom wild
With gladness at so fair a sight?)
Look at your sister's rosy cheek,
And in your mother's beaming eye,
Has language any words to speak
The loveliness you there espy?
Behold that bird whose pinions float
In grace and gladness o'er the air,
The beauty of whose warbling note
Can scarcely with his plumage compare.
And mark, too, yonder beaming bow,
Reflecting all the hues of heaven;
Is there a happiness you know
Sweeter than this bright form has given?
Even night hangs out its lamps to thee,
Like diamonds round its eth'ron throne,
And bids you gaze in ecstasy
On worlds revealed to sight alone.
Know you, my child, that there are eyes
That never gazed upon a flower,
Ne'er saw the rainbow's lovely dye,
Beaming upon the summer shower?
That ne'er beheld a sister dear,
Ne'er felt a mother's tender smile,
And knew no solace but a tear,
Their endless midnight to beguile?
Then go with me and hear the song
That swells to cheer these saddened ones.
The sparkling eyes of all our throng
Shall to their darkness be as suns.

We have had for several days the the pamphlet referred to in the annexed paragraph from the Journal of Commerce, without finding time to read it. We therefore willingly avail ourselves of the article on the subject, from that paper.

NEW GRANADA AND FRANCE.—We have before us a pamphlet of 159 pages, published at Bogota, containing the official correspondence between the Government of New Granada and the Chargé d'Affaires of France, on the subject of the treatment of the French Consul (Barrot) at Carthagena, by the subaltern authorities of that place. Without attempting to decide on the very doubtful question about the privileges and immunities of Consuls, we have been struck with the spirit of forbearance and reconciliation which pervades the communications between the parties, as presenting a remarkable contrast to those of the Commander of the French squadron of Carthagena.

Whatever the errors of the authorities of Carthagena may have been, it appears evident from the aforesaid communications, that the Government of New Granada have done every thing in their power to put an honorable termination to the difficulties which have arisen from the Consul's treatment. An official note of the 9th January, from the Granadian Government to the Chargé d'Affaires of France, offers such reparations, as it seems to us, should be fully satisfactory in a case like this, in which the privileges and immunities claimed, are not explicitly agreed on, nor implicitly admitted by the respective Governments. On reading the communication, one would have anticipated the acceptance of the terms offered, and a termination of the unpleasant affair.—These terms were, 1st. The punishment of any person or persons who should prove to have acted improperly towards the Consul. 2d. The removal from office of Col. Vesga, Governor of Carthagena at the time. 3d. The installation of a Vice Consular office at Carthagena, hoisting the French flag on the Consular house, accompanied by salutes from the Artillery; and, 4thly. Indemnity for the losses incurred by the Consul according to a fair valuation of the property.

The Chargé d'Affaires, for reasons we do not know, did not accept these reparations, and the Granadian Government has hastened to send a diplomatic Mission to the French Court, to have the difficulties settled. The person chosen for this object is Colonel J. M. Gomez, well known in this country as Secretary for many years of the 1st Colomb. Legation sent to this country at the head of which was the Hon. J. M. Salazar, Minister Plenipotentiary. Col. Gomez was afterwards sent as Chargé d'Affaires to the Court of Rio Janeiro, and after having concluded a treaty with the Brazilian Government, returned to his country, where he has been employed in responsible and useful services under the Government, and was Treasurer in the important province of Antioquia, when the occurrences with the French Consul induced the Government to charge him with this mission to the King of the French. We hope that through the tact and abilities of Colonel Gomez, the difficulties will be settled, both parties be righted, and that harmony and good understanding re-established which are so vital to the interests of both countries.—[Jour. of Com.]

United States Ship Fairfield.—It appears from a statement in the Norfolk Beacon, that on the night of November 25th, when President Flores recaptured Guayaquil from Gen. Rocafuerte, a boat was sent on shore from the United States Ship Fairfield, then in the harbor, to ascertain the cause of the firing.

About 11 o'clock the boat returned, having been fired into by the troops of Flores; two of the boat's crew were wounded; one of them, Henry Young, had six balls in him, two of which were in his head; he died about half an hour after getting on board; the other man, Wm. Gunnerson, had two balls through his body, and his left arm broken; he was recovering. The Fairfield was at Payta 13th Dec. to sail in ten days for Callao, and thence in a few days for Valparaiso.—All well.

Caution to Whalers.—We have been favored with an extract of a letter from Captain W. Barney, Jr. of ship Barclay of this port, now in the Pacific Ocean, dated Oct. 10, 1833, containing the substance of an important communication to him from Captain Long, of the U. S. schr. Dolphin, lying at that time in the port of Callao.

Capt. L. furnishes the translation of a decree issued by the President of Lima, and Heads of Departments of the Peruvian Government, prohibiting all foreign vessels from whaling or sealing in the bays

along the coast, or on any of the islands of the Republic, without license previously obtained; under penalty of seizure and detention in any port of the Republic, without redress, or recovery of damages for being so seized and detained.

This is a regulation of serious moment to those concerned in the fisheries on that coast; and, without due precaution, may be the occasion of much dispute.—[Nanucket Inquirer.]

Fatal accident.—Four lives lost.—On Tuesday, the 4th inst., six men were engaged in navigating a flat boat, laden with stone-coal, down the Youghiogheny river, in this state. On approaching the Little Falls, in Fayette county, it was discovered that the boat was not in middle of the chute, which is very rapid. Their fate seemed as inevitable as it was appalling. Consternation and dismay overwhelmed the party. One or two abandoned the boat, and made for the shore. The others remained in mute despair, and were carried over the falls with the boat, which turned sidewise in its passage, and was sunk with its contents. Four were drowned, and two got to shore with great difficulty. Their names we cannot give.—[Philadelphia Inquirer.]

[From the Troy Free Press.]

FACTS FOR FARMERS.—From a table of prices current, for the city of Troy, it will be seen what effect the experiment now making by our rulers upon the currency of the country, has had upon the produce of the farmer.

WHEAT, which last fall sold at \$1 12 to \$1 15, is now dull at 92 to 96 cents.

RYE then sold at 75 to 80 cents, now it is reduced to 50.

CORN, (yellow) which then sold at 75 cents, now sells at 50 to 56.

CORN (white) then sold at 81 cts, now at 56 to 62.

There is also, it will be seen, considerable reduction in the price of Flour, and which is dull even at reduced prices.

MEAS. PORK, which then sold for \$15 per bbl. is now reduced to \$13 and \$12 50.

PRIME PORK has fallen from \$12 per bbl. to \$10 and \$9 50.

This unusual fall in the prices of the products of the farmer, is the more worthy of attention, and affords an alarming symptom of the diseased state of trade and business—since it occurs at a season of the year—the opening of the river, and of the spring trade—when always, heretofore, prices have experienced material improvement, rather than depression.

On Thursday last, (says the Georgia Enquirer of the 1st inst.) the companies of Artillery lately from Old Point Comfort, who have been stationed for some time at Fort Mitchell, took their leave, in the steamer Sangamon; and on yesterday several companies of Infantry passed through this place, from the same station, on their way to Tennessee.

[From the Edinburgh Observer.]

SIR WALTER SCOTT AND THE ROXBURGHE CLUB.

Early in 1823, in consequence of a vacancy in the Roxburghe Club, occasioned by the death of one of its members, it was proposed by Earl Spencer, the President, at the annual meeting to elect the "Unknown Author of Waverley," and the Secretary, Dr. Dibdin, was requested to address Sir Walter Scott on the subject. The two following letters were in consequence received by Dr. Dibdin, from Sir Walter Scott. The worthy and estimable Baronet met the Club but once, at their anniversary in May, 1825.

"MY DEAR SIR,—I was duly favored with your letter, which proves one point against the unknown author of Waverley; namely, that he is certainly a Scotsman, since no other nation pretends to the advantage of second sight. Be he who or where he may, he must certainly feel the very high honor which has selected him *nominis umbra*, to a situation so worthy of envy.

"As his personal appearance in the fraternity is not like to be a speedy event, one may presume he may be desirous of offering some test of his gratitude in the shape of a reprint, or such-like kickshaw, and for this purpose you had better send him the statutes of your learned body, which I will engage to send him in safety.

"It will follow as a characteristic circumstance, that the table of the Roxburghe, like that of King Arthur, will have a vacant chair, like that of Banquo at Macbeth's banquet. But if this author, who hath 'fern-seed and walketh invisible,' should not appear to claim it before I come to London (should I ever be there again) with permission of the Club, I, who have something of adventure in me, although a Knight like Sir Andrew Aguecheek, dubbed with unpacked

rapier, and on carpet consideration, would, rather than lose the chance of a dinner with the Roxburghe Club, take upon me the adventure of the *siege perilous*, and reap some amends for perils and scandals into which the invisible champion has drawn me, by being his *locum tenens* on so distinguished an occasion.

"It will be not uninteresting to you to know, that a fraternity is about to be established here, something on the plan of the Roxburghe Club; but, having Scottish antiquities chiefly in view, it is to be called the Bannatyne Club, from the celebrated Antiquary, George Bannatyne, who compiled by far the greatest records of old Scottish poetry. The first meeting is to be held on Thursday, when the health of the Roxburghe Club will be drunk.

"I am always, my dear sir, your most faithful humble servant,
WALTER SCOTT.

Edinburgh, Feb. 25, 1823.

"My dear Sir—I am duly honored with your very interesting and flattering communication. Our Highlanders have a proverbial saying, founded on the traditional remark of Fingal's dog, "If it is not Bran," they say, "it is Bran's brother." Now this is always taken as a compliment of the first class, whether applied to an actual cur, or parabolically to a biped; and upon the same principles, it is with no small pride and gratification that the Roxburghe Club have been so very flatteringly disposed to accept me as a *locum tenens* for the unknown author whom they have made the child of their adoption. As sponsor, I will play my part as well as I can; and should the real Simon Pure make his appearance to push me from my stool, why I shall have at least the satisfaction of having enjoyed it.

"They cannot say but what I *had* the crown."

"Besides, I hope the devil does not owe me such a shame. Mad Tom tells us that the Prince of Darkness is a gentleman, and this mysterious personage will, I hope, partake as much of his honorable feelings as of his invisibility, and resuming his incognito, permit me to enjoy, in his stead, an honor which I value more than I do that which has been bestowed on me by the credit of having written any of his novels.

"I regret deeply I cannot soon avail myself of any new privileges; but courts, which I am under the necessity of attending, officially sit down in a few days, and, *hei mihi!* do not arise for vacation until July. But I hope to be in town next spring; and certainly I have one strong additional reason for a London journey, furnished by the pleasure of meeting the Roxburghe Club. Make my most respectful compliments to the members at their next merry meeting; and express, in the warmest manner, my sense of obligation.

"I am always, my dear sir, very much your obedient servant,
WALTER SCOTT.

Abbotsford, May 1, 1823."

[From Traits of Indian Life.]

DWELLING OF A EUROPEAN LADY.—"The mansion, with its porticoes and pillard verandas, stood in the midst of glittering lawns, the verdure of which was relief to the eye from the painful glare of the burning sunlight; the evergreen shrubberies formed a shady border to the emerald-colored carpet, and a sheltered choir for the mango-bird, the meina, and the coel. From the Portico Eva entered a circular hall, floored with polished marble and portioned off by rows of pillars, through which the eye wandered amongst a lengthened chain of halls, all similarly paved with marble, and apparently only separated from the hall itself by clusters of columns. But to Eva, just landing after the confinement of the beautiful, the delicious and sombre light which penetrated through the closed venetians, gave to the gray marble floors the cool semblance of a still surface of water, sheltered in the shady nook of some deep valley. In the secret of admitting the exact portion of external light, lies half of that beauty which our oriental residences possess. The suite of well-furnished drawing-rooms on the first floor was not less splendid, though in a different character. November, the cool season, having commenced, the whole suite of rooms had been carpeted with one rich piece of Brussels' handsomest manufacture. Ottomans and couches of light blue satin, heavy chandeliers and girandoles, musical instruments, and elegant fancy tables, filled the spacious apartments, with a profusion which perhaps the better taste of London would pronounce too redundant; yet amidst all the richness of furniture with which the fashion of later years has adorned the houses of Calcutta, few things strike the stranger's eye so forcibly as the picturesque forms and customs of the numerous native servants; and above all, the silent and graceful manner in which they seem to glide through the apartments."

TO STEAMBOAT COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, offers his services to render steamboats incombustible and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much cargo, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and deserted by the public as unmindful of safety. Apply, post paid.
S1 R J M M & F

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of **Duffee, May & Co.** offer to supply Rope of any required length (without splice) for insulating Ropes of Railroads at the shortest notice, and deliver cased planes of the principal cities in the United States. As to them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York,
January 29, 1833.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention have been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,
347 N. Market st. (opposite Post Office.)
Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* W. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine. MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

New-York American, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street, J21 & corner of Maidenlane.

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The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.
In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This Instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap Instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.
Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other Instrument of the kind now in use, and as much more cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.
Germanstown, February, 1833.
For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

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Also, AXLES furnished and fitted on wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.

Also, Flange Tires turned complete.

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THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.
Baltimore, May 1st, 1833.

To Messrs Ewing & Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any person desirous of perusing the same.
m33

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.
D. K. MINOR, 35 Wall street.
New-York, August 14, 1833.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lanesburgh, in the county of Kennebec, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty six nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lanesburgh.—August 15, 1833.
A291f R M & F

TO RAILROAD COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level & Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1823, by his caveats filed in the Patent Office. Apply, post paid.
S1 R J M M & F

INCOMBUSTIBLE ARCHITECTURE.

INCOMBUSTIBLE dwelling-houses and buildings of all kinds derived or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTONIS, or Incombustible Varnish, at one dollar per lb.

Apply to **C. S. RAFINESQUE**, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 49 North 5th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushon & Aspinwall, Druggists. Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means.
S1 R J M M & F

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in length 10 1/2 to 16 feet counter sunk holes, end cut at an angle of 45 degrees with splitting plates, nails to suit.
200 do.	1 1/2 do.
40 do.	1 1/2 do.
300 do.	2 do.
800 do.	2 1/2 do.

soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 24, 28, 30, 32, 34, and 36 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. G. RALSTON,
9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splitting Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.
d12meowr

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,
WILLIAM NORRIS, Secretary.

December 24, 1833.
For further information on this subject see No. 40, page 772 of this Journal.
d5

[From the Evening Post.]

We have looked over the Fifteenth Annual Report, made to the Legislature of this State by the Directors of the Institution in this city for the Instruction of the Deaf and Dumb. From this document we learn that the whole number of pupils in the institution at present is 134, having increased from 87 since the last report. During the present year 11 have been dismissed and 58 admitted. The greater part of the pupils, as we learn from the report of the Superintendent of Common Schools, contained in the appendix, are educated at the expense of the State. Ninety-seven, the whole number which the law authorizes, are provided for in this manner. Of the remainder, 11 are supported by the supervisors of the city of New York, 5 by Legislature of New Jersey, 3 by the New York Female Association; 15 are pay pupils, and 3 are educated at the cost of the Institution. The cessation of lotteries in the State has cut off one of the sources of income enjoyed by this institution, amounting to several thousand dollars. This diminution of its means will, it is said, prove a serious check to its usefulness; an application is therefore to be made to the Legislature for a grant to make up the deficiency. Very considerable improvements have recently been introduced into the methods of instruction. Two additional professors have been added to the five by whom the task of education has been hitherto performed. A class is about to be formed for the purpose of receiving lessons in articulation, after the method by which the deaf and dumb have been taught to speak in some of the European institutions. Among the improvements which have been introduced into the course of instruction, is the method of teaching the construction of language by the means of symbols. Each character denotes a particular part of speech, and by a series of modifications is also made to represent inflections of language, comprehending nouns and pronouns in their several cases, adjectives in their various degrees of comparison, and verbs in their various forms. Their use is to show the artificial arrangement of words in language, after a knowledge of the meaning of single words has been acquired. It is said that this method is exceedingly ingenious, and has been attended with great success. The following are mentioned as some of the most important changes and improvements effected in the institution since the last year.

1. A small library adapted to juvenile reading, and a philosophical apparatus to illustrate truths in physics and astronomy, have been procured.

2. The number of pupils has been increased by nearly one-third, and two additional professors have been employed.

3. A full supply of large slates, of the same quality as those heretofore in use, has been imported from Wales.

4. An excellent set of models for drawing has been received from Paris, and instruction is given to a class weekly in this useful art.

5. The debt incurred for the erection of the building has been extinguished.

6. The lawn in front of the edifice has been improved by planting trees and laying out walks for the purpose of providing a promenade and play ground for the pupils.

Courses of lectures are also now given in six departments of knowledge under the direction of a professor.

"The lectures are given three evenings in a week, during hours which are allotted neither to study nor mechanical operation, and they are so arranged in point of time and duration as neither to be too burdensome to the professors, nor to be regarded by the pupils in the light of a task. The departments of instruction embrace the following subjects:

1. Those branches of science which treat of nature, and of which the object is to discover the properties and relations of all bodies.

2. Description of the mineral, vegetable and animal kingdom.

3. Rise, progress, and present condition of the arts, commerce and agriculture.

4. Geography, physical and political.

5. History, ancient and modern, sacred and profane.

6. The science of government.

Each lecture is reduced to writing in order that the subject matter may be referred to and studied by the pupils at their future convenience. These intellectual exercises are not embraced within the limits of a common education; and besides exciting new interest in the pupils by varying the monotony of their ordinary pursuits with a mixture of more attractive subjects, they cannot fail to be in the highest degree

instructive, by opening to their investigation sources of knowledge hitherto unexplored, and of the value of which they can have formed no estimate. Too much praise cannot be accorded to the principal and professors, in whose zeal and devotion this essential improvement, involving great labor on their part, had its origin."

Advices from Vera Cruz to Feb. 18th, state that a conducta of \$1,200,000 had just arrived there from Mexico. Gen. Barragan, Minister of War, and Garay, Minister of Finance, had both resigned.—[Jour. Com.]

AMERICAN FUNDS.—LONDON, February 4th.

Receivables:	
United States.....	5 per cent..... 1835.
New York.....	6..... 1837.
do. do.....	1838, 40, 41.
Virginia.....	6..... 1843..... 1054
do. do.....	5..... 1845, 51.
Ohio.....	6..... 1850.
Louisiana.....	5..... 1834, 39, 44, 49, 96
Mississippi.....	6..... 1841, 5, 51, 6
Alabama.....	5..... 1863.
Indiana.....	6..... 1852.
Illinois.....	6..... 1850.

BULLION.

Per oz.	Per oz.
Portugal Gold in coin 0 0 0	New dole with pillars 0 4 114
Foreign Gold in bars 3 17 9	New dole without do. 0 4 104
New Doubloons 0 0 0	Silver in bars 84'd. 0 4 114

[From a Correspondent of the Daily Advertiser]
LIVERPOOL, January 7.—The transactions in Cotton this week amount to 15,308 bales of all descriptions, viz:

223 Sea Islands at.....	14 a 214
20 Stained.....	7 a 124
6636 Uplands.....	74 a 84—(20 a 6)
3240 Orleans.....	74 a 94
1096 Alabama.....	7 a 84
2728 Brazil.....	8 a 114
118 West India.....	64 a 74
1130 East India.....	5 a 74

The market has been heavy throughout the week, and we find it necessary to reduce our quotations for all descriptions of per id. especially for New Uplands which continues to be pressed upon the market, even at the decline, owing to the scarcity of Egyptian, Sea Islands bring forward full prices, and have rather an upward tendency; 500 of the Americas were in speculation, and 300 together with 400 Surats, and 300 Brazils for export, and the import of the week is 19,160 bales.

As the very limited demand, and the sales trifling. Nothing done in Naval Stores. Rice, 340 tonnes of old, were sold at 11s a 15s 6d per cwt. Flaxseed, 85a per hhd. has been taken for 200 hhd. and 62a per cwt for 20 tonnes of new Cloverseed. No change of interest in the Grain market, but sweet Flour in bond is wanted, but holders will not accept the prices offered. Tobacco remains without any alteration of moment.

LIVERPOOL MARKETS, Feb. 3.—Cotton.—The sales today are estimated at 2000 bags, of which 500 American and Brazil have been taken for export. Prices remain as on Saturday.

Feb. 4.—The market has been extremely dull today. The sales are estimated at from 800 to 1000 bags, and prices are with difficulty maintained.

LONDON MARKET, Feb. 4.—Coffee.—There was a general decline on all kinds last week of 2a per cwt. The reduction has induced holders to withdraw their sales for the present, and though the market appeared heavy yet no parcels are pressed into it.

SUGAR.—The new sugar market continued very steady, sales nearly 3000 hhd. and tierces, being extensive for the season; bright colour descriptions commanded a further advance of 6d. to 1s per cwt; low qualities heavy, and former prices scarcely could be obtained. This morning the general demand for Muscovadoes continued unabated. The refined market improving, and prices rather higher. The improvement in Bengalee this forenoon is maintained, but there are few sales.

TALLOW has declined 6d. in the cwt.

Agricultural Report for January.—The accounts from all lowland parts of the country, in consequence of the deluge of rain, are most melancholy; the immediate losses sustained are great, and the effects which may too probably be expected of embarrassing the spring culture, must be highly injurious to the farms.

LONDON, Feb. 6.—Consols 884; do for Accounts, 884; French 5 per cent. 1064.

LIVERPOOL CORN EXCHANGE.—FRIDAY.—Notwithstanding we have rather a limited arrival of grain and flour fresh up since Tuesday, the trade has ruled for all articles extremely dull to-day, and there does not appear to be much confidence on the part of buyers at the same time. The late large supply is not forced upon the market, and we can therefore hardly quote any reduction in prices, though the dullness generally existing would most likely induce holders in partial instances to give way a little below the currency of Tuesday last.

CINCINNATI, March 12.—Flour.—From boats, at \$2.76 a 2.87. From store, \$3 last demanded.

WHEAT.—This article has risen a shade since our last. It now sells freely at 184. But little in market.

PORK BACON & LARD.—There has been no change in these articles since our last.

Pork, Mess.....	bbi..... 10 00 a 10 25
Prime.....	bbi..... 8 00 a 8 25
Corgo.....	bbi..... 5 00

CHARLESTON, March 13.—The Market.—[Semi weekly Report.]—Cotton.—The weather, on Monday and Tuesday, was so unfavorable that little business was transacted. Yesterday, however, it became clear and pleasant, and sales to a considerable extent were effected, at the closing prices of last week. We make no alteration in quotations.

RICE.—This article continues very dull. No sales have been effected over 24. Holders seem unwilling to submit to a further reduction—and we understand some shipments have been made on owner's account.

Those papers with which the American exchanges, and in which the following advertisements are inserted, will confer a favor on the subscriber by giving the following a few insertions:

Subscribers who are indebted for the New York American; the Railroad Journal, Mechanics' Magazine, or New York Farmer, are respectfully requested to remit the amount by merchants, or other gentlemen visiting the city this spring, and, if possible, in notes of the United States Bank, or its Branches, as the expense of postage and the discount on notes of distant Banks, is a great tax upon the Office.

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in semi-monthly form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

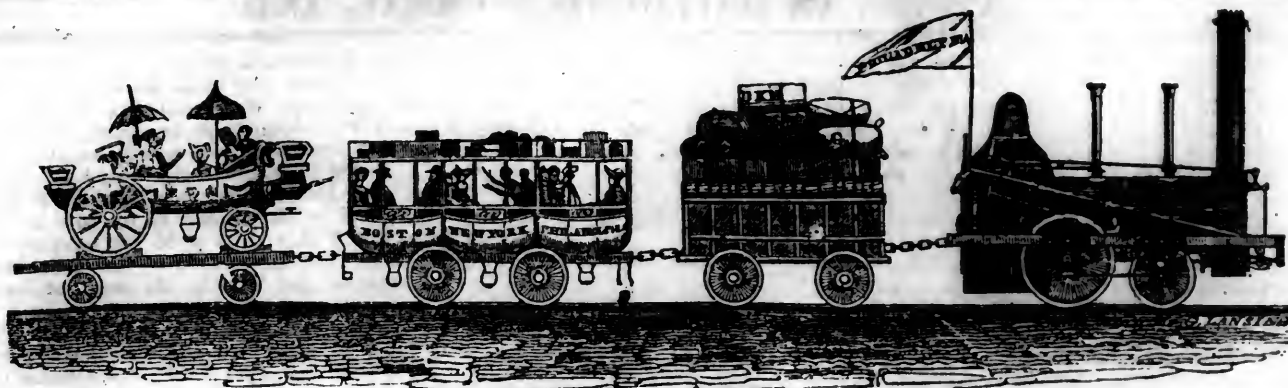
N. B. A small edition only will be published.

D. K. Minor also publishes the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

All Letters and Communications for the above publications, may be addressed, free of postage, to D. K. MINOR.

List of Subscribers to the Railroad Journal who have paid in advance to Jan. 1, 1835, —continued from March 8, 1834.

Roberts & Carmickle, Saxtonville, N. J.
Horatio Allen, Charleston, S. C.
J. R. Bartlett, Providence, R. I.
H. Bradford, Madison, Madison co., N. Y.
H. Kochler, Tamaqua, Pa.
T. B. Moore, Tamaqua, Pa.
Lexington and Ohio Railroad Company, Lexington, Ky.
C. F. Garnett, Petersburg, Va.
P. T. Jackson, Boston, Mass.
Kirk Boott, Lowell, Mass.
Thomas Hutton, Louisville, Indiana.
P. Petton, Monticello, Sull. co., N. Y.
J. B. Potter, Amsterdam, N. Y.
Ira Davenport, Hornesville, Steuben co., N. Y.
Thomas Meredith, Carbondale, Pa.
J. C. Elston, Crawfordville, Indiana.
Samuel Appleton, Boston, Mass.
E. F. Johnson, Utica, N. Y.
W. Morris, Muncy, Pa.
T. B. Jervis, Rochester, N. Y.
H. Langtry, Columbia, Ten.
Benj. E. Pierson, Memphis, Ten.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, MARCH 29, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 29, 1834.

The writer of the following will please accept our thanks for his very acceptable letter. Such favors come, at this time, most opportunely to hand.

The Athens Railroad, to which he refers, cannot fail to attract the attention of business men in this community, although it may not just now meet with such a reception as its importance demands. It is certainly a *second* link in a grand southern chain of internal improvements, from which the South will derive great advantages. It will enable the business man, or the man of pleasure, to perform the journey from New-York to Athens, with ease, in five, and probably in four days.

ATHENS, Ga., March 12, 1834.

DEAR SIR,—I have been very much at a loss how to remit the subscription for the Railroad Journal. I have at last, however, procured notes that will probably answer your purpose,* and enclose my own subscription for the past and present year.

I enclose, also, three dollars, for which you will send the Journal to Mr. Wm. Dearing, of this place; also, to Wm. Lumpkin, and Wm. Williams.

I feel very much obliged to you for the favorable notices in the Journal on the subject of our Athens Railroad. The project is in a pretty fair way to be accomplished, if the proper energy is used. The route is, I think, one of the best in the United States, being formed in a good degree by nature. The distance from Augusta to Athens is about 96 miles by the present road: the railroad survey gives 105 miles only; and not a drop of water is crossed, but one or two very inconsiderable brooks. No inclined plane is necessary, except to ascend the hill on which Athens stands. The esti-

mate is that the whole road, engines, cars, and all, will cost under *ten thousand dollars* the mile. We design using horse power, for the present, which it is believed will reduce the cost to five or six thousand per mile. The very best timber is at hand, and the soil is very favorable, being chiefly, except near Augusta, a stiff clay foundation.

Our purpose is to make this road a part of the great road beginning at Memphis and ending at Charleston; and if the road is ever finished through the whole distance, the profits, with good management, must be incalculable. It will command a large portion of western travel, and the transportation of an immense amount of produce.

Even if the road should stop at Athens, we calculate on a large amount of business from East and Middle Tennessee, North Alabama, and the counties in this state above us. We have near this place inexhaustible deposits of iron ore, limestone, and marble, which will furnish articles of export, in addition to what is now supplied by the cotton planters.

It seems to me that this road must be an object of interest to the people of the city of New-York. The trade of great part of East and Middle Tennessee goes to Baltimore and Philadelphia; but when this road is built, by means of the Charleston road, and steam packets, it will certainly find its way to New-York. Those interested in the prosperity of that city, therefore, would certainly employ their capital to good advantage, independent of the income of the stock, by vesting it in this undertaking. Whether an opportunity of making such investment will be offered, I cannot say. I hope the stock will be all taken at home.

By reference to a map of Georgia, you will at once see the indications of a favorable route for an improvement of this sort. Begin at Augusta; keep the ridge between Little River and the Ogeechee to near Warrenton; thence on the same ridge to Crawfordville, and so proceeding near Greensborough and Lexington, you will see that until we arrive at the river at Athens, not a single bridge will have to be built; and the Engineer reports the excavation and embankment to be very little, compared with what has been done on other routes.

Very respectfully, &c.

P. S.—The officers of our Railroad are :

President—James Camak.

Directors—Wm. Dearing, Wm. Williams, A. B. Linton, Rev. James Shannon, J. A. Cobb, E. L. Newton, John Nisbet, Wm. Lumpkin, W. R. Cunningham, of Athens; John Cunningham, of Greene; R. B. Thompson, A. Janes, of Talliaferro.

Secretary and Treasurer—Wm. Williams.

The Undulating Railway—Resistance from Friction—Resistance of the Atmosphere—Mr. Badnall in reply to S. Y., Junius Redivivus, and Mr. Cheverton. [From the London Mechanics' Magazine.]

SIR,—Seven months have now elapsed since the undulating railway was first introduced, as a subject of discussion, in your Magazine. During that period I have done my utmost, by fair and conscientious argument, to support the cause which I undertook to defend; and the gratification which I now feel in having witnessed your honorable and candid confession of a changed opinion, and in finding myself supported by several of your most able correspondents, far more than compensates for the disappointment which the opposition of "S. Y." would naturally excite, even should it be continued after the publication of this letter, and after the important facts determined by the experiments. I say *disappointment*, because, if still unconvinced, he will, I fear, ever remain unconvinced; and, judging from the occasional piquancy and asperity of his remarks, he is not likely to be more fairly defeated, without losing, in some measure, that evenness of temper which I should be sorry to disturb. If I do him injustice, I apologise for it; but I feel that the time is now arrived when (practical experiments having decided the merits of the question) I have no longer occasion to defend myself by parrying the verbal attacks of my opponents. On the contrary, I waive all further hypothetical discussion on this subject, unless such discussion refer to the result of my late or future experiments. In coming to this conclusion I am not considering my own convenience, but I think your readers in general will agree with me, and with your friend, *Professor Crackwell*, that unless we draw in our horns, the undulating controversy will not only become sickening, but, judging from Mr. Cheverton's last letter, somewhat disgusting. "*Nec luisse pudet, sed non incidere ludum*," said Horace, and I quite agree with him.

You, Mr. Editor, or an impartial jury of your readers, must judge whether I am led to this train of thinking through fear of my opponents, or whether I am not justified in claiming the victory I have contended for. Those gentlemen who have advocated my side of the question—*Saxula, Mr. Ham, Mr. Sanderson, Kinclaven, Mentor, and Mr. Trebor Valentine*, have each and all supported my position by convincing diagrams, appropriate comparisons, or disproved experiments; whereas neither "S. Y." nor Mr. Cheverton have thought proper to substantiate their reasoning by a single particle of corroborative evidence. That both are clever men, I do not for one moment question; but a clever man occasionally errs; and never

* U. S. Branch notes, which are as good to us as gold.—[Ed.]

is he more likely to do so than when inflated with that unhappy quantity of combustible matter,—vulgar abuse, self-sufficiency, and extreme vanity,—which have been so conspicuously displayed in the disjointed lectures which Mr. Cheverton has directed to me on this subject. For those lectures I am indebted to him, especially for the last, which I shall presently take into consideration, and which, I trust, will be headed in your title-page, "THE PROFOUND IGNORANCE OF MR. BADNALL DEMONSTRATED BY THE SUPREME SENSE OF MR. CHEVERTON"!!

My present object is to reply to all unanswered objections which have been raised by my opponents up to this time. In doing this, I may probably introduce some opinions which may appear open to further discussion; but as I fully concur in the sentiments expressed by . . . (No. 532), as to the frequently injurious effects of a too protracted controversy, I shall feel it an act of duty to your readers to be a silent observer of any attacks upon them. I place them on record as my deliberate and conclusive opinions; and having done so, I turn from *theory to practice*, and now present myself to your readers as the defender of the undulating principle in a far more important point of view—I mean in defence of its *complete practicability*.

In thus a second time throwing the glove, allow me to prognosticate what will be the result of another year's experience. Within that period, engineers and mathematicians will have an opportunity of making up their minds upon the subject, and from the expiration of that time *we shall never have another level railway* (whereon locomotive steam force is intended to be employed) *laid down in Great Britain*. The Liverpool and Manchester railway, though it will ever maintain the character of being one of the most important examples of British spirit, British perseverance, and British ingenuity, will, in the eye of posterity, have one dark spot upon its fame—it will be compared to the massive and expensive aqueducts of the ancients. Our forefathers knew not that water would find its own level—and, while we praise their structures, we cannot help wondering and smiling at their ignorance. Thus, however, will posterity smile at us, exclaiming, "*Could you have believed it! They expended, in about thirty-one miles, hundreds of thousands of pounds to make a railroad level, through their disbelief that all bodies descending on a curvilinear arc will rise again to their own level, minus friction!*"

I now turn to "S. Y."—a few words afterwards to Junius Redivivus; and then, in perfect good humor, to Mr. Champion Cheverton. A desire to remove, if possible, every opposition founded on mathematical reasoning, which has been urged against the undulating theory, induces me to return to "S. Y.'s" first communication. Before doing so, however, I must at once contend against the liberty which he takes in stating that I have betrayed ungentlemanlike conduct by my observation, "that I should have felt hurt that any other correspondent than himself had doubted my proficiency in common arithmetic." The "indignation" of "S. Y." cannot possibly justify such an observation.

In "S. Y.'s" letter, page 181, there is an error in print, afterwards corrected, which rendered his first formula "incomprehensible." I allude to the omission of the decimal dot before the figure 8. In the succeeding column, however, I find this misprint did not occur; I therefore ought to have understood his object better than I did. But allowing that I had fully comprehended it, and that such misprint had not occurred, I observed that the whole formula was founded on false data, and that the position which he took was altogether untenable. I refer now to the saving of friction "*abstractedly*," without allusion to the difference in velocity occasioned by the action of gravity, to which latter point he also frequently alluded,

when he denied that the speed could be greater on a curve than on a level line. With regard, then, to the real difference of friction on the two roads, he gives the following proposition, which I have thought it better to describe by diagram:

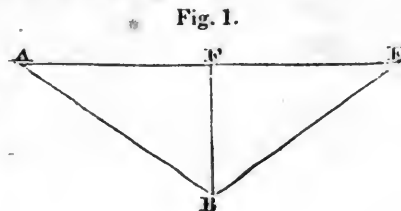
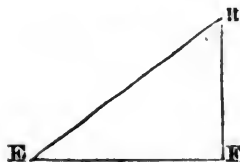


Fig. 2.



"If A E (fig. 1) be equal to 16, and the depth F B equal to 6, the length of each inclined plane will be equal to 10, and the pressure against the plane; and therefore the friction, according to Mr. Badnall, will be equal to .8 of the friction on the level."

Now "S. Y." must have misunderstood my diagram, *p. 93, to which he refers, and which was, I think, clearly elucidated. If he *did* understand it, from whom did he draw his conclusion, that I imagined the friction or pressure on the inclined plane E B, whose perpendicular elevation is equal to F B, equal to .8 of the friction on the level?

Let him suppose, then, (reversing the above diagram, as fig. 2,) the plane E B raised upon the base E F, at an elevation of F B. It cannot be doubted (as proved by the parallelograms described in my diagram, page 93,) that if the base line E F represent the pressure (or friction) of the whole weight resting on the plane E B, F B will represent the force of gravity down the plane, or, in other words, as the length of the line F B is to the length of the line E F, so is the pressure or friction taken off the inclined plane E B to the pressure or friction left on the inclined plane; or, to be more explicit, if a body be supposed to weigh 10 tons, and to be placed on the horizontal line E F, no one can dispute that, the line of pressure being vertical, the *whole weight of the mass* must necessarily press upon the rail. If, then, E F were exactly equal to F B, and the weight were removed to the inclined plane E B, the pressure would be reduced *one half*; and thus, in the above diagram, E F being equal to 8, and F B equal to 6, and supposing any weight resting on E B to be divided into 14 parts, $\frac{3}{14}$ ths of the whole weight would be resting on the rail, and $\frac{11}{14}$ would be taken off the rail.

By this explanation it will be evident that "S. Y.'s" second formula, page 242, is, like to his first, established on wrong data, for he *never takes into consideration the perpendicular elevation of the plane*; and it is this which has evidently misled him, or otherwise he would not consider his argument to hold good for "all lengths and elevations of inclined planes."

"S. Y." considers in both formulæ the pressure to be determined by the base, divided by the length of the inclined plane: he consequently draws in each case an erroneous conclusion, for there can be no doubt whatever that, as the perpendicular height of the inclined plane is increased, the pressure or friction of any carriage moving on that plane is reduced.

* On referring to this diagram I find the length of the level line E A = 22, the length of each inclined plane = 10, and the elevation = 6; if, therefore, we deduct 2.5 from the length of F A, we shall find the reduction of friction or pressure nearly one-fifth.

Referring to the preceding diagrams, nothing can be so easy as to determine the *exact* proportion which subsists between the pressure or friction on an inclined plane, and the pressure or friction on a horizontal plane, provided the angle of elevation be given. In the case before us we have the angle F E B. Now, let P be the pressure on the base, or horizontal line F E, and let p be the quantity taken off that pressure, owing to the inclination of the plane, and let a be the angle of inclination: we then have in all cases—

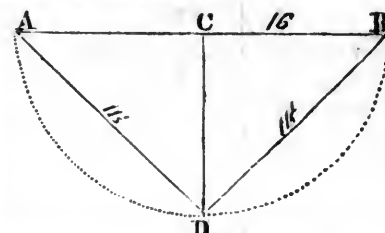
$$p : P :: F B : F E$$

$$\text{but } F B : F E :: \tan a : 1$$

$$\text{therefore } p : P :: \tan a : 1$$

$$\text{and, consequently, } p : P \text{ tangent } a.$$

If, then, the amount of friction or pressure on an inclined plane (speaking abstractedly of friction or pressure) be reduced in proportion to the angle of inclination, it must, I should hope, be evident to "S. Y." that his position is wrong. He, no doubt, will allow that the pressure at an angle of 45° is reduced *one half*. To make myself, therefore, perfectly clear, I will take this angle to prove his formulæ *incorrect*, and the undulating theory, *in regard to friction, perfectly correct*:



Draw the line A B, and divide it into 16 equal parts. From the centre C describe the semicircle A D B. Draw the line C D perpendicular to A B, and from the points A and B draw the straight lines A D, B D.

Now, as before observed, because the perpendicular line C D is equal to the line B C, any weight descending on the line B D will press with exactly half the force with which it would have pressed on the level line A B, the angle C B D being an angle of 45°. Divide, then, the lines B D, A D, into an equal number of parts, each part being equal to $\frac{1}{16}$ th of the horizontal line A B = 22 $\frac{1}{2}$. Next suppose a body, weighing 10 tons, to press upon every described part of the line A B, in passing from A to B: we then have 16 × 10 = 160; but if 10 tons press upon each part of the horizontal line, *half that weight*, according to the proposition, will only press upon each part of the lines B D, A D.

We have, therefore,
 $22\frac{1}{2} \times 5 = 112$
 and, consequently, 160—112=48 difference in total pressure.

But it may be argued, that if the semicircle A D B were divided into an equal number of like parts, the total number to be passed over on the curve would be 25.142; but this argument will not obtain, it being mathematically true (see Sir Isaac Newton, Parkinson, Hutton, and others,) that the velocities which bodies acquire in falling either down inclined planes, or curvilinear arcs, are precisely alike, viz. as the square roots of their perpendicular heights; and if the acquired velocities are equal, it is self-evident that the resistance opposed to motion down each line is also equal.

Let us now examine to what result "S. Y.'s" formulæ would bring us.

Let B represent B C
 L " B D.
 " pounds equal to the force of traction on a level at any given velocity.

Then the pressure on the line B D (according to "S. Y.") will be to the pressure on the level as $\frac{B}{L}$ is to 1; and therefore the force of traction required in conse-

quence of friction on the inclined plane, will be to the force of traction on the level as $\frac{B}{L}$ is to n . According, then, to "S. Y.," the entire expenditure of power to move the wheel the horizontal distance on the level will be Bn , and on the inclined plane it will be $\frac{B}{L} \times L =$

Bn as before. Thus he makes, at an angle of 45° , the pressure or friction on the lines A D and B D equal to the pressure or friction on the horizontal line A B; whereas I make the difference in friction as 7 to 10, or $\frac{3}{10}$ this in favor of the semicircle A D B.

Again, referring to "S. Y.'s" letter (No. 531), wherein he fully explains the bearing of his formulæ, the erroneous view which he has taken of the question is again evident. For, taking 5 ounces (as he suggests) to represent the force of traction on the level, and applying his observations to the angle of 45° , we shall find that the calculation will not be, as it would arise if his formulæ were correct, viz. $16 \times 5 = 80$ on the level, and $22.40 \times 71428571 = 15.999$, or very nearly 16; consequently, $16 \times 5 = 80$ on the inclined plane, as before.

But, instead of the force of traction on the semicircle being equal to the force of traction on the horizontal line, we should have it as follows:

$16 \times 5 = 80$ on the level,

$22.40 \times 2.50 = 56$ on the curve,

precisely agreeing with the reduction of friction before mentioned, viz. $\frac{3}{10}$ this in favor of the semicircle.

So much for the question of friction, considered abstractedly, and as commonly understood; but it must be evident to every man who has perused the particulars of the experiments, that the amount of reduced friction, as in this instance considered, according to the angle of the inclination of the plane, cannot be taken as the precise measurement of power saved, by the adoption of the undulations. On these interesting points I trust that some valuable information may shortly be laid before the public in a treatise on railways,* locomotive engines, &c., which Mr. Robert Stephenson, sea., and myself, are preparing for the press. Previously to that time we shall try various experiments, and I have no doubt, from the plans which we intend adopting, and the precision with which the experiments will be made, that the laws of motion and resistance, under various circumstances and velocities, will be more clearly developed than they have hitherto been. The results which I anticipate lead me to quote a remark of Hooke's in the year 1666: "Gravity, though it seems to be one of the most universal, active principles in the world, and consequently ought to be the most considerable, yet has it had the ill fate to have been always, till of late, esteemed otherwise, even to slighting and neglect."

I have no apology to make to "S. Y." for considering L as a proper symbol for the length of the plane, which was ascended with a given velocity, especially as the spaces in most of the experiments varied on every trial. For an error in the last equation I, however, have to apologise, and I must beg "S. Y." to read $L + D$ for $L D$. The word "INVERSE," which he alludes to in his letter (No. 531, p. 23), was an unintentional omission of mine (see page 222), where, for "is in proportion," I evidently intended to say, "is in inverse proportion." Any person who reads the sentence will, I hope, give me credit for this.

In reply to the observation of Junius Redivivus, (No. 532, page 38,) let me beg him to place a heavy ball upon a plank, then raise the plank to a vertical position—he will allow that, because the weight falls perpendicularly, there is no pressure on the plank. Let him,

* The resistance of the atmosphere, and the cause of that resistance not increasing as the squares of the velocity, will be particularly elucidated in this treatise by careful experiment.

then, raise the plank on which the same weight rests to an angle of 45° . He will, no doubt, admit that the weight will descend, and that the velocity of descent on the effect of the force of gravity will be in proportion to the diminution of pressure or friction on the plank. Let him next support the weight on the plank (the latter still being inclined at an angle of 45°), by placing his hand under it, or some machine by which he can accurately measure the pressure: he would, I have no doubt, find that precisely half the weight was resting on the plank, and half the weight upon his hand, or upon the instrument by which he was measuring the pressure. Let him, then, withdraw his hand, and what becomes of the weight? Half is still remaining on the plank, and the other half is suspended in the atmosphere until it reach the earth which attracts it. Surely, on consideration, Junius Redivivus will acknowledge the truth of this reasoning, and in so, he cannot dispute that the greater the angle of the inclination of the plane the less will be the pressure or friction of any body, either ascending or descending, on such plane.

And now for Mr. Champion Cheverton!

The first explanation which I think due from me to your readers, and to which "The Champion" principally alludes, is in reference to the resistance of the air. I stated, in a former letter, that I thought that the resistance of the atmosphere did not (a constant power being employed to urge the body forwards, or, like gravity, downwards,) increase as the squares of the velocity—that the resistance of the air does not act as a greater opposing force (alluding, particularly, to the flight of birds, and to the motion of railway carriages,) at high velocities than at low velocities—that, consequently, the velocity of a train of carriages, supposed to be descending an inclined plane of interminable length, never could in practice become uniform; but, on the contrary, that in theory the uniform acceleration would not begin to cease until the resistance of the air was equal to the force of descent, which it could not be until the body had attained a velocity equal to that at which air would rush into empty space. I further stated, that it was my opinion "that the resistance of the air, when first overcome by any locomotive force which is constantly and equally continued, does not, throughout equal spaces or distances, act as an opposing force with greater intensity at high velocities than at low velocities"; but that, on the contrary, it was my opinion that the total resistance of atmosphere, throughout a given distance, is less at high velocities than at low velocities, from the inclination which all bodies have to rise from the surface of the earth when in rapid motion, and, consequently, from a denser to a lighter atmosphere.

Now, sir, I should have felt not only that an explanation, but that a public apology was due from me, had I published these opinions, without having very strong reasons for believing them to be true. I know they are diametrically opposite to received opinions: so was the undulating railway; but time, and careful experiments, will prove whether I am right or wrong. I will now explain my reasons for believing that I am right.

In the first place, that there are many doubts existing as to the true theory of atmospheric resistance is evident, by the following remark by Hutton: "We conclude (he says) that all the theories of the resistance of the air hitherto given are very erroneous, and the preceding one (alluding to the generally entertained opinion) is only laid down till further experiments on this important subject shall enable us to deduce from them another that shall be more consonant to the true phenomena of nature." Surely this admission is a sufficient apology for the humble attempt which I have made, and for the attempt which Mr. R. Stephenson and myself are now making, to investigate this subject.

I must now request the attention of your readers to the following experiments, tried down inclined planes, by Mr. Nicholas Wood, with a view of measuring the friction of railway carriages. (See his work on Railways, 2d edition, pp. 211-213, &c. &c.)

Mr. Wood, in reference to these experiments, thus writes: "Standing on the end of a carriage, and aided by an assistant, at the end of every ten seconds I made a mark upon the plane where the carriage happened to be, and afterwards measured the distance between those marks, which gave the space passed over in each successive period."

Carriage weighing 9,100 lbs.; wheels, 34 inches; axle, 2 1/2; friction, 44.62 lbs.

Seconds.	Feet.	Real space, the descent not being uniform.
In 10 the body fell	6.6	6 feet.
20	26.4	26.4 "
30	59.4	59.8 "
40	105.6	106.2 "
50	165	165 "
60	237.6	242.8 "
70	321.4	326.7 "
80	422.4	424.3 "
90	534.6	525.3 "
100	660	635.5 "

The above experiment was tried at the Kenilworth colliery.

Now, in examining the result of this experiment, if Mr. Wood were correct in his measurement, and upon his correctness I have placed dependence, it is evident that the resistance of the atmosphere did not increase as the squares of the velocity of the moving body, but that, for some reason or other, with which reason the public will soon, if I mistake not, be acquainted, it was equable in effect through equal spaces throughout the entire distance of descent.

We know that if a body fall, in vacuo, a given space in the first second of time, it will have fallen four times the space in the two first seconds; that if it fall 16.1 in one second, it will have fallen 64.4 in two seconds; because 16.1×4 (4 being the square of the times) = 64.4.

Again, if it fall 1608 feet in 10 seconds, it will fall 6432 feet in 20 seconds, or twice the time; because (omitting fractions) $1608 \times 4 = 6432$.

Now it appears, according to Mr. Wood's measured experiments, that in 10 seconds the carriage fell 6.6 feet, and in 20 seconds 26.4.

Now $6.6 \times 4 = 26.4$, which is in exact accordance with the laws of falling bodies.

Again, in 40 seconds, the carriage fell 105.6, and in 80 seconds 422.4.

Now $26.4 \times 4 = 105.6$

and $105.6 \times 4 = 422.4$.

Again, in 30 seconds it fell 59.4, and in 60 seconds 237.6.

Now, $59.4 \times 4 = 237.6$.

Lastly, in 50 seconds it fell 165, and in 100 seconds 660;

and $165 \times 4 = 660$.

Now, had the resistance against the rolling carriage increased as the squares of velocity, the descent could not have been in accordance with the laws of bodies falling in vacuo.

I will, however, refer to other experiments, and try the question by another test:

Descent of loaded carriages weighing 9,408 lbs.; wheels, 35 inches diameter; axles, 3 inches.

In 18 seconds the carriage fell 25 feet	
28	71.9 "
38	124.6 "
48	205.2 "
58	276.5 "
68	384.7 "
78	506.1 "
88	645.5 "
98	785.3 "
108	939.6 "
118	1081.6 "
128	1266.5 "
Fall, 1 in 104—friction, 41.45 lbs.	

Now, in vacuo (taking 16 ft. as the correct measurement in the first second of time), a body in 18 seconds would fall 5210.892 feet, and in 28 seconds 12608.072 feet, and in 38 seconds 23223.852. Now, according to the preceding experiment, the carriage fell 25 feet

in 18 seconds; 71.9 in 23 seconds: and 124.6 in 38 seconds: Therefore,

$$\begin{array}{l} \text{In open atmosphere.} \quad \text{In vacuo.} \\ 71.9 \div 25 = 2.876, \text{ and } \frac{12608.072}{5210.892} = 2.419. \end{array}$$

$$\begin{array}{l} \text{Again, omitting fractions,} \\ \text{In open air.} \quad \text{In vacuo.} \\ 124 \div 71 = 1.746, \text{ and } \frac{23224}{12608} = 1.842. \end{array}$$

Again, to make the proof more indisputable (relying upon the measurement of Mr. Wood), we find that, according to his experiments, the carriage descended, omitting fractions, 25 feet in 18 seconds, and 1266 feet in 128 seconds. Now, as before observed, a body would fall, in vacuo, in 18 seconds, about 5211 feet, because $18 \times 18 \times 16.083 =$ to the total space; and in 128 seconds it would fall 263503.872 feet.

$$\begin{array}{l} \text{Now } 1266 \div 25 \text{ (in air)} = 50.64; \\ \text{and } 263503 \div 5211 \text{ (in vacuo)} = 50.56. \end{array}$$

How very striking, then, is the proportion which the falling body bears in vacuo to the descending body, when opposed to the resistance of the air! So much so, that Mr. Wood must either have imposed upon the public, which I do not and cannot believe, or his experiments, though not intended to elucidate the theory of resistance, are a death-blow to the previously admitted opinions on this subject.

Again, referring to Mr. Wood's experiments (see page 225), we find a perfect regularity in the descending motions; for instance, the carriage was 29.16 seconds in moving 100 feet, and 58.33 in descending 400 feet.

In other instances:

Time in descending 100 feet.	Time in descending 400 feet.
29.10 seconds	58.10
30	60.41
29.16	58.75
31.95	64.35

and all with different loads, varying from 1,120 to 8,960 lbs.

Again, page 226, when the carriage was loaded with 8,960 lbs. it fell 100 feet in 29 seconds, and 400 feet in 58.

Again, in 29 seconds it fell 57.90 feet.

Again, 29.10 " " 58.40 "

Again, 29.74 " " 60.25 "

Again, 31.88 " " 63.75 "

the weights varying as before.

We will next observe whether the proportions were regular. In doing this we find (page 225) that the carriage, with a load of 1,120 lbs. fell 200 feet in 45 seconds, and 300 feet in 55 seconds. Now, in vacuo, a body would fall in 45 seconds - - - 32568.075 feet, and in 55 seconds - - - 48651.075 feet.

Now $300 - \frac{1}{2} = 200$, the fall in 45 seconds on the inclined plane; and $48651 - \frac{1}{2} = 32434$, showing a difference of only 134 in about 32,000.

In another experiment, with 4,480 lbs., the carriage fell 400 feet in 60.41 seconds, and 500 feet in 67.91 seconds.

Now, in vacuo, a body would fall in 60.41 seconds, 58512.7871523 feet; and in 67.91 " 74315.810323 " therefore, $400 + \frac{1}{4} = 500$

$58512 + \frac{1}{4} = 73140$, showing a difference in comparative velocity not worth noticing.

Again, with 1120 lbs., in which instance, owing to the lighter weight, the resistance of the air ought to have been the most felt, we find the body descending,

$$\begin{array}{l} \text{In } 64.35 \text{ seconds, } 400 \text{ feet} \\ 72.64 \text{ " } 500 \text{ "} \end{array}$$

$$\text{Now } 400 + \frac{1}{4} = 500, \text{ and}$$

$66958 + \frac{1}{4} = 83247$, showing a difference which is altogether immaterial; for had the distance traversed been 400 and 510 feet, instead of 400 and 500, the proportions in vacuo and in open atmosphere would have been precisely alike. Surely, then, these 10 feet, considering the variation of friction, by the occasional rubbing of the flanches against the

rail, will be regarded as a difference altogether independent of the resistance of air!

There are many more experiments of Mr. Wood's to which I could have referred in support of my opinion. It is true there are some which show a different result; but the effect might arise from the different state of the rails at different times, and the particular point from which the wind blew. It cannot, however, be doubted, or, if doubted, denied, that the uniformity of acceleration, proved by the experiments herein detailed, could not have occurred in any instance had the resistance of the air increased as the squares of the velocity.

I shall, in a further communication, turn to my recent experiments on the Liverpool and Manchester railway, for the purpose of adding additional strength to this argument. Meanwhile I am, sir, with much respect, your very obedient servant,

RICHARD BADNALL.

Manchester, Nov. 11, 1833.

THE NEW YORK AND PENNSYLVANIA CANALS.—According to the *Pittsburg Gazette*, the Pennsylvania Canal was open on the 8th inst., "and but for some repairs necessary to an aqueduct " might have been open a month earlier."

Our Canal will not be open'd till 17th April—although the winter has been an unusually mild one. Hence we perceive a positive difference of *forty days*—and a possible one, under ordinary circumstances, of *two months*, in favor of the route to the great West through Pennsylvania.

This is a serious consideration for us in N. York, and should turn the attention of all to the adoption of some settled policy which may enable us to counteract so great a disadvantage. The physical obstacles of climate we cannot overcome, and hence it is certain that the Pennsylvania canals will always be open to navigation *weeks* earlier than ours. But this disadvantage may, we are persuaded, be more than compensated by wise policy on our part. Our first and great aim should be, so to diminish the expense of transportation on our Canals, as in that particular alone to present a powerful inducement to the trade. But how is that to be done? Manifestly by extinguishing as rapidly as possible the Canal debt; so that it being paid, there may be no motive to raise an amount of tolls greater than will suffice to keep the Canals in repair.

We have received the 5th number of a paper recently commenced at Navarino, (Wisconsin Territory,) called the *Green Bay Intelligencer*. It appears to have been about six weeks in travelling from Navarino to New York. The distance by land is 1100 or 1200 miles. Arrangements have been made for running steamboats regularly, the coming season, between Navarino and Detroit. During the last season, the number of arrivals was 34, viz. 5 steamboats, and 29 schooners. An emigrant recently arrived at Navarino thus writes:

The "extent of this settlement" is much more considerable than I had supposed before I came on. The houses are quite thick on each side of Fox River for six miles from its mouth. There are two small clusters of buildings, or villages, Navarino and Menomoneeville, in the first of which, being nearest the mouth of the river, the most of the business is done. In the distance of 3 miles from one village to the other, may be enumerated four wharves, seven warehouses, nine dry-good and grocery stores, besides several small shops, &c. &c. A good grist mill is in operation within one and a half miles of Navarino, and there are several saw mills in the neighborhood. Opposite to Navarino, on the west bank of Fox river, is a Garrison (Fort Howard) of 4 Companies of United States troops.

From "this place to the Wisconsin river" at the "Portage" the distance is 180 miles, following the river, and considerably less by land. Fox river is navigated by boats of 15 tons burthen all the way from here to the Portage; which is 1 1/4 miles over, and is all the land carriage between this and the Mississippi. This is a great and important thoroughfare. There are 3 settlements on the Wisconsin, besides the one at the Portage where Fort Winnebago stands, viz. Helena, English-Prairie and Prairie des Chiens, which last is at its mouth on the Mississippi. It is

210 miles from this to Chicago, the route is considerably travelled already, and the Government is opening a road the whole distance, also one from here to the Mississippi. The latter is laid out and is to be opened by contract immediately. The other will be surveyed early in the spring.—[*Journal of Commerce*.]

MAGNETIC POLE.—We understand that the position of the Magnetic Pole is now finally ascertained by our adventurous countryman, Captain Ross. He has actually been on the spot where the dipping needle becomes vertical, or points straight downwards; while the horizontal needle, having, as it were, no longer any thing to point towards, remains indifferently in any direction given it.—[*Athenæum*.]

Captain Ross has ascertained beyond question that the Magnetic Pole is nearly in 70° N. lat., and 97° W. long., being 2° of lat., and 3° of long. different from what it was said to be by Captain Parry's observations.—[*Naval and Military Gazette*.]

Animal Mechanics, or Proofs of Design in the Animal Frame. [From the Library of Useful Knowledge.]

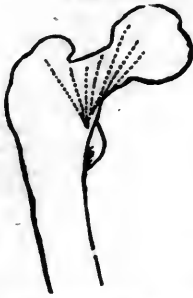
(Continued from page 135.)

Consider two men wrestling together, and then think how various the property of resistances must be: here they are pulling, and the bones are like ropes; or again, they are writhing and twisting, and the bones bear a force like the axle-tree between two wheels; or they are like a pillar under a great weight; or they are acting as a lever.

To withstand these different shocks, a bone consists of three parts, the *earth* of bone (sub-phosphate of lime); *fibres* to give it toughness; and *cartilage* to give it elasticity. These ingredients are not uniformly mixed up in all bones; but some bones are hard, from the prevalence of the earth of bone; some more fibrous, to resist a pull upon them; and some more elastic, to resist the shocks in walking, leaping, &c. But to return to the forms. Whilst the centre of the long bones is, as we have stated, cylindrical, their extremities are expanded, and assume various shapes. The expansion of the head of the bone is to give a greater, and consequently a more secure surface for the joint, and its form regulates the direction in which the joint is to move. A jockey, putting his hand on the knee of a colt, and finding it broad and flat, augurs the perfection of the full-grown horse. To admit of this enlargement and difference of form, a change in the internal structure of the bone is necessary, and the hollow of the tube is filled up with *cancelli*, or lattice-work. These *cancelli* of the bone are minute and delicate-like wires, which form lattice-work, extending in all directions through the interior of the bone, and which, were it elastic, would be like a sponge. This more uniform texture of the bone permits the outer shell to be very thin, so that whilst the centre of the long bones are cylinders, their extremities are of a uniform cancellated structure. But it is pertinent to our purpose to notice, that this minute lattice-work, or the cancelli which constitute the interior structure of bone, have still reference to the forces acting on the bone; if any one doubts this, let him make a section of the upper and lower end of the thigh bone, and let him inquire what is the meaning of the difference in the lie of these minute bony fibres, in the two extremities? He will find that the head of the thigh bone stands obliquely off from the shaft, and that the whole weight bears on what is termed the *inner trochanter*; and to that point, as to a buttress, all these delicate fibres converge,

or point from the head and neck of the bone, which may be rudely represented in this way.

Fig. 10.



The preceding figure exhibits the head of the thigh bone, and shows the direction of the *cancelli*, converging to the line of gravity.

We may here notice an opinion that has been entertained in regard to the size of animals. It is believed that the material of bone is not capable of supporting a creature larger than the elephant, or the *mastodon*, which is the name of an extinct animal of great size, the osseous remains of which are still found. This opinion is countenanced by observing that their bones are very clumsy, that their spines are of great thickness, and that their hollow cylinders are almost filled up with bone.

It may be illustrated in this manner: A soft stone projecting from a wall may make a stile, strong enough to bear a person's weight; but if it were necessary to double its length, the thickness must be more than doubled, or a free-stone substituted; and were it necessary to make this free-stone project twice as far from the wall, even if doubled in thickness, it would not be strong enough to bear a proportioned increase of weight: granite must be placed in its stead; and even the granite would not be capable of sustaining four times the weight which the soft stone bore in the first instance. In the same way the stones which form an arch of a large span must be of the hardest granite, or their own weight would crush them. The same principle is applicable to the bones of animals. The material of bone is too soft to admit an indefinite increase of weight; and it is another illustration of what was before stated, that there is a relation established through all nature, and that the very animals which move upon the surface of the earth are proportioned to its magnitude, and the gravitation to its centre. Archdeacon Paley has with great propriety taken the instance of the form of the ends of bones, as proving design in the mechanism of a joint. But there is something so highly interesting in the conformation of the whole skeleton of an animal, and the adaptation of any one part to all the other parts, that we must not let our readers remain ignorant of the facts, or of the important conclusions drawn from them.

What we have to state has been the result of the studies of many naturalists; but although they have labored, as it were, in their own department of comparative anatomy, they have failed to seize upon it with the privilege of genius, and to handle it in the masterly manner of Cuvier.

Suppose a man ignorant of anatomy to pick up a bone in an unexplored country, he learns nothing except that some animals have lived and died there; but the anatomist can, by that single bone, estimate not merely the size of the animal, as well as if

he saw the print of its foot, but the form and joints of the skeleton, the structure of its jaws and teeth, the nature of its food, and its internal economy. This, to one ignorant of the subject, must appear wonderful, but it is after this manner that the anatomist proceeds. Let us suppose that he has taken up that portion of bone in the limb of the quadruped which corresponds to the human wrist; and that he finds that the form of the bone does not admit of free motion in various directions, like the paw of the carnivorous creature. It is obvious by the structure of the part, that the limb must have been merely for supporting the animal, and for progression, and not for seizing prey. This leads him to the fact that there were no bones resembling those of the hand and fingers, or those of the claws of the tiger; for the motions which that conformation of bones permits in the paw would be useless without the rotation of the wrist—he concludes that these bones were formed in one mass, like the cannon bone, pastern-bone, and coffin-bones of the horse's foot.*

The motion limited to flexion and extension of the foot of a hoofed animal implies the absence of a collar bone and a restrained motion in the shoulder joint; and thus the naturalist, from the specimen in his hand, has got a perfect notion of all the bones of the anterior extremity! The motions of the extremities imply a condition of the spine which unites them. Each bone of the spine will have that form which permits the bounding of the stag, or the galloping of the horse, but it will not have that form of joining which admits the turning or writhing of the spine, as in the leopard or the tiger.

And now he comes to the head: the teeth of a carnivorous animal, he says, would be useless to rend prey unless there were claws to hold it, and a mobility of the extremities like the hand to grasp it. He considers, therefore, that the teeth must have been for bruising herbs, and the back teeth for grinding. The socketing of these teeth in the jaw gives a peculiar form to these bones, and the muscles which move them are also peculiar; in short, he forms a conception of the shape of the skull. From this point he may set out anew, for by the form of the teeth he ascertains the nature of the stomach, the length of the intestines, and all the peculiarities which mark a vegetable feeder.

Thus the whole parts of the animal system are so connected with one another, that from one single bone or fragment of bone, be it of the jaw, or of the spine, or of the extremity, a really accurate conception of the shape, motions, and habits of the animal may be formed.

It will readily be understood that the same process of reasoning will ascertain, from a small portion of a skeleton, the existence of a carnivorous animal, or of a fowl or of a bat, or of a lizard, or of a fish; and what a conviction is here brought home to us, of the extent of that plan which adapts the members of every creature to its proper office, and yet exhibits a system extending through the whole range of animated beings, whose motions are conducted by the operation of muscles and bones.

* For these are solid bones, where it is difficult to recognize any resemblance to the carpus, metacarpus, and bones of the fingers; and yet comparative anatomy proves that these moveable bones are of the same class with those in the solid hoof of the *bellua* of Linnaeus.

After all, this is but a part of the wonders disclosed through the knowledge of a thing so despised as a fragment of bone. It carries us into another science; since the knowledge of the skeleton not only teaches us the classification of creatures now alive, but affords proofs of the former existence of animated beings which are not now to be found on the surface of the earth. We are thus led to an unexpected conclusion from such premises: not merely the existence of an individual animal, or race of animals, but even the changes which the globe itself has undergone in times before all existing records, and before the creation of human beings to inhabit the earth, are opened to our contemplation.

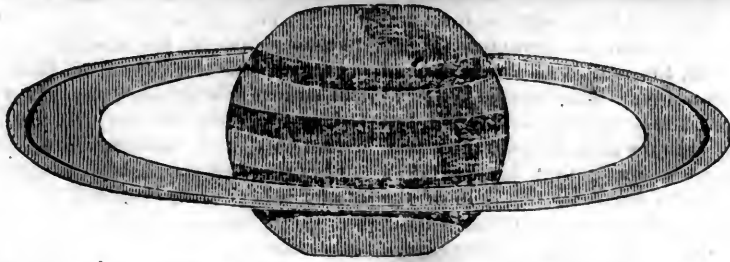
OF STANDING.—This may appear to some a very simple inquiry, and yet it is very ignorant to suppose it is so. The subject has been introduced in this fashion: "Observe these men engaged in raising a statue to its pedestal with the contrivances of pulleys and levers, and how they have placed it on the pedestal and are soldering it to keep it steady, lest the wind should blow it down. This statue has the fair and perfect proportions of the human body; to all outward appearance it ought to stand."

In the following passage we have the same idea thrown out, in a manner which we are apt to call *French*. Were a man cast on a desert shore, and there to find a beautiful statue of marble, he would naturally exclaim, "Without doubt there have been inhabitants here: I recognize the hand of a famous sculptor: I admire the delicacy with which he has proportioned all the members of the body, to give them beauty, grace, and majesty, to indicate the motion and expression of life." But it may be asked, what would such a man think if his companion were to say, "Not at all; no sculptor made this statue; it is formed, to be sure, in the best taste, and according to the rules of art, but it is formed by chance. Amongst the many fragments of marble there has been one thus formed of itself. The rain and the winds have detached it from the mountain, and a storm has placed it upright on the pedestal. The pedestal, too, was prepared of itself in this lonely place. True, it is like the Apollo, or the Venus, or the Hercules. You might believe that the figure lived and thought; that it was prepared to move and speak; but it owes nothing to art—blind chance has placed it there."

The first passage suggests the conviction, that the power of standing proceeds not from any symmetry, as in a pillar, or from gravitation alone. It, in fact, proceeds from an internal provision, by which a man is capable of estimating with great precision the inclination of his body, and correcting the bias by the adjustment of the muscles. In the second passage, it is meant to be shown that the outward proportion of the form bears a relation to the internal structure; that grace and expression are not superficial qualities, and that only the Divine Architect could form such a combination of animated machinery.

We shall consider how the human body is prepared by mechanical contrivances to stand upright, and by what fine sense of the gravitation of the body the muscles are excited to stiffen the otherwise loose joints, and to poise the body on its base,

* Demonstration de l'Existence de Dieu, par Fenelon.



OF SATURN.—The planet Saturn is 79,491 miles in diameter, and performs his revolution round the sun in 10,746 days, 19 hours, 16 minutes, at the distance of 903,690,197 English miles. His motion in his orbit is said to be 18,000 miles per hour; and the time he revolves on his axis 10 h. 16' by some astronomers, and by others only 6 hours.

Saturn is distinguished from all the other planets by a large luminous ring surrounding his body, which was discovered by the celebrated Huygens, about the end of the 17th century. The same astronomer also discovered the fourth satellite, which attends this planet, and on that account is sometimes called the Huygenian satellite. The ring which surrounds Saturn appears double when seen through a good telescope, and is seen to cast a deep shadow on the planet. Dr. Herschel is of opinion that the ring has a motion round its axis; but this is doubted by Schroeter, and some other astronomers. Respecting the formation of this strange phenomenon, astronomers have been very different in their opinions, but the difficulty still remains as formidable as ever.

The annexed figure represents this planet as seen by Sir William Herschel, on various occasions, with his powerful telescope.

To Saturn the sun appears only one-ninth part of the size it does to the earth; and the light and heat which that planet receives from the sun are in the same proportion. But to compensate for the scantiness of light derived from the sun, Saturn has been observed to have no fewer than seven satellites revolving round him, besides the luminous ring that surrounds his body. The Huygenian, or fourth satellite, was the first discovered; the first, second, third, and fifth, were some years afterwards discovered by Cassini; and the sixth and seventh were discovered by Dr. Herschel, in the year 1789. These satellites are all so small, and at such a distance from the earth, that they cannot be seen, unless with very powerful telescopes.

The orbit of the planet Saturn was long considered as the boundary of the solar system, except the cometary orbits, which were always believed to stretch far beyond it. But by the discovery of the planet Georgium Sidus, this system has been extended far beyond the limits formerly assigned it.

OF GEORGIUM SIDUS.—A new planet was discovered by Dr. Herschel, on the 13th of March, 1781, and called by him Georgium Sidus, out of respect to his Majesty George III., but astronomers have given it the names of Herschel and Uranus. This planet is situated far beyond the orbit of Saturn, being at the immense distance of 1,822,568,000 miles from the sun. The time it requires to perform its revolution round that luminary is 83 years, 150 days, 18 hours. Its diameter is about $4\frac{1}{2}$ times greater than that of the earth, or nearly 35,000 English

miles. The distance of this planet from the sun being about double that of Saturn, can scarcely be discovered by the naked eye. However, when the sky is very clear, it may be perceived by a good eye, like a faint star of the fifth magnitude; but it cannot be readily distinguished from a fixed star with a telescope of a less magnifying power than 200. This planet is placed at so great a distance from the sun that it can receive but a very small portion of his light; however, this want is in some measure supplied by six satellites that revolve round it, all of which were discovered by Dr. Herschel. The periodic times of these satellites are as follows: The first is 5d. 21h. 25'; the second, 8d. 7h. 1' 19"; the third, 10d. 23h. 4'; the fourth, 13d. 11h. 5'; the fifth, 38d. 1h. 49'; and the sixth, 107d. 16h. 40'. It is a remarkable circumstance that all these satellites move round the planet in a retrograde order, and that their orbits are nearly all in the same plane, almost perpendicular to the ecliptic.

NEW INK DISTRIBUTOR.—We were lately shown, by WARREN JENKINS, of this town, a new or improved machine, invented by himself, for regulating, with mathematical exactness, the distribution and application of ink to the types. This machine is the first attempt of the kind by the inventor, and, therefore, imperfect in some of its mechanical details; but, in its present condition, it answers the intended purpose very well. We have scarcely a doubt that the principle upon which the machine is constructed is correct, and that a more perfect mechanical construction of all its parts will make it fully to answer the purposes for which it is designed.

Should our anticipations be realized, and there seems little room to doubt that they will, an ordinary pressman, with the assistance of a boy capable of moving the rollers, can take any number of clear, uniform impressions, extending throughout a whole form or a whole book. This machine will, therefore, be no less important to readers who desire beauty and uniformity in what they read, than to printers who are responsible for the quality of their work.

When the machine is once regulated so as to take a suitable quantity of ink, which will be the labor of but a few minutes, the pressman is relieved from further care in relation to the uniformity of the impressions, as the application of the ink to the rollers is entirely beyond the control of the boy who does the rolling. We may also add, that the machine is of simple construction, and of course, little liable to get out of order; whilst the cost will probably place it within the reach of every person owning a press. Several other advantages might be enumerated, but we think enough has been said to entitle it to the consideration of printers.—[Cincinnati Journal of Science.]

STATISTICS OF BREWING IN ENGLAND AND SCOTLAND.—There were 216 brewers in Scotland last year, of which above 33 are in the Edinburgh collection. Argyll has only one. There are 17,070 licensed victuallers in Scotland, which is 1 for every 123 persons, young and old, in the country; and though grocers who

sell beer are evidently included with innkeepers, the proportion is still very great. England, which is a thirsty country, rejoices in 50,800 victuallers, and 30,000 "persons licensed for the general sale of beer," making an aggregate of 81,700 retailers of beer, which is 1 for every 170 souls. England has 1753 brewers, of whom 108 are in London. Of the retailers of beer, 37,000, or nearly one-half, brew their own beer. In Scotland, only 318 out of 17,070, or 1 in 57, brew their own beer. In Scotland, 990,000 bushels of malt were used for brewing in all the 16 collections, of which one-tenth was used by the licensed victuallers; 432,000 bushels were used in the Edinburgh collection; 62 bushels served the two collections of North and South Argyll, containing 100,000 souls. In England, 25,500,000 bushels of malt were consumed in the manufacture of beer: 13,800,000 by the brewers, and 12,000,000 by the victuallers or other retailers. In Scotland, the malt brewed is at the rate of four-tenths of a bushel for each person; in England it is $1\frac{1}{2}$ bushel. Ireland consumed 1,540,000 bushels of malt in her breweries, which is about two-tenths of a bushel for each person. Of brewed liquor, one Englishman drinks as much as four Scotchmen, or nine Irishmen. In 1831, there were 928,000 bushels of malt used for brewing in Scotland, of which 834,000 were used by the brewers, the rest by victuallers. In 1830, the Scotch brewers consumed 740,000, but the paper from which this is taken does not mention the victuallers. The increase in the quantity of malt used by the brewers since 1830 seems to be about one-fifth.

AGRICULTURE, &c.

Early sown Vegetables inferior in Quality and Quantity to those sown later. By H. H. [For the Quarterly Journal of Agriculture, Mechanics, and Manufactures.]

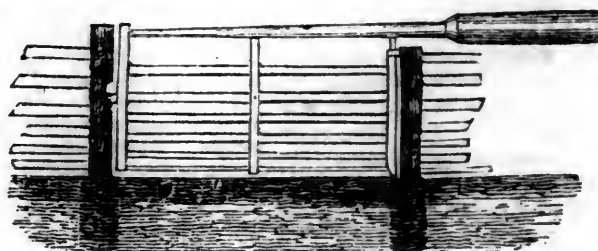
MR. EDWARD.—The season is now approaching us rapidly when we shall be served with a variety of means and methods for procuring early culinary productions for the table. I do not know but there is room for improvement in this respect—doubtless, there is with many; but you will permit me to say that I have not a profound regard for a forced growth with any article in the vegetable kingdom. My reasons for viewing the subject in this light I will give. 1st. Because persons in general cannot make the necessary preparations, and bestow the extra care and service required to secure those early productions, and find themselves remunerated by the article. Persons who cultivate grounds with a view to supply a market may find themselves compensated for their labor in the sale of those early productions, and gentlemen of fortune can gratify their cravings for those premature productions a few days earlier than their neighbors, by applying time and money to that object; but this will not prove that the generality of your readers can adopt this course without a loss of time and money. 2. As far as my own experience is concerned, those forced productions are inferior in point of flavor to those which come in their season, and are often of a sickly quality. They are generally thrown into the market in an unripe state, when they possess scarcely any of the qualities which they obtain in their maturity; and the consequence is, sickness is prevalent in our cities. I recollect to have seen, within a few years past, a remonstrance from the Board of Health in Boston, or from the most eminent physicians of that city, against the practice I am now speaking of, and particular objection was made to the forced growth of the cucumber, and its early sale in

market. This accorded so far with my own limited observation in the country, that I could not but consider it entitled to special consideration. 3. I am well satisfied, by my own observation, that more persons in the country deprive themselves of the luxuries of a good garden every year, by sowing too early, than they do by sowing too late, or not sowing at all. There is one remarkable universal every year with those whose gardens I have inspected during the season—"I sowed my seeds early, and they came up and looked thrifty for a while, but there came on a cold, wet spell of weather, which, with the aid of insects, destroyed them, about every one." There is, however, a remedy for this in almost every instance, in resowing after the destruction of the first sowing, if persons did not generally think that it would avail nothing to resow so late in the season. I have been in the practice, for a number of years, of noting down the month and the day in each year when I committed my different kinds of seeds to the soil, and this I have done on the bottom lands in the Connecticut valley, and on the high lands of New-England, and I find this note appended to my journal for June 15th, 1832,—“I am now fully convinced, that, with the exception of onions, peas, pepper-grass, lettuce, English turnips, and a few potatoes for early use, all kinds of horticultural produce, which are generally cultivated in New-England, will succeed best, nine times in ten, by not sowing until the last week in May.” On the 27th of May, 1830, I planted my cucumbers, and they yielded abundantly. May 21, 1831, I planted cucumbers; on the 23d, I planted some more and on the 1st of June planted again. Those planted on the 21st of May failed, and those planted on the 1st June did better than those on the 23d of May. On the 18th of May, 1832, I planted cucumbers, and on the 2d of June I planted some more, and on the 4th of June I replanted where I sowed on the 18th of May, the first planting having failed; the last succeeded well. On the 31st of May of this same year, I replanted early bush beans, where I had planted on the 18th of this month with a failure. And on the 20th of June, I resowed the parsnip-bed, which was first sowed on the 8th of May; and from this last sowing I realized a good crop of parsnips. On the 23d of May sowed carrots, beets, peppers, cabbages, radishes, English turnips, and planted my cucumbers. All succeeded well, whilst most of my neighbors who sowed earlier were cut short in quality and in quantity. I will state in this connection that, in two instances, I have raised the finest onions I have ever raised from sowings in the first week in June, but they will ordinarily succeed better from early sowing. And now, if we will allow for difference of soil, and something for local situation, I will venture to have my position put to the test by the people of New-England, and by all others at the west of us, upon the same degrees of latitude, that, nine times in ten, what is considered *late* sowing will succeed best, with the exceptions I have made. One special reason is, as I conceive, vegetation never progresses rapidly until the soil and atmosphere attain to a certain degree of temperature, and it succeeds best when this is uniform. Cool nights are prejudicial to plants of all descriptions, so far as my experience extends; and to many they are almost fatal: they are so to the cucumber. A

warm sun and a bland atmosphere during the day will put the juices of the plant into circulation, and open the pores; but if the succeeding night is cool, those juices stagnate, the pores close, and the progress of vegetation is suspended, and if this is acted over for many nights in succession, the stock of the plant assumes a sticky hardness, the pores are fast closed, and the channels for the sap to circulate in are contracted so as greatly to impede the progress of the fluids during the day; and although the plant survives the shock, yet it is a sickly plant, its leaves and tendrils are dwarfish and dry, and its fruit is scanty, bitter, and crooked, and indented with dark spots; whereas, the plant that comes into existence later in the season, when the earth is warm and the nights are bland, continues its growth through the twenty-four hours, has a fresh and lively appearance, overtakes and passes by its kindred vine, that has been long struggling with adversity; its fruit is straight, juicy, and abundant. Another reason why

many of those early sown plants fail, is, because those small insects, called black lice, or fleas, prevail most during the cold season in May, and they draw from the plant the little life it derives from the earth, and it yields its life to an ignoble enemy! I would say, then, to my New-England friends especially, be not over anxious to commit your garden seeds to the soil, because you experience a few warm days in the beginning or in the middle of May, except those kinds of plants which experience has shown are the least affected by the cold and wet, and which require the longest season to reach maturity. You may be certain of a cold fortnight between you and summer, during which time, your seeds had better be out of the ground than in; but this you *may* do, and *ought* to do,—improve your *kind* of plants, have your ground well prepared for receiving the seed, and embrace the first sure indications of approaching summer to commit your seeds to the earth and to a beneficent Providence.

Respectfully yours, H. H.



Balance Gate. By D. LAPHAM. [From the Farmers' Reporter.]

SIR,—If the following improvement in the construction of farm gates should be deemed of sufficient value to be of use to the farmers of this country, you are requested to make it known to them through the medium of your valuable paper.

This gate consists of two main posts, set firmly in the ground at the proper distance asunder, in the line of the fence; that part which is above the ground is made about 12 inches square, and the lower part is left round, forming a shoulder at the surface of the ground. These posts have mortices on the exterior sides to receive the rails of the fence. The gate itself is formed of three posts of scantling, 4 by 5 inches square, into which are framed about six strips of 1½ inch boards, 4 inches wide, so as to form a rectangular gate of the length and height required. Upon the top of these posts rests a beam, which extends back far enough just to balance the gate. The heel-post, upon which the gate turns, rests upon the shoulder of the main post, at the surface of the ground, where there is a depression made to receive it, and it is secured at the top by a staple, or hoop of iron, passing around it, (the upper part of the post being rounded for that purpose,) and is fastened into the main post. The latch or fastening is formed by making one of the slats pass through the front post in a long mortice; and the slat being cut in two at the middle post, and secured by a pin, the piece can be raised or lowered in such a manner as to latch and unlatch the gate. The notch is cut out of the main post, to receive the latch in such a manner as to allow the gate to open either way. This gate is much neater, more substantial, and is less liable to get out of repair, than those formerly in use. There are two

gates of this description on the farm where my father resides, in the north part of Champaign county, and he intends soon to have one to each of his fields. D. LAPHAM.

Cincinnati, Ohio, Dec. 19, 1833.

STRAW CUTTING MACHINE.—A few weeks ago, we purchased for a subscriber on the eastern shore of Maryland, one of Sinclair & Moore's straw cutters, of the middle size. We this week received from him the following testimony of its excellence, which we publish rather for the benefit of the public, than for that of the worthy manufacturers. By the way, it seems to be universally allowed by all who have tried it, that the saving by the cutting of *all long food* for stock is a very important one. We have noticed the testimony of farmers, of graziers, of dairy-men, and of stage proprietors, all to the same point, and have never heard one state a contrary opinion against it. Those who have tried steaming this cut food, seem to agree pretty unanimously that this operation improves its quality still as much more. Surely these facts are worthy the careful attention of all concerned in the feeding of cattle and horses—but here is an extract from our friend's letter:

"I am delighted with my straw cutter. It will have saved all the money it cost before May-day. The 'meat, drink, washing and lodging,' of each of my carriage horses, cost me the last year at least \$100: by means of the straw-cutter, I can give them better board, keep them sleeker and happier; and (at the present price of produce) both of them, the current year, will not cost me more than \$60. I shall be the means of procuring a market for several straw-cutters, at which I rejoice, not on account of the seller, but the buyer.—[Amer. Farmer.]

EXTRACT OF SUMAC.—This substance is prepared in Sicily, and is used for dying and tanning skins. It occupies the one-hundredth part of the volume of common sumac. It is dissolved in tepid water.

THE VINE.—Mr. Sidney Weller says, in the American Farmer, that vines, when young, should have the ground kept loose about them, and free from weeds—that they will no more bear neglect in these particulars than corn or other hoed crops.

BLOODY MURRAIN.—A farmer in Madison county, Ohio, had lost several of his finest cattle by this disease, and upon opening them he found leeches in their stomachs, much swollen by the blood they had extracted, and it was also found that leeches were living in the water at which the cattle were in the habit of drinking. Believing that this was the cause of the disease he changed the water, and in future only gave them that which was pure; and for three years his stock had not been troubled with that disease. Although this seems to show very conclusively that leeches are the cause of the disease, yet it requires further investigation before the question can be entirely settled.—[Gen. Far.]

HOW TO MAKE THE MOST OF A LITTLE LAND.—In the spring of 1830, I purchased in this city a house and lot; the lot was fifty by one hundred and twenty feet. One third of the lot was covered by the building. When I purchased, there was not a tree, shrub or plant, on the premises, notwithstanding the house had been constantly occupied for near forty years. I planted the first tree in the spring of 1831. I at that time planted three peach and three gage trees. One of the peach and the three gage trees bore fruit the past season. I have since added three more peach, four choice plum, one choice cherry, one quince, and four choice pear trees, which bid fair to bear fruit soon. I have also three fine grape vines, that will probably bear plentifully next season, judging from their size. I have also about a dozen smaller vines. I raised on the same ground the past season, cucumbers, beets, sallads, citron melons, and nasturtiums, in great abundance for family use and for pickling. I also had a great abundance of cabbage, both for summer and winter use. In addition to the above, I have at least fifty flowering shrubs and bushes, such as roses, syringoes, altheas, lilacs, snowballs, rose acacias, flowering almonds, cape jasmines, &c. &c., with a plenty of the honeysuckle. I have at least two thousand bulbous roots, such as hyacinths, tulips, crocuses, narcissus, &c., with equal that number of annual and biennial plants and flowers, and all of the aforementioned luxuries and necessities are enjoyed from the spot of ground that has laid waste for so great a length of time. There is still another item of profit to be added to the foregoing list: nine-tenths of the labor of cultivation has been performed with my own hands, morning and evening, when not engaged in my own regular business, unquestionably affording me a greater degree of health, and certainly a far greater degree of pleasure, than I should otherwise have enjoyed. I have also a lot in the rear of the above-mentioned, twenty-five by one hundred and twenty feet, on which there is a barn, cow-shed, and pig-stye, covering forty by twenty-five feet, leaving eighty by twenty-five feet for cultivation. Around this I have a border of two feet wide, one fourth of which is occupied by currant bushes, one fourth by raspberry, one fourth as an asparagus bed, and one fourth for spinnage, for a cabbage plant bed, for early lettuce, &c. The centre is laid out in three squares of seventeen by twenty-three feet. The first square I plant with early potatoes, the second with Lima

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The season is so far advanced that we cannot expect, even should there be considerable more snow, that it will remain long on the ground; of course, wheat will be exposed to alternate freezing and thawing. This is out of the power of the farmer to prevent, but he may mitigate its effect by the use of the roller in the spring, as soon as the ground is dry to the depth of three or four inches. This operation will not only press down that which has been raised by the frost, but by pulverizing the surface, cause the wheat to spread, and if grass seed has been sown, the beneficial effect on that will be great.

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NEAT CATTLE OF GREAT BRITAIN.—We give descriptions of the principal breeds of British cattle:

The long-horned or Lancashire breed of cattle is distinguished from others by the length



of their horns, the thickness and firm texture of their hides, the length and closeness of their hair, the large size of their hoofs, and coarse, leathery, thick necks; they are likewise deeper in their fore quarters, and lighter in their hind quarters, than most other breeds; narrower in their shape, less in point of weight than the short horns, though better weighers in proportion to their size; and though they give considerably less milk, it is said to afford more cream in proportion to its quantity. They are more varied in their color than any of the other breeds; but, whatever the color be, they have in general a white streak along their back, which the breeders term finched, and mostly a white spot on the inside of the hough. In a general view, this race, notwithstanding the singular efforts that have been made towards its improvement, remains with little alteration; for, excepting in Leicestershire, none of the subvarieties (which differ a little in almost every one of those counties where the long horns prevail) have undergone any radical change or any obvious improvement.

The improved breed of Leicestershire is said to have been formed by Webster, of Cauley,



near Coventry, in Warwickshire, by means of six cows brought from the banks of the Trent, about the beginning of the present century, which were crossed with bulls from Westmoreland and Lancashire. Bakewell, of Dishley, in Leicestershire, afterwards got the lead as a breeder, by selecting from the Cauley stock; and the stocks of several other eminent breeders have been traced to the same source.

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taken from the districts where they form the principal cattle stock; or where most attention has been paid to their improvement; thus, different families of this race are distinguished by the names of the Holderness, the Teeswater, the Yorkshire, Durham, Northumberland, and

other breeds. The Teeswater breed, a variety of short horns, established on the banks of the Tees, at the head of the vale of York, is at present in the highest estimation, and is alleged to be the true Yorkshire short-horned breed. Bulls and cows from this stock, purchased at most extraordinary prices, are spread over all the north of England, and the border counties of Scotland. The bone, head, and neck of these cattle are fine; the hide is very thin; the chine full; the loin broad; and the carcass throughout large and well-fashioned; and the flesh and fattening quality equal, or perhaps superior, to those of any other large breed. The short-horns give a greater quantity of milk than any other cattle: a cow usually yielding twenty-four quarts of milk per day, making three firkins of butter during the grass season: their colors are much varied, but they are generally red and white mixed, or what the breeders call flecked. The heaviest and largest oxen of the short-horned breed, when properly fed, victual the East India ships, as they produce the thickest beef, which, by retaining its juices, is the best adapted for such long voyages.



The Devonshire cattle are of a high red color, (if any white spots, they reckon the breed impure, particularly if those spots run one into another), with a light dun ring round the eye, and the muzzle of the same color, fine in the bone, clean in the neck, horns of a medium length, bent upwards, thin-faced, and fine in the chops, wide in the hips, a tolerable barrel, but rather flat on the sides, tail small, and set on very high; they are thin skinned, and silky in handling, feed at an early age, or arrive at maturity sooner than most other breeds. Another author observes, that they are a model for all persons who breed oxen for the yoke. The weight of the cows is usually from thirty to forty stone, and of the oxen from forty to sixty: the North Devon variety, in particular, from the fineness in the grain of the meat, is held in high estimation in Smithfield.



The polled or hornless breeds.—The most numerous and esteemed variety is the Galloway breed, so called from the province of that name, in the south-west of Scotland, where they most abound. The true Galloway bullock "is straight and broad on the back, and nearly level from the head to the rump, broad at the loins, not, however, with hooked bones, or projecting knobs, so that, when viewed from above, the whole body appears beautifully rounded; he is long in the quarters, but not broad in the twist; he is deep in the chest, short in the leg, and moderately fine in the bone; clean in the chop and in the neck; his head is of a moderate size, with large rough ears, and full, but not prominent eyes, or heavy eyebrows, so that he has a calm though determined look; his well-proportioned form is clothed with a loose and mellow skin, adorned with long soft glossy hair." The prevailing color is black or dark-brindled, and, though they are occasionally found of every color, the dark colors are uniformly preferred, from a belief that they are connected with superior hardiness of constitution.

The Galloways are rather undersized, not very different from the size of the Devons, but as much less than the long horns as the long horns are less than the short horns. On the best farms the average weight of bullocks three and a half years old, when the greater part of them are driven to the south, has been stated at about forty stone, *avoids*; some of them, fattened in England, have been brought to nearly one hundred stone.

LIME AND ANIMAL MANURE FOR WHEAT.—Lime has been found by chemical analysis to compose a very considerable portion of the kernel of wheat. It has also been found that any considerable quantity of animal manure, applied to land where wheat is sown, has a tendency to cause it to grow rapid, and of course the sap bursts out, and it rots, as we call it; and when this takes place the kernel becomes shrivelled, and is rendered nearly useless; and no human means can prevent it, if we enrich our land largely with animal manure. A previous clover crop ploughed in is enough to cause wheat to grow sufficiently large, unless we wish for straw instead of kernel. This cannot always conveniently be had when we wish to sow wheat. In such case it is desirable to place something on the soil which will cause it to grow, and not surfeit it. We learn that in Great Britain, nothing has succeeded so well as lime. The farmers there, within fifteen years, have by the proper use of lime been able to procure 30 or 40 per cent. more of the golden crop than formerly.—[Maine Farmer.]

ATTACK OF WILD ELEPHANTS ON A GRANARY.—A small body of seapoys stationed at an outpost to protect a granary, containing a large quantity of rice, was suddenly removed, in order to quiet some unruly villagers, a few miles distant, who had set the authorities at defiance. Two of our party happened to be on the spot at the moment. No sooner had the seapoys withdrawn, than a herd of wild elephants, which had long been noticed in the neighborhood, made their appearance in front of the granary. They had been preceded by a scout, which returned to the herd, and having no doubt satisfied them, in a language which to them needed no interpreter, that the coast was clear, they advanced at a brisk pace towards the building. When they arrived within a few yards of it, quite in martial order, they made a sudden stand, and began deliberately to reconnoitre the object of their attack. Nothing could be more wary and methodical than their proceedings. The walls of the granary were of solid brick work, very thick, and the only opening into the building was in the centre of the terraced roof, to which the ascent was by a ladder. On the approach of the elephants, the two astonished spectators clambered up into a lofty banyan tree, in order to escape mischief. The conduct of the four-footed besiegers was such as strongly to excite their curiosity, and they therefore watched their proceedings with intense anxiety. The two spectators were so completely screened by the foliage of the tree to which they had resorted for safety, that they could not be perceived by the elephants, though they could see very well, through the little vistas formed by the separated branches, what was going on below. Had there been a door in the granary, all difficulty in obtaining an entrance would have vanished; but four thick brick walls were obstacles which seemed at once to defy both the strength and sagacity of these dumb robbers. Nothing daunted by the magnitude of the difficulty which they had to surmount, they successively began their operations at the angles of the building. A large male elephant, with tusks of immense proportions, labored for some time to make an impression, but after a while his strength was exhausted and he retired. The next in size and strength then advanced, and exhausted his exertions with no better success. A third then came forward,

THE VINE.—Mr. Sidney Weller says, in the American Farmer, that vines, when young, should have the ground kept loose about them, and free from weeds—that they will no more bear neglect in these particulars than corn or other hoed crops.

BLOODY MURRAIN.—A farmer in Madison county, Ohio, had lost several of his finest cattle by this disease, and upon opening them he found leeches in their stomachs, much swollen by the blood they had extracted, and it was also found that leeches were living in the water at which the cattle were in the habit of drinking. Believing that this was the cause of the disease he changed the water, and in future only gave them that which was pure; and for three years his stock had not been troubled with that disease. Although this seems to show very conclusively that leeches are the cause of the disease, it requires further investigation before the question can be entirely settled.—[Gen. Far.]

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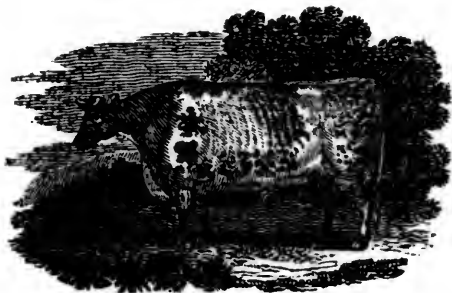
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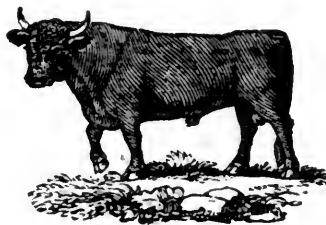
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taken from the districts where they form the principal cattle stock, or where most attention has been paid to their improvement; thus, different families of this race are distinguished by the names of the Holderness, the Teeswater, the Yorkshire, Durham, Northumberland, and

other breeds. The Teeswater breed, a variety of short horns, established on the banks of the Tees, at the head of the vale of York, is at present in the highest estimation, and is alleged to be the true Yorkshire short-horned breed. Bulls and cows from this stock, purchased at most extraordinary prices, are spread over all the north of England, and the border counties of Scotland. The bone, head, and neck of these cattle are fine; the hide is very thin; the chine full; the loin broad; and the carcass throughout large and well-fashioned; and the flesh and fattening quality equal, or perhaps superior, to those of any other large breed. The short-horns give a greater quantity of milk than any other cattle: a cow usually yielding twenty-four quarts of milk per day, making three firkins of butter during the grass season; their colors are much varied, but they are generally red and white mixed, or what the breeders call flecked. The heaviest and largest oxen of the short-horned breed, when properly fed, victual the East India ships, as they produce the thickest beef, which, by retaining its juices, is the best adapted for such long voyages.



The Devonshire cattle are of a high red color, (if any white spots, they reckon the breed impure, particularly if those spots run one into another), with a light dun ring round the eye, and the muzzle of the same color, fine in the bone, clean in the neck, horns of a medium length, bent upwards, thin-faced, and fine in the chops, wide in the hips, a tolerable barrel, but rather flat on the sides, tail small, and set on very high; they are thin skinned, and silky in handling, feed at an early age, or arrive at maturity sooner than most other breeds. Another author observes, that they are a model for all persons who breed oxen for the yoke. The weight of the cows is usually from thirty to forty stone, and of the oxen from forty to sixty: the North Devon variety, in particular, from the fineness in the grain of the meat, is held in high estimation in Smithfield.



The polled or hornless breeds.—The most numerous and esteemed variety is the Galloway breed, so called from the province of that name, in the south-west of Scotland, where they most abound. The true Galloway bullock is straight and broad on the back, and nearly level from the head to the rump, broad at the loins, not, however, with hooked bones, or projecting knobs, so that, when viewed from above, the whole body appears beautifully rounded: he is long in the quarters, but not broad in the twist; he is deep in the chest, short in the leg, and moderately fine in the bone; clean in the chop and in the neck; his head is of a moderate size, with large rough ears, and full, but not prominent eyes, or heavy eyebrows, so that he has a calm though determined look; his well-proportioned form is clothed with a loose and mellow skin, adorned with long soft glossy hair. The prevailing color is black or dark-brindled, and, though they are occasionally found of every color, the dark colors are uniformly preferred, from a belief that they are connected with superior hardiness of constitution.

The Galloways are rather undersized, not very different from the size of the Devons, but as much less than the long horns as the long horns are less than the short horns. On the best farms the average weight of bullocks three and a half years old, when the greater part of them are driven to the south, has been stated at about forty stone, *avoidsupois*; some of them, fattened in England, have been brought to nearly one hundred stone.

LIME AND ANIMAL MANURE FOR WHEAT.—Lime has been found by chemical analysis to compose a very considerable portion of the kernel of wheat. It has also been found that any considerable quantity of animal manure, applied to land where wheat is sown, has a tendency to cause it to grow rapid, and of course the sap bursts out, and it rots, as we call it; and when this takes place the kernel becomes shrivelled, and is rendered nearly useless; and no human means can prevent it, if we enrich our land largely with animal manure. A previous clover crop ploughed in is enough to cause wheat to grow sufficiently large, unless we wish for straw instead of kernel. This cannot always conveniently be had when we wish to sow wheat. In such case it is desirable to place something on the soil which will cause it to grow, and not surfeit it. We learn that in Great Britain, nothing has succeeded so well as lime. The farmers there, within fifteen years, have by the proper use of lime been able to procure 30 or 40 per cent. more of the golden crop than formerly.—[Maine Farmer.]

ATTACK OF WILD ELEPHANTS ON A GRANARY.—A small body of seapoys stationed at an outpost to protect a granary, containing a large quantity of rice, was suddenly removed, in order to quiet some unruly villagers, a few miles distant, who had set the authorities at defiance. Two of our party happened to be on the spot at the moment. No sooner had the seapoys withdrawn, than a herd of wild elephants, which had long been noticed in the neighborhood, made their appearance in front of the granary. They had been preceded by a scout, which returned to the herd, and having no doubt satisfied them, in a language which to them needed no interpreter, that the coast was clear, they advanced at a brisk pace towards the building. When they arrived within a few yards of it, quite in martial order, they made a sudden stand, and began deliberately to reconnoitre the object of their attack. Nothing could be more wary and methodical than their proceedings. The walls of the granary were of solid brick work, very thick, and the only opening into the building was in the centre of the terraced roof, to which the ascent was by a ladder. On the approach of the elephants, the two astonished spectators clambered up into a lofty banyan tree, in order to escape mischief. The conduct of the four-footed besiegers was such as strongly to excite their curiosity, and they therefore watched their proceedings with intense anxiety. The two spectators were so completely screened by the foliage of the tree to which they had resorted for safety, that they could not be perceived by the elephants, though they could see very well, through the little vistas formed by the separated branches, what was going on below. Had there been a door in the granary, all difficulty in obtaining an entrance would have vanished; but four thick brick walls were obstacles which seemed at once to defy both the strength and sagacity of these dumb robbers. Nothing daunted by the magnitude of the difficulty which they had to surmount, they successively began their operations at the angles of the building. A large male elephant, with tusks of immense proportions, labored for some time to make an impression, but after a while his strength was exhausted and he retired. The next in size and strength then advanced, and exhausted his exertions with no better success. A third then came forward,

and applying those tremendous levers with which his jaws were armed, and which he wielded with such prodigious might, he at length succeeded in dislodging a brick. An opening once made, other elephants advanced, when an entrance was soon obtained sufficiently large to admit the determined marauders. As the whole herd could not be accommodated at once, they divided into small bodies of three or four. One of these entered, and when they had taken their fill they retired, and their places were immediately supplied by the next in waiting, until the whole herd, upwards of twenty in number, had made a full meal. By this time a shrill sound was heard from one of the elephants, which was readily understood, when those that were still in the building immediately rushed out and joined their companions. One of the first division, after retiring from the granary, had acted as sentinel while the rest were enjoying the fruits of their sagacity and perseverance. He had so stationed himself as to be enabled to observe the advance of an enemy from any quarter, and upon perceiving the troops as they returned from the village, he sounded the signal of retreat, when the whole herd, flourishing their trunks, moved rapidly into the jungle.—[Oriental Annual.

NEW-YORK AMERICAN.

MARCH 22—28, 1834.

LITERARY NOTICES.

No. XVIII.

Chicago, Jan. 10, 1834.

I have been here more than ten days, without fulfilling the promise given in my last. It has been so cold, indeed, as almost to render writing impracticable in a place so comfortless. The houses were built with such rapidity during the summer as to be mere shells; and the thermometer having ranged as low as 29 below zero during several days, it has been almost impossible, notwithstanding the large fire kept up by an attentive landlord, to prevent the ink from freezing while using it, and one's fingers become so numb in a very few moments when thus exercised, that, after vainly trying to write in gloves, I have thrown by my pen, and joined the group composed of all the household around the bar-room fire. This room, which is in an old log cabin aside of the main house, is one of the most comfortable places in town, and is, of course, much frequented, business being, so far as one can judge from the concourse that throng it, nearly at a stand still. Several persons have been severely frost-bitten in passing from door to door; and, not to mention the quantity of poultry and pigs that have been frozen, an ox, I was just told, has perished from cold in the streets at noonday. An occasional Indian, wrapped in his blanket, and dodging about from store to store after a dram of whiskey, or a muffled up Frenchman, driving furiously in his cariole on the river, are almost the only passengers abroad; while the wolves, driven in by the deep snows which preceded this severe weather, troop through the town after nightfall, and may be heard howling continually in the midst of it.

The situation of Chicago, on the edge of the Grand Prairie, with the whole expanse of Lake Michigan before it, gives the freezing winds from the Rocky Mountains prodigious effect, and renders a degree of temperature which, in sheltered situations, is but little felt, almost painful here.

The bleak winds
Do sorely ruffle; for many a mile about,
There's scarce a bush.

The town lies upon a dead level, along the banks of a narrow forked river, and is spread over a wide extent of surface to the shores of the lake, while vessels of considerable draught of water can, by means of the river, unload in the centre of the place. I believe I have already mentioned, that four-fifths of the population have come in since last spring: the erection of new buildings during the

summer has been in the same proportion; and although a place of such mushroom growth can, of course, boast of but little solid improvement in the way of building, yet contracts have been made for the ensuing season, which must soon give Chicago much of that metropolitan appearance it is destined so promptly to assume. As a place of business, its situation at the central head of the Mississippi Valley will make it the New Orleans of the North, and its easy and close intercourse with the most flourishing Eastern cities, will give it the advantage, as its capital increases, of all their improvements in the mode of living.

There is one improvement to be made, however, in this section of country, which will greatly influence the permanent value of property in Chicago. I allude to a Canal from the head of Lake Michigan to the head of steam navigation on the Illinois, the route of which has been long since surveyed. The distance to be overcome is something like twelve miles; and when you remember that the head waters of the Illinois rise within eleven miles of Chicago river, and that a level plain of not more than eight feet elevation above the latter is the only intervening obstacle, you can conceive how easy it would be to drain Lake Michigan into the Mississippi by this route; boats of 18 tons having actually passed over the intervening prairie at high water. Lake Michigan which is several feet or more above Lake Erie, would afford such a never-failing body of water that it would keep steamboats afloat on the route in the dryest season. St. Louis would then be brought comparatively near to New York, while two thirds of the Mississippi Valley would be supplied by this route immediately from the markets of the latter. This canal is the only remaining link wanting to complete the most stupendous chain of inland communication in the world. I had a long conversation this morning, on the subject, with Major H., the United States Engineer, who is engaged in superintending the construction of a pier at this place. He was polite enough to sketch the main features of the route with his pencil in such a manner as to make its feasibility very apparent. The canal would pass for the whole distance through a prairie country, where every production of the field and the garden can be raised with scarcely any toil, and where the most prolific soil in the world requires no other preparation for planting than passing the plough over its bosom. The most effectual mode of making this canal would be to give the lands along its banks to an incorporated company who should construct the work within a certain time. The matter is now merely agitated at elections as a political handle.

January 13.

I had got thus far in a letter to you, when several officers of the garrison, to whom I am indebted for much hospitable attention and many agreeable hours, stopped opposite the door with a train of carioles, in one of which I was offered a seat, to witness a pacing match on the ice. There were several ladies with gentlemen in attendance already on the river, all muffled up after the Canadian fashion in fur robes, whose gay trimmings presented a rich as well as most comfortable appearance. The horses, from which the most sport was expected, were a black poney bred in the country, and a tall roan nag from the lower Mississippi. They paced at the rate of a mile in something less than three minutes. I rode behind the winning horse one heat, and the velocity with which he made our cariole fly over the smooth ice, was almost startling. The southern horse won the race; but I was told that in nine cases out of ten, the nags from his part of the country, could not stand against a French poney. In the middle of the chase, a wolf, probably roused by the sleigh-bells from his lair on the river's bank, trotted along the prairie above, within gun shot, calmly surveying the sport. The uninvited presence of this long-haired amateur at once suggested a hunt for the morrow, and arrangements were accordingly made, by the several gentlemen present, for that most exciting of sports, a wolf chase on horseback. I was not present at the assembling of the hunt; and the first intimation I had of the game being afoot, was from hearing the cry of hounds and the shouting of a party of horsemen, as they clattered along the frozen river, with two prairie wolves and one gray wolf, running at full speed, about a pistol shot ahead of them. One wolf was killed, and another had made his escape before I joined the party. But the third, the gray wolf, which had struck off into the prairie, was still fresh, when I came into the hunt with an untired horse. But one of the hunters had been able to keep up with him, and him I could distinguish a mile off in the prairie, turning and winding his

foaming horse as the wolf would double every moment upon his tracks, while a half a dozen dogs, embarrassed in the deep snow, were slowly coming up. I reached the spot just as the wolf first stood at bay. His bristling back, glaring eyes, and ferociously distended jaws, might have appalled the dogs for a moment, when an impetuous gray-hound, who had been for sometime pushing through the snow-drifts with unabated industry, having now attained a comparatively clear spot of ground, leaped with such force against the flank of the wolf as to upset him in an instant, while the greyhound shot far ahead of the quarry. He recovered himself like lightning, but not before a fierce, powerful bound, whose thick neck and broad muzzle indicated a cross of the bull-dog blood with that of a nobler strain, had struck him first upon the haunch, and was now trying to grapple him by the throat. Down again he went, rolling over and over again in the deep snow, while the clicking of his jaws, as he snarled eagerly at each member of the pack that by turns beset him, was distinctly audible. The powerful dog already mentioned secured him at last, by fixing his muzzle deeply into the breast of the prostrate animal. This however did not prevent the wolf giving some fearful wounds to the other dogs which beset him; and accordingly, with the permission of the gentleman who led the chase, I threw myself from my horse and gave the game the coup de grace with a dirk-knife which I carried about me. The success of this hunt induced us, upon the spot, to appoint another for to-day.

It was a fine bracing morning, with the sun shining cheerily through the still cold atmosphere far over the snow-covered prairie, when the party assembled in front of my lodgings to the number of ten horsemen, all well mounted and eager for the sport. The hunt was divided into two squads; one of which was to follow the windings of the river on the lee, and the other to make a circuit on the prairie. A pack of dogs, consisting of a gray hound or two for running the game, with several of a heavier and fiercer breed for pulling it down, accompanied each party. I was attached to that which took the river; and it was a beautiful sight, as our friends trotted off in the prairie, to see their different colored capotes and gaily equipped horses contrasted with the bright carpet of spotless white over which they rode, while the sound of their voices was soon lost to our ears, as we descended to the channel of the river, and their leaping figures were hid from our view by the low brush which in some places skirted its banks. The brisk trot into which we now broke, brought us rapidly to the place of meeting; where, to the disappointment of each party, it was found that neither had started any game. We now spread ourselves into a broad line, about gunshot apart from each other, and began thus advancing into the prairie. We had not swept it thus more than a mile, when a shout on the extreme right, with the accelerated pace of the two furthest riders in that direction, told that they had roused a wolf. "The devil take the hindmost," was now the motto of the company, and each one spurred for the spot with all eagerness. Unhappily, however, the land along the bank of the river, on the right, was so broken by ravines, choked up with snow, that it was impossible for us who were a half a mile from the chase when started, to come up at all with the two or three horsemen who led the pursuit. Our horses sunk to their cruppers in the deep snow drift. Some were repeatedly thrown; and one or two breaking their saddle girths, from the prodigious struggle their horses made in the snow-banks, were compelled to abandon the chase entirely. My stout roan carried me bravely through all; but when I emerged from the last ravine on to the open plain, the two horsemen who led the chase, from some inequality in the surface of the prairie, were not visible; while the third, a fleet rider, whose tall figure and Indian head-dress had hitherto guided me in the chase, had been just unhorsed, and abandoning the game afoot, was now wheeling off apparently with some other object in view. Following on the same course, we soon encountered a couple of officers in a train, who were just coming from a mission of charity in visiting the half starved orphans of a poor woman, who was frozen to death on the prairie, a day or two since—the wolves having already picked her bones before her fate became known. One by one, our whole party collected around to make their inquiries about the poor children, and the two fortunate hunters soon after joined us with a large prairie wolf hanging to the saddle bow of one of them.

It was now about eleven o'clock; we were only twelve miles from Chicago; and though we had kept up a pretty round pace considering the depth of the

snow, in coursing backward and forward since eight, our horses generally were yet in good condition, and we scattered once more over the prairie with the hope of rousing more game. Not ten minutes elapsed before a wolf, breaking from the dead weeds which shooting eight or ten feet above the level of the snow indicated the banks of a deep ravine, dashed off into the prairie pursued by a horseman on the right. He made instantly for the deep banks of the river, one of whose windings was within a few hundred yards. He had a bold rider behind him, however, in the gentleman who led the chase, (a young educated half blood, of prepossessing manners, and well connected at Chicago.) The precipitous bank of the stream did not retard this hunter for a moment, but dashing down to the bed of the river, he was hard upon the wolf before he could ascend the elevation on the opposite side. Four of us only reached the open prairie beyond in time to take part in the chase. Nothing could be more beautiful. There was not an obstacle to oppose us in the open plain; and all our dogs having long since given out, nothing remained but to drive the wolf to death on horseback. Away, then, we went, shouting on his track; the hotly pursued beast gaining on us whenever the crust of a deep snow drift gave him an advantage over the horse, and we in our turn nearly riding over him when he came to ground comparatively bare. The sagacious animal became at last aware that his course was soon up at this rate, and turning rapidly in his tracks as we were scattered over the prairie, he passed through our line and made at once again for the river. He was cut off, and turned in a moment, by a horseman on the left, who happened to be a little behind the rest; and now came the keenest part of the sport. The wolf would double every moment upon his tracks, while each horseman in succession would make a dash at, and turn, him in a different direction. Twice I was near enough to strike him with a horse-whip; and once he was under my horses feet, while so furiously did each rider push at him, that as we brushed by each other and confronted horse to horse, while riding from different quarters at full speed, it required one somewhat used—"to turn and wind a fiery Pegasus"—to maintain his seat at all. The rascal, who would now and then look over his shoulders and gnash his teeth, seemed at last as if he was about to succumb—when, after running a few hundred yards in an oblique direction from the river, he suddenly veered his course at a moment when every one thought his strength was spent; and, gaining the bank before he could be turned, he disappeared below it in an instant. The rider nearest to his heels became entangled in the low boughs of a tree, which grew near the spot; while I, who followed next, was thrown out sufficiently to give the wolf time to get out of view, by my horse bolting as he reached the sudden edge of the river. The rest of the hunt were consequently at fault when they came up to us; and, after trying in vain to track our lost quarry over the smooth ice for half an hour, we were most vexatiously compelled to abandon the pursuit as fruitless, and return to the village with only one scalp as the reward of our morning's labors.

It was with no envious feelings, I assure you, that, on making my arrangements an hour ago to start in the new line of stages which has just been established between this point and St. Louis, I found myself compelled to part with the friend to whom I was chiefly indebted for my share in the glorious sports I have just attempted to describe to you—the four-footed companion of my last six weeks rambles. I remember being once struck with the remark of an ingenious writer, in the Library of Useful Knowledge, when, in discussing the real and the relative value of horses, he observes that, the commonest hackney, if in every respect suiting his owner, is priceless to the possessor. A favorite horse in fact, though his estimation may only depend upon the whim of his master, is one of this world's goods which, like first-love and lost confidence, the Alexandrian M.S.S. and a perfectly fitting coat, can never be thoroughly replaced. It is not, however, when the character of such property falls exclusively to grooms and others from one end of the year to another, that you feel its value. The stall-fed palfrey which you drive along a turnpike from one hotel to another, and abandon when he falls sick for some other means of conveyance, with as little concern as you would exchange your trunk for a portmanteau, or vice versa, has but little hold on one's feelings in comparison with the hearty animal with which you wander away, where he meets with no care but such as you bestow upon him; and when you in turn become wholly dependent upon him for overcoming distances and difficulties, between places so remote from each other, that not only your comfort but sometimes your personal safety depend upon ac-

complishing the intervals within certain periods—when you push ahead through falling sleet, ford rivers, plunge through snow banks, or cross morasses, where the matted grass spreading its carpet over the shaking slough, embarrasses and wearies the step of your sagacious quadruped while it prevents his feet from sinking into the dangerous quagmire beneath. Those weeks of such intercourse between man and brute, are like those rainy days when one is shut up in a country house with strangers. They cherish a fellowship more cordial than years of ordinary intercourse could engender. It is no little consolation to me that I leave my Bucephalus in excellent hands; nor does this necessary separation so engross my sympathies that I have none to spare for other partings. Upon these, however, I shall not dilate here, though you must not be surprised to find me returning more than once hereafter to characters, scenes and incidents at Chicago, which I have hitherto left untouched.

THE PINK TIFFET, JESSAMIE COTTAGE, THE SIMPLE FLOWER, ELLEN'S VISIT. New York, Protestant Episcopal Press.—These are little tracts issued by the Protestant Episcopal Sunday School Union, of which the first named is among the earliest and best in composition, but much inferior to the succeeding ones in its paper and typography. The later ones are, altogether, very creditably got up.

ANGELL'S SERIES OF SCHOOL BOOKS.—We noticed some weeks ago with approbation, founded on our examination rather of the reading than the elementary portions of the work, this series of school books. A teacher who upon the strength of our remarks purchased the series, asks room to express his dissent from our opinion of these books, and to lay his reasons for that dissent before the public. We cannot refuse a request so reasonable, and so well sustained by evidence. We insert below his first number:—

ANGELL'S SERIES OF SCHOOL BOOKS.—Mr. Editor.—The importance of correct elementary books cannot be too highly appreciated. The habits which we acquire in our childhood seem to be so interwoven with our very nature, that, even though we discover them to be erroneous, we find it exceedingly difficult to correct them. The infant mind has been aptly compared to a sheet of white paper, which receives an impression from the slightest touch of the pen, but from which a wrong mark or a blot can never be erased, and leave it fair and smooth for a second impression. Hence it is that we see many well educated men, in the constant practice of spelling and pronunciation which they themselves actually believe to be erroneous.

I have been engaged in teaching for many years, during which time I have examined a great variety of books intended for the instruction of children in the rudiments of orthography and pronunciation.—Having seen in the American a favorable notice of Mr. Angell's Series of Books, and being anxious to benefit the children under my tuition by the introduction of every thing that is in truth an improvement, I purchased a set of these books, and have given them quite a careful examination; and I regret exceedingly that my opinion of their merits is at variance with yours; but, Sir, knowing your liberality, I have written my objections briefly, and request an insertion of them in your paper.

Mr. Angell has attempted to form a continuous or collateral series of spelling and reading lessons.—Each spelling lesson is composed of words selected from the reading lesson immediately following it; and these words are thrown together in the spelling lessons without any regard to the greater ease with which one may be spelled than another, or the natural advancement of the scholar, the first three numbers containing as great or a greater proportion of difficult words than the last three. The words are also repeated very uselessly in the different lessons, while other words contained in the reading lessons, a knowledge of which is of the same importance to the scholar, are not in any of the spelling lessons, consequently, the child will never know any thing of their orthography from the perusal of them.

The orthography of these books is in my opinion very objectionable; for, in them, Mr. Angell has not followed the spelling of any standard dictionary, but has sometimes adopted that of Johnson and Walker, sometimes that of Webster, and has frequently spelled words at variance with all of them. In proof of this I will cite a few of the almost num-

berless instances which occur in the different volumes. No 5, page 12, *ensure* with *en*, agreeably to Walker, 208, *insurance*, with *in* agreeably to Webster; 207, *buffeting*, contrary to both; No. 2, 90, *behavior*, 3, 37, *honor*, 55, *parlor*, 4, 213 *labor*, 5, 271, *candor*, &c., without *u* agreeably to Webster; and No. 5, 200 *Saviour*, 261 *armour*, 188 *rumour*, 2, 86 *colour*, with *u* agreeably to Walker; and 2, 24 *entrusted*, 80 *poney*, 2, 90 *threshing*, 4, 244 *cozen*, 5, 122 *rein-deer*, 274 *paralyzed*, &c. &c., contrary to Walker and Webster; in none of the volumes is there either uniformity or consistency in the spelling. Not wishing to extend this communication unreasonably, I propose to send you another article in which I will treat of Mr. Angell's want of a system of pronunciation, and of his erroneous and contradictory division of words.

AN OLD SCHOOLMASTER.

SUMMARY.

We inserted yesterday, on the authority of a gentleman of the Bar, a short statement of points ruled by the Supreme Court in the case of *Wheaton vs. Peters*. Another gentleman of the Bar informs us that that notice was not exact, and furnishes the following statement.—[National Intelligencer.]

The account of the points decided in the case of *Wheaton* against *Peters*, contained in the Intelligencer of yesterday is incorrect, both in stating that the Court had ruled "every point of law in the case in favor of the appellee, Mr. Peters," and in omitting to state the most important principle of the law of copyright, which was actually settled in the case.

To begin with the omission:

1. The Court has *unanimously* determined (to use the words of the opinion delivered by Judge McLean) "that no Reporter has, or can have any copyright in 'the written opinions delivered by this Court, and that 'the Judges thereof cannot confer on any Reporter 'any such right."

2. The Court has *not* decided that the publication of Mr. Peters' *Condensed Reports* is not an infringement of Mr. Wheaton's copyright in the 12 volumes of *Wheaton's Reports*, so far as respects the general order and arrangement of his book; the *oral* opinions delivered by the Judges from the Bench, and taken down by Mr. W. in writing; the marginal notes, or abstracts of the points decided; the statements of facts in each case, abridged by Mr. W. from the records; and the analytical indexes to each volume; which Mr. W. claims as author, and which Mr. P. has copied from Mr. W.'s book.

3. The Court has made no *final* disposition of the cause, but has remanded it to the Court below, with directions to ascertain, by a jury, the facts in dispute between the parties.

The Supreme Court have given judgment in favor of Rowland Stevenson, impleaded with Romington and others, at the suit of James W. Parkins, consequently the bail of Stevenson for the jail liberties, is discharged; and after four months' confinement in jail and about three months on the limits, Stevenson is once more at large.—*Courier*.

APPOINTMENTS, FEB. 19.

Kings—Peter Conover, Wm. R. Dean, Hugh Farrell, Asbury W. Kirk and Harmanus H. Borkaloo, auctioneers. Abraham S. Wright and R. M. Whiting, inspectors of lumber. John Pierce notary public. Joseph Herbert, inspector of sole leather.—**States** Dorson, inspector of Beef and pork. John Lott, jr. judge of the municipal court for the village Brooklyn.

New York—Peter H. Ryckman, collector of slaves and heading.

We learn that on Saturday night last, a disturbance, which resulted in a serious riot, broke out among the students of the University. The dwelling of the President was attacked, the windows of the Professors broken in, and several fire-arms discharged. We did not learn that personal injury was sustained by any of the parties, nor does our informant know the particular cause of the disturbance, or in what manner it was quelled. We wait with anxiety for the particulars of this disgraceful affair, which will be doubtless furnished by our next advices from Tuscaloosa.—[Mobile Register, 6th March.]

Several lighters have come up from the brig *Buenos Ayres*, with sugar and rum, to Dr. Rogers & Son. The brig will probably be got off. A gentleman who arrived in town last evening, informs that he left the vessel at 3 P. M. yesterday—that they had put on board of lighters about 80 hhd. of sugar, and 12 puncheons of rum—Four lighters were left along side, sufficient to take in the residue of the cargo; and the brig, it is probable, will get off this morning.

Old Ironsides.—We understand from a source entitled to confidence, that the Board of Navy Commissioners have issued orders that the old boat, which is a perfectly plain one, be replaced on the Constitution, and that her stern be also finished in a plain manner. For the honor of that noble ship, we hope the figure head, in regard to which much just indignation has been manifested, will be dispensed with. It will be in time to ornament our vessels with the busts of any man, when History shall have established his character, and pronounced him worthy of such honor.

The Rev. Dr. DUCACRET, of Norfolk, Virginia, has received a unanimous call to the Restorship of St. Paul's, Philadelphia.

IMPORTANT.—The Baltimore American of yesterday morning has this formidable announcement:

The following notice was handed for insertion by the Cashier of the Bank of Maryland, last night, when this paper was about going to press:—

To the PUBLIC.

Bank of Maryland, }
24th March, 1834. }

The Board of Directors of this Institution have ascertained with surprise and deep regret, equal to any that the community will feel, that this institution is unable to proceed with its business, and they have resolved to transfer all its effects to a Trustee, for the equal benefit of the creditors of the Bank.

The Board of Directors hope and trust that the assets will be sufficient to discharge the debts of the institution, and their determination to stop its business at once, is from a conviction that to continue it longer would only be attended with loss to the community. Their advice to the creditors, founded upon the best judgment they are able to form, is, not to sacrifice their claims. The debtors of the institution will have the privilege of paying their debts with the notes and certificates of deposit and the open accounts due by the Bank, and these alone they hope will enable the note holders and depositors speedily to realize nearly all, if not the entire amount of their credits.

By order, R. WILSON, Cashier.

Letters from Baltimore, received this morning, state that on the failure of the Maryland Bank, the whole town was in an uproar; all classes of people in motion and commotion; a run on all the Banks; such a day of excitement, one writer says, he never witnessed before. The stockholders in the Maryland Bank, will, it is said, lose all. The following facts are stated in one of the letters—our readers will make their own comments on the use thus made of the public monies.

"This Bank has been circulating vast numbers of its notes in the West; last week a draft from the West for \$150,000 was presented through the Branch Bank—the President Poulteny asked one day. It was granted—an express was sent to Mr. Secretary Taney, who drew on the Branch for \$200,000, thus the draft on the Maryland Bank was paid, and the other \$50,000 were deposited in the Pet Bank, the Union, which has done every thing in its power to sustain Poulteny's Bank, but all in vain, though aided by the Government in the sum of \$150,000."

THE BANK OF MARYLAND.—The failure of this bank, and the alleged aid extended to it by the Secretary of the Treasury, are already, it will be seen, under the consideration of the Senate of the United States. Meantime the President of this bank thus honorably meets the case of possible loss to holders of its notes by a pledge of his whole fortune:—

My confident opinion is that the Bank is able to pay all its obligations, but to obviate any difficulty whatever, and to satisfy the holders of the notes and the special certificates of the Bank, I hereby pledge my whole private estate, whether real, personal, or mixed, to redeem any deficiency that the means of the Bank may, by any possibility, be unable to redeem.

EVAN FOULTNEY.

March 25, 1834.

Fire.—We are informed, (says the Albany Evening Journal of yesterday,) that upwards of 20 buildings were destroyed by fire last evening in Troy. All the buildings from River st. to Starbuck & Son's terrace, were consumed.

Steam Boat Napoleon.—The St. Louis Republican announces the total loss of the steam boat Napoleon,

from Pittsburg for that port, heavily freighted with dry goods, &c. The boat struck a snag in the Mississippi, about twelve miles above the mouth of the Ohio. The snag passed through the bow end up to the hurricane deck, without breaking off. In this situation, by the aid of a keel boat which she had in tow, and of a steam boat, about twenty tons of the freight were got out uninjured. A great portion of the remainder will be lost, as the boat had sunk about twenty feet, and the depth of water is represented to be thirty or forty feet. Most of the goods, it is believed, were insured, principally at Eastern offices—but in one or two cases heavy loss has been sustained by the owners.

The *Canadian Giant*, well known as having exhibited himself in several countries of Europe and America, died at St. Jean des Chailions, about 30 miles above Quebec, on the 28th ult. His name was Modeste Malhiot. His height was six feet four inches, and his weight 619 1/2 lbs. The coffin in which he was interred was three feet wide, and two feet and a half deep.

LANDS SOLD FOR TAXES.—The Argus of yesterday says the sales of Monday did not go through the county of Alleghany. Next day the residue of Alleghany was gone through with, and Broome would follow.

THE SUPREME COURT OF THE UNITED STATES adjourned on Wednesday, 19th, after a session of sixty-six days, and having disposed of every case ready for trial. It decided 79 cases and left 41 on the docket.

Melancholy Accident.—On the evening of the 9th instant, says the New Orleans Advertiser, of the 11th inst.) when some gentlemen were amusing themselves shooting with pistols at the Lake, an inexperienced young man took in his hand a hair trigger pistol, and when in the act of preparing to shoot he touched the trigger—the pistol went off, and the ball passed through the body of Mr. B. B. Butler, a highly respectable gentleman, entering at the point of the third rib, and passing out at the side of the spine. He died of hemorrhage in a few hours after the accident.

The Key West Sentinel, of the 20th ult., contains the decree of Judge Webb, awarding fifteen per cent. salvage to the libellants of the ship Hector and cargo, stranded on the Florida Reef, on her voyage from New York to Mobile. The value of the ship and cargo was estimated at \$70,000.

Alexandria Market.—Flour has improved. Sales were made from stores on Monday at \$4 20 to \$4 25.

FOREIGN INTELLIGENCE.

GILBERT STEWART NEWTON.—It is with the greatest satisfaction we find in the London Courier the following contradiction of the paragraph from the Literary Gazette, published by us yesterday:

There is no foundation for the statement in the Literary Gazette of the death of Mr. G. S. Newton, the Royal Academician. That gentleman has been seriously indisposed, but was considerably better yesterday. [Courier.]

FROM GIBRALTAR we have, by the favor of Mr. Regalley, of Boston, a passenger in the brig *Montano*, papers to 18th ult., furnishing Madrid dates of the 11th. There is nothing however of importance.

LATE AND IMPORTANT FROM SPAIN—DIRECT.—We are again indebted to Ex-Governor Cabrera for extracts from his private letters down to the 11th Feb. from Cadiz, received by the Ganges, at Boston. These tidings are considerably later from Madrid, and also later from Lisbon than the advices received via England; by which it appears that Don Pedro had gained important advantages over Don Miguel.

From Private Letters, dated

CADIZ, 11th Feb. 1834.

By the British man-of-war *Stag*, arrived at our port from Lisbon, we have received letters and newspapers from that capital, as late as the 3d inst. by which we find that three important victories have lately been obtained by the troops of Don Pedro against his opposers. In the afternoon of the 21st January last, in the environs of Pernes, the troops of Don Miguel, four thousand in number, attacked General Saldanha, who repelled them with such vigor and bravery that the whole of the Miguelites were entirely defeated, leaving in the hands of Saldanha more than one thousand prisoners, among them nearly a whole battalion of the

7th regiment, seven pieces of artillery and some banners. Mean while the Duke of Terceira (Villa Flor) was also attacked by another division of Miguelites, in the position of the bridge of Asceca, where the latter were equally defeated, with an immense loss.—Then the Duke sent in the direction of Villada a body of cavalry to punish 700 enemies who had passed the river Tagus from the South to the North side. All this force was entirely cut to pieces and annihilated; the few that escaped from the bayonets of the Pedroites, precipitated themselves into the river, where they were drowned. The Miguelite army, routed on every point, may now be considered as lost; the relics will soon be extinct.

SPAIN.—In Spain, the partisans of Don Carlos, the Pretender, increase every day in Biscay and Navarre, where the Queen has sent a force of 30,000 men. A decree has been issued by the Queen ordering that the rebels taken with arms should be put to death if they are officers, and condemned to hard labor or transportation to Cuba, Porto Rico, or Philippine Islands if they are sergeants, corporals, or private soldiers.

The principal labor that now occupies the whole attention of the Government is the mode of convoking the Cortes or General Assembly of the Nation. The liberals enlist themselves in the ranks of the National Militia everywhere. The province of Catalonia alone has actually 30,000. They are all in expectation of the mode in which the Cortes are to be convoked, and that mode is to decide their conduct. Meanwhile, they resting on their arms, they are indignant at the past, smile at the present, and rejoice at the future. The most striking feature of the present state of the affairs in Spain is, that France and England are endeavoring to repress the general expansion of liberty, while the Captains General of the army, who had been the principal supporters of the dead tyranny, are now at the head of the liberal party.

MISCELLANY.

Laconic Epistles.—There was a celebrated diplomatist, whose time, at one period of his life, was so engaged in matters of political importance, that he could scarcely find a moment to attend to social duties, and a certain facetious colleague used to say that he never dotted his i's or crossed his t's for the purpose of saving time. It is not, therefore, probable that such a man would fritter away his precious existence in writing letters to friends upon subjects unconnected with ambition and party intrigues. He however, broke through this determination, in the following instance. A lady, with whom he was well acquainted, married a young French nobleman, the choice of her heart. Scarcely had the honeymoon passed away, when the husband was attacked with a severe illness, and died. The diplomatist being informed that the affliction of the lady was so intense, that night and day she did nothing but weep—that sorrow would soon bring her to the grave—deemed it an imperative duty to write a letter of condolence. This he performed—but, reflecting that true grief is always laconic, and wishing her to understand how alive his feelings were to the irreparable loss she had sustained, he wrote these words—and they formed the whole contents of the condoling letter: "Ah! Madame!"—Six months passed away, and grief and sorrow passed also away with the fleeting months. The fair lady followed the example of the Dame of Ephesus, and took to herself another husband. No sooner had the writer of protocols heard this news, than he evinced more than usual alacrity in coming to the conclusion of writing a congratulatory epistle, which was accordingly despatched. He again reflected, that if grief be not laconic, joy is also laconic—and so he wrote, "Ho! ho! Madame!"

RACKGAMMON versus CHESS.

I am just come away from a terrible dispute with cousin Kate on the relative merits of backgammon; and to hear us at our argument you would think Bedlam was broke loose outright. I say our argument, because I am a gallant fellow: though, to put modesty on the shelf for once, the ratiocination is pretty nearly all on one side—mine, of course.—Yet, I don't know how it is, I can never bring Kate to my way of thinking—nay, she has not unfrequently the assurance to say that I am the vanquished party. Women are certainly the worst of arguers in the world; they never know when they are beaten. You may assail them with logic, you may batter them with syllogisms—what care they? You think you have got them fairly into a *reductio ad absurdum*—you have driven them to Point Nonplus—you have left them with not so much as a leg to stand upon—and straightway they take up their old position just as if nothing had happened. That's always the way

with Kate, at least. When I have outwangled her till I am nearly black in the face, and she is reduced to a positive nonentity, calmly she spreads out her wings, like a regenerated phoenix (excuse the stale-ness of the simile!) and from those cinders of argu-mentation, raises up in all the pride of unruffled plu-mation, raises up in all the pride of unruffled plu-mation, raises up in all the pride of unruffled plu-mation. This puts me in a pet—well it may, indeed!—and then we get to “high words,” and then Kate laughs; and then I bounce out of the room; and, running to this little den of mine, set to to vindicate myself in an essay.

That's the best way of disputing, after all—the pleasantest, at any rate. You can then give your arguments fair play. If there is a weak point in your adversary's reasoning, what fine tearing work you can make of it! And if a tough objection comes in your way, how easy to misunderstand it, or skip it over altogether! Commend me to your pen argu-ment, there is none to compare with it. It is like a grand field-day and review, where the troops are all on one side; or, if you are obliged, for candor's sake, to give yourself a few heavy lunges, no fear but you will find means to parry them—like the cat in the kitchen, you need not care being tossed head over heels a lit-tle, for there is no danger but you will come down on your legs again.

How any one can like chess moves my especial wonder. It is the dullest, the puzzlingest, and the tedious game under the sun. There they sit, Kate and James, posing and prosing—over those horses' heads and fools'-caps hour after hour, night after night. They speak but once or twice in an evening, and then only monosyllabically, “Check!”—and it seems as if a chair or a table had been suddenly en-dowed with speech. They can't talk themselves, and they can't be talked to. You cannot ask the civillest question but they give you a sulky answer—if, indeed they condescend to give you an answer at all. They call it *playing* at chess: monstrous perversion:—to me it seems harder work than algebra. It is the most lack lustrous of all games—it is no game at all, in fact—it is a labor, and a labor too, the most irksome that can well be imagined. It is like those “instruc-tive games” invented for children, where they are re-quired to twirl the tee-totum and ascertain the height of John Chinaman in a breath; where the drawing of a card or the throwing of a die leads you to the depth of the Mediterranean or the longitude of Per-nambuco. Poor dear children! who could have so miserably mistaken the nature of the play—who could have forged such fetters for their souls! But, bless them, they despised the cheat—they spurned the starved snake—they tore the false sheet into ten thousand tatters—they shivered the tee-totum into ten thousand fragments! But look at the chess-play-ers, motionless as a brace of mummies! And yet they describe their game as “very exciting.” Ha! ha! only observe their faces—not a curl of the lip, not a twinkle of the eye—they have not mustered so much as a smile betwixt 'em this half-hour! Once or twice, indeed, they have been “excited” to a most portentous frown; and something very like a half-suppressed “damn it” has every now and then been heard on James's side of the board. They tell you it is the game of kings—war in miniature. If kings like it, well and good; one seldom hears of them playing at it. I have been a constant reader of the daily papers this—no matter how many years; I have read of his Majesty taking an airing in the Park, playing a quiet rubber at whist, sailing on Vir-ginia Water, and going to look at the harriers at the Devil's Dyke; but I never heard of the king playing chess. As for its being an image of war (no great credit by-the-bye,) so is back gammon—so is crib-bage—so is fox-and-geese. Query:—do kings ever play at fox-and-geese?

I have mentioned backgammon. Yes, backgam-mon is a game. What life—what spirit—what mer-riest—what variety! Rattle, rattle, rattle, go the dice—bang sixes! Brave! take you up—cover my own blot—take you up again, and complete the last point in my own table. Ha, ha! if that is not enough to make any one die with laughing, what is? Throw again—six and three—obliged to leave a blot—four—four, by Jove, you take me—there again—up I go, two men must headed in a moment, and my ad-versary grinning from ear to ear. Ha, ha, ha!

That's what I like in backgammon. The reverses are so sudden—the ups and downs are as quick as in running hand. You have not time to brood over your ill luck, and your enjoyment is the keener for the shortness of your triumph. It is like a game at fisticuffs, where you shake hands with your antago-nist before you set to, and pledge his health in a bum-per when all is over. The other is far more vicious—downright French and English—war to the knife—thorough “good hating.” In backgammon, you

have not time to be angry; in chess, ill blood must needs grow from so long brooding. I would not wil-lingly walk out in the dark with a man whom I had heated at chess. You may believe it or not, as you like; but I once knew a young fellow who lost his mistress and forty thousand pounds by indiscreetly taking her queen with one of his pawns; and my un-cle, who is as fond of backgammon as I am, assures me that he has heard of a person who, having been stale mated when on the point of winning a long con-tested game, took it so much to heart that he cut his carotid artery three weeks after. For my part, I never could properly understand chess—it is such in-and-out, three-cornered work. The rooks, bishops, and pawns, I could manage well enough; but these horrid horses' heads, they always perplexed me. And then that *castling the king*, I never could remember, from one time to another how it was done; and never saw the use of it when it was done. Most people, I be-lieve, play at chess because they think it fine to do so; young ladies, because they fancy it argues a mascu-line mind—young men, because it hides their stupa-dity—retired tallow-chandlers, because they think it genteel. I was once fool enough to be dazzled by the glitter of the red and white, studied Phillidor, and went to see the automaton. But the fit was not of long duration—I soon cut my wisdom-teeth—I soon returned to dear old backgammon; and I wish, read-er, you and I could have a hit together at this mo-ment. I can never tire of backgammon. It is like “Sweet Home,” (the song, I mean,) you cannot have too much of it; the appetite here “grows by what it feeds on,” (really our quotations and similes are shockingly antique;) it is like bread and cheese, of which it is said, the more you eat the hungrier you get. It unwearies the mind, and rectifies the spirits. It turns a Nero into an Augustus, and a Cymon into a Caesar. The very sight of a backgammon-board is enough to put me into good humor. Those stripes of crimson and grey, how pleasant they be, like the glowing clouds of a summer sunset, or the brilliant ceruseations of the Aurora Borealis! How different the arena of the chess war! It always puts me in mind of the symbol on an alehouse window. It de-serves no better than to be played on a shutter.

Backgammon is essentially a gay game. It is not to be played with solemn thoughts and sour faces. You ought to laugh every time you throw, and if you have not a jest ready for every “doublets,” you don't deserve to throw doublets again as long as you live. As backgammon is a game almost entirely of chance, it will scarcely be in good taste to make such stand upon your skill. Less is it to be endured that you should be constantly referring to Hoyle, for the maintenance of some vexatious rule or foolish courtesy. If a man stand shilly-shallying over a blot, or hesitates to take one of your men, for fear of consequences, beware how you lend him your money, or entrust him with the title deeds of your house! If a man insults you by pedantically quot-ing and resolutely maintaining antiquated laws, such as “If you touch a man you must move it, and if you relinquish it you cannot recall it,” shut the board in his face, ring for your slippers, and go to bed. I was once called in to bail a fellow with whom I had long been on terms of intimacy. We played a game or two at backgammon in the spung-ing house. I threw six times, one on one side of the board, one on the other. He protested it was against the rules of the game, and insisted on my throwing again. I took up my hat, left the room, suffered my friend to go to prison. Did I not serve him rightly?

The only objection I ever heard against backgam-mon was its want of sociality, only two can play at it. This is the objection of my very good friends, the whist players. But I don't consider it an objec-tion: far from it—it is an advantage. There is sel-dom more than one person in a company that you are to concern yourself about; a friend, perhaps, or a sweetheart. If a friend, how delightful an oppor-tunity it affords you for a *tête à tête*! You go on playing and joking, rattling the dice, and squibbing off puns, as pleasantly as sunshine in a hayfield.—The game no more interrupts your thoughts than a gale interrupts the serenity of the deeps. It is to your discourse what the accompaniment is to a song: it is as animating as a trumpet is to a war-horse, or a view-hollo to a fox hunter, or a pair of bagpipes to a Scotchman. In the case of a sweetheart, the game is positively invaluable. To the lady herself, what opportunities it affords for the display of a well turned arm; how daintily her little fingers curved about among the men; how brilliantly glance her bright eyes, smiling over some lucky throw! And to you a *fete champêtre*, or a fancy ball, gives not half the facilities. I never was in love but once in

my life, and then I used to pay my addresses through the medium of the backgammon board. Oh! Mary Rose W——! (Mrs. Jacob Jenkinson now,) Oh! Mary Rose! (Rosemary I used to call you in our more playful moments,) what billings and cooings have we had over that mock “History of England” of your old aunt's? What tender things have we said under cover of the dice-box! what sighs have we mingled with the rattling of the men! how very close have we brought our lips (all but kissing) under pretence of disputing about a throw, or ascertaining the length of a six-and-five! How often, too, when your poor aunt has looked up from the “Whole Duty of Man,” and seen us leaving blot after blot, and throwing helter-skelter, and play-ing into the wrong table, and taking up our own men instead of our adversary's—how often has she start-ed us with her old favorite exclamation, “Hey day! now now?” and how have you blushed, Mary, at being convicted of a sigh or an ogle! and how have I stammered out an excuse for my fingers, which were haply caught playing themselves amongst your jetty ringlets, or for my toe, which was making love to your toe under the little rosewood table! Oh! Mary, Mary! those were happy days! my heart and your heart, Mary——. But, as I said before you are Mrs. Jacob Jenkinson now, and I mustn't say a word of tenderness in your matronly ear, lest that stockbroking husband of your's should take it into his head to sue for damages. Oh! Mary, Mary, how *could* you think of marrying into the 3 per cent. Consols.—to be dinned to death with the slang of Capel-court,—to give birth to nothing but bulls and bears?

I have known a game of chess to last two, three or even four evenings. That seems bad enough; but what must one think when it comes to be spun out for as many months,—to be played through the medium of the General Post Office, and hundreds of miles intervene betwixt each move? Madness, madness! I was once challenged to play a game, through the Twopenny, but I declined with indigna-tion. The challenger showed me a letter he had that morning received from an alverary in Edin-burgh, and he expected another, he said, by the next vessel from India. The Edinburgh letter ran thus: “Dear Phil,—By moving pawn No. 4 one square forward, you will very much oblige,—Dear Phil, your's very sincerely,—John Johnstone.” This fact alone is, in my mind, enough to damn chess.—What affectation! what folly! Did any one ever hear of a game of backgammon being played after such foolish fashion? Never, I'll be bound for it. Then, the airs of superiority the chessists assume over us poor backgammonists, and utter contempt they profess for our game! Why, the fact is, that our game is as superior to their's as silver to saw-dust. In chess two players must either be equal or unequal. If equal they see through each other's manœuvres in a minute; and the game (if not prolonged till both parties are heartily sick of each other, and so drop-ped from mere weariness) is lost at last by an over-sight,—the loser not considering himself beaten.—If unequal, a certain number of moves places the weaker party *hors de combat*, and that as often as the game may happen to be renewed.

In backgammon nothing of this sort takes place.—The most practised player may be beaten by the ver-iest tyro. Old grandpa may be gammoned by his little curly-headed granddaughter. Luck's all. For-tune governs throughout: conjecture is positively dumbfounded. A chancery suit or an action for libel can scarcely be more uncertain in its results. At backgammon all men are fatalists. Many fine moral lessons are contained in its leafless book. The “Talmud” and the “Koran” are not more full of ethical instruction than those two volumes of anti-types. They teach us how vain are all our calcula-tions of the future—how foolish it is for man to trust to his own predictions in matters over which himself has no control. They counsel us to look with suspi-cion on present good fortune, yet never to despair in the midst of adversity. Let no man be puffed up with pride; his pride may have a fall; let no man des-pend at the presence of poverty; he may throw sixes! Backgammon instils into our minds the rudiments of honorable competition: of course, it is no game for the St. Simonians; it teaches us that all mankind are equal,—black and white. It is a microcosm, in which the men represent the brute matter, and the dice the informing principle. If chess is a game for kings, backgammon is a recreation for the immortal gods themselves.

A noble game is backgammon—as I think cousin Kate will acknowledge when she comes to cast her fine black eyes over this most veritable and unsophis-ticated essay.

CONSUMPTION OF SILK.—The quantity of this material used in England, alone amounts each year to more than four millions of pounds weight, for the production of which, myriads upon myriads of insects are required. Fourteen thousand millions of animated creatures annually live and die to supply this corner of the world with this luxury! If astonishment be ascribed at this act, let us extend our view to China, and survey the dense population of its widely spread region, whose inhabitants, from the emperor on the throne to the peasant in the lowly hut, are indebted for their clothing to the labors of the silk worm. The imagination, fatigued with the flight, is lost and bewildered in contemplating the countless numbers which every successive year spin their slender threads for the service of man.—[Repertory of Patent Inventions.]

A few days ago two Savoyards, travelling the country with two dancing bears, were overtaken by night on the road, and put up at a public house near Dolbe, in Calvados. Having shut up their animals in the stable, they entered the house, and after taking some refreshments, began to count their gains during the day. While thus occupied a stranger came in, and entered into conversation with them. The account being made up, and the money put into a leathern purse, one of the bear-leaders was observed by their new companion, who seems to have had some of the qualities of the fox, but not all his cunning, to carry the purse into the stable, and return empty handed. The hour of rest arrived, the party separated, and each retired. About midnight, however, the traveller, who had watched the visit to the stable, but was not aware of how the stalls were occupied, went furtively there, in hopes of finding the deposited treasure. No sooner, however, had he entered within the door than he found himself in the embraces of a rough and powerful being, with claws that entered his flesh, and so completely destroyed all his discretion that he was forced to cry out lustily for assistance. The fact was, that the bear-leaders, knowing the fidelity of their two rough-coated companions, had followed their usual custom of placing their little treasure between them for safe custody. On the following day the would-be thief was pursued to the house and arrested for a depredation he had previously committed.—[French paper.]

Ludicrous Misunderstanding.—Mr. Crabbe had, I presume, read very little about Scotland before that excursion. It appeared to me that he confounded the Iacholm of the Frith of Forth with the Icolmkill of the Hebrides; but John Kemble, I have heard, did the same. I believe he really never had known until then that a language radically distinct from the English was still actually spoken within the island. And this recalls a scene of high merriment which occurred the very morning after his arrival. When he came down into the breakfast parlor, Sir Walter had not yet appeared there, and Mr. Crabbe had before him two or three portly personages, and all in the full Highland garb. These gentlemen, arrayed in a costume so novel, were talking in a language which he did not understand, so he never doubted that they were foreigners. The Celts, on their part, conceived Mr. Crabbe, dressed as he was in rather an old-fashioned style of clerical propriety, with buckles in his shoes for instance, to be some learned abbe, who had come on a pilgrimage to the shrine of Waverley; and the result was, that when, a little afterwards, Sir Walter and his family entered the room, they found your father and these worthy lairds hammering away, with pain and labour, to make themselves mutually understood in most execrable French. Great was the relief, and potent the laughter, when the host interrupted their colloquy with his plain English "Good morning."—[Crabbe's Life, by his Son.]

From two volumes recently published in London, under the title of "The Doctor," in which much clever writing is displayed, and solid instruction on miscellaneous subjects imparted, we have transferred some extracts to our paper to-day:

Love of Country.—Whatever strengthens our local attachments is favorable both to individual and national character. Our home—our birth-place—our native land—think for awhile what the virtues are which arise out of the feelings connected with these words; and if thou hast any intellectual eyes thou wilt then perceive the connexion between topography and patriotism. Show me a man who cares no more for

one place than another, and I will show you in that same person one who loves nothing but himself.—Beware of those who are homeless by choice! You have no hold on a human being whose affections are without a tap-root. The laws recognize this truth in the privileges which they confer upon freeholders; and public opinion acknowledges it also, in the confidence which it reposes upon those who have what is called a stake in the country.

"I don't like morality it doses."

"Nothing excellent was ever produced by any author who had the fear of censure before his eyes."

A Quack Medicine.—"When at any time it happened that one of his eyes was blood-shot, he went forthwith in search of some urchin, whose mother, either for laziness, or in the belief that it was wholesome to have it in that state, allowed his ragged head to serve as a free warren for certain 'small deer.' One of these hexapods William secured, and using him as if he loved him, put it into his eye; when, according to William's account, the insect fed upon what it found, cleared the eye, and disappearing he knew not where or how, never was seen more."

Time is a commodity of which the value rises as long as we live."

The Laws and Lawyers again.—He knew that laws were necessary evils; but he thought they were much greater evils than there was any necessity that they should be; and believing this to be occasioned by those who were engaged in the trade of administering them, he looked upon lawyers as the greatest pests in the country:

Because their end being merely avarice,
Winds up their wits to such a nimble strain
As helps to blind the judge, not give him eyes.

Lord Brooke.

Bell ringing.—"It would take ninety-one years to ring the changes upon twelve bells, at the rate of two strokes to the second; changes upon fourteen could not be rung through at the same rate in less than 16,575 years; and upon four and twenty they would require more than 117,000 billions of years. Great, then, are the mysteries of bell-ringing! And this may be said in its praise, that of all devices which men have sought out for obtaining distinction by making a noise in the world, it is the most harmless."

Intelligence.—Let me observe, that I never obtained any information of any kind which did not on some occasion or other prove available.

Age.—In age we dislike all changes as naturally, and therefore, no doubt, as fitly, as in youth we desire it.

Local Attachments.—If fifty years' acquaintance did not give us some regard even for stocks and stones, we must be socks and stones ourselves.

Quare in Education.—If I had been born too poor to obtain the blessings of education, or too rich to profit by them.

Advice.—They who cannot swim should be contented with wading in the shallows: they who can, may take the deep water, no matter how deep, so it be clear. But let no one dive in the mud.

Marriage.—The man who is married for mere worldly motives, without a spark of affection on the woman's part, may nevertheless get, in every worldly sense of the word, a good wife; and while English women continue to be what, thank heaven, they are, he is likely to do so: but when a woman is married for the sake of her fortune, the case is altered, and the chances are five hundred to one that she marries a villain, or at best a scoundrel. * * * To set about seeking a wife is like seeking one's fortune, and the probability of finding a good one in such a quest is less, though poor enough, Heaven knows, in both cases.

The man who gets in love because he has determined to marry, instead of marrying because he is in love, goes about to private parties and to public places in search of a wife; and there he is attracted by a woman's appearance, and the figure which she makes in public, not by her amiable deportment, her domestic qualities, and her good report. Watering places might with equal propriety be called fishing places, because they are frequented by female anglers, who are in quest of such prey, the elder for their daughters, the younger for themselves. But it is a dangerous sport, for the fair Piscatrix is not more likely to catch a bonito, or a darado, than she is to be caught by a shark.

The Turkish Language.—No people have pretended to so much precision in their language as the Turks. They have not only verbs active, passive, transitive and reciprocal, but also verbs co-operative,

verbs meditative, verbs frequentative, verbs negative, and verbs impossible; and moreover they have what are called verbs of opinion, and verbs of knowledge. The latter are used when the speaker means it to be understood that he speaks of his own sure knowledge, and is absolutely certain of what he asserts; the former when he advances it only as what he thinks likely, or believes upon the testimony of others.

Feelings.—You meet in this world with false mirth as often as with false gravity; the grinding hypocrite is not a more uncommon character than the groaning one. As much light discourse comes from a heavy heart as from a hollow one; and from a full mind as from an empty head.

Eyes.—Mirth sparkled in them, scorn flashed from them, thought beamed in them, benevolence glistened in them; that they were easily moved to smiles, easily to tears.

Confirmed Habits.—Every one knows the story of the tallow chandler, who, having amassed a fortune, disposed of his business, and taken a house in the country, not far from London, that he might enjoy himself, after a few months' trial of a holiday life, requested permission of his successor to come into town, and assist him on melting days. I have heard of one who kept a retail spirit shop, and having, in like manner, retired from trade, used to employ himself by having one punchoon filled with water, and measuring it off by pints into another. I have heard also, of a butcher in a small country town, who, some little time after he had left off business, informed his old customers that he meant to kill a lamb once a week, just for his amusement.

Cambridge Anecdote.—Some of my contemporaries may remember a story once current at Cambridge, of a luckless undergraduate, who being examined for his degree, and failing in every subject upon which he was tried, complained that he had not been questioned upon the things which he knew. Upon which the examining master, moved less to compassion by the impenetrable dullness of the man than to anger by his unreasonable complaint, tore off about an inch of paper, and, pushing it towards him, desired him to write upon that all he knew!

Singularity.—Of all things, a wise man will most avoid any ostentatious appearance of singularity.

Woman.—Man hath a fleece about him which enables him to bear the buffetings of the storm; but woman, when young, and lovely, and poor, is as a shorn lamb, for which the wind has not been tempered.

Disquisition in Praise of Order.—Think a moment, I beseech thee, reader, what order is! Not the mere word which is so often vociferated in the House of Commons, or uttered by the Speaker *ore rotundo*, when it is necessary for him to assume the tone of Zeus *υψιπεποις*; but order in its essence and truth, in itself and in its derivatives. Waving the orders in council, and the order of the day, a phrase so familiar in the disorderly days of the French National Convention, think, gentle reader, of the order of knighthood, of holy orders, of the orders of architecture, the Linnæan orders, the orderly sergeant, the ordinal numbers, the ordinary of Newgate, the ordinary on Sundays at two o'clock in the environs of the metropolis, the ordinary fasses of those who partake of what is ordinarily provided for them there; and under the auspices of government itself, and *par excellence*, the extraordinary Gazette. And as the value of health is never truly and feelingly understood, except in sickness, contemplate for a moment what the want of order is. Think of disorder in things remote, and then as it approaches thee. In the country wherein thou livest, bad; in the town whereof thou art an inhabitant, worse; in thine own street, worse; in thine own house, worst of all. Think of it in thy family, in thy fortune, in thine interests. In thy affairs, distressing; in thy memories, painful; in thy conduct, ruinous. Order is the sanity of the mind, the health of the body, the peace of the city, the security of the state. * * * a the beam's to a house, as the bones to the microcosm of man; so is order to all things. Abstract it from a dictionary, and thou mayest imagine the inextricable confusion which would ensue. Reject it from the alphabet, and Zerah Colburn himself could not go through the chirocross row. How then should I do without it in this history? A Quaker, by name Benjamin Lay, (who was a little cracked in the head, though sound at heart,) took one of his compositions once to Benjamin Franklin that it might be printed and published. Franklin having looked over the manuscript, observed, that it was deficient in arrangement. 'It is no matter replied the author, 'print any part thou pleasest first.' Many are the speeches and the sermons and the treatises and the poems, and the volumes,

submit them upon application, to any person desirous of purchasing the same.

METEOROLOGICAL RECORD, KEPT AT AVOYLE FERRY, RED RIVER, LOU.

For the month of January, 1834—(Lat. 31.10 N., Long. 91.59 W. nearly.)

Date.	Thermometer.			Wind.	Weather, Remarks, &c.
	Morn'g.	Noon.	Night.		
1834.					
Jan'y 1	51	54	53	NE—light	cloudy—{ distant heavy thunder a. m.—at 4 p. m. a severe thunder shower from s to w—at 7 p. m. wind w to N—high all night
" 2	34	36	33	N—high	" —wind high all day and night
" 3	23	34	32	"	clear—night cloudy—Red River at a stand
" 4	26	26	24	N	cloudy—snow at 9 a. m. to 1 p. m., one inch deep—night clear
" 5	16	30	28	calm	clear—light clouds—night clear—severe freeze
" 6	24	38	35	"	" —snow left in the shade, where the sun shone all gone
" 7	21	45	44	s—light	" morning—white frost—snow gone—evening and night cloudy—Red
" 8	42	52	50	NE—light	cloudy—pumpkins froze [River rising
" 9	46	50	66	SE—light	" —heavy thunder and rain—evening and night drizzling, steady
" 10	56	73	70	"	" —showers all day and night
" 11	69	76	72	s	" " " " " " " " " " " "
" 12	67	64	54	NW—high	" " " " " " " " " " " "
" 13	39	43	42	N	" " " " " " " " " " " "
" 14	38	42	39	calm	" " " " " " " " " " " "
" 15	42	50	54	"	" " " " " " " " " " " "
" 16	53	64	63	s—light	" " " " " " " " " " " "
" 17	65	71	70	"	" " " " " " " " " " " "
" 18	68	73	68	"	" " " " " " " " " " " "
" 19	67	72	70	calm	" " " " " " " " " " " "
" 20	66	71	72	"	" " " " " " " " " " " "
" 21	50	49	41	N—high	" —foggy morning—evening light clouds and sunshine
" 22	36	45	43	N—light	" —light rain or drizzling all day and night
" 23	39	47	46	calm	" " " " " " " " " " " "
" 24	42	46	45	"	" " " " " " " " " " " "
" 25	48	62	70	"	" " " " " " " " " " " "
" 26	59	53	51	NE	" " " " " " " " " " " "
" 27	37	33	36	"	" —rain all day, with some hail—and night hail and sleet
" 28	32	35	34	N	" —snowing light all day—and drizzling and hail all night
" 29	32	38	37	calm	" " " " " " " " " " " "
" 30	38	54	54	"	" evening, sun visible through light clouds
" 31	40	44	42	w—high	" " " " " " " " " " " "

* Red River rising—below high water mark 11 feet 2 inches.

Red River rose this month 3 feet 5 inches—below high water, 7 feet 9 inches.

Avoyle Ferry, on Red River, Lou.,
February 8th, 1834.

To the Editor of the Railroad Journal:

SIR—Inclosed is the range of the Thermometer for the month of January, regularly entered as stated. It has been the most extraordinary month ever noticed in this part of the country, for cold—cloudy—rains—and changes of weather. Most respectfully,

Your most ob't servant,

P. G. VOORHIES.

P. S.—I wrote you particularly on 3d January, ultimo.

[We are much obliged to our worthy correspondent for a continuance of his communications and regret, to say that the one above referred to, of 3d January, has not been received, more especially on account of the interruption it causes in our thermometrical record.—Ed.]

COMMERCIAL RECORD.

Report of the New York Market, Thursday, March 27, 1834.

ASHES—Pots continue in tolerable request at 4 30, while Pearls are only in moderate request at 4 60.

COAL—Sales were made of unbroken Schuylkill by auction at 4 37 and 50.

COFFEE—Sales of Laguira green at 11 1.2 cts.

COTTON—There is a little more demand for home use, and prices are sustained. Sales of Upland at 11 12 1.2, and New Orleans 12 1.2 and 13 1.2 cts.

FLOUR—Has advanced full 25 cents a barrel since Saturday. Sales of common brands Western at 5 50; Howard st. 4 87; Philadelphia 5; and New Orleans at 4 50.

GRAIN—Is dull; some sales of Ohio, via. New Orleans Wheat at 1 dollar.

MOLASSES—Considerable sales since our last, of New Orleans at 30 cts.; Porto Rico 30 and 32, and Havana 24 cts.

No change in the prices of Sugar or Spirits.

The Sabina's cargo of Teas is announced for Tuesday.

Cattle Market—Upper Bull's Head, New York, March 24.

BEEVES—420 head in market, including 50 left over from last week. The cattle were of fair quality, and the demand about the same as last week. 375 were sold at an advance of 12 1.2 cts per cwt on former prices. Prime sold at \$7 50; good, \$6 50 and 57; ordinary, \$5 50 and 57—average, 6 62 1.2 per cwt.

BAZAR—There was but a small supply in market, and sales were rather dull. Some were sold at from \$3 to 6, according to quality.

COWS AND CALVES—Are dull. Some sales at \$23, 25, 28 and 30.

Cincinnati, March 19.

FLOUR—The arrivals during the last week have been small. It is bought up as fast as it arrives, at \$2 75 and the inspection.

WHISKEY—But little in market. We quote at 18 1.4—in demand.

BALTIMORE MARKETS—March 25.

There are no transactions from stores in Howard street Flour. The few loads coming in are taken from wagons at \$4 25 No sales of City Mills Flour.

There is but little doing in any kind of Grain, and the market appears to be without change.

Whiskey in hhds. we quote at 21 cents in large lots, and 21 1/2 cts in small lots. The wagon price of hhds is 20 cts, exclusive of the barrel.

CHARLESTON PRICE CURRENT, March 22.

Home Productions.

COTTON—Sea Island 25 a 35; Stained 10 a 16.

Maine 22 a 25.

Santee 20 a 24.

Short staple 10 a 12 1/2.

RICE—Inferior to good 2 a 2 1/2; prime 2 1/2 a 2 3/4.

FLOUR—Philadelphia, Baltimore, and Richmond. \$5 a 5 1/2.

CORN—50 a 75; OATS 38 a 43; PEAS 56 a 70.

BACON—7 a 8 1/2 cents; HAMS—9 a 10 1/2.

LARD—8 a 9 cents; SOAP—Yellow 6 a 7.

BALE ROPE—3 a 10 cents.

OIL—Sperm. 90 a 110 cents per gallon.

Foreign Productions.

BAGGING—Dundee, and Inverness, 42 inch 24 a 25; Tow and Flax do 18 a 22.

OSNABURG—94 a 11.

IRON—Assorted Russia and Sweden, 100 lbs. \$4 a 4 1/2.

SALT—Liverpool, coarse in bags of 4 bushels, \$1.31 a 1.37; in bulk 28.

Tobacco Island 50.

SUGAR—Havana, white 9 a 10 1/2; brown 7 1/2 a 8.

Muscovado 8 a 10; St. Croix and Jamaica 9 1/2 a 10 1/2; New Orleans 7 1/2 a 9.

REMARKS.—Cotton—There has been a very fair demand for Uplands during the week from 10 to 12 1/2; the sales have been principally in the finer qualities, although there has been a good demand for the inferior descriptions. There has been a good demand for long Staple also this week at our quotations.

Rice.—The market still continues heavy and a few sales that have been, were made at a reduction of 1-8 to 3-16ths of a dollar.

FLOUR.—This article remains dull.

GRAIN.—There have been pretty extensive sales this week.

[From the New Orleans Price Current, of March 8.]

REMARKS.—The past week has been obscured by a daily and regular succession of rain and fog, the streets are again covered with liquid mud, and we are reminded occasionally, in the course of twenty-four hours, of changes indicative of the four seasons. It is hardly necessary to add, that our door affairs are retarded in consequence; freight cannot be transported to the shipping without much risk of injury, and that already deposited on the levee occasionally is caught in a shower. The Mississippi is at about the same stage last noticed, three feet below high water mark. Of the times in general, we cannot say more than repeat former remarks—the cry of "Hard times!" is in the mouths of nearly all who give themselves any trouble about the matter; and, though we believe them to be hard enough, yet, if our private opinion can shed any light on the subject, we are free to say that they have been rendered doubly difficult by idle clamor. The curtailment of accommodations by the Banks is certainly a great drawback to our commerce, and has reduced the prices of Stocks, &c. below what we thought could be the contingent of a probability; but, if those who have cash idly hoarded, could find firmness to invest it, (and a better opportunity never presented itself since we have known the city,) in one short month, mo-

ney would, we believe, go a begging for good notes at 10 per cent. per annum. We are aware that many, very many, are of precisely the contrary opinion; and so long as this idea is supported, nay, tolerated by the community, just so long will we have "hard times."

COTTON.—The market has been very lively since a few days, and sales to about 16,000 bales, including portions of every description, have been made at 1 to 4 cent. per lb. advance. The operations have been principally in Tennessee and Alabama Cotton, at 9 1/2 a 10 cents per lb. for parcels found. The stock of Tennessee is very small, while that of Alabama is abundant. Of Louisiana and Mississippi there is little left for sale, and fine parcels of these descriptions, in particular, are very scarce. The market has assumed a more healthy appearance than formerly; and, but for the extremely unpropitious weather, would be very animated.

SUGAR continues to command former rates of 5 a 7 1/2 cents per lb. for that of good quality in the city.

MOLASSES is in the usual good demand, and prices remain without change, 20 a 21 on plantation, and 23 a 25 in town.

FLOUR.—The price remains without change, and the demand fair.

PORK is in good demand, and a fair business has been done at the rates quoted.

BACON, as remarked last week, is rather dull, without change in price.

LARD is in good demand, at 6 1/2 cents per lb. for that of good quality.

LEAD, Pig—There is no alteration in price, \$5 12 1/2 per 100 pounds.

FREIGHTS have improved—and, as usual, some are refusing current, and waiting higher rates.

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in semi-monthly form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor. Jan. 22, 1834.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published.

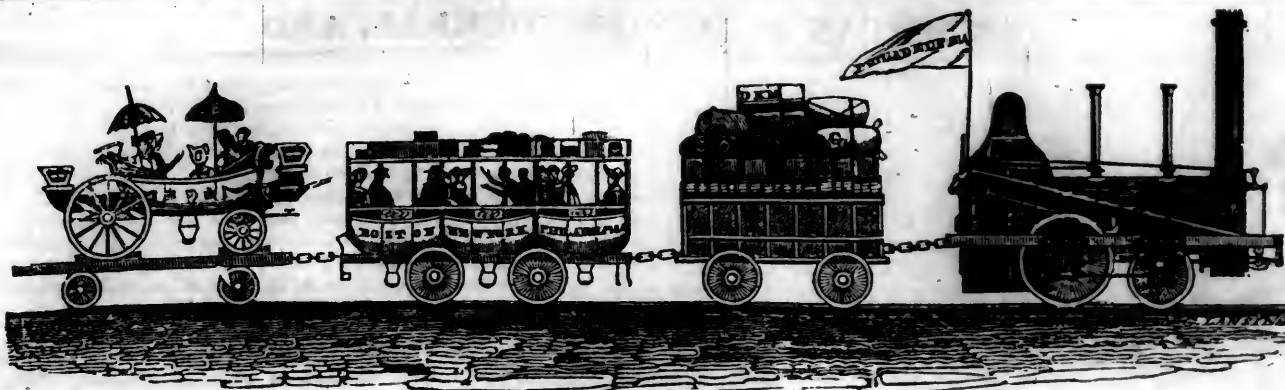
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All Letters and Communications for the above publications, may be addressed, free of postage, to D. K. MINOR.

NOW READY,

AN INTERESTING AND USEFUL MAP. Upon which is delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It may be had either in sheets, price \$1 25, or put up in Morocco for pocket maps, price \$1 50, or on rollers at \$2 25, in any quantity, by applying to the subscriber. D. K. MINOR, 35 Wall street. New-York, April 2, 1835.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, APRIL 5, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, APRIL 5, 1834.

The writer of the following letter will excuse us, we trust, for publishing it without his consent. The truth is, we are driven, these hard times, to adopt all honorable means in our power to extend its circulation, that we may receive back the money it has cost us. If we can do that, by a collection of what is now due from those who have heretofore taken it, the sale of copies now on hand, and an extension of its circulation, we will never say a word more about having thus far received no compensation for our own services in superintending it. One cannot afford to work for nothing unless his expenses are defrayed: and we should not have been obliged to do so, if all who have patronized, had paid us.

LIVERPOOL, Feb. 20th, 1834.

SIR,—I am requested by Mr. Vignoles to subscribe for a set of the Railroad Journal, with the back numbers complete, for the Institute of Civil Engineers in London, and another for the Board of Public Works of Dublin, which may both be sent as you have hitherto sent his copies. He says they will all prefer having them in semi-monthly parts, stitched in a wrapper, as you have sometimes sent them; I should also prefer mine in that way. I have, likewise, at the solicitation of Doctor Lardner, to ask you to send two copies of all the back numbers, and to continue him as a subscriber. On seeing my copy, he expressed the utmost astonishment that such a work should be published in America, and I dare say he will be the means of your procuring additional subscribers. You will please to forward me your bill, which shall be immediately paid.

Your obedient servant,

FRANCIS B. OGDEN,
Consul of the U. S. at Liverpool.

ERIE AND KALAMAZOO RAILROAD.—We are happy to learn by the following letter from one of the commissioners, that \$48,000 of the capital stock of this company has been taken, leaving but forty shares of \$50 each, to make up the full amount necessary to make a good wooden railroad from Port Lawrence to Adrian.—[Miami of the Lakes.]

"ADRIAN, March 6, 1834.

"The books for receiving subscriptions to the capital stock of the Erie and Kalamazoo Railroad Company were opened here as per notice, on the 4th instant. On that and the following day there were 960 shares subscribed, which is \$40,000. The stock finds a more ready market than was anticipated by the warmest advocate of the road. This tells well for the intelligence and enterprise of the inhabitants of the counties of Lenawee and Monroe. People of every profession, trade, and business, have taken stock. Can there be any doubt that a railroad will be built, when so many unite their strength and say it shall go on? Your favorite theory of wooden railroads will therefore soon be put in practice."

By a gentleman of this place, recently from Columbus, we are informed that the Wabash and Erie Canal bill had a few days before the time of adjournment been passed by the House and sent to the Senate, where, after some trifling amendments, it also passed, and that there was no doubt that the Senate's amendment would be concurred in by the House without opposition. The bill, as we are informed verbally, provides for the immediate survey by engineers, under the direction of the Commissioners, of both banks of the river from the Indiana line to the foot of the rapids, and also an examination of the bed of the river as low down as the head of the rapids, with a view to a slack water navigation, if it should be deemed expedient.

Three gentlemen to be appointed by the governor, to select and appraise the lands belonging to the canal, which lands are to be brought into market as early as practicable, and sold for cash, provided that none shall be struck off at a less price than \$2 50 per acre, nor less than its appraised value; and no canal land can be entered at private sale until two public sales shall have been held. The proceeds of these sales are to be applied without unnecessary delay to the construction of the canal.

It is expected that the engineers will be on the route as soon as the ground is well settled.

We shall publish the canal bill as soon as we have the good fortune to lay our hands on it.—[Miami of the Lakes.]

Internal Improvements, No. V. By F. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

SIR,—Animated discussions have at various times taken place, in relation to the particular plan that is best adapted as a general means to promote and facilitate internal commerce; and although systems have been explained, and theories investigated, in the most lucid and elaborate manner, they have been too frequently characterized by party influence, to produce any other effect than that of exciting animosities to the prejudice of the true interest of the cause.

It is not believed that any one particular plan can with propriety be recommended as most fit to subserve the general interest of the country. The circumstances which should govern the mind in the choice and adoption of such plan are principally of a local character, and entirely independent of general rules. Canals, railways, turnpikes, have each their particular province, their particular sphere of action. Each, according to circumstances, possesses, relatively, certain capabilities and advantages, for which it claims precedence over the other two; and for which alone it should be selected as most likely to conduce to the improvement of the section of country it may be intended to benefit.

One of the main causes of error, and one that has been productive of more injury than any other, may be traced to the prejudice that has so unreasonably existed in the minds of the people, against the employment of men of science in the construction of important public works. It is disgraceful to find the interests of men of this class, even when possessing a large share of practical knowledge, prejudiced by the very thing which ought, in the eyes of an enlightened community, to have advanced them; to find their services slighted and put aside to give place to those who, professing to act independently of all theory and scientific principle, and ignorant of every thing except the few practical rules indispensable in their vocations, happen to enjoy the unenviable distinction of being mere practical men. It is only by the lights of science that we can ever hope to estimate with any degree of accuracy the combined actions of different causes, and by a correct knowledge of its principles that we can avoid making improper applications

of established laws, and be enabled to draw legitimate conclusions from particular premises. It is not imagined by any reflecting person that knowledge of this kind can possibly militate against a correct conception of plans, and a judicious arrangement of details. Were it reasonable to suppose, even for a moment, the encouragement of any such ridiculous notions, many convincing instances might be adduced as evidence to maintain the contrary position,—that without its assistance no engineer can hope to attain to eminence in his profession. Prony, Tredgold, and Smeaton, were all, in some sense, practical men; but to an extensive practice they united a profound knowledge of all the different branches of mechanical science; and who have contributed more than they to the general diffusion of knowledge, under the different heads to which their attention was directed. We are persuaded that it is only from the exertions of such men (and many such may be found in this country), that we can possibly escape falling into the snares that are laid by designing men to dupe the unwary.

So much has already been written on the relative value of railroads and canals, that the subject is indeed well nigh exhausted; and although little or nothing, it is believed, can be adduced further to strengthen our position, but what has been hundreds of times reiterated from every quarter of the Union, still it cannot be passed by, consistently with the object in view and in justice to the cause we uphold, without a brief notice of some of the characteristics by which these formidable rivals, if such they must be considered, are chiefly governed. That of friction, as it has proved a fruitful source of disputation among theorists, claims particular attention, as the basis on which most of the arguments are founded; and although the experiments from which our information on this important topic is derived have been conducted with the greatest care and precision, the results differ so widely in character, and present so many material opposing points, that the laws established from the conclusions drawn from the one have ever been invalidated by those drawn from the other. It was long looked upon as a fundamental principle, that *the friction of rolling and sliding bodies was the same for all velocities*, and consequently, that any body being acted on by a constant force barely sufficient to overcome its friction, together with the resistance of the atmosphere, would, like a falling body acted on by gravitation, proceed with a motion continually accelerated, and increase beyond any assignable limit. However startling this assertion may have been at its first appearance, it yet found many to countenance its introduction, and claim its admission as a truth deserving unlimited credit. Here was a fine field for speculation; and to this apparent paradox may be traced the fountain head from which has emanated all the enthusiastic hopes and extravagant expectations which have characterized the railroad mania during the last few years. Fortunately, however, for the cause of science, men have been found sufficiently sceptical to question the truth of this absurd position. Morin, satisfied in his own mind, that his predecessors, Vince and Coulomb, had been laboring under the effect of some undefinable error, determined to sift the matter until he discovered the cause. Having prepared an apparatus for this purpose, he varied the velocity from the lowest up to ten feet per second; the rubbing surfaces from some tenths of a square inch to nearly five hundred square inches; and the pressures from ninety to twenty-five hundred pounds. All the experiments made within these limits, and they were repeated many times, agree in character, and prove, what is more consistent with our ideas, and reconcileable with our experience, that the friction of surfaces moving on each other is *entirely independent both of velocity and surface, and proportionable to the pres-*

sure. In this experiment, of course, the opposing resistance of the medium through which the body passes is abstracted.

These practical results were still, however, highly satisfactory, as placing the ability to propel carriage on railroads at a suitable speed, for the more rapid dispatch of business, beyond a doubt; and as showing the striking relative difference in the force requisite to produce the same degree of speed upon canals. But before going further, let us examine a little into the nature of this latter resistance. We find this to be governed by totally different laws: that it increases with the square of the velocity. It is the resistance of the medium through which the body passes, and is occasioned by two causes,—the cohesion of the particles and the inertia of matter. Thus, if a body move through a fluid at different velocities, the resistance will increase with the increased number of particles struck in a given time; which, of course, will be determined by the space run through in that time. If, therefore, a triple number of particles be struck, the resistance will be triple; but it increases further with the force with which the body strikes the particles, and this being proportional will be also at a triple rate, making the whole resistance nine-fold: i. e., partly in the ratio of the velocity, and partly in the duplicate ratio of that velocity.

The only apology offered for these tedious and uninteresting details, is the circumstance of their being addressed to the unenlightened—to those whose occupations may preclude them from bestowing much care and reflection upon subjects of this character. It is a desideratum admitted by all who have the interest of the country at heart, that a correct knowledge of fundamental principles be so generally diffused throughout every class of society, that each and every individual member thereof may be enabled of himself to pass judgment on the relative merits and demerits of the various schemes presented for public approbation; and to detect the fallacies of those whose wilful misrepresentations have so often before led into error. Almost every instance that has occurred where serious injury has resulted from ill-advised and ill-concerted undertakings, has been characterized by a total ignorance of the commonest rules of hydro-dynamics. Many unhappy examples might be adduced to illustrate this observation, but we forbear, in the hope that the experience derived from the past will so regulate the actions of the future as to render their recurrence, unless wilful, next to impossible.

But to return to our subject. It appears from the different nature of these resistances, that the rate of velocity on canals is confined to a very low limit, whereas the rate of that on railroads may be increased to any height that will not prove injurious to the road and carriage. On the other hand, however, it is to be remarked that this very principle, which is harped on as an insuperable objection to the further use of the canal, actually endows it with advantages that are altogether unattainable on railroads. We shall endeavor to explain this in as few words as possible. The relative good effect produced at different velocities, in round numbers, stands very nearly thus: One to three in favor of canals at a velocity of two and a half miles per hour; equal at a velocity of five miles per hour; and one to three in favor of railroads at a velocity of ten miles per hour. Now, reasoning from these premises it can be made to appear that a force of traction on a canal equal to one hundred pounds, will be amply sufficient to move a mass equal to ninety thousand pounds. A horse travelling at the slow rate of two miles per hour can draw with ease thirty tons in a boat weighing fifteen tons. This gives us at once a proportion of one to nine hundred as the amount of resistance opposed to the motion of a vessel through the water at two miles per hour. Now, reducing this velocity to one mile per

hour, the proportion becomes one to three hundred and sixty; and if to a half a mile per hour, one to fourteen hundred and forty; or, in other words, a traction equal in force to 100 lbs. can thus at that rate draw a mass of the enormous weight of 1,444,000 lbs. This astonishing fact does not only exist in theory, but has actually been proved in practice, upon our own lakes. A single horse has been known to draw, at the rate of one mile per hour, a raft weighing two hundred tons. F.

Farther Illustration of the Principle of Mr. Ericsson's Caloric Engine. [From the London Mechanics' Magazine.]

SIR,—The following remarks, in elucidation of the principle of my Caloric Engine, will, I feel confident, not be unacceptable to your many scientific readers.

To arrive at a clear understanding of the advantage gained by the new mode of employing heat adopted in this engine, it may not be amiss to pause for a moment to consider how heat is at present made use of when employed to actuate that universal instrument of mechanical power, the steam engine. Is it necessary to the effect produced, that the heat should be absorbed ~~and~~ destroyed, or in any way diminished in energy? If this question can be answered in the negative, then it will be quite logical to assume that the power of the steam engine forms but a fraction of that which the combustion of a given quantity of fuel is capable of producing.

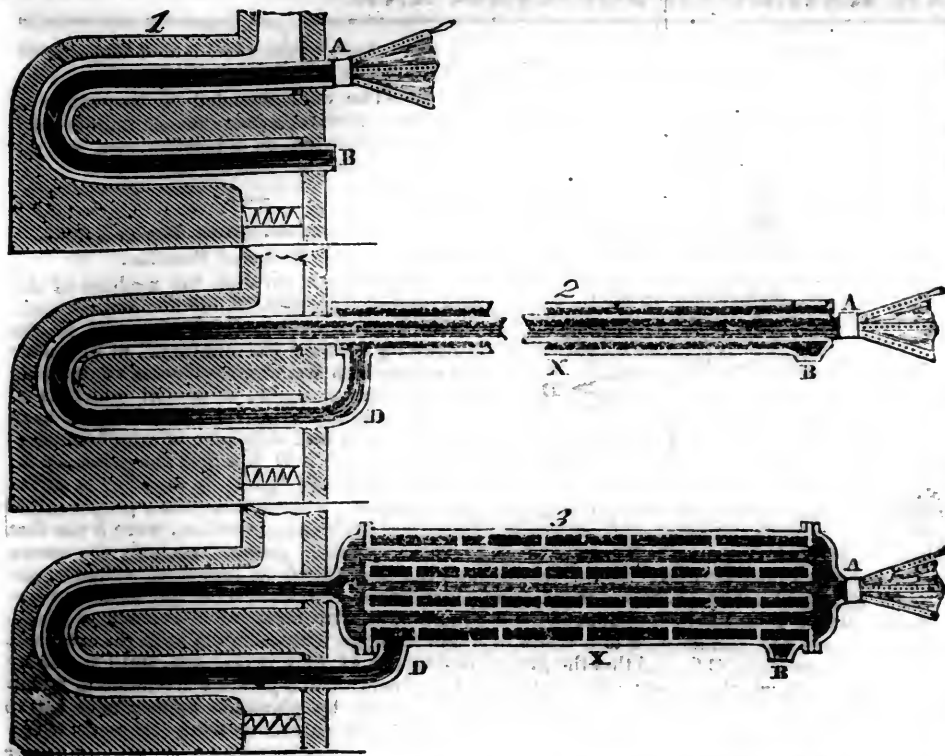
Well, then, let us suppose a quantity of steam, of known volume and pressure, to be admitted into a vessel containing cold water of a given weight and temperature; the elevation of temperature which will be produced will, of course, afford an accurate measure of the quantity of heat contained in the steam previous to its condensation. Suppose, now, that an equal volume of steam, of equal pressure, as in the first instance, is admitted under a piston, working in a cylinder, and subjected to a proportionate load; that piston will, of course, move until all the steam has been admitted, and by its motion exert a force proportionate to the pressure of the steam and the volume displaced. Let, then, the steam be discharged from under the piston into the vessel of cold water, under similar circumstances as in the first supposition, and it will be found that the *same* elevation of temperature will take place as when the steam was not previously employed to raise the piston. We thus find that *the production of mechanical force by heat is undecompanied by any loss of heat.**

But, in the steam engine, this remarkable circumstance is not productive of any advantage, for although nearly all the heat generated in the boiler is unquestionably conducted to the condenser, that heat cannot from thence be brought back to the boiler again for the purpose of raising steam, having in the condensing process been diffused amongst a large quantity of matter, and brought to a much lower temperature than the steam.†

On these grounds the inference seems incontestible, that the steam engine is not constructed on a correct physical principle, inasmuch as it consumes a greater quantity of that precious commodity, fuel, than is neces-

* Losses by radiation need not here be taken into account, for they do not affect the theory.

† Of course, every boiler is fed from the condenser, but this produces a saving of fuel of only one-thirteenth part of the whole quantity consumed: hence thirteen-fourteenths of the heat generated is constantly wasted.



sary for the production of the mechanical force obtained.

It is well known that all fluid substances, the gases particularly, expand very considerably by being exposed to the action of heat, and that, if kept in a state of compression previous to being heated, their expansive force will, at a given temperature, be greater, and that in the same proportion as the increase of density. That an engine might be worked by means of such expansion or dilatation, will be readily admitted by any one reflecting on the subject, without referring to the diagram or sketch of the Caloric Engine, given in a recent number of your Magazine. I will, therefore, not detain your readers by detailing the manner in which the motion is practically produced by the dilatation of the heated medium, but confine myself to the theory of the contrivance, by which a nearly unlimited quantity of the impelling medium, (gaseous or fluid,) may be heated to any required temperature, by the consumption of a small quantity of fuel.*

Let fig. 1 (see the accompanying engraving) represent a furnace having a metal tube, y, conducted through the centre of its flue, to be acted on by the heat in its passage to the chimney; let a pair of bellows be attached to the pipe, y, at A, for the purpose of keeping up a constant current of air through that pipe; and let a thermometer be inserted into it at A, and another thermometer at B. Now, suppose a regular fire to be kept up, and the bellows to be regularly worked so as to blow, say 20 cubic feet of cold air into the pipe y per minute: if it then be found that, whilst the thermometer at A indicates 60°, the thermometer at B will continue to indicate 100°, it follows, as a matter of course, that the heat transmitted

by the furnace per minute will be accurately ascertained by calculating what quantity of heat is required to raise 20 cubic feet of air from 60 up to 100°. Now suppose the same furnace, with its metal tube y, to be represented by fig. 2, but instead of having the bellows attached to the metal tube, suppose them to be attached to a pipe, A C, of infinite length, and let this pipe be inclosed in a casing, X; suppose, further, this casing to be surrounded by a perfect non-conductor of heat, and instead of allowing the hot air to pass off directly, as at B in fig. 1, let it be conducted from the metal tube y, through the pipe D, into the casing X, and pass off at B. Then let thermometers be inserted in the pipes at A, C, D, and B, the bellows being worked at the same speed as before, and an equal fire kept up. At the commencement, the thermometer at A and at C will, of course, both indicate 60°, but the thermometer at C will very soon begin to rise, on account of the heat conveyed into the casing X; but any increase of temperature at C will, of course, cause an increase of temperature at D. This again will still further increase the temperature at C, and so on in continued succession, until the thermometer at D indicates a temperature nearly equal to that of the hot air in the beginning of the flue leading from the furnace: any further increase of temperature, of course, cannot take place. Now, since the quantity, or rather weight, of air forced through the metal tube y is the same as in the first proposition, and the power of the fire likewise, this latter proposition, illustrated by fig. 2, incontrovertibly proves that the temperature to which the air may be brought is made perfectly independent of the quantity of heat generated in the furnace.

But the quantity of air to be heated will also be equally independent of the quantity of heat generated: for suppose that, in the first proposition, the draught be checked so as to diminish the consumption of fuel $\frac{1}{2}$, then the 20 cubic feet of air constantly circulated per minute will be raised about 10°, instead of 40°; but apply the contrivance for bringing the heat back, as illustrated in

fig. 2, and the thermometers at C and D will be affected just as above described, except that more time will be required before the temperature at D is brought to the full height, and that less heat will ultimately escape at B. Thus it may be proved *theoretically*, that any quantity of fluid air or gaseous matter can be heated up to a high temperature, independently of the quantity of heat actually generated for that purpose. Although this is apparently a paradox, it is not so; for by referring to the illustration in figs. 2 and 3, it will at once be seen that the circulating fluid is of a high temperature only when passing the point D, and that it gradually diminishes in temperature as it recedes, and gradually increases as it advances towards that point. However, for the purpose of obtaining mechanical force this is quite as advantageous as if the fluid retained its high temperature when it escapes; for at the point D is the heated fluid admitted into the working cylinder, and from thence passed off into the casing X. The manner in which this is done, your diagram of the Caloric Engine, in a former number, fully explains.

Fig. 3 represents the form of an apparatus used in practice; its operation is precisely the same as in fig. 2, and thermometers placed at A, C, D, and B, will indicate temperatures proving the increase of temperature and transfer of heat in a similar manner. The cold fluid is forced into the furnace through a number of small tubes, Z, and the hot air is passed off through the vessel X, called the regenerator. The currents, both in this vessel and in the tubes, are broken in a peculiar manner, so as to produce a constant intermixture of particles, which is absolutely necessary for effecting a rapid transfer of heat. But to such an extent has this object been attained by the contrivances instituted, that hot air, constantly passed at the rate of 6 feet per second, through a pipe 1½ inch bore, fourteen feet long, and entering at a temperature of 300°, has, by a counter-current of equal magnitude, been brought down to 85°, the counter-current at the same time entering at 72°.

I remain, sir, yours, &c.

J. ERICSSON.

Edward st., Regent's Park, Jan. 7, 1834.

[From the *Mechanics' Magazine*.]

We have received the following communication from the agent of Mr. Harris, respecting his invention, and on the same day the letter from our friend Archimedes. We have often stated that our columns are open to controversy on scientific subjects, if conducted without personalities, and we cheerfully insert both articles. We hope to receive other letters on the same subject.—[ED. MEC. MAG.]

Harris' new Patent Twin Steamboat. To the Editor of the *Mechanics' Magazine*.

SIR.—In requesting the favor of you to give Mr. Harris' communication a place in your columns, I beg leave to say that I am only discharging the duty of an agent, without the remotest wish or desire to injure Mr. Burden.

There has not been a dissenting opinion among all those with whom I have consulted, and shown Harris' plans, and some of them are well qualified to judge, that it is superior to any thing yet discovered for velocity.

His invention admits of many advantages not enumerated in the following letter. Among them are, security of the inner wheels in a heavy sea, double wheels for river navigation, &c. A model of the construction may be seen at

* The journal cited in my last communication having, by some strange oversight, mistaken the Caloric Engine for an "Air Engine," it will be well to direct the attention of your readers to the fact, that various gaseous and even fluid substances, capable of considerable dilatation by heat, are equally applicable for using the heat over and over again, and for the reason that the impelling agent may be varied, while, in every case, caloric is indispensable, has the term Caloric Engine been chosen.

my office, where I invite capitalists and others to come and judge for themselves.

D. MALLORY, Chester's Buildings,
No. 1 Dey street.

D. MALLORY, Esq.:

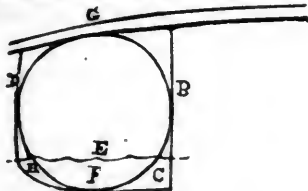
SIR,—Having for some months past observed in the papers notices of "Burden's Steamboat," and of the very great velocity with which she is expected to move, I was induced to institute a comparison between his construction and one which I invented, and have secured in the patent office at Washington; and the result is, that a boat built on my plan must move with greater velocity.

If I can establish the fact—which is the object of this communication—that a boat constructed on my plan, of equal length, and of as much weight as his, possessing a form calculated to move with less obstruction from the water, and to draw considerably less water than his, it must be manifest that my plan is superior, and must supersede his.

Before entering upon a comparison of the two plans, it is necessary that I should give you an idea of the form of my boat. You have only to imagine a boat *extremely long, very narrow*, with a flat bottom, similar to river steamboats of the present day, and *very sharp*, with *fine tapering extremities*, with the stem and stern posts in a curvilinear shape, and both inclined in opposite directions, as in common vessels, but at a very acute angle with the horizon. You have now only to conceive this boat split into equal parts, longitudinally, from stem to stern, down through the keel, and the two halves placed at any desired distance from each other in parallel lines, but joined above water by timbers and deck in the most substantial manner, and you have my plan.

I will now proceed to prove the superiority of such a construction over Burden's boat.

The lines of the figure marked A, present an end view of one of my twins cut *across* and *entirely through* at the centre, thereby showing the shape of the timbers or model of the twins, at the centre; the side timber, B, being 8 feet long, that is, that portion of it contained between the side timbers B and D. Within this figure is inscribed a circle of 8 feet diameter, representing an end view of one of Burden's twins, severed across at the centre also.



Now, for a clearer perception of the buoyant properties of the two plans, we will suppose that the above circle represents the circumference of a cylinder 109 feet long, which does not have tapering, pointed extremities, like Burden's, but whose ends are of the same diameter as the centre, viz. 8 feet. We will also suppose the lines of the above figure to represent the depth and width of a fabric 100 feet long also, whose ends shall have the same dimensions (8 by 8) and not pointed, as after my plan.

Bearing in mind these forms, we will assume that the weight of 200 tons are requisite to immerse the circular figure 2½ feet in the water, the surface of which is represented by the water line E.

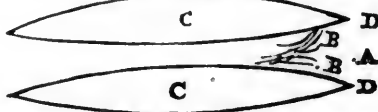
Now, a simple inspection of the two figures will suffice to show that 200 tons could immerse the black lined figure hardly more than half that depth, because, besides immersing an area equal to the segment F, it would have to immerse also the two areas G and H, which, together, are equal to ⅓, and a little more, of the area F.

The limits of the paper forbid entering into an exact mathematical calculation respecting the draft of each construction, but the foregoing figure and explanations must convince you that my plan is superior in respect of draft, and

we know that the less the draft the greater the velocity, other things being equal.

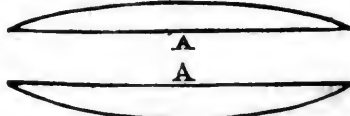
Now, in regard to "other things," they are not equal—the inequality being in my favor. For, with respect to the heads of my boat, I can model them in a manner superior to that of Burden's, for dividing and gliding over the water.

To perceive another advantage which my mode possesses over his, we will imagine that his deck is removed, and that we, being in the air over his boat, look down upon it. It will of course present the following appearance—the twins being 16 feet apart at the centre C C.

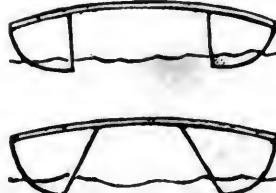


I am told that about ⅓ of their length is above and clear of the water at each extremity. Therefore, supposing them to be in motion towards A, we at once perceive that a volume of water at B B, about 21 or 22 feet wide, (the distance between D and D being exact 24 feet,) must of necessity be compressed to a width of 16 feet in its passage at C C, and that the greater the power with which you urge the boat, the greater will be the accumulation of water at B B.

My boat viewed from above would present the following appearance:



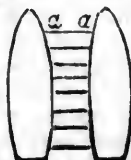
from which you can of course perceive that the water in its passage between the twins can meet with no obstruction. The two inner sides at A A can be either perpendicular to the surface or inclined toward each other, shown thus by end views:



In either mode the water passes without obstruction. For certain reasons it is thought that inclined inner sides, as in the under figure, are preferable.

My other advantages are, that I can use the holds of my twins, which Burden cannot do with his; and that I can construct a much stronger fabric, capable of withstanding a heavy sea, which cannot be said of his.

It is well known that twin boats have long been in use before Mr. Burden or I ever thought of our plans. The principal point of superiority in mine over all others is, that I dispense with those great obstacles to rapid motion, the *inside bows*, represented by a a in the annexed view of a common New-York ferry-boat.



They (the two inside bows) although as sharp as the two outside bows, it can be seen at a glance, impede a boat's progress vastly more than the two latter.

The keels of my twin boats being of a curvilinear shape, allow the boat every facility required in steering and turning. Respectfully,

CHARLES HARRIS.

P. S.—I will add that, with a rough model 5 feet long, the whole of which, with all her spars and sails, weighed not 10 pounds, having hoisted her sails on the river in a good sailing breeze, I could hardly catch her in a large boat, steered by myself, and propelled by a large sail and two stout oarsmen. She beat me when I used the sail only. If a little model would do

this, what must be the velocity of a large vessel built upon this plan?

N. B.—The cuts intended to illustrate and explain the inventor's plans are so indifferently executed, that but an imperfect idea can be gained from them.

LANSINGBURGH, March 5, 1834.

To the Editor of the Mechanics' Magazine:

SIR,—I wish, through the medium of the Mechanics' Magazine, to offer a few remarks on a communication which appeared in the "Evening Star for the country," of February 28, signed by a Mr. Charles Harris, announcing his discovery of a plan of a boat which is to put Mr. Burden's boat at least into the back ground, if not into oblivion; of which wonderful discovery, Mr. H. has had the prudence to avail himself and heirs, by securing it at the patent office. I should not think proper to notice the above communication, were it not that there are persons possessing both the means and the disposition to patronize valuable improvements, but who have not sufficient acquaintance with mechanical science to enable them to judge with certainty as to the comparative merits of new inventions, until tested by experience. Such persons are liable to be imposed upon by plausible appearances, or to withhold that patronage from real merit which they would cheerfully give, if they knew where and when to bestow it.

With respect to Mr. H.'s plan of a boat, I have no disposition to question the sincerity of his belief, either as to the value of the discovery, or that he is the "true and original inventor;" but I wish to inform him, for his future benefit, and for the benefit of others, that he is as completely mistaken in one point as in the other; and he could not be more so in either.

With respect to his claim as the inventor, I would inform Mr. H. that Mr. Simon Fairman, now residing in this village, built a boat at Middletown, in Connecticut, in the year 1817, in the months of July and August, in all respects precisely on the plan which Mr. H. now claims as his. This boat, or model of a steamboat, was 35 feet long, and as Mr. H. very naturally describes it, was a boat split in two, lengthwise through the middle, and the two approximate or inner sides were straight and parallel.

As it was not large enough, and indeed not intended for steam, he put in a wheel and prepared it to move by human power. It was exhibited at Middletown for some time, and he then, in the month of September, went down the river with it, and round to New-London, where it excited considerable notice.

The speed, however, was not equal to his expectations. Upon strict examination, he found that the water in the straight passage being thrown back by the wheel, left a hollow towards the stern, which caused backwater. He then took out his wheel and built a false swell of considerable thickness on each of the two straight sides, and the result was a gain in speed, with the same power, from four to six miles per hour. After running it with passengers, a number of trips, between N. London and Norwich, he sold it for \$300 to a gentleman who carried it to Demarara. So much for the originality of Mr. H.'s invention.

As to the superiority of strength his plan possesses over Mr. Burden's boat, the best way to decide the point is to make a strong iron bound barrel of good oak staves, and fill it with some heavy substance, say pork, for instance; and take the same kind of staves and make a square box to hold the same quantity, and bind it with the same weight of iron, and see which will endure the most violence without injury; or, what will amount to the same thing, prove that angles are stronger than arches.

In the advantage which Mr. H. calculates to gain over Mr. B.'s boat by the straight passage of the water through the centre and consequent removal of the angle of resistance in meeting the water, he will thereby add just as much to

the angle, and of course to the resistance on the outside.

I am not the advocate nor the eulogist of Mr. Burden. I am scarcely known to the gentleman, or he to me. But I should be sorry to see any gentleman deterred from encouraging Mr. B. and perhaps injuring himself thereby, and I should be equally sorry to see Mr. H. throw away his money, or that of any one else, under the mistaken idea that his plan is superior. He is certainly entitled to the satisfaction of trying the experiment, and I shall enjoy the satisfaction of having warned him of its utility.

ARCHIMEDES.

THE NEW YORK CANALS.—The prosperity of these noble works is of such vital importance to the whole State, and to this city in particular, that we shall stand excused in the eyes of all readers for presenting to them so frequently, facts tending to show the great efforts made and making in Pennsylvania, to set us out from the trade of the West. It is from these considerations we copy the annexed article from the Pittsburgh Gazette of Wednesday last.

It is at such a time as this, when every nerve is strained to throw us out in the race of competition, that our political managers, instead of applying the accumulation of the Canal fund to the redemption of the Canal debt—so that, it being paid, the tolls might at once be very much reduced—are sporting with it in order to prop up the *Safety Fund system*. The two millions of dollars now belonging to that fund might at this moment be remitted to London, and there employed in the purchase of Canal stocks at a rate, little if any thing above par. Instead of that, it is held by the Commissioners of the fund, just as the public deposits are held by the President, as a fund to be used and transferred at pleasure, to reward this or to punish that Bank, according to the more or less political subserviency of its Directors.

And yet the Legislature and the people submit in silence. We, at least, will do our duty in calling attention to the truth as it is, and then, come what may, we shall be free from reproach.

[From the Pittsburgh Gazette, of March 26.]

THE CANAL AND RAIL ROAD are now in full and successful operation. Goods arrived yesterday, in eleven days from Philadelphia. We believe the calculation is to deliver them in ten days, when the arrangements are all completed.

We have been informed that the New Yorkers have contracted to deliver goods at Portsmouth, on the Ohio, by the way of the New York and Ohio Canal, and Lake Erie, for \$26 1-4 per hundred, when their Canal is opened. By the Pennsylvania Canal, goods will be delivered at Cincinnati for \$2 05. By the 1st day of May, this will probably be reduced to \$1 80.

In the time of transportation, we will possess a still more decided advantage. Merchandise will be delivered from Philadelphia at Cincinnati, in 14 or 15 days. From New York to Cincinnati will require 25 days, and frequently much longer. The risk, by the Lake, is very great—by the Pennsylvania Canal and Railroad, almost nothing.

The New York Canal will not be opened for more than three weeks yet—in that time, steamboats may proceed to St. Louis or Nashville, and return to Pittsburgh; and, at the same time, merchandise may be delivered at the Sault of St. Marie, or Chicago. Our prospects in relation to these great improvements, are truly encouraging, if they are not obscured by the folly and madness of General Jackson.

While on the subject of Canals, we annex the following notice from the Argus of a new bill introduced by Mr. Humphrey into the Assembly, "to provide for the improvement of the Canals of this State."

It authorizes and requires the Canal Commissioners to construct a second set of lift locks, on the Erie Canal, from Albany to Syracuse, and all proper works for the purpose of adapting the canal to the use of double locks. Also authorizes them to construct a feeder from the Nine Mile creek in the town of Camillus, to the Jordan level. Also to reconstruct the Rochester aqueduct. Also to construct a navi-

gable feeder, of a suitable width and depth for steamboats, between the Genesee river and Erie canal, and to improve the navigation of that river. The act to take effect on its passage.

INFLUENCE OF COLOR ON THE ABSORPTION OF HEAT AND OF ODOROUS PRINCIPLES.—On the 20th of June, 1833, a paper was read before the Royal Society, "On the Influence of Color on Heat and Odors," by James Stark, M. D., of Edinburgh; of which the following is an abstract.

The author observes, that the only experiments on record relating to the modifying effect of different colors on the absorption of heat from solar light are those of Franklin and Sir H. Davy. In order to investigate this subject, the author employed pieces of wool, silk, and cotton, which were wrapped round the bulb of a thermometer placed in a glass tube; the tube was then plunged into boiling water, and the time which elapsed during the rise of the thermometer from one given point to another was accurately noted. Other experiments were also made with an air-thermometer, of which the bulb was coated with various colored materials, and heat thrown on the ball by means of polished tin reflectors from an Argand burner. The results accord very nearly with those of Franklin and of Davy; the absorbing power with regard to different colors being nearly uniformly in the order of black, brown, green, red, yellow, and white. The author next investigates the differences which occur in the radiation of heat by differently colored substances; a subject on which he is not aware that any experiments have ever been made previously to his own. The mode of ascertaining the amount of radiation was generally the converse of that by which the absorption of heat had been determined: namely, by exposing the colored substances, in contact with a thermometer, to cooling instead of heating processes. The general result of all his experiments was, that the loss of caloric by radiation follows exactly the same order, with regard to the color of the radiating surface, as its absorption. In the second part of his paper the author gives an account of a course of experiments which he made with a view to discover the influence of color on the absorption of odorous effluvia, and more especially in the case of the absorption of the fumes of camphor and assafoetida by woollen cloth of different colors. Black cloth was always found to be possessed of the greatest absorbing powers, and white of the least; red cloth being intermediate between them. Cottons and silks gave, on trial, precisely the same results, which were further confirmed by the different weights acquired by these substances from the deposition of camphor upon them.—[Proceedings of the Royal Society.]

MIGRATION OF FISHES AND BIRDS.—"I fear I am not entomologist enough to follow the life of the May-fly, but I shall willingly have my attention directed to its habits. Indeed, I have often regretted that sportsmen were not fonder of zoology; they have so many opportunities, which other persons do not possess, of illustrating the origin and qualities of some of the most curious forms of animated nature; the causes and character of the migrations of animals; their relations to each other, and their place and order in the general scheme of the universe. It has always appeared to me, that the two great sources of change of place of animals was the providing of food for themselves, and resting-places and food for their young. The great supposed migrations of herrings from the poles to the temperate zone have appeared to me to be only the approach of successive shoals from deep to shallow water, for the purpose of spawning. The migrations of salmon and trout are evidently for the purpose of depositing their ova, or of finding food after they have spawned. Swallows and bee-eaters decidedly pursue flies over half a continent; the scolopax or snipe tribe, in like manner, search for worms and larvæ,—flying from those coun-

tries where either frost or dryness prevents them from boring,—making generally small flights at a time, and resting on their travels where they find food. And a journey from England to Africa is no more for an animal that can fly, with the wind, one hundred miles in an hour, than a journey for a Londoner to his seat in a distant province. And the migrations of smaller fishes or birds always occasion the migration of larger ones, that prey on them. Thus, the seal follows the salmon, in summer, to the mouths of rivers; the hake follows the herring and pilchard; hawks are seen in great quantities, in the month of May, coming into the east of Europe, after quails and landrails; and locusts are followed by numerous birds, that, fortunately for the agriculturist, make them their prey."—[Sir H. Davy's Salmonia.]

OPPOSITION OF IGNORANCE TO THE USE OF PRINTING.—In the 'Typographical Antiquities' of Ames and Herbert, it is stated that the first book printed on paper manufactured in England came out in 1495 or 1496, from the press of Winkin de Worde. Shakspeare—whose chronology is not to be trusted—makes Jack Cade, in the reign of Henry VI., (who was deposed in 1461,) thus accuse Lord Sands: "Whereas, before, our forefathers had no other books but the score and the tally, thou hast caused printing to be used, and, contrary to the king, his crown, and dignity, thou hast built a paper-mill." The insurrection of Jack Cade was ostensibly for the redress of grievances amongst the people. Shakspeare fixes the complaint of Cade against printing and paper-making some ten or twenty years earlier than the introduction of printing amongst us; but he could not have better pointed out the ignorance of popular violence,—and all violence is the result of ignorance. The best instruments for producing good government, and equal laws for all men, have been the paper-mill and the printing press; and exactly in proportion as the knowledge which they embody has been diffused, have we advanced, not only in our social arrangements, but in every other manifestation of a prosperous and well ordered community. Whatever remains to be accomplished will go hand-in-hand with the continued diffusion of knowledge.

FANNING MILL.—An ingenious wight, named William Gall, has constructed a pair of self-acting fanners, which, without the aid of man, sift wheat, corn, &c. The simplicity of the invention is astonishing. By a funnel of sheet-iron, the wheat descends upon an iron wheel full of brackets; the wheel is so nicely balanced, that the moment the wheat falls the wheel revolves, and throws the wheat into a pair of fanners on the flat below. On the outside of the iron wheel is a wooden one, and over it is a belt attached to the fly wheel of the fanners, which impels them, and so long as a particle of wheat is left, the machine moves and throws it out.—[Sat. Eve. Post.]

REMOVAL OF A STEEPLE.—The Genoa Gazette contains an account of the removal of a church steeple entire, at Crescentino, in Piedmont, from one point to another, at several yards distance, where it was placed on a new foundation. The master mason was so confident of success that he made his son remain in the steeple ringing the bell during the operation.

GAS IN THE RAILWAY CARRIAGES.—We understand that measures are in progress for the introduction of portable gas for the lighting of the railway carriages. One carriage has been already furnished with this illuminating principle.—[Manchester Advertiser.]

Sir John Herschell has sailed on his astronomical mission to the Cape of Good Hope. He is expected to be absent about three years. He went out in the Catherine Stuart private ship, which has also on board Major-General Sir B. D'Urban and staff.

Animal Mechanics, or Proofs of Design in the Animal Frame. [From the Library of Useful Knowledge.]

(Continued from page 181.)

OF THE FOOT.—Let us take the arrangement of the bones of the foot, according to the demonstration of the anatomists.

They are divided into the *tarsus*, which is composed of seven bones, reaching from the heel to the middle of the foot. The *metatarsus*, which consists of five long bones laid parallel to each other, and extending from the *tarsus* to the roots of the toes. The bones of the toes are called *phalanges*, from being in the form of a *phalanx*.

There are in all thirty-six bones in the foot; and the first question that naturally arises is, why should there be so many bones? The answer is, "In order that there may be so many joints; for the structure of a joint not only permits motion, but bestows elasticity."

A joint, then, consists of the union of two bones, of such a form as to permit the necessary motion, but they are not in contact; each articulating surface is covered with cartilage, to prevent the jar which would result from the contact of the bones. This cartilage is elastic, and the celebrated Dr. Hunter discovered that the elasticity was in consequence of a number of filaments closely compacted, and extending from the surface of the bone, so that each filament is perpendicular to the pressure made upon it. The surface of the articulating cartilage is perfectly smooth, and is lubricated by a fluid called *synovia*, signifying a mucilage, a viscus or thick liquor. This is vulgarly called *joint oil*, but it has no property of oil, although it is better calculated than any oil to lubricate the interior of the joint.

When inflammation comes upon a joint, this fluid is not supplied and the joint is stiff, and the surfaces creak upon one another like a hinge without oil. A delicate membrane extends from bone to bone, confining this lubricating fluid, and forming the boundary of what is termed the cavity of the joint, although, in fact, there is no unoccupied space. External to this capsule* of the joint, there are strong ligaments going from point to point of the bones, and so ordered as to bind them together without preventing their proper motions. From this description of a single joint, we can easily conceive what a spring or elasticity is given to the foot, where thirty-six bones are jointed together.

An elegant author has this very natural remark on the joints: "In considering the joints, there is nothing perhaps which ought to move our gratitude more than the reflection, *how well they wear*. A limb shall swing upon its hinge, or play in its socket, many hundred times in an hour, for sixty years together, without diminution of its agility, which is a long time for any thing to last, for any thing so much worked and exercised as the joints are. This durability I should attribute, in part, to the provision which is made for the preventing of wear and tear: first, by the polish of cartilaginous surfaces; secondly, by the healing lubrication of the mucilage; and in part to that astonishing property of animal constitutions, assimilation, by which, in every portion of the body, let it consist of what it will, substance is restored and waste repaired."—[Paley.]

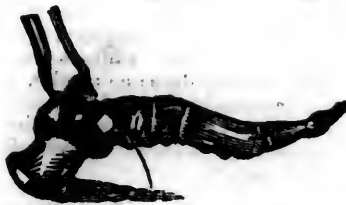
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The teeth are subject to pressure in chewing or masticating, and they would by this action have been driven deeper in the jaw, and rendered useless, had there not been a provision against this mechanical effect. This provision is a disposition to grow, or rather to shoot out of their sockets; and this disposition to project, balances the pressure which they sustain; and when one tooth is lost, its opposite rises, and is in danger of being lost also, for want of that very opposition.

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Fig. 11



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heel to the toe, has the *astragalus*, A, resembling the key-stone of an arch; but, instead of being fixed, as in masonry, it plays freely betwixt two bones, and from these two bones, B and C, a strong elastic ligament is extended, on which the bone A rests, sinking or rising as the weight of the body bears upon it, or is taken off, and this it is enabled to do by the action of the ligament which runs under it.

This is the same elastic ligament which runs extensively along the back of the horse's hind leg and foot, and gives the fine spring to it, but which is sometimes ruptured by the exertion of the animal in a leap, producing irrecoverable lameness.

Having understood that the arch of the foot is perfect from the heel to the toe, we have next to observe that there is an arch from side to side; for when a traverse section is made of the bones of the foot, the exposed surface presents a perfect arch of wedges, regularly formed like the stones of an arch in masonry. If we look down upon the bones of the foot, we shall see that they form a complete circle horizontally, leaving a space in their centre. These bones thus form three different arches—forward, across, and horizontally; they are wedged together, and bound by ligaments, and this is what we alluded to when we said that the foundations of the Eddystone were not laid on a better principle; but our admiration is more excited in observing that the bones of the foot are not only wedged together, like the courses of stone for resistance, but that solidity is combined with elasticity and lightness.

Notwithstanding the mobility of the foot in some positions, yet, when the weight of the body bears directly over it, it becomes immovable, and the bones of the leg must be fractured before the foot yields.

Smoky Chimneys. By COMFORT. To the Editor of the *Mechanics' Magazine*.

In the number of your periodical for January, there is an article headed "smoky chimneys," accompanied by rules for their cure, condensed from the works of Count Rumford.

It may be observed that the improvement in fire-places was proposed by Count Rumford with a view to economy in the article of fuel, and the suffusion through rooms of an increased quantity of heat from any given quantity of fuel. The Count, indeed, observes, that his plan of a fire-place will often act as a cure to smoky chimneys, but his chief object was economy in fuel, and his experiments had this as their chief, if not their sole object.

The result of his studies, scientific and operative, led to the conclusion, in his mind, that four inches is the proper width for the

* From *capsula*, a little case or box.

throat of chimneys, and this will probably be found applicable to as many, or to more cases, than any other, which, as a general standard, could be adopted. It will not, however, be equally applicable to all cases, nor will any general rule, in this respect, apply universally.

The proper width of the throat of a chimney is the least which will admit all the smoke, together with the quantity of rarified air necessary to aid its escape through the chimney. This must be regulated by circumstances, and chiefly by the material of the fuel. Anthracite coal, producing little smoke, would require a throat even narrower than four inches. Coal, of the quality of the Sydney, producing a large volume of smoke, might perhaps require a width of throat exceeding four inches.

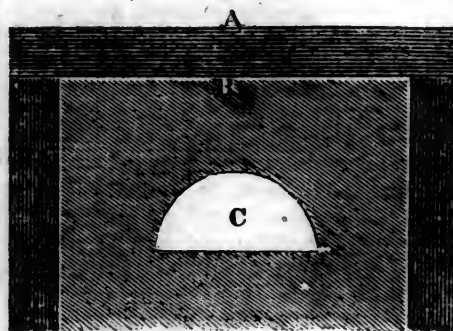
The reasonableness of thus narrowing the throat of the chimney for the purpose of yielding an increased heat to the room, will, upon the least reflection, be sufficiently obvious. The smoke, if not impeded by some obstruction, will naturally ascend through the chimney; the heat of the fire, from its affinity to smoke, will ascend with it. Should the volume of air constantly rushing into the room find an over-easy passage through the chimney, the entire, or very nearly the entire, of the heat will escape with it; hence the fact, that persons sitting in a room, in presence of a large fire, often suffer from cold, and even in a degree greater than they would were there neither fire nor fire-place in the room.

A chimney may, however, be so narrow in some part of it, or throughout the whole, that it will not admit all the smoke, a part of which will, in such case, in search of a new channel of escape, make its way into the room. A similar effect will be produced when the chimney is so injudiciously constructed that the smoke cannot escape through it with the required ease and rapidity. A chimney may be so placed in relation to another chimney within the same building, as to cause it to smoke. These different causes of smoky chimneys may require very different remedies. Count Rumford's plan of narrowing the throat of a chimney will often effect a cure, but surely not universally. I propose herein to offer a remedy, which, although not proposed as an universal panacea, will, it is presumed, effect a cure in the majority of cases of smoky chimneys.

It is generally known that by lowering the mantle-piece the draft is increased, and the smoky chimney thus partially or fully cured; but it is also known that this mode will, by increasing the draft, lessen the quantity of heat in the room, and that warmth is in this way dispensed with, to avoid the annoyance of smoke. A plan which would yield the advantage of a lowered mantle without its disadvantages would be a desideratum. This is, perhaps, not to the full desirable extent practicable; it is certainly practicable to a considerable extent. It may be introduced in aid of the Count's plan, where that fails, as a remedy for smoky chimneys, or it may be adopted in cases where mere economy is not an object, or where it would be inconvenient to resort to the Count's plan.

On reference to the cut No. 2, in your Magazine of January, it will be seen, that in order to reduce the throat of the chimney, there is a false back. This is made of solid work, and is extended about six inches above

the breast of the chimney, where the width of four inches is acquired, and is that part distinguished as the *throat*. We may suppose this false back to be in thickness equal to the length of a common brick, say eight inches. If made of the breadth of a brick, there would be a vacant space of four inches between the false and the real back. By turning an arch in the false back, or by an aperture of any other shape, there might be left an opening for the admission of smoke and air into the vacant space between the



A, chimney-piece—B, false back—C, aperture.

backs. This would produce all the effect of a lowered mantle, without producing all the inconvenience. The portion of inconvenience which it might produce would be entirely provided against by a metal casting fitted to the arch-way, and supplied with a door, to be closed or opened as occasion might require.

This contrivance would most probably relieve the occupants of houses, in nine cases out of ten, from the annoyance of smoky chimneys, and from the heavy charges of the chimney doctor.

COMFORT.

METHOD OF DRESSING SKINS PRACTISED IN MAROCCO.—The following account of the method practised in dressing skins in Morocco was transmitted to the Zoological Society by W. Willshire, Esq., a Corresponding Member of that Society, in a letter dated Mogadore, May 5, 1833. Its results are stated to be excellent, as regards the preservation and color of the fur, and the flexibility of the pelt.

Wash the skin in fresh water to deprive it of the salt; as soon as this is done, scrape the flesh off; when take two pounds of alum, one quart of buttermilk, and two or three handfuls of barley-meal, which mix well together, and lay on the fleshy side of the skin equally; fold up and press it together carefully, and let it lie two days. On the third day take it to the seaside, wash the skin well, and when clean and free from mixture, hang it up to let the water run from it: then take two pounds of alum finely powdered, and throw or spread it equally on all parts of the skin; again fold up as before, and allow it to lie three days, when it will be in a proper state to dry in the sun, laid flat, without taking away the powder. When it is dry, take a pint or two of fresh water, and sprinkle it upon the skin, and again fold it up carefully for about two hours, to imbibe the water; then lay it on a table, and, after scraping it free from the mixture and flesh, take a sand-stone (rather rough) and rub the skin well until it becomes soft and pliable, then hang it in the shade to dry. The process is then complete.

When the skin is perfect, having the head, horns, &c. take off the horns, and fill their cavity with a mixture of equal parts of powdered alum and ashes of charcoal dissolved in water, and expose them two days to the sun. Saturate the trunks of the horns with eight ounces of alum dissolved in water, and fold up with the skin, and apply the same on each occasion when employed in curing the skin. Take the flesh on the head and jaws to be carefully taken

off, filling the same with powdered alum. It should remain in the sun until perfectly dry.

In addition to the foregoing description of the mode used in Morocco, in dressing skins, as related by the persons employed by Mr. Willshire, it may be well to observe that the process does not take so long at Mogadore, as Mr. W. has often received back skins of the Aoudad and Leopard from the dresser, on the third or fourth, and never exceeding the fifth day, perfectly cured. Allowance has been made by the dresser, in the foregoing description, for the difference in the climate of London.

The skins of smaller animals must not be subjected to so lengthened a process, or they will become harsh, and the pelt impoverished. —[Proceedings Zoolog. Soc.]

RECIPES.—*For an Olive Green.* Let the article be first washed in soap and water, then wetted out in warm water; then boil two ounces of chipped logwood and three ounces of chipped fustic together for half an hour; dip out your dye liquor, and put it into a pan with hot water; put in your goods; dissolve two drachms of verdigris in a teacup-full of warm water, which put into a pan of cold water; take your gown from the dye, and run it through the verdigris water, well handling it for ten minutes; take it out and wash it in clean water, and through the dye liquor, and again in the verdigris water, and so continue this process till you obtain the color required, only taking care to wash it out of the verdigris water before you put it in the dye liquor: dry it in the shade.

For Yellow Cotton.—To make a lemon yellow, first wash your article well in soap and water, then rinse it in warm water. For every yard of stout cotton, dissolve a piece of blue vitriol as large as a horse bean, in boiling water; and when the water is at a hand-heat, put the cotton in, and handle it for half an hour. In the interim take a quarter of a pound of weld for every yard of cotton, and boil it well for half an hour; dip the liquor out in a pan, and handle your cotton through this till it comes to the fullness required; take it out to cool, and when cold, wash it out, and dry it in the air.

TO PRESERVE BOOKS.—A few drops of any perfumed oil will secure libraries from the consuming effects of mould and damp. Russian leather, which is perfumed with the tar of the birch tree, never moulders; and merchants suffer large bales of this leather to remain in the London docks, knowing that it cannot sustain any injury from damp. This manner of preserving books with perfumed oil was known to the ancients. The Romans used oil of cedar to preserve valuable MSS. Hence the expression used by Horace, "*Digna cedro*," meaning any work worthy of being anointed with cedar oil, or, in other words, worthy of being preserved and remembered.—[Greenf. Gaz.]

TO PRESERVE EGGS.—Apply with a brush a solution of gum-arabic to the shells, or immerse the eggs therein; let them dry, and afterwards pack them in dry charcoal dust. This prevents their being affected by any alterations of temperature.

TO MAKE MAPLE SUGAR.—It has been customary to cut a gash in the tree, from which saccharine liquor flows, or to bore a hole, and put in a reed, and, when the liquor ceases to flow, plugging up the hole. Both these methods are injurious, and tend to destroy the tree. In the latter case, the tree roots round the plug to some distance within. The following method is proposed in lieu of these, and has been successfully practised in Kentucky. At the proper season for running of the liquor, open the ground and select a tender root, about the size of one or two fingers; cut off the end, and raise the root sufficiently out of the ground to turn the cut end into the receiver. It will emit the liquor from the wound as freely as by either of the other methods. When it ceases to flow bury the roots again, and the tree will not be hurt.

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(Continued from page 181.)

OF THE FOOT.—Let us take the arrangement of the bones of the foot, according to the demonstration of the anatomists.

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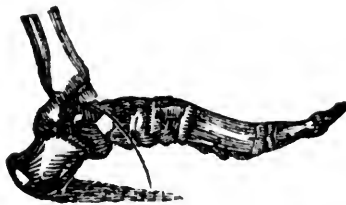
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heel to the toe, has the astragalus, A, resembling the key-stone of an arch; but, instead of being fixed, as in masonry, it plays freely betwixt two bones, and from these two bones, B and C, a strong elastic ligament is extended, on which the bone A rests, sinking or rising as the weight of the body bears upon it, or is taken off, and this it is enabled to do by the action of the ligament which runs under it.

This is the same elastic ligament which runs extensively along the back of the horse's hind leg and foot, and gives the fine spring to it, but which is sometimes ruptured by the exertion of the animal in a leap, producing irrecoverable lameness.

Having understood that the arch of the foot is perfect from the heel to the toe, we have next to observe that there is an arch from side to side; for when a traverse section is made of the bones of the foot, the exposed surface presents a perfect arch of wedges, regularly formed like the stones of an arch in masonry. If we look down upon the bones of the foot, we shall see that they form a complete circle horizontally, leaving a space in their centre. These bones thus form three different arches—forward, across, and horizontally; they are wedged together, and bound by ligaments, and this is what we alluded to when we said that the foundations of the Eddystone were not laid on a better principle; but our admiration is more excited in observing that the bones of the foot are not only wedged together, like the courses of stone for resistance, but that solidity is combined with elasticity and lightness.

Notwithstanding the mobility of the foot in some positions, yet, when the weight of the body bears directly over it, it becomes immovable, and the bones of the leg must be fractured before the foot yields.

Smoky Chimneys. By COMFORT. To the Editor of the *Mechanics' Magazine*.

In the number of your periodical for January, there is an article headed "smoky chimneys," accompanied by rules for their cure, condensed from the works of Count Rumford.

It may be observed that the improvement in fire-places was proposed by Count Rumford with a view to economy in the article of fuel, and the suffusion through rooms of an increased quantity of heat from any given quantity of fuel. The Count, indeed, observes, that his plan of a fire-place will often act as a cure to smoky chimneys, but his chief object was economy in fuel, and his experiments had this as their chief, if not their sole object.

The result of his studies, scientific and operative, led to the conclusion, in his mind, that four inches is the proper width for the

* From *capsula*, a little case or box.

throat of chimneys, and this will probably be found applicable to as many, or to more cases, than any other, which, as a general standard, could be adopted. It will not, however, be equally applicable to all cases, nor will any general rule, in this respect, apply universally.

The proper width of the throat of a chimney is the least which will admit all the smoke, together with the quantity of rarified air necessary to aid its escape through the chimney. This must be regulated by circumstances, and chiefly by the material of the fuel. Anthracite coal, producing little smoke, would require a throat even narrower than four inches. Coal, of the quality of the Sydney, producing a large volume of smoke, might perhaps require a width of throat exceeding four inches.

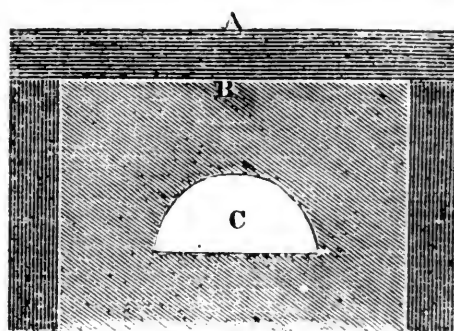
The reasonableness of thus narrowing the throat of the chimney for the purpose of yielding an increased heat to the room, will, upon the least reflection, be sufficiently obvious. The smoke, if not impeded by some obstruction, will naturally ascend through the chimney; the heat of the fire, from its affinity to smoke, will ascend with it. Should the volume of air constantly rushing into the room find an over-easy passage through the chimney, the entire, or very nearly the entire, of the heat will escape with it; hence the fact, that persons sitting in a room, in presence of a large fire, often suffer from cold, and even in a degree greater than they would were there neither fire nor fire-place in the room.

A chimney may, however, be so narrow in some part of it, or throughout the whole, that it will not admit all the smoke, a part of which will, in such case, in search of a new channel of escape, make its way into the room. A similar effect will be produced when the chimney is so injudiciously constructed that the smoke cannot escape through it with the required ease and rapidity. A chimney may be so placed in relation to another chimney within the same building, as to cause it to smoke. These different causes of smoky chimneys may require very different remedies. Count Rumford's plan of narrowing the throat of a chimney will often effect a cure, but surely not universally. I propose herein to offer a remedy, which, although not proposed as an universal panacea, will, it is presumed, effect a cure in the majority of cases of smoky chimneys.

It is generally known that by lowering the mantle-piece the draft is increased, and the smoky chimney thus partially or fully cured; but it is also known that this mode will, by increasing the draft, lessen the quantity of heat in the room, and that warmth is in this way dispensed with, to avoid the annoyance of smoke. A plan which would yield the advantage of a lowered mantle without its disadvantages would be a desideratum. This is, perhaps, not to the full desirable extent practicable; it is certainly practicable to a considerable extent. It may be introduced in aid of the Count's plan, where that fails, as a remedy for smoky chimneys, or it may be adopted in cases where mere economy is not an object, or where it would be inconvenient to resort to the Count's plan.

On reference to the cut No. 2, in your Magazine of January, it will be seen, that in order to reduce the throat of the chimney, there is a false back. This is made of solid work, and is extended about six inches above

the breast of the chimney, where the width of four inches is acquired, and is that part distinguished as the *throat*. We may suppose this false back to be in thickness equal to the length of a common brick, say eight inches. If made of the breadth of a brick, there would be a vacant space of four inches between the false and the real back. By turning an arch in the false back, or by an aperture of any other shape, there might be left an opening for the admission of smoke and air into the vacant space between the



A, chimney-piece—B, false back—C, aperture.

backs. This would produce all the effect of a lowered mantle, without producing all the inconvenience. The portion of inconvenience which it might produce would be entirely provided against by a metal casting fitted to the arch-way, and supplied with a door, to be closed or opened as occasion might require.

This contrivance would most probably relieve the occupants of houses, in nine cases out of ten, from the annoyance of smoky chimneys, and from the heavy charges of the chimney doctor.

COMFORT.

METHOD OF DRESSING SKINS PRACTISED IN MAROCCO.—The following account of the method practised in dressing skins in Morocco was transmitted to the Zoological Society by W. Willshire, Esq., a Corresponding Member of that Society, in a letter dated Mogadore, May 5, 1833. Its results are stated to be excellent, as regards the preservation and color of the fur, and the flexibility of the pelt.

Wash the skin in fresh water to deprive it of the salt; as soon as this is done, scrape the flesh off, when take two pounds of alum, one quart of buttermilk, and two or three handfuls of barley-meal, which mix well together, and lay on the fleshy side of the skin equally; fold up and press it together carefully, and let it lie two days. On the third day take it to the seaside, wash the skin well, and when clean and free from mixture, hang it up to let the water run from it; then take two pounds of alum finely powdered, and throw or spread it equally on all parts of the skin; again fold up as before, and allow it to lie three days, when it will be in a proper state to dry in the sun, laid flat, without taking away the powder. When it is dry, take a pint or two of fresh water, and sprinkle it upon the skin, and again fold it up carefully for about two hours, to imbibe the water; then lay it on a table, and, after scraping it free from the mixture and flesh, take a sand-stone (rather rough) and rub the skin well until it becomes soft and pliable, then hang it in the shade to dry. The process is then complete.

When the skin is perfect, having the head, horns, &c. take off the horns, and fill their cavity with a mixture of equal parts of powdered alum and ashes of charcoal dissolved in water, and expose them two days to the sun. Saturate the trunks of the horns with eight ounces of alum dissolved in water, and fold up with the skin, and apply the same on each occasion when employed in curing the skin. The flesh on the head and jaws to be carefully taken

off, filling the same with powdered alum. It should remain in the sun until perfectly dry.

In addition to the foregoing description of the mode used in Morocco, in dressing skins, as related by the persons employed by Mr. Willshire, it may be well to observe that the process does not take so long at Mogadore, as Mr. W. has often received back skins of the Aoudad and Leopard from the dresser, on the third or fourth, and never exceeding the fifth day, perfectly cured. Allowance has been made by the dresser, in the foregoing description, for the difference in the climate of London.

The skins of smaller animals must not be subjected to so lengthened a process, or they will become harsh, and the pelt impoverished. —[Proceedings Zoolog. Soc.]

RECIPES.—For an Olive Green. Let the article be first washed in soap and water, then wetted out in warm water; then boil two ounces of clipped logwood and three ounces of clipped fustic together for half an hour; dip out your dye liquor, and put it into a pan with hot water; put in your goods; dissolve two drachms of verdigris in a teacup full of warm water, which put into a pan of cold water; take your gown from the dye, and run it through the verdigris water, well handling it for ten minutes; take it out and wash it in clean water, and through the dye liquor, and again in the verdigris water, and so continue this process till you obtain the color required, only taking care to wash it out of the verdigris water before you put it in the dye liquor; dry it in the shade.

For Yellow Cotton.—To make a lemon yellow, first wash your article well in soap and water, then rinse it in warm water. For every yard of stout cotton, dissolve a piece of blue vitriol as large as a horse bean, in boiling water; and when the water is at a hand-heat, put the cotton in, and handle it for half an hour. In the interim take a quarter of a pound of weld for every yard of cotton, and boil it well for half an hour; dip the liquor out in a pan, and handle your cotton through this till it comes to the fullness required; take it out to cool, and when cold, wash it out, and dry it in the air.

TO PRESERVE BOOKS.—A few drops of any perfumed oil will secure libraries from the consuming effects of mould and damp. Russian leather, which is perfumed with the tar of the birch tree, never moulders; and merchants suffer large bales of this leather to remain in the London docks, knowing that it cannot sustain any injury from damp. This manner of preserving books with perfumed oil was known to the ancients. The Romans used oil of cedar to preserve valuable MSS. Hence the expression used by Horace, "*Digna cedro*," meaning any work worthy of being anointed with cedar oil, or, in other words, worthy of being preserved and remembered. —[Greenf. Gaz.]

TO PRESERVE EGGS.—Apply with a brush a solution of gum-arabic to the shells, or immerse the eggs therein; let them dry, and afterwards pack them in dry charcoal dust. This prevents their being affected by any alterations of temperature.

TO MAKE MAPLE SUGAR.—It has been customary to cut a gash in the tree, from which saccharine liquor flows, or to bore a hole, and put in a reed, and, when the liquor ceases to flow, plugging up the hole. Both these methods are injurious, and tend to destroy the tree. In the latter case, the tree roots round the plug to some distance within. The following method is proposed in lieu of these, and has been successfully practised in Kentucky. At the proper season for running of the liquor, open the ground and select a tender root, about the size of one or two fingers; cut off the end, and raise the root sufficiently out of the ground to turn the cut end into the receiver. It will emit the liquor from the wound as freely as by either of the other methods. When it ceases to flow bury the roots again, and the tree will not be hurt.

The Philosopher of Bologna unmasked; or Galvani not the Discoverer of Galvanism.
By R. W. DICKINSON. [From the London Mechanics' Magazine.]

SIR,—It appears to me very singular that no notice should ever have been taken of an experiment made by M. Du Verney, before the Fellows of the Royal Academy at Paris, in the year 1700, and published by their secretary, the celebrated M. Fontenelle, in his Account of the Transactions of the Society for that year. It is there related that M. Du Verney exhibited a dead frog, and on irritating it with a scalpel the nerves of the belly, that led to the thighs and legs, trembled and suffered a sort of convulsion. He afterwards cut the nerves in the belly, and stretching them with his hands, a similar convulsion was produced by the application of the scalpel. Now, though it may at this distance of time be impossible to adduce positive proof that Galvani was acquainted with this previous experiment of M. Du Verney, I cannot help thinking that it is quite as likely he was so, as that he should have come to a knowledge of the fact in the strange way he pretended, namely, through one of his pupils accidentally touching with a scalpel the crural nerve of a frog, which was being prepared in the laboratory of the professor, to make a soup for his sick wife. That a frog should have been the animal operated upon in both instances, and a scalpel the operating instrument, are coincidences pregnant with suspicion. At all events, this much cannot be disputed, that the Bolognese philosopher did at least only discover what Verney had discovered and made known to the world long before; though there is now, probably, as little chance of our seeing the name of Verneyism substituted for Galvanism, as Columbia for America.

I am, sir, yours sincerely,

R. W. DICKINSON.

Ilfracombe, Dec. 16, 1833.

AGRICULTURE, &c.

[From the New York Farmer.]

Suggestions relative to Farmers' Work for April. By the Editor.

We are under the impression that it would be policy for farmers to sow and plant as largely of the marketable crops, as they would have done had not those public measures been taken which have been so disastrous in their overthrow of confidence or credit. We hardly conceive it possible that Congress will adjourn without adopting some plan that will give to confidence its potency, and thus remove the weight from the elastic spirit of this young and rising nation. If law once more assumes its appropriate influence and its healthful tone, before the energies of the people become sensibly enervated, life and vigor will again pervade the whole system; the rivulets that every where vein our country will be free from their icy fetters, and again swell the streams of prosperity and wealth, carrying down to the cities of the sea the abundant and full-priced harvests. But should derangement stalk abroad over the land until mid-summer, then vain will be all hopes in a joyful harvest for this season. The condition of foreign nations is such that no material stimulus will be given to sales of American produce. Our chief dependence is on prosperity at home.

Ploughing.—Various opinions are given

in respect to the depth of ploughing. As a general rule, we believe the most successful farmers plough no deeper than the soil, or rather the turf, extends. This soil is not generally more than two to four inches; consequently if the plough runs five or six inches deep, the soil, or fertilizing portion of the furrow must become so very much diffused that the plants, particularly when young, will not find sufficient nourishment. This being the case, it would seem that the direction so generally given to plough a sandy loam deep, should also depend on the depth of the manured portion of the soil. The best farmers of the present day direct the utmost pains to be taken to turn the sod so completely that it will all ferment. This is done most effectually by one ploughing only, and some, to keep the sod from being in the least turned up by hoeing and ploughing the corn, pass a roller over, and then harrow the field before planting. On

Oxen.—It is very common, with even good farmers, to keep their working oxen in very thin flesh. This is bad policy; they cannot perform as much nor as heavy work; are not so capable of being substitutes for horses, nor will they last as many years; are fattened for the butcher with greater expense and in longer time. The extra expense in keeping working oxen in good condition does not probably exceed in a whole season the additional work they could thereby do in one month. And when we consider that they consume less food in fattening, and can be moderately worked all the time they are preparing for the butcher, it will be seen that there is economy in keeping a good portion of flesh always on them. Many people are under the impression that oxen in flesh cannot move as fast, nor undergo as much fatigue as they can when they are not much more than skin and bones. This is true with oxen that are well fed and *uncustomed to labor*; but not otherwise, as many farmers can testify, and as correct reasoning would conclude.

Corn.—In communications from farmers we find that some varieties of corn will yield five pecks of shelled from two bushels of ears, and others but little, if any, more than four pecks. This seems to depend very much on the smallness of the cob. In planting corn, it is recommended to put six to eight kernels in a hill, and then to pull up at the first hoeing all but four of the most healthy spears. See page 98 and 109.

To prevent birds and fowls from scratching up the corn, the seed is covered with tar and wood ashes; and various other methods are adopted, but none that we are acquainted with have any decided advantages.

Skinless Oats.—This kind of oats begins to be considerably cultivated. As yet the seed commands a pretty high price, yet it is advisable, for every farmer who can, to procure at least a few quarts.

Flesh-colored Clover.—It would be well for farmers to furnish themselves with a few pounds, or even a few ounces of this seed, in order to test its merits. It may be of great benefit. See page 10.

Botts in Horses.—This is the season in which these worms are injurious to horses. Horses that have their food frequently seasoned with salt are said to be less liable to injury from them. Since botts seem to be fond of sweet liquids, it may be an advisable precaution to administer molasses with their food.

THE CHINESE MULBERRY.—We should advise every farmer to obtain at least one of the *Morus multicaulis*. It will not cost more than fifty cents; and by taking cuttings, or by laying, he may next spring have some ten or twenty plants.

GRAPE VINES.—Let that farmer who has not a good grape vine about his house, mount his horse and go a journey of some 10, 50, or 100 miles, to obtain an Isabella, Catawba, or some other choice native vine. It should make a farmer blush, in these days, to be compelled to say he has no vine to sit under. It implies that he is slow in availing himself of the proffered blessings of Providence—that he cannot think much of adding to the comforts and pleasures of his wife and children.

GRASS SEEDS.—It is very probable that the farmers of this country, in confining their attention exclusively to clover and timothy, do not realize as much hay and pasture as they would from a greater variety sown in the same field. In England the quantity sown to the acre for mowing is ten pounds of red clover, two of white do., two of yellow do., and one bushel of annual rye grass. For pasture, four of red clover, six of white do., four of yellow do., and one bushel of perennial rye grass. In this country grass seed is generally sown not later than the 15th of April.

YOUNG TURKIES.—No kind of domestic fowl sell better than fine turkeys; and yet comparatively few are raised in proportion to the numbers hatched. It is recommended to keep them from wet, and to feed them on homony and chopped onions. See page 13.

Forcing Asparagus. By EDWARD SAYRES. [For the New-York Farmer and American Gardener's Magazine.]

MR. FLEET.—After visiting your market at New-York, I am rather surprised at the little attention paid to forcing that useful vegetable the Asparagus, which I deem one of the first importance to the market gardener. The mode of forcing being simple, and the produce generally satisfactory, I trust a few practical remarks on the subject will be acceptable to some of your readers.

As soon as the frost is out of the ground, let a very moderate hot-bed be made, of any convenient size, with hot horse manure; the frame being placed on it in the usual manner, cover the bed three inches thick with earth, whereon the asparagus roots are to be placed, taken from an old bed or nursery rows three or four years old. The roots will require no trimming, but merely placed as thick as possible in the bed, so that the crowns are not placed on one another. This done, they are to be covered three inches with light soil or tanner's bark, when the sashes may be closed to draw the heat; but care must be taken not to let the lights remain on a day after the heat begins to rise, when six or eight inches more of light earth may be covered over the bed. The treatment is simply to give plenty of air in the day, and moderately covering the frame at night; to keep out the frost is sufficient. After the bed has been planted ten or twelve days, the roots will begin to vegetate, when a good watering is to be given every other day; and in three weeks after the time of planting, a good supply of asparagus will appear, and continue, if properly managed from 12 to 15 days.

EDWARD SAYRES.

Hyde Park, March 25, 1834.

Cultivation of Tares and Swedish Turnips.

By S. HAWES. To the Editor of the New-York Farmer.

MR. FLEET,—Having grown during the past season some tares and Swedish turnips, favorite crops with English farmers, I venture to send you some account of the culture and produce of both. About an acre of land in good condition, not having been recently cropped, was ploughed once, harrowed, and then sown with three bushels of spring tares and half a bushel of oats on the 1st of May last. I had not the seed early enough, or the tares should have been sown by the middle of April.

They grew most vigorously, and by the end of June were in flower, producing quite as much herbage as I ever saw them produce in England—indeed abundant; more than twice as much as any clover I had growing at the same time. From the time they were in flower they were cut as wanted, and given to horses, cattle, and pigs, all which ate them readily. Yet I did not think the stock did so well upon them as in England, possibly from the mode of their growth, which, either owing to the soil or climate, was different to what I had before seen. These went on growing freely after the pods were formed, though, commonly, when pods are formed, the whole strength of the plant is directed to perfect the seed, and the stalks soon cease to grow. They grew till the first week in September, when all were cut down, cured, and stacked. The haulm or straw was abundant, and is excellent food for sheep. The seed a poor crop, as from half an acre I had only five bushels, which, even allowing for much waste by fowls whilst growing, was too little, as half an acre ought to produce at least fifteen bushels. I intend to sow an acre with them this spring, and hope they may yield better.

For Swedish turnips I had five acres of land, a good sandy loam, ploughed and harrowed repeatedly till clean, then manured with about twelve good two-horse loads of half rotten manure per acre, which was ploughed in, and the turnips sown at different times, from the 15th of June to the 6th of July.

The seed was drilled on the flat surface 22 inches from row to row, and on the 6th of July we began to hoe out those drilled the 15th of June. But those drilled on the 6th of July we began to hoe on the 20th, being only 14 days from the time of sowing. In England I do not recollect any fit for the hoe in less than three weeks; but here vegetation is more rapid, both of turnips and weeds. In hoeing they were left about ten or twelve inches from plant to plant in the rows. They were hoed again in twelve or fourteen days, and afterwards a third time.

The plants soon covered the ground, the tops meeting, and the crop was an excellent one, equal to any I ever had in England. Part of the ground, which was low and not well drained, produced large turnips, but not so sound or sweet as those grown on high ground in the same field.

The whole were pulled early in November and thrown in heaps, then the tops were cut off and thrown to cattle, the turnips carted home and thrown into piles about 6 or 7 feet wide at the bottom, and gradually coming to a point, which was about 5 feet from the ground. Mould a foot thick was thrown over them, leaving at every 8 or 10 feet a

small hole to allow the warm moist vapor to escape, which always arises from the slight fermentation that takes place. No straw was used. The piles have been opened as wanted for use, closing the aperture with an old door and some litter for the time, and we have lost none. Fifteen or sixteen loads were put into an old ice-house for a few weeks, but the stock did not eat them so readily as those which came out of the piles. I doubt whether any cellar will keep roots so well or so sweet as earth alone. The crop was excellent, both in quantity and quality, but no account was kept, even of the number of loads, yet there must have been more than three thousand bushels. Cattle from the first were extremely fond of them; a lot of native wethers were a long time in learning to eat them, but at length did well upon them. My own South-down ewes having been fed on them, had abundance of milk in January, and thus my early lambs will go to grass in good condition. Pigs, old and young, are fond of them, and they need no cooking. In England many store pigs are kept on scraps and bits of Swedish turnips left by cattle.

Of the expense I can give no account, nor have I much faith in such accounts generally. The preparation of the ground, and the sowing, were interrupted by repeated rains, so in pulling them up the men were repeatedly stopped by frost, and had to get them secured as they best could. The culture of tares is nothing, but hoeing turnips is expensive, yet more and better food is yielded by turnips than by any other crop on this loam. On strong soils mangold wurzel would be a better crop, as such soils seldom grow good turnips; but beet, to do well, should be sown in May, and is very liable to be hurt by early frost. Swedish turnips are not injured by even severe frosts, if used quickly after; but freezing and thawing will spoil them.

Yours respectfully,
S. HAWES.

Albany, March 11, 1834.

Mr. Nutt's System of Bee Management. [From a Friend of this distinguished Apiarian.]

It is one of the least interesting pleasures of an editor's duty to record the successful achievement of designs to which he has devoted his helping hand, to place in successful practice and deserved estimation the efforts of inventive genius, to whatever part of the wide fields of research its attention may have been devoted; and multifarious as are the objects which address themselves to his attention, in his varied capacity, as treasurer of scientific improvement and discovery, or dispenser of their benefits, it is ever a source of gratification that those exertions have been requited with merited success.

Since the first promulgation of Mr. Nutt's views, the Mechanics' Magazine has been the vehicle for the publication of his plans, and the furtherance of his designs. That they were possessed of originality and merit was evident, by their requiring neither sophistry nor mystery to impress them on public attention, for they claimed regard more from their simplicity than the extension at which they aimed. The pages of this Journal were alike open to the results of his patient investigation and research, as well as the queries of his opponents, and we are confident that, even to those proficient in ordinary modes of Bee Management, or who adhered with per-

tinacity to their usual modes, much good was elicited.

To the Mechanics' Magazine Mr. Nutt returns his obligations for the impetus which, through its medium, has been given to his system, the remuneration which he has received for his labors, and the great and extended success which has in every instance attended its introduction.

The system has now become one of facts, which are now sufficiently numerous, not to prove its superiority over all others which have preceded it, but to render its introduction a matter of important, national, economical consideration. To recapitulate individual instances of its success were only to refer to what has been extensively published in this journal. The superiority of the honey and its chemical characters are based upon the same foundation, and we therefore feel that in taking leave of the subject as a theory, or its success as merely problematical, by placing it upon permanent record, it will only be necessary to give such instances of its established success, as will at once silence the objections of rivalry. An inspection of the exhibition of the varied collections this season, at the National Gallery of Practical Science, in Adelaide street, where it has stood the test of the strictest examination, and has been the subject of much attention and inquiry, will sufficiently prove the correctness of this observation. The results of Mr. Nutt's takings, during the present year, from six colonies, has been seven hundred pounds of honey, averaging from one hundred to one hundred and twenty pounds from each hive; nor has he been alone in these marked proofs of success, as a reference may be made to the Apiaries of the Marquis of Blandford, Delabere House, near Reading; Rev. Thomas Clark, Gedney Hill; John Burman, Esq., Wisbech; and J. D. Salmon, Esq., Stoke Ferry, Norfolk, where the average products have been the same.

LIME AS A MANURE.—"Lime," observes Mr. Lambert in his excellent work on Ireland, "is peculiarly adapted to land full of weeds and roots, as it decomposes such."—"It is a better manure for wheat probably than any other crop; and the quality of wheat grown on land where it is applied is much improved, having a thinner skin, a better color, and yielding more flour."—"It may be freely applied to land devoid of much calcareous matter."

Lime should, as much as possible, be kept to the surface-soil; it readily sinks if ploughed in too deep. Though I have mentioned what many may think very heavy dressings of this manure, yet I have known good effects produced from a far lighter quantity; and I should say, it is safer to begin with a moderate dressing, which can always be increased if found necessary, than to over-dose at first. It is essential that the lime should be well slaked, and in a powdery state before spreading. To this end, if the weather chance to be dry, cover up the heaps with mould for a day or two, they will open as fine as if water-slaked.

PLANTING A VINE.—Every proprietor of a house in this city should plant one or more vines in the yard. By so doing he will add, in four or five years, at least ten dollars to his rent. Most people would be induced to give an additional sum in the rent of a house, in the yard of which there is a fine bearing grape vine. The Isabella is so certain in its growth, and in its bearing, and so cheap too, that no landholder need be disappointed in realizing the fruit of his labor and expense.

NEW-YORK AMERICAN.

MARCH 29—APRIL 4, 1834.

LITERARY NOTICES.

No. XIX.

Banks of the Au Sable, Jan. 15.

It was about eight o'clock, and a bright cold morning, when a handsome four horse stage coach, built in New York, and placed with more liberality than judgment on a route where a broad tired, low hung and light wagon would be much more appropriate,—drove up to my quarters at Chicago; and having received my baggage, crossed the river on the ice, and was a few moments after travelling through the deep snow over the Grand Prairie. My fellow passengers were, a respectable middle aged female and a smartly dressed young man of amiable appearance, whose handsome broadcloth suit worn as a travelling dress, bespoke the favored bean of some country village, or possibly a thriving young clerk from the city, engaged upon some agency business, and travelling in the style which he thought would best comport with the dignity of his employers. The driver was also accompanied on the box by a well made young half blooded Chippeway of about five and twenty, who had come down from Mackinaw to seek employment, and was now going further South for the same object. The air being rather sharp on the Prairie, the lady took her seat between the young gentleman and myself, and thus wedged in together, we contrived to keep very comfortable—though our near neighborhood did not render us more communicative than people generally are after an early breakfast. We merely exchanged the ordinary common places which custom exacts from people thus thrown together; and then, unless when a wolf passing near our track, or a particularly large pack of grouse rising before us, called forth some exclamation, but few words were spoken by any of the company. At length, after having counted six wolves within twice as many miles, we approached a grove of timber, where while the trees grew quite densely in the centre, a few thin rows shot out like a reef of rocks from the shadowy island far into the Prairie. Here on the edge of a deep gully, through which winds the river Au Plais, was the log tavern at which the first stage of our day's journey, being 12 miles, concluded.—The horses were in a complete foam with their exertions in getting through the deep snow drifts across the prairie, and I easily persuaded the driver to abandon the comfortable but cumbersome vehicle which had brought us so far, and hitch his smoking team, which had still 12 miles to go, to a rough but strongly built sled before the door. My fellow passengers approved the arrangement, and subsequent events proved it a very fortunate one, for so deep was the snow on many parts of the road afterwards traversed, that it would have been impracticable to get a wheel carriage along and it must have been deserted on the prairie. There was much to do however about our new equipage, before we could get started; and while our driver looked after his horses, one of the passengers had to shovel the snow out of the sleigh, another to drive a pin through the tongue, in order to fasten on the leaders, and a third, after filling the bottom with hay, to adjust the baggage, &c. &c. All this, with the aid of the stout Chippeway and the active young eastern traveller, was soon effected; and the former taking his seat with the driver on a board in front, while the latter shared half of my buffalo skins, and stowed himself upon the hay with me in the rear, Madame was well accommodated, with the cushions taken from the stage, on a trunk placed in the middle; and some heated stones being brought from the house and placed beneath her feet just as we started, no grandmother could sit more comfortably in her cushioned pew in old Trinity. A fast drive of 12 miles brought us at noon to another island of timber, where a little piquant girl of 16, with sloe black eyes and glossy locks as dark as night, arranged a plain but neat meal for us, and gave a relish to the entertainment by losing one of the most vivacious tongues I had heard wag in the last three months. Here we changed horses, and a ride of 16 miles more brought

us about nightfall to a place called "Walker's Grave," where two or three log huts were sheltered from the north wind under an island of tall timber, and in one of which we have established ourselves for the night. A pile of bur oak, which makes a capital fire, flames up the enormous wooden chimney before me, and a number of stout yeomen around it, engaged in discussing the price of horses on the Wabash, prevent me, while handling a matter of such moment, from enlarging more upon the few objects of interest which have presented themselves to-day.

Ottawa, January 16.

I was hardly dressed this morning, when my only remaining fellow-traveller—the lady and the half-blood having parted company last evening—called me to the door to "see the cloud of prairie hens before it." I looked out, and there indeed, true enough, the oaks within gun shot of the porch were so loaded with grouse, that they showed more like a flock of pigeons than a covey of game birds. Having broken my gun, however, it was intolerably vexatious to see such capital shots thrown away, while these fine birds in those districts where I was prepared to bag them, were too wild to approach within shooting distance at all. The sleigh soon after came to the door, our driver having diminished his team by two horses, to meet, probably, the reduction of passengers already mentioned, and about a hundred yards from the house, we crossed a broad brook, known as the Au Sable River, and commenced ascending the bank beyond. But the snow was deep, and the heavy drift, having had its surface frozen over during the preceding night, our single span were unable to drag through it the clumsy sledge behind them. They plunged in up to their chests—"Go ahead, Sam!—gie up, Major!" shouted the driver—but Sam was thoroughly stuck fast, while the Major, in trying to sustain his military character by obeying orders, gave one spring, and floundering over the traces, was buried in the snow up to his crupper, and placed, *volens volens*, in full as quiescent a condition as the already settled Sam. For all of us to get out and take hold of the bits, was the next move—but it wouldn't do. Sam, indeed, seemed a little inclined to make a retrograde movement, by kicking out the foot-board with his heels; while the Major, having gathered new energy for another charge wasted his fire in lifting up his knees as high as his mouth, and ineffectually throwing his fore hoofs in advance on the crusted snow, handling his feet the while much after the manner of the rampant unicorn on a calico stamp, who, unmindful of the mottoed garter he treads under his foot, so bravely paws the crown which the complainant lion is pushing towards him. The driver at last became convinced of the necessity of returning for another pair of horses; and a young colt, called Blackhawk, with a hoary old plough-horse named Judge, were, after a little delay, procured and placed in advance of Sam and the Major on the top of the bank. Poor Sam seemed to dislike having the Judge's fetlocks brought so immediately in contact with his nose, they being nearly on a horizontal line—and he was accordingly inclined to retreat upon his haunches beneath which the snow formed so easy a cushion; but a single crack from the driver's whip sent the Major charging so vigorously upon Blackhawk, that the sable young chief gave a bound which carried us through the difficulty in a trice, and sent our vehicle skimming fast over the prairie. The grove in which we had passed the night soon vanished from sight, and a boundless expanse of snow-covered surface lay like an ocean before us. The arch of the clear blue sky seemed to spring at once from the silvored earth, which shone under the bright January sun with an intensity almost painful to the eye. The blue vault above, and the white plain below, were the only objects that met its glances, as they roamed for miles around; yet no one could complain of sameness in the tints of a picture so vast, a scene so illimitable. The immensity of the prospect seemed to exclude the idea of monotony, and perfect solitude was only wanting in such a scene to make one feel its grandeur. The lively rattle of my companion, however, whose society, after travelling so long entirely alone, I found no slight acquisition, prevented me from realizing its full effect; and when, after riding for about twelve miles, an island of timber hove in sight, while the beautiful sky of the morning clouded over, and the cold wind which began to set in from the west, indicated that the twelve miles we had yet to travel before we should reach the first house across this arm of the prairie would be anything but agreeable, I was contented to wrap myself as closely as possible in my buffalo robe, and join him in a game of prairie *loo*. Lest you might search

vainly in Hoyle for this pastime, I must inform you, that the game consists merely in betting upon the number of wild animals seen by either party, toward the side of the vehicle on which he is riding, a wolf or deer counting ten, and a grouse one. The game is 100; and you may judge of the abundance of these animals from our getting through several games before dinner—my companion losing me with eleven wolves. Some of these fellows would stand looking at us, within half gun-shot, as we rode by them; while the grouse would rise continually from under our very horses' feet.

Before we had got through the twenty-four miles, the scene enacted at starting, was to be repeated with improvement; for on coming to the edge of a frozen gully, our two leaders, in their anxiety to avoid former difficulties, gave such a spring that they sunk through the ice to their shoulders, on the opposite side; while the wheel horses, being thrown down, were driven by the runners of the sleigh against the sharp edges of the ice thus exposed, and one of them was terribly lacerated. It was the unfortunate Sam, who, poor fellow, not having been watered since the morning, lay quietly on his side in the traces, with his fore legs up the slope, and his hinder ones in the pool, eating the snow thus brought in contact with his mouth, apparently perfectly unconscious of his wounds. Black Hawk and the Judge, of course, came to an anchor when they found such an accumulated weight dragging behind them; while the spirited Major seemed to be thoroughly dejected at this second discomfiture, and allowed us to turn him over and put him on his feet with scarcely the interposition of a struggle. Not far from the scene of this catastrophe we crossed the Au Sage, a narrow stream, with smooth banks, utterly divested of shubbery; and after, in the next 8 miles, encountering two or three tremendous snow banks, where our horses were frequently immersed to their cruppers, and whence nothing but the leaders, from their firm footing beyond, dragging the wheel horses thro' the heavy drift, could have extricated us, we reached a beautiful grove of elms and oaks, and stopped to change our worn-out team.

Entering a log cabin, not at all differing from the usual dwellings of the frontier settlers, I found a choice collection of books, in one corner, a volume of Algermon Sidney's works, in a fine old edition, being the first book I took up, and upon entering into conversation with the occupants of the cabin, I found that degree of general cultivation which, though often met with on the frontier, still always strikes a stranger with novelty; and yet, I know no reason why the fullest expanding of the intellect is incompatible with the handling of an axe, or the most luxuriant development of the imagination with following the plough. The farmer, of all operatives, has, perhaps, the most time for improvement; and when he dwells in a land where, while Nature showers her choicest bounties, man passes toward it from every side, and contributes on his new coming to the general stock of ideas, keeping, by this lively interchange, those already afloat in active circulation, there is everything in his circumstances to make him acute and reflective, and to liberalize his mind, if not to polish his manners.

It would be giving you a wrong impression, however, did I allow you to gather from this, that the oldest western settlers of this country are, by any means so familiar with books as the emigrants from the East; for, among the latter there are many persons of altered circumstances, who, having once enjoyed better opportunities for literary culture, carry the traces of their old habits with them into the new scenes to which they so readily adapt themselves. Fluency of language, with an ease and power of expression, which sometimes swells to the dignity of eloquence, and often displays itself in terms of originality, at once humorous and forcible, constitute the conversational resources of the Western man; but as his knowledge is gathered almost altogether from conversation, he wants that exact acquaintance with facts and things which enriches the intellectual armory of his Eastern brother, in a similar situation of life. My opportunities as yet of forming an opinion might, perhaps, be questioned by one who did not know that the southern part of Michigan and the northern sections of Illinois are settled by people from almost every State in the Union. Having now traversed them both, I may venture the above observation, at least with you.

A dinner of grouse at this place came very opportunely after our keen ride of twenty-four miles over the prairie without once stopping; and, by way of varying our customary fare of bacon and corn bread along the road, we purchased a few brace of these fine

birds for twelve and a half cents a head, there being at hand a coop full of them just caught alive up on the premises. It was just sunset when, after riding about thirteen miles over a dreary looking prairie, we came suddenly to one of those *steppes* into which these singular plains sometimes break so beautifully; and, looking down over two broad platforms, which successively projected their flat surfaces and angular edges below us, beheld the Illinois river winding thro' the lowest meadow, and receiving its tributary, the Fox river, opposite the little village of Ottawa. It seemed to repose upon a rich alluvial flat with the rocky bluffs of the Illinois, rising in a regular line to the height of 70 or 80 feet immediately in the rear, while their rugged and varying outline, both above and below, towered oppositely to a much greater height. The warm light of the setting sun resting upon their mossy edges, and touching with freshness an evergreen that sprouted here and there among the cliffs, while the rising mists of evening imparted a blueish tint to the distant windings of the smooth valley below, gave an Italian softness to the landscape. But little in unison with the icy rigors that enchain the streams to which in summer it must owe its greatest beauty. A mile or two further brought us over the frozen river to the comfortable frame house from which this letter is dated.

Ottawa, which is situated a few miles above the head of steamboat navigation on the Illinois, is, from its central situation, gradually becoming a place of some commercial importance, though still a mere hamlet in size. It was within six miles of this place that the worst of the Indian horrors were perpetrated during the difficulties with the Sacs and Foxes in 1832. You must remember the newspaper accounts of every member of two families being butchered, except two young girls, who were carried into captivity, and afterwards recovered from the Indians.—There was a singular fatality attending this melancholy affair, which makes it worth while to recall some of the particulars. According to my informant, the heads of both families, who lived in the same or adjoining houses, had more than once removed their wives and children into Ottawa, upon false alarms of the approach of the Indians, and one of them, from some new warning on the very day on which the event took place, was again moving the united establishment in wagons to the same place of security, when he met the other, who so opposed and ridiculed the idea, that they returned together. An hour or two after they were at work within a few yards of the door when a band of Indians appeared, and with a triumphant yell surrounded the house in an instant. Armed only with their tools of husbandry, they did not hesitate to make an attack upon an enemy that outnumbered them, so as to make the attempt to get into the house and reach their rifles perfect madness. It is needless to add that they were shot down, tomahawked and scalped in an instant; not, however, as some say, before they had witnessed some of the atrocities practised upon the feeble members of their families. These, both before and after death, are too shocking, I may say too awful, to mention. "Why, sir," said an Illinois man to me, who was on the spot shortly afterwards, "those Indians behaved most ridiculous. They dashed children's brains against the door posts; they cut off their heads; they tore ——" but the detail to which my informant applied so quaint an epithet is one that I would not think for a moment of giving you. I must not forget to add, that the two surviving females, after losing every near blood-relative in this horrible manner, have lately found legal protectors, and are now settled in life as respectable married women. I had previously even as far north as the borders of Michigan in Indiana, seen stockades erected in the open prairie as a place of refuge for the settlers, with other similar marks of the late border strife, but had no idea till this evening that I was approaching the seat of the bloodiest acts of the unhappy contest. The neutral Indians, who disappeared from this part of the country at the time, are now, I am told, dispersed again in large numbers over the neighborhood. They are perfectly harmless; but, though treated with great kindness by the new emigrants, there will probably never again be much confidence between them and the old settlers. The latter somehow seem to have long regarded the Indians as hereditary enemies, and the events of 1832 have given new vigor to dislikes which seemed to be gradually losing their rancor. A man who has to plough with a heavy rifle ready-loaded slung to his back, day after day, while he fears even to send his child to the spring for a pail of water, may be well excused for being warm upon a subject which must thus fill his thoughts and harass his mind throughout each hour of the day. It is, therefore, useless to argue with an

Illinois "Indian Hater." What cares he for the "lean famine, quartering steel, and climbing fire," which you tell him often beset the redman's wigwam before his ancestors made good their footing on another's land. He thinks but of the frantic outrages he has witnessed in his own day. He thinks of his often abandoned husbandry "while that the coulter rusts" corrupting in its own fertility. He thinks of his butchered friends and neighbors, and asks bitterly how you could

"Look to see
The blind and bloody savage with foul hand
Defile the locks of your shrill shrieking daughters:
Your fathers taken by the silver braids
And their most reverend heads dashed to the walls;
Your naked infants splitt upon pikes,
Whilst the mad moine's with their howls confused
Do break the clouds."

An accumulation of horrid images which shows with what fearful fidelity Shakspeare would have painted Indian warfare had these wild tragedies of our day been acted in his.

Of books we have several, but not a word in their behalf to say, till after the election.

FOREIGN INTELLIGENCE.

LATE FROM FRANCE.—We have our Paris papers of 15th ult. inclusive, by the *Rhone*, from Havre.—From Spain and Portugal we have later accounts direct. From London the dates are to the 11th. Mr. O'Connell had demanded an investigation, by the House of Commons, of the charge against Mr. Shiel. The result of the demand is not stated.

The Gazette of France of the 15th inst., has this paragraph, of painful interest to Americans.

"General Lafayette is still confined by serious illness. He does not leave his bed, and his physicians forbid all but his intimate friends to enter his apartment."

PARIS, Feb. 14.—The Customs' Bill, presented to the Chamber of Deputies is at length published by the *Moniteur*, in Supplements, occupying 20 columns.—The following are its principal provisions:—The Bill proposes to admit raw spun cotton at 8fr. per kilogramme for single twist, and 10 fr. for double twist; gold and silver watches at 6 and 10 per cent.; Russian skins at 6fr. a-piece; chromate of lead and potash at 90fr. and 180fr. for 100 kilogrammes; foreign rum, arrack, and ratifia, at the same duties as other liqueurs. The duty proposed on wool in the mass is 10 per cent., and combed wool 30 per cent., *ad valorem*, without fixing any minimum. The actual duties on iron are reduced 1-5 from July 1st 1835, but the reduction will be effected in five years, at 4 per cent. per annum. The only concession to cast iron is the reduction of the minimum of the weight of pigs to 25 kilogrammes. There are greater or less reductions of the duties on a great number of dyewoods, spices, drugs, &c. The productions of China, Cochinchina and the Philippines, imported direct, will obtain a drawback of a fifth of the duties as established for the most favored foreign arrivals. Sugars from Pondicherry, are assimilated to sugars from Bourbon.—The tariff of arms in commerce is left to be fixed by Royal Ordinances. The charge for each seal (plomb) affixed at the Custom House, is reduced to 25 cts.

PARIS, Feb. 14.—On the 7th of next month, Constant Polari, alias Carrara, the person accused of having stolen the diamonds of the Princess of Orange, will be brought to trial before the Cour of Assizes for South Holland.

The French Chambers were occupied upon the Civil List. We perceive nothing in the debates worth noting.

The Constitutionnel of the 14th of Feb., states that on the preceding day, after long and fatiguing discussion the Chamber of Deputies had voted the law, (so warmly contested) for the liquidation of the old civil list.

Advices from Algiers are to the 30th of January. An expedition against some refractory bands of Arabs, had been successful—without hostility. After explanations from the French, the Arabs desisted from hostile acts, and promised to live in peace and harmony.

The Paris Times assails the Ministers—arguing that this is not a Representative government, where the Ministers represent the King's will before the Chambers, instead of the will and voice of the people.

ENGLAND.

The London papers are yet discussing the subject of what they term "*The Irish Rmo.*" kicked-up in the House of Commons by Mr. O'Connell. They attribute to O'Connell a design to destroy Shiel, as

the only member of his *tail* whom he has reason to fear as a rival.

Numerous petitions have been presented to Parliament, from the Dissenters, praying for liberty to register their own births and marriages, and for exemption from marriage fees.

LONDON, Feb. 10.—The following circumstances have appeared before the Portsmouth magistrates this week: The ship *Marianne*, Claxen, master, having on board 212 Polish refugees, bound to the United States, has been detained in this port, wind bound, five weeks. The ship was taken up by the Prussian Government, for the purpose of conveying these men from that country to America, under an agreement that on their arrival they were to be paid a sum of about sixty dollars each.—The ship was obliged to put into this port by stress of weather, and the Poles appeared to be very comfortable, and expressed their willingness to proceed to America, until Sunday last, when a Polish officer arrived from London, and communicated to them that the Poles of Harwich and Havre, who were similarly situated, had obtained permission of the French Government to land in France or Algiers, upon which the Poles here refused to proceed to America, and agreed to leave the ship on the following day. The necessary steps being taken on Monday for their leaving the ship, they peremptorily refused either to proceed to America or to leave the ship.

The next day, (Tuesday) the wind being favorable for sailing, the pilot gave directions for heaving the anchor, and as the crew were at the windlass for that purpose, the Poles rushed forward and forced the handspikes from them, stating that they were determined the ship should not proceed. They took possession of the ship; and from their violent and threatening conduct, the Captain applied to the Civil Authorities for protection, as he could not put to sea without endangering his life. Depositions of the fact were taken, and communication had with the Secretary of State, and also with the Prussian Ambassador. Thus the case stands at present.—[Hampshire Telegraph.]

The Duke of Wellington has been installed Chancellor of the University of Oxford. It is stated that he pronounced his Latin address in a most excellent and impressive manner. It was classical in style, and in substance eloquent. He alluded, with much felicity to the occasion when Oxford conferred on him the Degree of Doctor of Law, in company with the Emperor Alexander, the King of Prussia, and their illustrious train, and expressed himself determined to defend the privileges of the University, which had so gratified his feelings in conferring upon him the high office with which he is now invested.

The last despatches from the Court of St. Petersburg give such a positive assurance of a continuance of peace that a reduction of the army is talked of in the higher circles. It is believed, however, that this measure will not take place till after the close of the Congress.

General Sir Colin Campbell, has been appointed to the Staff of the British forces in North America.

SWITZERLAND.

A body of Polish refugees who had been sent out from France, have lately attempted, with such Italians as they could get to join them, to make themselves masters of a fortress in Savoy. They were opposed, however, and most of them taken prisoners, and decrees passed to expel them from the Swiss territory.

ITALY.

Several arrests had taken place in Rome, but they are merely precautionary—to guard against troubles during the Carnival.

SWEDEN.

A Stockholm Journal of the 21st January, proclaims that capital the most prosperous in Europe, and congratulates the King of Sweden on his having relieved the country from the burden of a foreign debt.

TUESDAY, THREE O'CLOCK.—We have our London papers to 26th February, by the *Roscoe*.

Paris accounts are to the 23d—fears are expressed for the stability of the throne of Louis Philippe.—Lyons was in a state of great disturbance, from the workmen standing out for wages. Louis Philippe had issued an edict—foolish, because tending to excite hostility, without answering any effective purpose—to close the theatre at 11 o'clock. The edict is justified upon old usages raked up from the Bonaparte and Bourbon times.

From Spain there are no special news, except the

resolute refusal of the ministry to permit *Mina* to return to Spain.

From Portugal the intelligence is that Miguel's troops were descending the left bank of the Tagus, and might thence annoy Lisbon. The war there is not by any means ended.

The Committee of Privilege, appointed by the House of Commons to examine into the charge against Mr. Shiel, had reported "their deliberate conviction of his innocence in respect of the whole matter"; and Mr. Hill, on whose speech at Hull, we believe, the whole accusation was grounded, concurred entirely in the result, and expressed to the Committee "his deep and unfeigned sorrow for ever having given the charge circulation."

GEN. LAFAYETTE was still indisposed at the last dates from Paris.

The London Courier of the 24th contradicts a rumor circulating, that there was a schism in the Cabinet.

LIVERPOOL, FEB. 25.—The Pantaloon arrived at Falmouth on Thursday last, bringing letters from Lisbon to the 9th instant. The following is an extract of a letter dated Lisbon, February 8th:—

"The Miguelites, in great force, (about 3000 men) have marched down from Santarém, on the south side of the Tagus, and have appeared at Aldea Galega, just opposite to this city. I am informed they may be seen; and I do not doubt it. I have been told that some vessels of war have been firing on them all day. If care be not taken they will get possession of St. Ubes, and the fort of Almada, which is directly opposite the centre of the city. Without foreign interference, the war will be interminable; Miguel's troops stand by him, although they are neither half fed nor half clothed. This is not less true than surprising. Miguel has nearly the whole country in his favor."

The fact that Miguel feels himself strong enough to detach three thousand men to advance upon St. Ubes, would seem to argue that he entertains no fears for the safety of Santarém. The United Kingdom steamer disembarked four hundred and fifty Belgian troops on the 7th. They were immediately informed that their pay would be the same as the Portuguese troops, and that the agreement made with them before they embarked would not be obviated by. At this they, naturally enough, became very discontented, and protested against their treatment as a dishonorable breach of faith, but to no purpose. About one hundred and fifty British subjects are daily marched through the streets of Lisbon, chained together in parties of about twelve, to work on the roads. These are the free-born Englishmen who sailed forth to liberate enthralled Portugal from the grasp of an usurper and a tyrant! These rogues in iron have made a happy exchange; they have gone from English jails into foreign hulks. The liberators are converted into galley-slaves, and in this capacity they will certainly be useful in cleaning the streets of Lisbon.

Miguel is said to have offered an amnesty to Pedro's followers, promising to send the whole of the English and other foreign ragamuffins in Donna Maria's service to their respective countries. At the departure of the Pantaloon, this proposition had not been accepted by Pedro. The two principal officers in the Queen's service, the Duke of Terceira and General Saldanha, had quarrelled. The former, on quitting the army, was succeeded by Gen. Stubbs.

[From the London Courier of Feb. 24—evening.]

The French papers, as well as the letters, which have arrived from Paris, begin again to use the language of alarm in relation to the stability of the Government of Louis Philippe and the maintenance of tranquillity in France. The two subjects which at present have chiefly given rise to this uneasiness are, the strike of the workmen at Lyons, and the impolitic edict of the Prefect of Police at Paris to shut up all the theatres at eleven o'clock, which we mentioned on Saturday. When the whole people are ready to take fire, though willing to relapse into tranquillity, how monstrously absurd it is in this Prefect to throw a brand into the combustible heap. His foolish edict, too, comes immediately after the law for suppressing the public criers, which went to deprive the people of much excitement, which was not always mischievous, and to take away from them a source of amusement, in which they had long drunk in some pleasure. The Prefect refers too, in his edict, to a variety of ordinances, issued in the hated times of the Bourbons, and under the arbitrary sway of Buonaparte, as the

justification of his measures, as if he thought they were the happy periods which the French ought to bring back. Thus he places that which is personally offensive, upon grounds which are still more offensive to the majority of those whom he undertakes to control. All this is, in our opinion, most melancholy and most contemptible in M. Gisquet, and it tends to confirm our conviction, that the administrators of the laws get into such a habit of looking exclusively into them to find rules for their conduct, that they cannot look beyond them, and never, therefore, acquire that wisdom, which events and circumstances teach. But it is quite clear, that the laws and ordinances of the Bourbon and Buonaparte Prefects of Police, are not calculated for the present state of men's minds in Paris. It is equally clear, that a new order of circumstances is continually arising in society, for which the legislators of the past age could not possibly provide, simply because they did not know, and did not foresee them. Thus the men who, like M. Gisquet, never will look for rules to events and circumstances, but always will look to antecedent edicts and ordinances, and always frame their conduct by the edicts and ordinances of their predecessors, must, of necessity, do a vast deal of mischief. They are the real authors of the painful convulsions which take place in society, inasmuch as they always oppose with violence those gradual and successive changes which, but for them, would probably be brought about calmly and tranquilly, and which society, like every created thing, is continually doomed to undergo. Their great mistake—for we do not impute corruption or guilt, or even a love of tyranny, to them, but ignorance—consists in supposing that their edicts and the edicts of their predecessors determine the events which, we say, they ought to study, in order to obtain the wisdom proper to Statesmen. This is a fatal mistake, which the events of the last fifty years in every part of Europe—for there is not one in which statesmen have not been successively obliged to bend to new and unforeseen circumstances—are well calculated to rectify. We hope that the successor of M. Gisquet, whoever he may be—and M. Gisquet cannot, without greater danger than a hundred Gisquets are worth, be retained—may be wiser, and more disposed to look at existing facts, than at the ordinances of a former period.

LONDON, FEB. 21.—Lord Althorp admits that the property of the church is much less than he imagined, and that from the returns, it only amounts to £3,600,000 a year—

Bishops' incomes	£ 158,527
Deans and Chapters' incomes	236,658
11,400 benefices	3,621,125
	£3,621,125

LONDON, FEB. 24.—A new treaty between Russia and Turkey, very much in favor of the latter was concluded at St. Petersburg on the 27th last month. By this treaty, that of Adrianople is materially modified; the amount of the debt due by the Porte is very much diminished; part of the principalities of Moldavia and Wallachia is to be given at once to the Porte, and the remainder is to be given up on the execution of the conditions. The frontiers of Turkey on the side of Persia are to be considerably extended. This information is official.—[Spectator.]

THE TRADE TO CHINA.—The shipowners of the United States are under weighty obligations to the framers of the late orders in council, for the regulation of the British trade to China. These orders, in fact, impose discriminating duties in favor of the Yankees, and against the merchants of England. Were the principle on which they seem to have been drawn up acted upon in reference to our commerce to other parts of the world, the British flag would soon disappear from our docks and harbours. We have just been informed of one instance, which occurred at Liverpool the other day, of the injurious operation of these orders. Some British manufactured articles, for which freight had been engaged on board a British ship to Canton, and which had been consigned to a British house there, have been transferred to an American vessel, and are now consigned to an American merchant. The freight and commission, therefore, which would naturally have fallen into the hands of the English shipowner and merchant, will be pocketed by our American rivals; and the most provoking thing is, that this evil result is brought about by the ignorance and obstinacy of our own rulers. The influence of Mr. Poulett Thomson must be weak in quarters where his advice ought to be followed for we cannot suppose for a moment that he is blind to the inevitable consequence of the Canton trade orders; although the great majority of his colleagues are incapacitated by their habits and education for a right understanding of the subject.—[Spectator.]

The constitution of the Cortes *por estamentos* not being generally known, our readers may wish to be informed that the Cortes, *por estamentos*, is a species of States General, which was anciently composed of the three Estates (*Estamentos*), or influential classes in the nation—namely, the Nobility, the Clergy, or rather prelate, and the Deputies from a number of cities and towns which possessed the right of sending Members to this Parliament. These three orders sat in separate chambers, but the sanction of all was indispensable to give force to any legal enactment; but ever since the subversion of the rights of the Commons by Charles V., the Cortes were no longer the Representatives of the nation, but merely the King's Deputies, called together for a special object, such as to take the oath of allegiance to the heir apparent to the throne, &c. But previous to the reign of Charles V. the Cortes possessed more extensive rights and privileges than are possessed by any Legislative body in Europe at this day. At that time Spain was the greatest country in Europe; but the destruction of the representative system, and consequent introduction of a severe despotism, destroyed all the energies of the people, and all the resources of that fine country, and, from being a powerful empire, has degraded it to a state of misery, and a rank quite below its natural level amongst European nations.—[Herald.]

MR. SHIEL.—The annexed report was made in the House of Commons on the 14th of February.

It was received with cheers; and was followed by a frank and manly apology on the part of Lord Althorp to Mr. Shiel:

Charge against Mr. Shiel.

MR. GROTE brought up the Report of the Committee appointed to inquire into the charges against Mr. Shiel. There were cries of "read, read;" and the Clerk proceeded to read it as follows:

"The Committee of Privileges, to whom the matter of complaint was referred, arising out of a paragraph in the Examiner newspaper, dated Nov. 10th, 1833, hereby submit to this honorable House the following report. The paragraph in question, purporting to form a part of a public speech, delivered at Hull, by Matthew Davenport Hill, Esq., is as follows:—'It is impossible for those not actually in the House to know all the secret machinery by which votes are obtained. I happen to know this (and I could appeal, if necessary, to a person well known and much respected by yourselves,) that an Irish member who spoke with great violence against every part of that bill, and voted against every clause of it, went to Ministers and said, 'Don't bate one single atom of that bill, or it will be impossible for any man to live in Ireland.' 'What?' said they, 'is this from you, who speak and vote against the bill?' 'Yes,' he replied, 'that is necessary; because, if I don't come into Parliament for Ireland, I must be out altogether, and that I don't choose.' Cries of 'Name,' and 'No.' Consider for a moment—can I do it? 'No.' 'Yes.' That is a point for my consideration. I have a great respect for every one here; but, if every one in the room were to hold up his hand for it, I would not do it. The secret is not my own. If he had told it to me I would have said, 'Mark, I will keep no such secret as this; I'll publish it to the world.' But if I name the member, I put it into the power of the individual who made that declaration to know the gentleman who told me." Your Committee, on entering upon the delicate and embarrassing duty imposed upon them, ascertained from Mr. Hill that, though he could not admit the entire accuracy of the above paragraph, as part of what he had publicly spoken at Hull, nevertheless, he recollected to have publicly charged an Irish member of Parliament with conduct similar in substance to that which the paragraph described. The Irish member so alluded to was Richard Lalor Shiel, Esq., Member of Parliament for Tipperary, and Mr. Hill states the charge to the best of his belief, to have been substantially as follows:—That Mr. Shiel made a communication respecting the Irish Coercion Bill to a person connected with government and others, with intention thereby of promoting the passing of the Coercion Bill, and having a direct tendency to procure that effect, whilst his speeches and votes in the House were directed to the rejection of the Coercion Bill. Such was the substance of the allegation into which the committee proceeded to inquire. Two witnesses were called before them at the suggestion of Mr. Hill, and others were about to be examined, when Mr. Hill himself, finding the testimony different from what he had expected, freely and spontaneously made a communication to the committee that he had come to the conclusion that the charge against Mr. Shiel, of having directly or indirectly intended to communicate to government any opinions in opposition to those he

had expressed in the House of Commons, had no foundation in fact; that such charge was not only incapable of proof, but that, in his sincere belief, it was totally unfounded; that he was induced to make mention of it in a hasty and unpremeditated speech, under a firm impression that he had received it on indisputable evidence; but that being now satisfied of the mistake into which he had fallen, and being convinced that the whole of the charge was wholly untrue, he came forward to express his sincere regret at having given it circulation. Mr. Hill added that if there was any way, consistent with honor, by which he could make reparation, and heal the wound he had inflicted, he should be happy to do so. The Committee felt highly gratified that they could exculpate the honorable member from the charge in consequence of the voluntary statement of the honorable member for Hull. Neither of the witnesses who appeared before the Committee deposed to facts calculated to bear out the allegations against Mr. Sheil, nor did the statement go to impeach his character and honor in any way, nor in any manner whatever. The committee have no hesitation in declaring their deliberate conviction that the innocence of Mr. Sheil, in respect to the whole matter of complaint referred to their investigation, is entire and unquestionable. The Committee feel bound at the same time to declare that the statement of Mr. Hill was made under a sincere but mistaken persuasion—they derive this confidence as well from his character as from his candid admission, and the evident anxiety to avoid exaggeration or misstatement which he observed throughout his statement."

The only additional item with respect to Portugal is, that the *Duke of Terceira* had been displaced from the command of the army before *Santarém*, by reason, it was conjectured, of the jealousy entertained of him by the Count Saldanha. General Stubbs, an Englishman, was his successor.

PARIS, FEB. 21.—Our legitimate journalists have been strongly excited at the despatch or despatches which informed them of the reception given to Marshal Maison by the Emperor of Russia, simultaneously with the arrival of the current reports of Prince Metternich's. The Prince, like the Emperor, regards the King of the French as the only efficacious guarantee for the peace of Europe, and the only powerful barrier which can preserve society from the invasions of anarchy.

General Lafayette is still indisposed. At the funeral of M. Dulong, which the old General wished to attend on foot, his fanatics, or perhaps his enemies, made an attempt to carry the hero of the two worlds in triumph. The old General did not seem to relish this. The enthusiasm of the surrounding multitude appeared to him rather equivocal, and he was well pleased when a picket of the Municipal Guard released him from the premature apotheosis. The circumstance, however, has shaken him much and though not in immediate danger, he is in a languishing state, and at his advanced age every excitement is dangerous. His death would be an event of importance, and his obsequies might give rise to scenes of disorder, if the excellent spirit of the National Guard of Paris did not afford a guarantee for the preservation of public tranquility.

From Portugal accounts to the 20th Feb., direct, are received at Boston, by a vessel from St. Ubes.—An express reached the latter place—distant not more than twelve or fifteen miles—from Lisbon, that a battle had been fought with the Miguelites, in which they were routed with great loss.

The last accounts, via England, were that a detachment of Miguel's troops were marching down the left bank of the Tagus, and were nearly opposite Lisbon—hence the greater probability that the St. Ubes rumor is true.

SUMMARY.

CITY OF BROOKLYN.—The bill constituting Brooklyn a city, which has passed the Assembly, has been for some time discussed warmly in the Senate. On Friday, (according to an Extra from the Albany Argus,) the Senate being in Committee on that bill, Mr. Van Schaick proposed the following clause:

"But the personal property of any person or persons occupying a counting house, warehouse, office, store or shop, and transacting his or their business in the city of New York, and whose property shall lie in the said city, or be a part of his business trans-

actions therein, although he may lodge or have his dwelling house in the city of Brooklyn or elsewhere, shall be assessed and subject to rateable taxation in the city of New York, in the same manner as other personal property is by law assessed and taxed therein."

In introducing his amendment, Mr. Van Schaick read the report to the Comptroller of the city of New York, in regard to the nature of the improvements at Brooklyn, being dwelling houses of a good class, occupied principally by merchants and dealers lodging in the village of Brooklyn at night, and coming over to New York in the morning, entering their stores, transacting their business during the day and returning to Brooklyn at night, and by this means escaping taxation on personal property, lying in the city of New York, to a large amount.—Mr. V. S. observed that the evil was increasing to such an extent, that its importance would force itself upon the public attention, and he alluded to individual cases. It would not be endured that persons carrying on a regular business in the city of New York, and making large sums of money in trade, should enjoy the benefit of an expenditure of \$200,000 per annum for streets, lamps, watch, fire department and courts of justice, and the ample protection of their property in trade, and should in consequence of having their dwellings in Brooklyn, escape making any contribution whatever to the public burthens of the city, while every trader and mechanic was assessed and paid his share of the taxes.

There were instances of persons escaping taxation on many hundreds of thousands of dollars, and in the course of twenty years, it might be very possible that with an increased number of ferries from Old Slip and other places to the new part of Brooklyn, one quarter or one third part of the business population of New York, residing in the first ward, would become the residents or lodging population of Brooklyn. Would such a state of things be endured? Is it consistent with any principle of justice? The first ward pays more than a fourth part of the whole taxation of the city. Are we to give up a large portion of this revenue, for the purpose of fostering the commercial rival, as some call it, which you are going to create? It must not be done. The upper wards of the city would feel themselves sorely oppressed by a decision which would lead to that result.

[Mr. V. S. supported his amendment with great zeal, and read several letters in relation to the subject, which he had received from the committee of the corporation of New York.]

The amendment was adopted.

On Saturday this amendment was reconsidered, and though warmly sustained by Mr. Van Schaick, was eventually rejected.

Mr. Van Schaick renewed his proposition in the Senate, but only four eyes supported it.

LEGISLATURE OF NEW YORK.

Six Million Loan.

Mr. Morris, from the Joint Committee to which was referred the Special Message of the Governor, made a Report, responding to the charges of the Governor against the United States Bank, and concluding with a bill providing for the creation of a five per cent. STATE STOCK amounting to SIX MILLIONS OF DOLLARS, redeemable within twelve years. Four Million of Dollars of this Stock is proposed to be loaned to the Banks in the city of New York, and Two Millions to be sent to the Loan Office in the different parts of the State, to be loaned when the Supervisors of the respective Counties determine that they are in need of such aid. The \$4,000,000 given to New York, is to be loaned to the City Banks.

The bill creates a Board of Officers to manage this Stock, consisting in part of State Officers, and of persons to be appointed by the Governor and Senate.

Mr. Morris also introduced a bill allowing the Banks which may borrow this money, to discount upon it as additional capital.

THE SIX MILLION LOAN.—By the bill "to loan the credit of the State to the people thereof" for SIX MILLION DOLLARS, it is left discretionary with the Commissioners whether or not to issue the stock.—The bill will unquestionably pass. The Commissioners named by the bill, are the Comptroller, the Attorney General, the Bank Commissioner appointed by the Governor, and three other persons to be appointed by the Senate on the nomination of the Governor. The Act is to go into effect immediately on its passage.

Steamboat Cause.—The Superior Court, before

Judge Hoffman, was occupied on Tuesday and Wednesday, with the trial of the suit brought by Henry K. Fountain, against Robert Dunlop, proprietor of the steamboat Dewitt Clinton, for the value of the petiaugre Hudson, owned by the plaintiff, and which was sunk on the evening of the 9th of November last, in the North River, near Catskill landing, in consequence of the collision of the two vessels in the dark. The jury yesterday morning returned a verdict of \$600 for the plaintiff. Another suit is pending against the same defendant for the value of the Hudson's cargo of oysters, which belonged to Mr. Simondeon, the master.—[Courier.]

APPOINTMENTS by the Governor and Senate, Mar. 25.

New York—Phineas Lockwood, pilot by way of Hell Gate; Gabriel Winter, commissioner of deeds. Kings—Zechariah Cooper, auctioneer.

Queens—Henry J. Hagner, surrogate; Benjamin W. Strong, first judge; Joseph Dodge, judge of county courts; Robert Mott, Isaac Wright, Edward Starkins, Warren Mitchell, William M. Weeks, Samuel Mott and Samuel Lowrie, auctioneers.

The Common Council of Troy have voted a snit of Colors to the new ship *Troy*, in compliment to the name she bears. The *Troy* is a very fine ship, of five hundred and thirty tons burthen, belonging to Josiah Macy & Sons. She is furnished with a beautiful cabin though designed for the general carrying trade between this country and Europe.

Fatal Accidents.—On Thursday last, Mr. Bear of Hanover, Pa. in approaching this city with his team, was thrown from the saddle horse, in consequence of the horse taking fright by the flying of a kite, and the unfortunate man fell in such a position that both wheels of the wagon passed over his body, occasioning his death in about an hour.

On Tuesday, a child of Mr. John Wilson, of Mountjoy township, Adams co. Pa. aged about 3 years, was found dead in a spring near the dwelling of the family. He had a small bucket with him, and it is thought that in attempting to dip up water, the child lost his balance and fell into the spring—where, no one being in reach to save him, the consequence was loss of life. When discovered, it was supposed that the body had been nearly an hour in the water; all attempts to resuscitate it, were therefore vain.—[Balt. Patriot.]

The estate of the late D. McCormick in Wall street, just above Pearl, sold yesterday by auction for \$46,500. The estate is 36 feet on Wall street, and from 69 to 81 feet deep. The building is of no value.

This estate a few months ago, would have sold for nearly fifty per cent. more. Fifty thousand dollars has been more than once refused for it.

The body of a man was picked up off Sewell's Point, on Friday, by the revenue cutter Jefferson, Capt. Webster, which appeared to have been in the water 5 or 6 days, and is thus described by Capt. W.:—Height about 5 feet 5 or 6 inches; dark complexion, large black whiskers—dress, a blue jacket, yellow oil cloth trousers, a red shirt over a white one, the latter marked J. Perry; the figure of a ship of war, the word *Liberty* and the initials T. C. marked on one of the arms in Indian ink. There was a hole in the forehead of the deceased between the eyes, apparently made by a pistol ball, and two smaller ones on the side of the nose, supposed to have been caused by shot—also, a severe bruise on the temple. The body was interred by Capt. Webster on Sewell's Point.—[Norfolk Herald, 31st ult.]

Sheep killed by Cats.—The last Lancaster Examiner says:—"Incredible as this may sound, we have good authority for saying the deed has actually been perpetrated in this county. Several cats, of the common species, with their progeny, have for three or four years past made an old stone quarry in Martie township their abiding place, and in that time it would seem have relapsed to the wild state and acquired the ferocious and predatory habits natural to their tribe. A short time ago, some of them were seen in pursuit of a full-grown sheep belonging to the flock of Mr. Martin Herr, of that vicinity. They soon overtook it, dragged it to the ground, and before the person who witnessed the scene could reach the spot, they succeeded in so lacerating the poor animal's throat that it bled to death in a short time. It required considerable exertion to drive them off. A dog, subsequently sent in pursuit of them, caught one, but would probably have been himself worsted in the conflict that ensued, had not the owner come to his rescue. It is said they also pursued a small boy some time ago, and followed him a considerable distance, as is now supposed with deadly intent.

THE DEATH-END OF WILLIAM WIRT.—The Richmond Compiler of the 17th inst. contains the affecting account of the last illness of Mr. Wirt, written by a gentleman who attended him during that illness. We proceed to extract the principal part of it.

"On the evening of Saturday, the 8th instant, he was in playful spirits, and sanguine of the success of an argument which he was to make in Court on Monday. He felt better satisfied with his preparation, he said, than with any he had made for years before. On Sunday, he walked to the Capitol to Church—it was a damp chilly day, and the Representatives' Hall was crowded and warm. To go immediately from it into the cold, damp air, and walk slowly, as he did, a mile to his lodgings, might have been deemed imprudent in one whose health was less precarious than his then seemed.

"That night he complained of a slight indisposition, and in the family worship of the evening, prayed with an unusual fervor, and seemingly a forboding spirit, which he communicated not save to his God. But even this was sufficient to excite vague apprehensions in a family always ready to note and to dwell upon whatsoever might seem to bode danger or safety to a friend so dear.

On Monday he was confined to his room; no serious apprehensions were entertained, but a physician was called in—it was only a cold. On Tuesday he was worse, but we feared not the result. He complained of stiffness of the muscles of the throat and swelling of the glands—milk poultices were applied to his face, but they gave no relief. On Wednesday he was much worse, so much as to excite alarm; on the evening of this day, it was first discovered that the disease was Erysipelas, "a new enemy," of which Mr. Wirt then expressed his fears. "It was not the foe with which he had been so long accustomed to contend."

His constitution was too weak, as the physicians apprehended, to stand the vigorous treatment which would have been most efficient in destroying the disease. By Friday, the alarm had become very serious—the door was crowded by anxious inquiring friends, and those who met in the street asked from each other the latest intelligence. The affliction of the family was extreme, but still there was hope. On Saturday, his daughter and son-in-law arrived from Baltimore, and were shocked to find the case so much worse than their worst fears.

Scarcely a glimmer of hope was left to us, but this feeble ray was most anxiously watched and cherished. When overshadowed by so deep a gloom, the least of the twinkling stars in the firmament is more precious to our sight, than is the sun itself in the noontide of an unclouded day.

Death, from the first day of his illness, had continued to approach with a steady pace, and in a form more than usually hideous. The fine countenance so bright with intellect, so beaming with benevolence, was sadly altered—by the disease partly, and partly by remedies so fruitlessly applied. The eyes had lost their speculation—the eloquent voice was hushed—the divinity had departed from the temple, and its walls were defaced, but life still lingered, loath to abandon a habitation which had so long given to a thing in itself so little desirable and so worthless, beauty, purity and worth.

The attending physicians were Doctors Hunt and Hall; none could have been more anxiously attentive; the latter staid by him every night of the last four or five.

About noon on Monday, consciousness returned; and he had power to speak a few words. Nature had made a last effort to permit him to take leave of his family and friends, to give assurance that he died in Christian hope, and to join them in prayer to his God. The Rev. Mr. Post officiated. In so much of the prayer as related to his family and his own acceptance with Heaven, he seemed heartily to join; but when a petition was offered that he might be restored to health, he audibly disowned—"No, no!" He had done and suffered enough in this contentious world, and was entitled to the release, and the transfer to a higher existence, which the just and good are authorized to expect.

It was now become manifest, even to the most sanguine, that recovery was beyond the remotest probability. He was too shining a mark for death longer to miss. All that was left to us was, to smooth his passage to the tomb—to moisten his dry parched lips and tongue, and perform such little offices of affection as might soothe his hard sufferings.

During the last eighteen hours, he was tranquil as a child. Breathing and warmth were the only evidences of life—no motion, no pain, no consciousness—there lay the wreck of WILLIAM WIRT.

Three friends besides the Clergyman, attended his

bed side during the night—his family, too, worn as they were by nearly a week's watching, could not be induced to take repose. Anguish and affection gave them strength to bear what would have exhausted the strongest men. It was a night long to be remembered—a night of silent, despairing sorrow, which conveys to the heart a language never to be forgot—a language which is not for a pen like mine to transcribe.

Tuesday morning breaks upon the scene still unaltered, save that life flittered more faintly and all pulse was gone. About 11 o'clock the breathing became gradually more distant and more feeble—are suspended or imperceptible—another breath—he's gone? So calmly, so imperceptibly did he make his exit, that the precise moment of his departure could scarcely be marked—without a sigh or a struggle his bright spirit has departed from amongst us, to a state of existence higher, mightier and more glorious.

Upon a highly excited mind, a slight incident will sometimes make a deep and lasting impression. As the last flickerings of life were failing—while his whole family, and the friends who had watched with them, grouped around his bed, and in silent, deep attention to the awful scene, all held their breath, and their hearts and pulse stood still, a few soft, low notes from a pet bird, which had before been so silent that its presence in the room was unremarked, fell with startling sweetness on the ear. Only once before during his illness, had it been known to sing. On the preceding day, at the conclusion of the last act of devotion in which he ever joined, these same soft notes had mingled with the solemn 'Amen.'

Eloquent extract from a Review of the Life and Writings of Fenelon, by Dr. Channing.

The common idea is, that overwhelming emotions, the more they are experienced, can the more effectually be described. We have one strong presumption against this doctrine. Tradition leads us to believe, that Shakespeare, though he painted so faithfully and fearfully the storms of passion, was a calm and cheerful man. The passions are too engrossed by their objects to meditate on themselves; and none are more ignorant of their growth and subtle workings than their own victims. Nothing reveals to us the secrets of our own soul like religion; and in disclosing to us, in ourselves, the tendency of passion to absorb every energy, and to spread its hues over every thought, it gives us a key to all souls; for in all, human nature is essentially one, having the same spiritual elements, and the same grand features. No man, it is believed, understands the wild and irregular motions of the mind, like him in whom a principle of divine order has begun to establish peace. No man knows the horror of thick darkness which gathers over the slaves of vehement passions, like him who is rising into the light and liberty of virtue. There is indeed a selfish shrewdness, which is thought to give a peculiar and deep insight into human nature. But the knowledge, of which it boasts, is partial, distorted, and vulgar, and wholly unfit for the purposes of literature. We value it little. We believe, that no qualification avails so much to a knowledge of human nature in all its forms, in its good and evil manifestations, as that enlightened celestial charity, which religion alone inspires; for this establishes sympathies between us and all men, and thus makes them intelligible to us. A man imbued with this spirit, alone contemplates vice, as it really exists, and as it ought always to be described. In the most depraved fellow beings he sees partakers of his own nature.—Amidst the terrible ravages of the passions, he sees conscience, though prostrate, not destroyed, nor wholly powerless. He sees the proofs of an unextinguished moral life, in inward struggles, in occasional relents, in sighings for lost innocence, in reviving throbs of early affections, in the sophistry by which the guilty mind would become reconciled to itself, in remorse, in anxious forebodings, in despair, perhaps in studied recklessness and cherished self forgetfulness. These conflicts between the passions and the moral nature are the most interesting subjects in the branch of literature to which we refer, and we believe that to portray them with truth and power, the man of genius can find no thing such effectual aid, as in the development of the moral and religious principles in his own breast. Genius, intellect, imagination, taste, and sensibility, must all be baptized into religion, or they will never know, and never make known, their real glory and immortal power.

We learn, says the Baltimore American of yesterday, from an unquestionable source, that large remittances from the Union Bank of Tennessee have

been received within a few days, for the redemption of its notes made payable at the Bank of Maryland, and that these funds have been forwarded to Philadelphia. It is probable that arrangements will soon be made for their proper application in Baltimore.

Naval.—The U. S. ship *Falmouth*, Capt. Spencer, bound to West Indies, sailed from Hampton Roads 26th inst.

The two Austrian frigates with Polish exiles, to the number of 245, arrived below last Friday.—We have not heard that any arrangements have been made either by the public authorities, or private individuals, for putting these ill-fated exiles, in the way of procuring a living. Indeed, at this moment, when thousands of our citizens, willing and anxious to work, are unable to find employment, we fear that it will be difficult to provide for this new accession.

Commodore Ridgely despatched a barge next morning, offering to these frigates the usual hospitalities of the port.

THE POLISH EXILES, who have come hither in the Austrian frigates, not only without their own consent as it is understood, but protesting solemnly against, being forcibly torn from Europe and thrown destitute upon a land of whose language they are ignorant and where they will be without any means of existence, are entitled to the sympathy of this community.

These unfortunate men—as we learn from the writer of the annexed letter, one of their countrymen—were gathered together from different parts of Austria—passed from brigade to brigade down to Trieste, and there, being each furnished with a great coat, a pair of trousers, and one or two other necessities, sent on board the frigates—and thus were brought away forcibly from Europe. They are each to receive here a sum of about \$22; there is only one female, seven or eight officers, and the rest soldiers.

The first steps should be to provide these people with some clothing, and an asylum, so that they may not be obliged to prowl about the streets, or be stripped of their little money by persons taking advantage of their ignorance of our language, &c.—Then time might be taken for making ulterior arrangements.

Among these people are some who have been farmers: they may find employment, we presume, with our blacksmiths. The great mass, however, have only their stout arms to rely upon. Their case, we are sure, will excite the sympathy of our citizens, to whom we commend the annexed appeal of M. Gerard:

To the Editor of the New York American.

SIR—It is in the name of 240 Polish exiles that I ask through your Journal, the opportunity of making an appeal to your fellow citizens. Emboldened by the recollection of the many kindnesses which Americans have lavished upon me, during the eighteen months that I have dwelt among them, I address myself to their hearts, in the full conviction that they will not be insensible to that compassion, which constitutes now the whole dependence of my ill-fated countrymen. May they in their turn experience the blessed fruits of that benevolence, which has so much contributed to ameliorate my condition. Especially, may they be permitted to draw from that source, which the charity of the ladies of New York so abundantly supplies. Soon then would the wretched state of destitution in which they now are, be changed for one less discouraging—and on our part, we Poles, will know how to acknowledge the aid that shall be extended to our misfortunes.

I have the honor to be, Sir,

With the highest consideration,

Your devoted servant,

GERARD,

Antient Polish Officer.

New York, 31st March, 1834.

Subscriptions for the succour of these exiles will be received at the residence of Mr. GERARD, 33 Chapel street.

Since the above was in type we observe, with much

pleasure, that the Common Council have taken steps to ascertain the circumstances, and devise means for the support, of these exiles.]

They have been landed at Castle garden, where they are for the present quartered.

[FOR THE NEW YORK AMERICAN.]

TO M—

That little blossom of the early spring,
Which you so kindly did receive from me,
In its soft name is ever whispering,
All that I can or ought to ask of thee.
Ah could I feel, in after years of sorrow,
That in thy mem'ry I should hold a place,
From that sweet feeling, my fond love would borrow,
A joy that sorrow's self could ne'er efface.
A gleam 'twould be, of glad and sunny brightness,
And it would come in many a gloomy hour,
To cheer my darkened spirit with its lightness,
And woo it back from Melancholy's power.
Then bid my heart that flattering hope to cherish,
In all the changes of my future lot,
Say that my image shall not wofully perish,
Oh tell me that thou wilt "forget me not."
Wednesday night, March 18.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty six nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A2911 R M & F

TO RAILROAD COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money in be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1825, by his caveats filed in the Patent Office. Apply, post paid. S1 R J M M & F

RAILWAY IRON.

	Ninety-five tons of 1 inch by 1 inch.	Flat Bars in length of 10 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
200	do. 1 1/2 do. do.	
40	do. 1 1/2 do. do.	
800	do. 2 do. do.	
800	do. 3 do. do.	

soon expected.

350 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, 5, and 6 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 24, 1833.
For further information on this subject see No. 49, page 778 of this Journal.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads.
No. 264 Elizabeth street, near Blecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J25 C

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 55 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

To Messrs Ewing & Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any person desirous of perusing the same. m15

TO STEAMBOAT COMPANIES.

PROFESSOR RAFINESQUE, of Philadelphia, offers his service to render steamboats incombustible and unliable to sink, even by the bursting of boilers, or striking against mags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and deserted by the public as unmindful of safety. Apply, post paid.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope,

having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Esq. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York,

January 29, 1833.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,

347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine, MECHANIC'S MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 134 Water street,

corner of Maidenlane.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principle of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street,

Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a revolving telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to laying out angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying out rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction

of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can amply say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. M. GILL, Civil Engineer.

Germanstown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Esq. Philad.,

German and Norris Railroads;

FOREIGN VARIETIES.

Chinese Mode of Computing.—The Chinese method of computing is by a kind of abacus, which they call a *Swampwan* "counting board." It consists of a frame of wood, of various sizes, divided into two, unequal compartments, by a bar placed crosswise at about one-third the length from the top. Through this bar, at right angles, are inserted a number of parallel wires, and on each wire, on the lower compartment, are five moveable balls, and in the upper two. These wires may be considered as the ascending and descending powers of a numeration table, preceding in decimal proportions; so that if a ball on any of the wires in the larger compartment, be placed against the middle bar, and called unity or one, a ball on the next wire above it will represent ten, and one on the next one hundred: so, also, a ball on the next lower, one hundredth; and the balls on the corresponding wires in the smaller compartment will, in the same manner, represent five, fifty, five hundred, five thousand, &c. the value or power of each of those in the smaller division, being always five times as much as those in the larger. In China almost every trade has a distinct system of secret numbers, that is, instead of using the proper characters for designating prices, they adopt other characters, by which they arbitrarily express their meaning, so as to be understood only by persons of the same trade.—[From Montgomery Martin's History of the British Colonies, Vol. I., Asia.]

Mr. Picken.—Mr. Andrew Picken, the author of the *Dominie's Legacy*, and other popular works of fiction, whose premature loss we mentioned with regret several weeks ago, had prepared for the press before he began his last published work, *On the Legends of Ancient Families*, an historical novel, called the *Black Watch*, which has since been published by his son. It is, we have heard, the only legacy which, at his unexpected death, the author could leave to his orphan family, and, though a great addition to his own literary reputation, can only be made productive as a pecuniary inheritance to his children by the favor of the public. We ourselves have neither space nor time to enter upon a detailed examination of its merits, but we can safely recommend it as one of the most interesting and graphic specimens of the kind of composition to which it belongs. It is founded on the history of the first raised Highland regiment, (called the Black Watch, afterwards the 42d,) which was marched from Scotland to London in 1743, and which mutinied, on being ordered, contrary to its engagements, to proceed to the colonies. The author's minute knowledge of the Highlands of Scotland and of the Highland character, joined to his assiduous study of the manners, political sentiments, and social condition of the south at that epoch, has cast the air of historic truth round one of the most powerful and pathetic fictions which has recently appeared. Those who have perused the former works of the author will easily give the preference to the *Black Watch* above them all, though its reader had not, in addition, the melancholy satisfaction of assisting his bereaved and disconsolate family.

[From the Morning Herald.]

It would seem, from what took place last week at the Westminster Sessions, as well as on a previous adjournment day, that the game of "Cheating the Justice" is not confined, as might have been imagined, to the low tap-rooms of the metropolis, but is actually played upon, and acted in the presence of their Worshipships themselves. We allude, as most of our readers must be aware, to the truly farcical and disgusting proceedings relative to the indictment against a gang of gamblers in St. James's, who appear to have "Cheated the Justice" in the most open, barefaced manner, and that without in any degree exciting the smallest Magisterial ire, while all that the parish of St. James gets by the prosecution is a heavy lawyer's bill to pay, and the mortification of being laughed at for their pains. It is very easy for professional persons probably to define, and, after their manner to justify the quirks and quibbles by means of which this disreputable result of a criminal proceeding is brought about; but to plain apprehensions it admits of but one solution, and that is, that persons having money enough know how to purchase the means of extrication from the maze in which the less fortunate, in point of wealth, find themselves irredeemably involved. This, we regret to say, has been, at all times, from the imaginary age of *Peacock* and *Lockit*, and probably long before it, down to our own, but too frequently the case. On the occasion in question the process is described to have been a very simple one—viz., witnesses who were bound in recognizances of 20l. each to appear, were paid 100l. each to stay away, which amounted

to a premium of 400 per cent. in addition to an exemption from exposure, and from that badgering which they naturally enough expected to undergo. But we put it to the good sense of those who have the regulation of such matters, whether such a state of things should be allowed to exist, as that one of the most offensive and audacious of crimes should thus be allowed to purchase for itself impunity, and the solemn finding of a Grand Jury be thus rendered nugatory and ridiculous? There is, at least, we should imagine, one very obvious way of lessening this chance of escape by taking much higher recognizances for appearance. In answer to this we shall probably be reminded of excessive bail being contrary to Magna Charta and the Bill of Rights; but, strictly speaking, bail was never contemplated after the finding of a Grand Jury, and both policy and justice require that in such cases the trial should be immediate, or, if postponed to accommodate the accused, should be upon security at least commensurate with the punishment if found guilty; and what is 20l. to the keeper of a modern hell, who frequently clears by his system of plunder 1000l. at a sitting? But if the law, as now administered, is not found strong enough to reach this growing and frightful evil, is it not high time that it was rendered so? We are not great admirers of the summary powers invested in Magistrates—at least to the extent to which in modern times they have been carried, and should be therefore slow to counsel their extension; but, feeling as we do, how much the general welfare is compromised in the continued existence and increase of the description of houses so aptly termed "hells," in this metropolis, we should certainly say that the same power which can consign a mere suspected person to imprisonment, without trial, might be permitted to deal in some such summary way with those open public robbers, and corrupters of public morals. This, however, is merely upon the presumption that the law, as it now stands, cannot be made available for that purpose. This impression we rather gather from the result than from our own conviction of its unavoidableness. For ourselves, we greatly doubt the earnestness of those who have hitherto taken it in hand. Justice, they say, is blind, and "blindman's buff" may only be another name for "Cheating the Justice."

Each Nation a Distinct Skull.—While traveling in foreign countries I made a collection of the skulls of different nations, (the greater part of the collection I had the pleasure of presenting to the Asiatic Society Museum, at Calcutta, where they may now be seen,) and it is exceedingly curious to observe what a marked configuration the crania of diverse people exhibit, even among nations with scarcely a perceptible natural boundary between them. The most striking example noticed was the difference between the Bengalee and the Burmese; the skull of the former possesses a greater occipital protuberance than that of any people I have ever met, it is, in fact, semiglobular, and the whole skull extraordinarily small, divested of any angular or rugged projections, and of remarkably thin laminae; (these observations are founded on examinations of hundreds of the Bengalee skulls;) the cranium of the latter (Burmese) possesses what I have never found in any other nation—a perfectly flat occipital bone, so much so, that any Burmese skull will rest on a broader and firmer base when placed with the face upwards, than any other position. As if to compensate for the flatness of the occipital bone, the parietal or side walls of the skull bulge out in an extraordinary manner; the brain case (unlike the Hindoos) is very large, and the laminae extraordinary thick.—Among my Burmese specimens were the mutilated skulls of Burmese soldiers, found near Rangoon, some of which were clove in twain by the prowess of British soldiers.—[From Montgomery Martin's History of the British Colonies.]

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in semi-monthly form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will

be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor. Jan. 22, 1834.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published.

Also, the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

Also, the PLOUGH-BOY, a cheap agricultural publication, of eight quarto pages, is issued once a week, at \$1 50 per annum, in advance. It contains much interesting reading upon agriculture, &c.

✂ All Letters and Communications for the above publications, may be addressed, free of postage, to D. K. MINOR.

NOW READY,

AN INTERESTING AND USEFUL MAP.

Upon which is delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It may be had either in sheets, price \$1 25, or put up in Morocco for pocket maps, price \$1 50, or on rollers at \$2 25, in any quantity, by applying to the subscriber. D. K. MINOR, 35 Wall street. New-York, April 2, 1835.

POST OFFICE MAIL ARRANGEMENT.

DUE.	CLOSURE.
Southern Mail at... 6 A M	Southern Mail at... 2 P M
Way Mails between N. Y. and Philadelphia... 8 A M	Way Mails between N. Y. and Philadelphia... 2 P M
Northern Mail at... 6 A M	Northern Mail... 3 3/4 P M
Eastern Mail at... 3 3/4 P M	Eastern Mail... 5 A M
Extra Mail from Philadelphia daily, except Sundays, arrive by Railroad at about... 5 P M	Extra Mail to Philadelphia only, daily except Sundays... 5 A M

FOR SALE,

ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1832, with wood cuts, &c. dedicated to Historical and Natural Sciences, Botany, Agriculture, &c. at one dollar per annum.

MEDICAL FLORA OF THE UNITED STATES, in 2 vols. with 100 plates, containing also the economical properties of 500 genera of American plants, \$5.

MANUAL OF AMERICAN VINES, and Art of Making Wine, with figures, 25 cents.

FISHES AND SHELLS OF THE RIVER OHIO, 1 dollar.

AMERICAN FLORIST, with 36 figures—price 36 cts.

* * * Orders for these works, or any other of Professor Rafinesque's, received at this office. AP 13 M & F

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale every extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subcriber's Patent Machinery, which after five years successful operation at and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

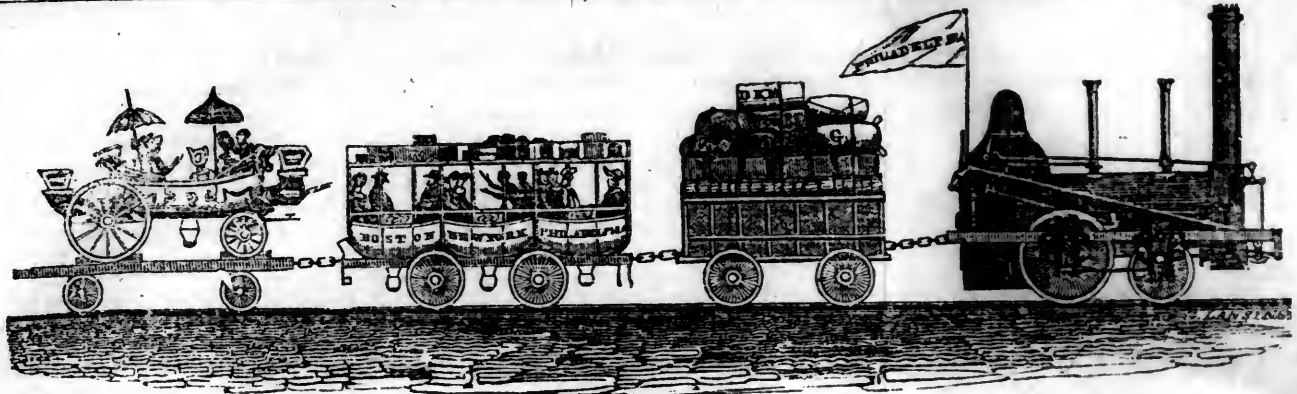
Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory, for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y.; will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by T. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New York; A. J. Jones, Philadelphia; T. Jauriers, Baltimore; Degrand & Smith, Boston.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, APRIL 12, 1834.

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AMERICAN RAILROAD JOURNAL, & c.

NEW-YORK, APRIL 12, 1834.

We publish the following letter from our esteemed correspondent and friend, E. L. Miller, Esq., of Charleston, S. C.

D. K. MINOR, Esq.:

Dear Sir,—I send you enclosed, the amount of my subscription for the Railroad Journal for the current year, and as it may not be altogether uninteresting to you, annex a brief statement of the performance of a locomotive steam engine, recently built under my direction by Mr. Baldwin, of Philadelphia, and now running on the Charleston and Hamburg Railroad. She started from Aiken, 120 miles from Charleston, on Thursday morning last, at 15 minutes past 7 o'clock, with 11 cars loaded with cotton; at Blackville, 90 miles from Charleston, another load was added; at Midway, 72 miles from Charleston, 2 others were added; and at Branchville, 62 miles from Charleston, a fourth load was added—making in all a train of 15 loaded cars. This immense weight, not less than 80 tons, including engine and tender, was delivered in Charleston, at 7 o'clock 15 minutes, in the evening of the same day, notwithstanding delays on the road, at the different stations, of 4½ hours—making the running time 7½ hours only, for the distance of 120 miles. Numerous ascents of 20 to 35 feet per mile, were overcome with this load, and what is of most importance to those interested in railroads, is, that the greatest weight on either wheel of the engine does not exceed 1½ tons. Respectfully, yours,

E. L. MILLER.

THE RAILROAD.—A single track of the railroad between this city and Columbia was finished last week, and on Sunday the first horse car arrived from the latter place. On Monday, three horse cars with passengers, left this city, and arrived at Columbia [distance about

11 miles by the railroad] in an hour and a quarter. Yesterday the locomotive, with its tender, and four passenger cars in train, started from the depot in Chesnut street, to make the first trip with steam power.—[Lancaster (Pa.) Examiner, April 3.]

[From the Baltimore American.]

The Legislature of Louisiana, which has just adjourned, adopted a very severe, and, we trust, efficient law for the regulation of steamboats, so as to secure them from explosion. The number of fatal accidents on the Mississippi—particularly the disastrous one by which Senator Johnston lost his life—imperiously called for some legislative interference to secure care and fidelity in the management of engines, and every practicable assurance of their soundness. The new law manifests great anxiety to establish minute precautions against accident, as well as misconduct, and imposes heavy penalties on the agents and owners in every case of damage, which any possible care might have prevented. To make the law more effective, it has been sent to the Executive of all the States bordering on the Mississippi, and its tributaries, for similar action.

The law establishes the office of State Engineer for the port of New Orleans. The duty of the engineer is to examine, once in three months, the strength of the boilers of steamboats plying within the waters of the State; to test them by hydraulic pressure to three times the weight of steam they may be supposed capable of carrying; and to furnish each boat with a certificate specifying the weight of steam which may be safely used.

In case any accident happens on board any boat, not possessing the proper certificates, neither captain, owner, nor agent, can recover any claim for freight or insurance; the owner or agent is made responsible to the shipper, to the full amount of all damage, and the captain is further subjected to a fine, not less than \$500, nor more than \$2000, and to imprisonment for not less than three months, nor more than three years. If lives are lost, the captain is to be adjudged guilty of manslaughter.

The same penalties to the several parties, are provided in case of any accident in navigation, from over loading, racing, carrying higher steam than the certificate allows, or any accident "that may occur while the captain, pilot, or engineer is engaged in gambling or attending to any game of chance or hazard.

The same penalties are provided in case of any accident, from gunpowder, shipped without a written notice of the fact being posted in three conspicuous parts of the boat.

Shippers are made liable to a fine of \$200 for shipping gunpowder, without notice to the master or clerk, and also made liable for danger that may happen by any accident therefrom; and in case of loss of life are adjudged guilty of manslaughter.

In passing on the river, the descending boat is commanded to shut off steam and float down when within a mile of an ascending boat—the latter to assume the responsibility of steering clear of the other, and being liable for all damages.

Other minute directions are given, but the above

form the principal enactments of the law, which appear to be drawn up with a determination to enforce rigorous penalties against any carelessness in the management of steam engines on the Mississippi, within the limits of the State of Louisiana.

THE FARMERS' & MECHANICS' BANK with other Banks in Albany, have, as we hear, taken the Chenango loan of \$900,000 at 6 1/2 per cent. premium for a 5 per cent. stock—irredeemable till 1845.

The following extract, from an English paper, shows some of the important reasoning urged against Railroads. It contains others, also showing their great importance from a source entitled to great credit.

Mr. VIGNOLES addressed the meeting as follows: I present myself before the meeting at the request of the directors of the London and Windsor Railway Company; but I beg that the gentlemen present will do me the favor of expressly understanding that I do not come here in any way connected with them personally. They have called upon me in my professional capacity to lay before them a certain report; with that request I have complied; it is in their hands, and ready for distribution, if they think proper. They consider, however, that it would be more satisfactory, both to this meeting and to themselves, if I would attend here, for the purpose of giving a *viva voce* explanation to many gentlemen who perhaps have not had an opportunity of perusing that report, which I beg the meeting will distinctly understand is simply a professional report, on the comparative merits of two lines of section, I not having seen the contrary, nor having had an opportunity of knowing any of the parties connected with this undertaking, until within the last few weeks. The line of country between London and Bristol consists chiefly of two vallies, the principal one of which is that of the Thames. A bare inspection of the map will at once satisfy any gentleman that Windsor lies in the direct road towards the first principal town where it will become necessary to quit the valley of the Thames; that town is Reading. In fact, it is perfectly well known that any line of road proceeding in this direction, and much more a railroad from London to the western part of England, must pass through Reading. The question, then, was what part of the intermediate country should be included in the line, that through Windsor being in a perfectly straight direction? I am well aware that this was only one of many points of consideration. In arranging a matter of this nature, direction and straightness are no doubt very leading characteristics; but the levels and the expense are other objects requiring no less consideration.

The engineer of the company, Mr. Gibbs, lodged his plan and section in the proper parliamentary office, agreeably to the standing orders of the House of Commons, in which the different levels were specified with great minuteness; the engineer of the London and Bristol Company did the same, and these two Parliamentary sections were sent to me, accompanied by the necessary maps. The maps of which I speak were on a sufficiently large scale to show, with great minuteness, the property of every individual along the projected line of road; and this being a subject with which I am perfectly familiar, I became as well acquainted with the nature of the proposed line of road, from an inspection of the maps, as if I had lived on the ground. I went through the usual necessary calculations, and I can now state, that I have ascertained that in point of levels, in point of expense, and in point of general direction, any railroad from London to Reading ought to pass through Windsor. (Cheers.) There cannot be a doubt of it in a professional point of view. (Hear, hear, hear.) It would only be taking up the time of this meeting unnecessarily if I were to enter into any minute detail. My report has been made, and if the directors, after my looking over it, should deem it advisable to print it for distribution, I am quite willing that my professional reputation should stand or fall by that report. (Renewed cheering.) I have had the honor either of being employed upon or consulted in the progress of almost every railroad of importance which has been sanctioned by the House of Commons during the last eight or ten years; and I am now engaged in the construction of some of the most important that have yet been projected. It is almost unnecessary for me to say, that with the pecuniary question, or the discussion of local interests, I have nothing to do on the present occasion. I have been requested by the directors, however, to add a few popular remarks on the nature of railways in general, which, if the meeting will not consider it obtrusive, I will now subjoin, for the information of those gentlemen who have not had an opportunity of seeing these new modes of communication. (Hear, hear.) A railway, to speak familiarly, is a perfect road. We all know that a level road is the best, and we also know that roads are best in summer, or when they are constantly dry and hard, being then of course easier for travelling. A railway is a road carried to perfection: it consists of bars of iron, supported at intervals on stone blocks, and otherwise so as to form a hard and uniform surface, on which the wheels of the carriage roll, the wheels of the carriages being prevented from running off the rail by means of an angular piece of iron, which was called the flanche. The surface of the country over which the railroad passes is reduced by cuttings and embankments, to a line as nearly horizontal as possible. In the railway from London to Reading through Windsor, this reduction will be such that no elevation will exceed from five to six feet in the course of a mile—that is to say, if the road be constructed upon the plan submitted to me by the London and Windsor Railway Company. (Hear, hear.) The line from London to Reading, through Windsor, is infinitely preferable to that which is projected through Maidenhead, because in some cases the elevations on the latter line of road are as much as 18 feet in a mile. (Cheers.) The road having been levelled is then formed, and the rails, supported, as I mentioned just now, by blocks at intervals of a yard, are placed upon it, and firmly secured, the roadway being well drained. By these contrivances the resistance which a wheel generally meets with upon a road, particularly in bad wintry weather, is reduced in fact to nothing, and by means of peculiarly constructed wheels and axles, the friction there is reduced also, so much so, that a weight or force of eight pounds will, on a good railroad, draw a ton; whereas it requires a force of at

least fifteen times as much to drag the same weight over a common road. We are thus enabled to convey heavy goods, by means of a railroad, at a price which appears to those who are unacquainted with the subject, almost ridiculously small. A charge of three halfpence per ton per mile will pay interest on capital invested in railroads. They are enabled to convey goods at this rate by means of the locomotive engines. On the Liverpool and Manchester railroad the tonnage is only one penny per ton per mile. This, perhaps, will be an answer to those gentlemen who doubt the cheapness of railways in this respect.

Mr. Pocock.—That is more than what that gentleman (Mr. Holdsworth) stated.

Mr. VIGNOLES.—These are the maximum rates on coal. It must be borne in mind too, that upon the Liverpool and Manchester railway there are some severe inclinations—there are two, each of fifty-five feet in a mile. These inclines of course increase the expense of carriage; as the whole quantity of goods have to be lifted as it were up the railroad, in order to attain the upper level. According to the plan of the committee, this part of the expense will be so small in the present instance, that I may venture to say the cost of the company for the conveyance of goods could not exceed, for the moving power, three-eighths of a penny per ton per mile.

Mr. Pocock.—Three-eighths of a penny?

Mr. HOLDSWORTH.—Just a farthing and a half.

Mr. Pocock.—That is considerably more than what Mr. Holdsworth stated. A waggon load of dung will weigh four ton. Now he said that we could have that moved for sixteen or eighteen miles along the railroad for the same expense as we now bear for carrying it three miles. Now, on a common road, I can get that carried three miles for 2s. 6d. (Hear.)

Mr. VIGNOLES.—Yes, and along the railway you could get it conveyed 16 miles for 16d. ("Hear, hear," and laughter.)

Mr. Pocock.—The laugh is against me now, but you will remember that it is not one ton but four; and four times 16d. is 5s. 4d. (Hear, hear.)

Mr. VIGNOLES.—Excuse me, but I don't think you are very likely to find any waggons in this neighborhood which will weigh four tons.*

Mr. Pocock.—Yes, I can. I have seen them many a time at Mr. Ramsbottom's there. ("Hear," and laughter.)

Mr. VIGNOLES.—To return to my statement. I have little doubt either in saying that it is almost as easy and as cheap for a railroad company to carry one thousand passengers as six hundred. Successful as the locomotive engines have been, I fully believe that power to be yet in its infancy, although even now it has been carried to an extent almost incredible to gentlemen who have not had an opportunity of witnessing its effects. Its operation is so familiar to me that it has ceased to be a wonder. Conceive, however, what I myself have seen at Manchester—conceive an engine conveying 200 people at the rate of 20 miles an hour with perfect ease, and ask yourselves if it can be doubted for a single moment that this same tremendous power must speedily be brought into extensive operation in other parts of the country? On the Stockton and Darlington road, before the formation of the railway, there was no traffic at all; by means of the railroad 200 or 300 persons traverse that road every day, who, by a saving of one half the time, and one half the money, enjoy four times the facilities of travelling which they formerly possessed. The establishment of a railway, in fact, must increase the traffic. It is but reasonable to suppose that the man who can travel down to Windsor in an hour, transact all his business, and return home again

* Since the meeting took place, we have been informed by Mr. Vignoles, that the average price of farmers' carting all over England is not less than 6d. per ton per mile.

for one third of the sum he has been in the habit of paying, will visit it three times as often as he used to do. Having made these observations, I will not detain the meeting any further. With reference to details relating to individual landowners, I can give no information whatever, but I shall be exceedingly happy to answer any questions that may be put to me upon the subject of railroads in general. Before I sit down, I have been requested by the committee to state clearly the difference between the line projected by the London and Windsor Committee and that proposed to be adopted by the directors of the London and Bristol Railway. I should say, speaking from the estimate of this company's engineer, which I believe to be perfectly correct, although I have thought it my duty to increase the estimated expense in making my report, that the cost of the railroad between London and Reading, passing through Windsor, would not average more than 13,000l. per mile, while the average expense of a railroad between London and Reading, passing by Maidenhead, would be 25,000l. per mile. (Loud cries of "hear.") I need hardly say that if a railroad can be made at a reduced expense of one-half, the conductors of that railroad can afford to carry goods and passengers for much less than they otherwise could. I, however, as I have already hinted, have increased the estimate of the company's engineer to 16,000l. per mile; which, I believe, will finish it effectually and completely. I have had some experience, and I feel justified in saying that at all events this railroad will cost, taking all its expenses, at the very utmost, 16,000l. per mile, and not 25,000l. per mile. (Hear, hear.) I should also mention that the Bristol Company propose to have a considerable length of tunnel on their line of road, which is always objectionable, but more especially on railways, in consequence of the noxious atmosphere which is necessarily engendered by the locomotive engines in so confined a place, where it cannot be dispelled by an adequate supply of fresh air. The amount of cuttings and embankments, too, according to the plan proposed by the committee, will be very small. I will illustrate this position in rather a striking manner. Between Windsor and Reading the quantity of material necessary to be removed is 400,000 cubic yards; between Ashmill and Reading, via Maidenhead, it is upwards of 2,000,000 cubic yards. (Cheers.) These gentlemen, are the facts on which I have formed my inferences, these are the grounds on which I have drawn up my report. I have retained the meeting by this statement, with the view of drawing the attention of gentlemen to the subject, and if any of those who are now present would be interested by reading the report in detail, I again say that I can have no objection to its distribution. (Mr. Vignoles resumed his seat amidst considerable applause.)

Mr. VIGNOLES.—Perhaps you will favor us with a list of the failures, sir, and I will answer you. (Much cheering and laughter.)

Mr. PAYN.—It can easily be proved—easily. Certainly, gentlemen, Mr. Vignoles has very eloquently expatiated on the great benefits arising from railroads, but you will have the goodness to recollect he is a superintendent of railways. (A laugh.) The currier says there is nothing like leather; the bug-destroyer prides himself upon his specific for destroying that obnoxious insect, and the superintendent of railways tells you that railroads are very excellent things. It is all very well, but I do not think it any reason why we should have our lands cut through.

Mr. VIGNOLES.—I was not aware when I was expressing what I considered to be an impartial opinion as to the comparative merits of two lines of road, that I should draw down upon myself such an animadversion as the gentleman sitting on the green cloth (Mr. Payn) has cast upon me.

Mr. PAYN.—No, no.

Mr. VIGNOLES.—I beg your pardon, sir, you have been pleased to call me an inspector of railways. Now, I have the honor of being a civil engineer, in considerable practice, and it all the railroads in the kingdom went to the bottom of the sea to-morrow, I should have quite enough to do; I have been told, too, that if this projected railroad is proceeded with, there are some gentlemen who would lose some very good situation or other. (Much laughter and cheering.)

Mr. Pocock.—I don't know anything about situations. If you take my land away, I can't farm it.

Mr. VIGNOLES.—Now, with respect to the 44 acts of Parliament which the same gentleman (Mr. Payn) has alluded to, I beg most decidedly to dissent from his statement. There may have been some 44 acts for the establishment of tramroads, which were in vogue some 30, 40, or 50 years ago, which have gone to decay, and have been ruinous speculations, simply because they proceed on erroneous principles; but it is quite clear that all those modern constructions which we call railroads, which are adapted to the use of the locomotive engines (and those I more particularly advocate), have been quite successful, so far as the experiment has yet been tried, particularly the Liverpool and Manchester Railway, which was opposed, as I believe the hon. gentleman very well knows, tooth and nail by every land owner, on the ground that the railway would injure their interests. That railway, however, having been obtained—ay, in spite of their teeth, is so far successful that another railway establishment between Liverpool and Manchester is now about to be projected, and it is generally understood under the patronage of the very same landed proprietors who combined and conspired, I would say, against the former one. With respect to the number of railroad acts that have been passed I can undertake to say that there are not above six or seven which relate to these modern railways. The Stockton and Darlington was the first public act: that was successful, and 100l. shares in that company are now selling in the market for 300l.; and shares in the Liverpool and Manchester railway, originally of the value of 100l., are now worth 200l. With reference to others, all I can say is, that they are selling at respectable premiums. Upon the subject of the patronage of his Majesty's government, all I can say is, that I had the honor of speaking to a member of the ministry on Monday last on the subject, and that so far from the government feeling any opposition to railways, its members individually are decidedly in their favor. (Hear, hear.) I speak of them in their individual capacity, because it would be contrary to parliamentary practice if they afforded any one an opportunity of explaining their sentiments as a body on such a subject, for it is a part of the admirable spirit of the English government to let capital fight its own way, it being well understood that English enterprise and speculation, when left to itself, exerts itself in a manner which is most beneficial for the country at large. Before I sit down, perhaps I may trouble the meeting with one more observation, to which I more particularly beg the attention of landholders—viz. the effect of railways in reducing the poor-rates. (Hear, hear.) Along the whole line of road between Liverpool and Manchester, a very large sum is contributed by the company towards the poor-rates, so much so that a reduction of them to the extent of 25 per cent. has taken place in one parish alone. (Cheers.) At all events, the proprietors of this railway, which is 30 miles in length, pay nearly 4,000l. a year for poor-rates in the various parishes through which that line of road passes. (Renewed cheers.)

Mr. Pocock.—Will you have the goodness to tell us, sir, how they are assessed?

Mr. VIGNOLES.—In proportion to their profits, according to the beneficial enjoyment—in

the same manner as canal companies. I have again to beg pardon of the meeting for intruding upon their attention a second time, but really when a professional gentleman attends for the purpose merely of giving an explanation, he being personally indifferent to the success of either scheme, it is rather hard that his conduct should be animadverted upon as mine has been. I am as much interested in the success of canals as I am in the well-being of this species of undertaking. I have the honor of being consulted upon the navigation of one of the most important rivers in Ireland, and with the management of various public works—such as bridges, docks, and canals, and therefore I say again, I am not dependent on railways. (Cheers.)

Mr. Pocock.—You have said that the landed proprietors are all in favor of a second rail-

way between Liverpool and Manchester. Is it for the improvement of their land, or the investment of capital, in the hope of getting a profit?

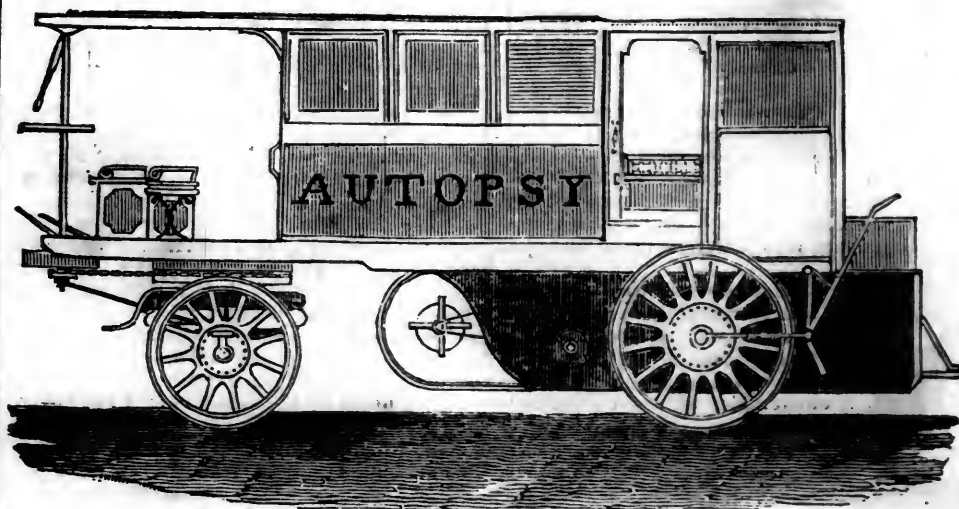
Mr. VIGNOLES.—In either case it showed their conviction that they could not pursue a better course, and that a railway could not do them any harm. (Hear.)

Mr. Pocock.—As you are so scientific, I should like to know how a railway improves the land?

Mr. VIGNOLES.—By affording facilities for the conveyance of goods to and from market.

Mr. Pocock.—We have got them already—I have for one.

Mr. VIGNOLES.—Then, all I can say, sir, is, that you are more fortunate than your neighbors.



HANCOCK'S STEAM-CARRIAGE "AUTOPSY."—We give an engraving of Mr. Hancock's last new steam-carriage, the "Autopsy,"—the same which performed the journey to Brighton and back, with so much success, about three weeks ago, and which has been running daily, during all the present week, between Finsbury square and Pentonville. We have witnessed its performances repeatedly, both as passengers and as lookers-on—and only re-echo the general opinion, when we say that it works admirably. The machinery, which is constructed on the improved plan, for which Mr. Hancock's last patent was taken out, will be found fully described in a subsequent communication from Mr. Hancock himself.

The quantity of coke expended in each journey of (about) two miles, scarcely exceeds a bushel; so that even supposing the wear and tear were to be as great as in the case of Mr. G. Stephenson's engines on the Liverpool and Manchester Railway, or even twice or thrice as great, the returns from such a carriage, running between the City and Pentonville or Islington, must be sufficiently ample to afford a very handsome profit. According to the following calculation, with which we were favored by a fellow-passenger, there would be a clear gain, during a period of 365 days, of nearly cent. per cent.

CAPITAL REQUIRED TO BE INVESTED.	
Cost of steam-carriage	£700
Spare ditto, to use when the other is under repair	700
	£1,400
Dr.	
Wages—engineer 40s. per week, steers-	
man 30s. assistant 20s.	£234
Repairs	150
Tolls 4d. each journey × 12 × 365	73
Coke 6d. per journey × 12 × 365	109
Water	50
Rent of coach office and coach house	100
Clerk	50

Premium to the patentee, at the rate (say of 1d. per passenger) 12 × 24 × 365	438
Reserve Fund to replace carriage when worn out—probably in 3 or 4 years	175
	1,452
Dividend of £84 on £1,400	1,176
	£2,628

Cr.

By twelve journeys per day, and twelve passengers each way, at 6d. each, 12 × 24 × 365,	£2,628
[London Mechanics' Magazine.]	

Mr. Rutter's New Mode of Generating Heat—Successful Application to Gas Works. [From the London Mechanics' Magazine.]

SIR,—I beg you will not impute my long-continued silence to any other cause than incessant occupation during the last three months. I am not indifferent to the opinions of some of your correspondents, nor am I insensible to the kind wishes which have of late been expressed towards me, in reference to my process for generating heat.

To dislodge prejudice is no easy task, especially when it has become venerable by age, or respected through the influence of great names. Truth will eventually prevail; but its progress bears no analogy to that of the glowing meteor. May it not rather be compared to the twilight of the morning, that melts imperceptibly into the dawn of perfect day?

It was once the fashion, I believe, to devise ingenious theories, and then endeavor to make practice conform to those theories. This seems to have been beginning at the wrong end. A more natural process is now adopted,—a process in which experiment supplies the materials for constructing theories and illustrating first principles.

Arrears have accumulated so heavily upon me that I scarcely know where to commence. If I pass over any of the observations of your

correspondents which appear justly entitled to notice, I hope you will believe the omissions are unintentional. Until Colonel Macerone (No. 529, page 453,) republished his letter of November 25, 1826, I was wholly unacquainted with his views respecting the use of liquid fuel. I do not remember that I had ever seen, or heard, or read, any thing relating to the subject until the summer of 1832, and then my information extended no further than that coal tar was employed in heating gas retorts.

Mr. Cheverton (No. 531, page 28,) first made me acquainted with the name of Morey, whose "American water burner" was very kindly and opportunely described (No. 533, page 52,) by Mr. W. H. Weeks. That experiment was new to me. I have since tried it, but, I must confess, without any perception of its being rendered "applicable, in many cases, in place of a furnace."

Mr. Cheverton implies a doubt as to the possibility of decomposing water economically. He admits, however, that "our knowledge of light, heat, and combustion, is very obscure, and that experiment is our best guide in the absence of perfect theory." I fully agree with him.

Almost all that was formerly known about the conditions of decomposing water by heat, seems to have related to effecting it in close tubes or vessels, heated externally, the hydrogen being liberated through the agency of readily oxidizable surfaces. The conditions of my process are very different from those just mentioned.

That water is decomposed when employed in conjunction with certain carbonaceous fluids, may be doubted or denied. It is one thing to deny, another to disprove: seeing, with some persons, is not always co-existent with belief. But truth is unalterable, whatever differences of opinion may prevail respecting it. In physical science, fact and experiment constitute the only safe guides to theory. Theories may be constantly changing, or they may be altogether false: not so the laws which govern the elements of the material universe. We may be ignorant of those laws, but are they on that account the less uniform and invariable in their results?

Mr. George Bayley (No. 533, page 52,) has my thanks: were he to see my memoranda of last May and June, he would be amused at the coincidence of our views respecting the use of tanks for stowing tar and preserving the trim of vessels. Will Mr. Bayley permit me to set him right in a trifling matter? The specific gravity of coal tar is *greater* than that of water.

The communication of your Salistury "correspondent" was almost a verbatim copy of my own printed statement. I have no intention of interposing between "Correspondent" and "An Old Gas-maker," neither of whom are known to me, excepting in your pages; yet I may perhaps be permitted to say a few words to the latter, in reply to his remarks, No. 537, p. 125.

It never was intended to set forth that 17,100 cubic feet of gas could be obtained from a chaldron of Newcastle coal *only* through the agency of my heating process. It would be mere trifling to say that heat, externally applied to retorts, whatever may be the kind of fuel employed, could materially affect the internal process of distillation. All other conditions being the same, I produce an equal quantity of gas from a given quantity of coal, whether the fuel employed be coal, or coke, coal and coke combined, or coal in conjunction with fluid materials. I will not say that an equal amount of work may be done in the same time, and at the same cost with solid fuel, as with solid and liquid together. In the former case it is more difficult to preserve the same uniformity of temperature than in the latter; and it is impossible, by any ordinary means, to obtain an equal quantity (or intensity) of heat from equal weights of solid and of liquid fuel.

The most startling part of 'Correspondent's' (or rather my statement), in the view of 'An Old Gas-maker,' seems to be that which relates

to the density of the gas. An increased quantity of gas, and at the same time "an increased specific gravity," is "so much at variance with the generally received opinions of the present day," that "An Old Gas-maker cannot but conclude that there must be some error in that part of the statement." I have great pleasure in assuring him that there is not the slightest error. During the week last past, I have made from 91 bushels of Newcastle coal (80 lbs. per bushel,) 40,590 cubic feet of purified gas = 18,036 feet per chaldron = 14,028 per ton. Average sp. gr. 0.535.

These workings may not be in accordance with "the received opinions of the old school." I cannot be answerable for that. Experiment, not opinion, has been my guide. I only exhibit facts as I find them. By experiment I would have it understood that I mean not a *mere* experiment, which may rather be viewed as an exception than adopted as a rule. The manipulations of the laboratory are very often at variance with those of the manufactory. All my experiments have been conducted in the ordinary course of practical workings, and the results have been verified in the course of successive days, and weeks, and months.

At a neighboring station my mode of working has been successfully adopted. Last March the maximum product per chaldron on that station was 13,000 feet. In October, from the same kind of coal, 10,500 feet were made.

It has been said that it is impossible to make 18,000 feet of gas from a chaldron of Newcastle coal, since it involves the absurdity of getting more out of the retorts than had been put into them. This is assertion without proof, and is as much deserving of credit as the received opinions, that quantity and increase of sp. gr. are always in a direct inverse ratio.

To comfort an Old Gas-maker, I can assure him that the retorts I am now heating, by means which he is pleased to designate 'a new combination of the fiery elements,' are in excellent condition—and the furnaces stand well. The same retorts did almost all the work of the station here, during the last winter.

I am not sure that I have yet attained to the maximum product of gas from a given quantity of coal. After making 18,000 feet per chaldron, I find there are sufficient materials to make probably 4 or 5,000 feet more gas. At present I have no means of appropriating these materials for gas-making economically. With the same retorts, and the same apparatus that I am now working, I required, in Nov. 1832, to produce 46,580 feet of gas, 136 bushels of coal. In Nov. 1833, I have made an equal quantity of gas from 92½ bushels of the same kind of coal.

A question in which every practical gas-maker should feel interested, is, whether it be best to keep up a large fire principally for the purpose of making tar and coke, and ammoniacal liquor, or whether that fire may not be more profitably employed in generating gas?

It would extend this paper beyond all reasonable limits, were I now to enter more fully upon details. It would, moreover, be anticipating the proposed publication, in a different form, of my views and experiments connected with this subject. 'An Old Gas-maker' will, I hope, exercise a little patience; and if I appear to him somewhat slow in my movements, let him remember that I am neither an *old* gas-maker, nor a gas-maker by *profession*. All I do in that, or any other department of science, is during the few interstices of leisure that occur amongst more important engagements.

Will Mr. E. Walker, No. 536, p. 107, be so good as to inform the readers of the *Mechanics' Magazine*, by what means he has ascertained that coal gas, when used in close apartments, is a *deadly poison*? Is it absolutely necessary, when this gas is so used, that it should be permitted to escape into the room? What are the properties of the respective products of combustion resulting from purified coal gas and long ten tallow candles?

That I am deeply interested in these questions, Mr. Walker will perceive, when I tell

him that I use gas in my bedroom instead of rush candles. I have done it because gas is cheaper than candles, and much more convenient. J. O. N. RUTTER.

Lymington, Nov. 27, 1833.

Mr. Rutter's New Mode of Generating Heat. [From the *London Mechanics' Magazine*.]

SIR,—Mr. Rutter says, with truth, that his invention is never likely to be used where fuel is cheap, for according to his statement, although tar is but three-pence per gallon, it is still dearer than coal, the account standing thus:

4 cwt. 0 qr. 20 lbs. of coke at 25s. per ton,	5s. 2½d.
27½ gallons of tar at 3d.	6s. 10 d.
	12s. 0½d.

And coal may be had at from 7s. to 12s. per ton.

Besides, as the demand for tar increases, so must it increase in value, and thereby operate still further against its general adoption. Then, as regards originality, without wishing to detract one iota from the merit of Mr. Rutter, I think it but right to say that, at the gas-works here, tar has been consumed for some years past, not for the sake of economy, but merely to get rid of it, and, as I take it, in a manner somewhat analogous to that proposed by Mr. Rutter, viz.: over a certain measure of coke are thrown two cans of water, and one of tar; but from the effluvia arising from its combustion, this admixture cannot be used.

In commenting on the new mode of generating heat, Mr. G. Bayley, page 51, has been hurried, by an inconsiderate admiration, to wander far from the truth, and that, principally, through confounding weight for bulk. Want of "stowage" can only be understood to imply want of room, and a chaldron of coal and a chaldron of coke must occupy equal spaces; but as the former weighs 28, and the latter only 18 cwt., "stowage" cannot possibly be found in the same vessel for an equal weight of each. The comparison of volume and weight will therefore stand thus—

	cwt.	qr.	lbs.
A chaldron of coke.....	18	0	0
110 gallons of tar.....	10	3	6
	28	3	6

Which, multiplied by 3, will be equal to 86 cwt. 1 qr. 18 lbs. of coal.

Taking the specific gravity of coke and tar as equal, it gives 1-599 chaldron of the compound, and 3-084 chaldron of coals, or the effective quantities rather less than two to one, instead of three to one, as stated by Mr. Bayley.

As regards stowage, water of course need not be taken into account; but in estimating the comparative cost, 15 or 16 cwt. of water being required for every ton of coke, some allowance ought to be made on account of the labor, &c. necessary to remove it from alongside into the reservoir for supplying the fire. I will take leave of the subject at present, with noticing two minor errors: first, Mr. Bayley states the fluid required is withal of less specific gravity than water; while Mr. Rutter states the tar to be 11 lbs., and water is but 10 lbs. per gallon. Again, in stating the comparative economy, he says, 1½ gallons of tar at 1½d. per gallon, is a 1½d but this is no doubt a press error. Yours, respectfully,

TREBOR VALENTINE.

Application of Mr. Rutter's New Mode of Generating Heat to Steam Vessels. [From the *London Mechanics' Magazine*.]

SIR,—My remarks, in No. 533, page 32, appear to have excited the displeasure of your talented correspondent, Trebor Valentine, on account of my "inconsiderate admiration" of Mr. Rutter's new method of generating heat, which, he says, had led me to wander far from the truth. This is a grave charge, and were it not made by a person in a mask, I might be induced to take it in high dudgeon.

How far I am justly liable to the charge of "inconsiderate admiration" of the process, is known only to myself. Not having a copy of my former letter at hand, I am unable to refer

to the precise terms I then employed; but I have a distinct recollection that my "inconsiderate admiration" was chiefly referable to three points, viz., the saving of stowage, weight, and expense. It so happens that I have had some experience in building and navigating steam-vessels, and may, therefore, without presumption, lay claim to so much practical knowledge as to be qualified to express an opinion upon the desirableness of Mr. Rutter's method of generating heat.

I have often felt the want of convenient stowage for coals, notwithstanding there were many vacant spaces low down in the vessel, each containing a few cubic feet, in which small tanks for coal-tar might have been advantageously placed, but which were either unsuitable or inconvenient for the stowage of coal. The trifling weight of coke, compared with an equal bulk of coal, renders it much more convenient for stowage on board a steamer than coal, as it can be safely and advantageously stowed where it would be highly imprudent to stow coal, on account of its greater weight. Mr. Rutter's plan allows of the division of the fuel into small masses, so that, by due arrangement, it may be stowed in such a way as to lower the centre of gravity, and thus increase the stability of the vessel. Whether I have bestowed "inconsiderate admiration" on Mr. Rutter's plan, in this respect, I leave to you and your readers to decide.

With regard to the diminution of weight, I took Mr. Rutter's data, and, on reference to my former communication, think that it will be found that the difference is 3 to 1 in favor of Mr. Rutter's plan. Even on Trebor Valentine's own shewing, it is 2 to 1, which is sufficient advantage in point of weight to secure the "inconsiderate admiration" of persons like myself, who have found ourselves greatly impeded in our progress by the great weight of the coals we were compelled to take on board to supply the engines. But our "inconsiderate admiration" goes yet farther on this head, because the fluid admits of being stowed away in tanks, fitted to the vacant spaces near the bottom of the vessel, so as to bring the centre of gravity lower down than it usually is in steam-vessels worked with coals in the ordinary manner. This alteration in the centre of gravity would greatly increase the stability of a steamer, and lessen the labor of the captain and crew in trimming her upright when heeled either way, by the shifting of the passengers, or by the pressure of the sails. It is also very desirable to keep the vessel in as nearly the same trim as possible, that the paddle-wheels may act with their maximum effect. Mr. Rutter's plan offers the advantage of being able to dispense with half the weight we are now obliged to carry, and thus offers another attraction to call forth the "inconsiderate admiration" of the captains and engineers of steamboats.

It appears that I have made a blunder as to the specific gravity of the tar, and I stand corrected. I had no intention to misrepresent the fact, but having, as I thought, observed that coal tar floated on salt water, I considered its specific gravity to be rather less.

I took the cost of the tar at 14d. per gallon. I formerly purchased it at one penny per gallon, and not knowing its present price in large quantities, I thought that I had made sufficient allowance by stating it at three halfpence; and your correspondent, in No. 543, page 211, fully bears me out in my estimate being rather above than below the mark. Why Trebor Valentine should charge me with having wandered far from the truth, I cannot conceive, seeing that, for the purpose of convicting me of an error, he has at least doubled the cost of the ingredients in Mr. Rutter's plan for generating heat. Surely his "inconsiderate" prejudice, or something else, has led him far from the truth here, in order to decry a plan which, to say the least, is worthy of our approbation, for having suggested a method of applying to practical purposes a mode of generating heat which has hitherto been confined to the laboratory of the experimental chemist.

My calculation of the expense was made, as may be seen, upon the data furnished by Mr. Rutter, as to the quantities of fuel required to produce a certain effect. If he has erred in the proportions, my results are erroneous; but from the knowledge which I possessed of the cost of the articles, my impression was, and still is, that he had rather overrated the cost than otherwise.

If the cost of generating heat, upon Mr. Rutter's plan, should prove to be as great as by the present method, yet its saving of stowage and weight is sufficient to call forth the "inconsiderate admiration" of every one who has the charge of navigating a sea-going steamboat.

Trebor Valentine appears to have fallen into a very common error, viz. that if a certain weight must be carried on board a steam-vessel, it is of no consequence where it is put, whether on the deck or low down in the vessel's hold. Every nautical man knows that, with the same weight, a vessel may be either put into a good trim or be rendered utterly unseaworthy, according to the manner in which the weight is distributed, with regard to the centres of gravity and floatation.

It is a source of gratification to find that my views of the utility of the tanks for stowing tar coincide with those of Mr. Rutter; and I shall be glad to find that his plan is in actual operation on board some sea-going steamers; and I hope that you will not fail to give your readers the earliest information, with ample details of the results. To none will the information be more interesting than myself, for, although now unconnected with maritime affairs, I do not cease to feel a lively interest in every thing that relates to navigation and naval architecture. I am, yours, &c.

GEORGE BAYLEY.

RESISTANCE OF FLUIDS TO BODIES PASSING THROUGH THEM.—The following notice has recently appeared of a paper entitled "An Account of a Second Series of Experiments on the Resistance of Fluids to Bodies passing through them," by James Walker, Esq. F. R. S. Civil Engineer; which was read before the Royal Society on June 6th, 1833.

The author, in a paper read to the Society in the year 1827, and printed in the Philosophical Transactions, gave an account of some experiments showing that the resistance of fluids increases in a ratio considerably higher than the square of the velocity, and that the absolute resistance is smaller than had been deduced from the experiments of the French Academy. In the present communication he states the results of his further inquiries on this subject.

His experiments were made at the East India Docks, on a boat twenty-three feet long and six wide, with a stem and stern nearly vertical; one end being terminated by an angle of forty-two degrees, and the other of seventy-two degrees; and the resistance to the boat's motion being measured by a dynamometer. The results are given in tables; and it appears from them that in light vessels sharpness is more important in the bow than in the stern; but that the reverse is the case in vessels carrying heavy cargoes. From another series of experiments the author infers that the resistance to a flat surface does not exceed 1.25 lb. for each square foot, at a speed of one mile per hour; increasing for greater velocities, in a ratio considerably higher than the square of the velocity. The author concludes with some observations on the results lately obtained in Scotland, where great velocities were given to boats moving on canals, without a proportional increase of resistance.—[Proceedings of Royal Society.]

MALT AND TEA.—It is a curious fact, that the consumption of malt in England and Wales has been stationary for nearly half a century, though the population has more than doubled during that period. [M'Culloch's Commercial Dictionary, p. 723.] The tables, however, show that the public brewers, since 1787, have contrived to manufacture one-third more strong beer out of the same quantity of malt! So that both the quantity and quality of the national beverage have declined. The consumption of genuine tea has also been steadily declining, compared with the population. The sales of the East India Company show that the average consumption per head of their teas in 1801, was 1 lb. 13.6 ounces; in 1831, per head, 1 lb. 9.2 oz. showing a decline of full 17 per cent. during the last thirty years. As the fashion of tea-drinking has certainly not declined, it may be concluded, even after allowing for the increased consumption of coffee, either that the decoction has been made weaker, like beer, or that the shops have sold something else in place of the Chinese plant. The numerous convictions of persons having adulterated tea in possession favor the latter conclusion. Monopoly and high duties have operated unfavorably on public morals. "Lovers of tea or coffee," it is truly remarked, "are rarely drinkers;" and Raynal ascribes the sobriety of the Chinese to the use of these grateful beverages, which produce all the good, without the evil consequences, of more powerful stimulants.—[History of the Middle and Working Classes, second edition.]

METEOROLOGICAL RECORD, KEPT AT AVOYILLE FERRY, RED RIVER, LOU.
For the month of February, 1834—(Lat. 31.10 N., Long. 91.59 W. nearly.)

Date.	Thermometer.			Wind.	Weather, Remarks, &c
1834.	Morn'g.	Noon.	Night.		
Feb'y 1	32	54	50	calm	clear—white frost—clear all day and night—Red River rising
" 2	31	57	54	"	" " " " " " " "
" 3	38	66	60	"	" " light " " " "
" 4	41	70	58	"	" —clear all day and night
" 5	46	74	61	"	" " " " " "
" 6	50	74	43	"	" " " " " "
" 7	51	72	68	"	" " " " " "
" 8	60	72	69	"	" —cl'd'y morn. " " " "
" 9	54	66	63	"	" " " " " "
" 10	47	74	68	"	" " " " " "
" 11	50	73	64	"	" " " " " "
" 12	50	77	71	"	" " " " " "
" 13	50	76	70	s—light	" " " " " "
" 14	53	75	72	s—high	cloudy morning—clear day—cloudy morning }
" 15	60	51	51	w	" all day
" 16	48	51	50	calm	" " —night clear
" 17	42	63	61	"	clear—white frost, (light)
" 18	43	66	63	"	" —cloudy night
" 19	61	66	66	"	cloudy—foggy morning—thunder and rain all day and night
" 20	63	71	74	"	" all day
" 21	70	78	74	s—light	" " —martin birds appeared this evening
" 22	70	78	75	"	" " —lettuce fine and large
" 23	70	74	73	"	" —showers all day and night
" 24	71	76	66	"	" —evening wind N
" 25	52	54	46	N—high	" all day and light showers
" 26	42	45	45	N—light	" and light showers
" 27	44	46	45	calm	" —rain all day
" 28	45	53	49	"	" —night clear

Red River, rose this month 2 feet 3 inches—below high water, 5 feet 6 inches.

CAPACITY OF BODIES FOR WATER.—As it may be interesting to many to know the comparative as well as the positive absorption of water by various bodies, we subjoin the following table, the details of which were made with care. The weight of each substance was ascertained before immersion; next, when the water ceased running and began to drop; and, lastly, when all dripping had ceased, and the bodies were in that state in which they may be supposed to be full of moisture.

	Dry.	Dripping.	Done dripping.
Flannel.....	144 grs.	1553 grs.	700 grs.
Woollen Cloth..	56 "	370 "	191 "
Linen	375 "	2110 "	1050 "
Calico.....	115 "	1150 "	450 "
Cambric Muslin.	95 "	883 "	307 "
Very fine do.	54 "	715 "	237 "
Glove Leather..	106 "	1170 "	677 "
Kid do. ..	172 "	770 "	421 "
Shoe do. ..	95 "	194 "	177 "
Sponge.....	185 "	2440 "	2070 "

From these data the following table may be constructed, to show in the first instance the absorbing powers, and, in the second place, the retaining powers, for moisture, of the various bodies thus experimented upon:

	Flannel absorbed 11 and retained 5 times its weight of water
Woollen Cloth	6½ " 3½ "
Linen Cloth	5½ " 3 "
Calico	10 " 4 "
Cambric Muslin	9 " 3½ "
Fine Muslin	13 " 5 "
Glove Leather	11 " 6½ "
Kid do.	4½ " 2½ "
Shoe do.	2 " 2 less a fraction
Sponge	13 " 11 "

From these results, it may be seen that, although some substances, in the first instance, take up an equal or nearly an equal quantity of water with the sponge, such as the flannel, fine muslin, and glove leather, yet their powers of retaining the same are very far inferior.

Animal Mechanics, or Proofs of Design in the Animal Frame. [From the Library of Useful Knowledge.]

(Continued from page 198.)

We shall proceed to explain how the knee joint and hip joint, independently of the exertion of muscles, become firm in the standing position, and when at rest; but before we enter upon this, let us understand the much-talked-of demonstration of Borelli, who explained the manner in which a bird sits upon a branch when asleep. The weight of the creature and the consequent flexion of the limbs drawing the tendons of the talons so as to make them grasp the branch without muscular effort.

Fig. 13.

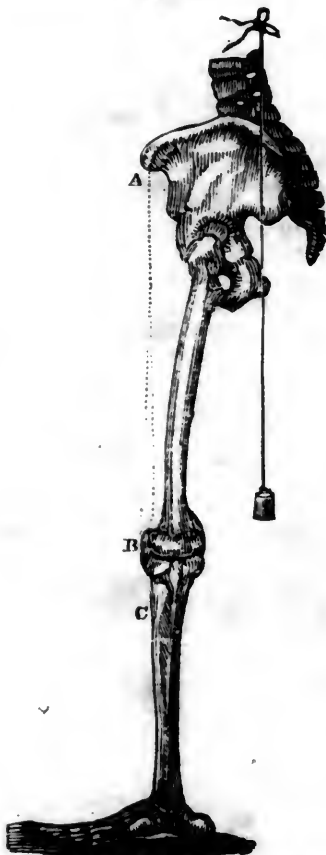


The muscle A passing over the joint at B, and then proceeding to the back of the leg, and behind the joint at C, and so descending behind the foot at D, it extends to the talons; and the weight of the bird bending the joint B and C, produces the effect of muscular effort, and makes the claws cling.

But why should the anatomist have recourse to this piece of comparative anatomy, when he has so fine an example in the human body? And one which is much more interesting, as, in fact, it is the foundation of reasoning upon the diseases and accidents of the limb. If this beautiful arrangement in the healthy and perfect structure of a man's limb be not attended to, it would be easy to prove that many important circumstances in regard to disease and accidents must remain obscure.

The posture of a soldier under arms, when his heels are close together and his knees straight, is a condition of painful restraint. Observe, then, the change in the body and limbs, when he is ordered to stand at ease; the firelock falls against his relaxed arms, the right knee is thrown out, and the tension of the ankle joint of the same leg is relieved, whilst he loses an inch and a half of his height, and sinks down upon his left hip. This command to "stand at ease" has a higher authority than the general orders. It is a natural relaxation of all the muscles, which are consequently relieved from a painful state of exertion: and the weight of the body bears so upon the lower extremity, as to support the joints independently of muscular effort. The advantage of this will be understood when we consider that all muscular effort is made at the expense of a living power, which, if excessive, will exhaust and weary a man, whilst the position of rest which we are describing is without effort, and therefore gives perfect relief. And it is this which makes boys and girls, who are out of health and languid, lounge too much in the position of relief, from whence comes permanent distortion. This figure represents the bones of the leg.

Fig. 14.

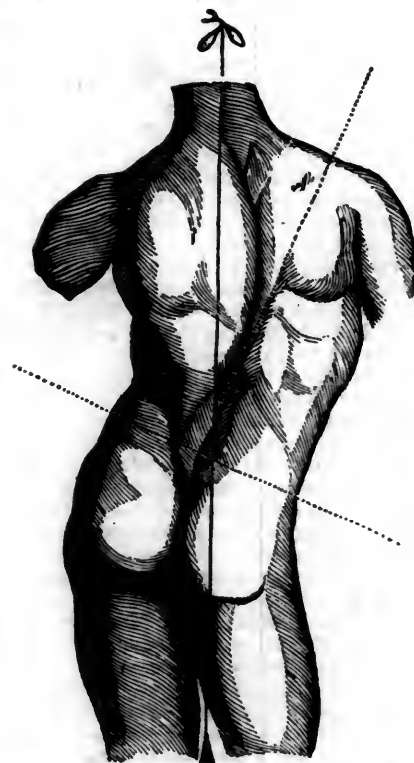


The plumb line shows the direction of the gravitation of the body falling behind the

head of the thigh bone. Now, if it be understood that the motions of the trunk are performed on the centre of the head of the thigh bone, it must follow that the weight of the body in the direction of the plumb line must raise the corner of the haunch bone, at A. From this corner of the bone, a broad and strong band runs down to the knee-pan, B, in the direction of the dotted line. The powerful muscles which extend the leg are attached to the knee-pan, and, through the ligament at C, operate on the bones of the leg, stretching them and preventing the flexion of the joint; but, in the absence of the activity of these muscles, the band reaching from A to B, drawn, as we have said, by the weight of the body, is equivalent to the exertion of the muscles, braces the knee joint, and extends the leg; and we have before seen that the extension of the leg fixes the ankle joint. Thus the limb is made a firm pillar under the weight of the body, without muscular effort.

When the human figure is left to its natural attitudes, we see a variety and contrast in the position of the trunk and limbs.

Fig. 15.

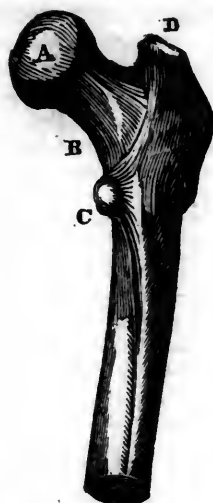


This position of the body resting on the lower extremities throws the trunk into an elegant line, and places the limbs in beautiful contrast, as we see in all the best specimens of sculpture.

Now, that we have understood that the lower extremity becomes in some positions a firm pillar, it is the more necessary to observe the particular form of the head of the thigh bone. (See fig. 16, next column.)

It is here seen that the head of the bone A stands off from the shaft by the whole length of the neck of the bone B; the effect of this is, that, as the powerful muscles are attached to the knobs of bone, C, D, they turn the thigh bone round in walking with much greater power than if the head of the bone were on a line with the shaft. They, in fact, acquire a lever power by the distance of D from A, as, during the action of these muscles, the limb is stiff; the rolling

Fig. 16.



of the thigh directs the toe outwards in walking.

When the weight of the body is perpendicular over the ball of the great toe, the whole body is twisted round on that point as on a pivot. This rolling of the body on the ball of the toe, and consequent turning out of the toes in stepping forward, is necessary to the freedom and elasticity of the motion. The form of all the bones of the leg, and the direction of all the muscles of the thigh and leg, combine to this effect. So far is it from being true, as painters affect to say, that the turning out of the toes is the result of the lessons of the dancing master.

A certain squareness in the position of the feet is consistent with strength, as we see in the statues of the Hercules, &c.; but the lightness of a Mercury is indicated by the direction of the toes outwards. In women there would be a defect from the breadth of the pelvis, and a rolling and an awkward gait would be the consequence; but in them the foot is more turned out, and a light elastic step balances the defect arising from the form of the pelvis. Any one may be convinced of this by observing people who walk awkwardly, especially if they walk unequally. Look at their feet, and you will see that one foot goes straight forward, whilst the other is turned outwards, and that when they come upon the straight foot, they come down awkwardly, and have no spring from it.

Observations on the Prevailing Currents of the Ocean and their Causes. [From the United Service Journal.]

There are few branches of science, connected with the phenomena of the surface of the globe, which have hitherto received less consideration than those oceanic currents which every-where prevail more or less in the great body of the waters; and it seems surprising, that in a country situated like our own, and so intimately connected with the element which forms our rampart, as well as the great medium of our wealth and greatness, so little has yet been done to trace this continued circulation to its true and proper source.

Much expectation on this subject was lately excited by the announcement of Major Rennell's work "On the Currents of the Atlantic;" and it was but natural to expect, from the pen of so able and experienced a writer, some elucidation of this hitherto obscure subject. The expectations entertained

as to this posthumous work have in many practical points been fully answered; the existence and effects of many important currents have been explained in a manner that cannot fail to be highly useful to every practical man. But in tracing the cause of this mysterious movement, Major Rennell seems merely to have followed the usual track that had before been taken by all former writers on the subject, and has thus been led to attribute to the winds, effects which owe their real origin to the main cause of these very winds themselves.

It has long been known, that the prevailing currents, both in the air and in the waters, have a regular set within the tropics, from east to west; and as atmospheric currents in these latitudes, under the name of the Trade Winds, have been justly attributed to the rotatory motion of the earth on its axis, it has been incautiously adopted as a principle, that the currents of the ocean arise from the action of the prevailing currents of wind, both in the tropics and in other parts of the earth.

"The winds," says Major Rennell, "are, with very few exceptions, to be regarded as the prime movers of the currents of the ocean; and of this agency, the trade winds and monsoons have by far the greatest share, not only in operating on the larger half of the whole extent of the circumambient ocean, but by possessing greater power, by their constancy and elevation, to generate and perpetuate currents; and although the monsoons change half yearly, yet the interval during which they continue to blow in each direction is long enough to produce effects nearly similar to the constant trade winds;" that is, although the winds do not always blow from east to west, but are, during one half of the year, north-easterly, and for the other half, south-easterly, yet the currents in the open ocean, within the tropics, are constant, from east to west, and thus do not follow the direction of the winds from which they originate. "The winds, then," concludes Major Rennell, "operating incessantly on the surface of the ocean, cause, in the first instance, a gentle but general motion to leeward, (as is proved by ships being always to leeward of their reckoning in the trade winds;) and the waters so put in motion form by accumulation streams of currents."—[Rennell on the Currents of the Atlantic, p. 6.]

Setting out, then, upon this principle, in his account of the existing currents of the ocean, as far as they are at present known, it cannot excite surprise, especially if this theory of the origin of the currents can be proved to be erroneous, if many facts are stated in the work of Major Rennell which are utterly at variance with the theory itself; and the consequence naturally is, that, however distinct and instructive the information may be with respect to the individual currents, and the best mode of combatting their influence, we rise from the perusal of the work more than ever uncertain as to the true cause of those remarkable streams which are known, in numerous instances, to run in the very face of the steady and prevailing winds which are here stated to be the occasion of them.

In these observations upon Major Rennell's work, we must not be understood, however, as detracting in any way from the highly useful tendency of it in a practical point

of view, for which it was chiefly intended but we beg to offer a few remarks as an attempt to elucidate this obscure but interesting subject, which, like other questions relating to an extended system, must first be viewed on a great and general scale, before we can safely venture to account for the minor portions of it, which come within our more immediate and personal observation.

It appears strange, that while the aerial currents of the atmospheric fluids within the tropics have been so long attributed to their proper cause, it should never have occurred that the same cause might probably have the same effect upon the aqueous fluids which cover so large a portion of the globe, and that the currents of the ocean might thus be mainly attributed, like the trade winds, to the rotatory motion of the earth upon its axis. The more powerful and constant of the currents of the tropics having a general tendency from east to west, might be supposed likely to suggest this idea. But if suggested, and put to the proof by actual observation on a limited scale, it is probable that the theory would be rejected as inconsistent with the facts, for while the trade winds are found to be in a great degree constant, like the cause which produces them, and only varying a few points to the north or south, according to the season, and the position of the earth with regard to the sun, the streams of the ocean are found to set in various directions, and frequently in opposition to the supposed cause; we could not, therefore, feel surprised if some other cause was immediately sought for.

In order, however, to set this point in a proper light, we have only to examine with attention the effects produced by a rapid and rocky descent on the small scale of a river or brook. We here find the general tendency of the stream taking, as a whole, a decided course, (say from east to west;) but if we confine our view to the minor parts of this stream, and watch the movements of any small floating substance, as it follows the various eddies and counter-currents occasioned by the rocky impediments in the bed of the river, we shall with difficulty bring ourselves to believe that the general tendency of the whole stream is from east to west, as we frequently find the floating bodies taking a direction from west to east, and, at some particular points, even from north to south. This is taking a limited view of what ought to be considered on a wider scale, and may serve as an illustration of what actually takes place when we form a theory for the whole currents of the ocean, by merely observing some particular portions of it.

What takes place in a fluid on a small scale will assuredly occur also on a larger, as both are subjected to the same general laws; and because the trade winds are not so subject to opposition, and consequently to eddies and counter-currents, as the equatorial streams of the ocean, we are not, therefore, to conclude that both fluids are not originally set in motion by the very same cause, for it is obvious that, though their general tendency may be (as indeed it really is) from east to west, the numerous interruptions opposed to a regular movement in that exact direction may often occasion an extensive re-action in a direction to all appearance opposite to it.

Let us for a moment suppose the earth to be a body at rest, or at least without rotation

on an axis; and let us further suppose no dry lands to exist above the surface of the waters, with which latter the sphere would thus be entirely covered. Let us also in idea remove its atmospheric envelope, that all friction or pressure may be removed between the two fluids of air and water: what, then, could we expect to find under such an arrangement? We could not look for any circulation in the watery covering, under such circumstances. Every thing would remain in perfect repose; and unless the waters were preserved in purity by some principle not now in existence, they would soon become corrupted and unsuitable to the nourishment of organic life. But let us now suppose a sudden impulse of rotation to be given to the sphere with its fluid covering; and let us consider what would be the effect of the rapid rotatory movement upon the circumambient waters. If a plate or other shallow vessel containing water be impelled in any direction horizontally, the fluid, participating but little in the impulse, is left behind on the spot whence the movement began; it cannot keep pace with the motion of the solid. In the same manner the globe would revolve upon its axis, while the superficial waters would remain nearly stationary, and would have all the appearance of moving in opposite directions, *seeming* to transport floating bodies from east to west, while, in point of fact, the earth *was passing them* from west to east. Thus we perceive that, in the supposed case which we have now put, the steady movement of the solid ball would be imperceptible, while floating bodies on the surface of the water would visibly become more distant in an opposite direction. This apparent movement would naturally be greatest in the equatorial regions, being the outer rim of the revolving wheel; while towards the axis the waters would be little, if at all, affected by the rotation.

Let us now, for a moment, suppose our globe to be surrounded with its atmosphere, or envelope of fluids of a different nature. Without rotatory movement in the solid, there could be no semblance of regular movement in this aerial fluid, and we could therefore have no trade winds. Other partial winds there would be, it is true, occasioned by heat acting on the elasticity of the air, and by a constant succession of expansion and contraction arising from various degrees of temperature. But if we suppose, as before, a revolving and rapid motion to be given to the sphere thus surrounded with its airy envelope, a similarity of cause would immediately occasion a similarity of effect. The *trade winds* would be produced in the equatorial regions, while the circulation of the atmosphere in the more temperate and frigid latitudes would be carried on by the changes of temperature in the same manner, or nearly so, as if there had been no rotatory motion at all.

The effect of the trade winds, and, by analogy, of the oceanic currents, may be simply illustrated by the example of a well-mounted horseman in a calm day. While he remains still, not a breath of air blows. He moves slowly, but produces little effect in deranging the quiet of the atmosphere. The more rapid his course, however, the more violent will be the *current of air* which *seems* to blow in his face whichever way he goes; and even in the case of a moderate breeze, he may "outstrip the wind," and make it seem to blow in an opposite direction.

It must be obvious, then, that the effects of the revolving motion of our globe must be the same, both upon the *fluids of the air*, and upon the *fluids of the ocean*, and consequently, that the regular *trade winds*, and the regular *equatorial currents*, proceed each separately from this cause, and would equally exist even in the absence of the other. But it may be urged, that the trade-winds are much more constant to their course than the equatorial currents, and it therefore seems difficult to imagine that they can both proceed from the same cause. The reply to this objection is extremely simple, when we look a little deeper into the nature and circumstances of the two fluids. The atmospheric fluid is above the surface of the solid, and is but slightly deranged by the asperities and interruptions it may have to encounter, in the form of the islands, continents, or mountains of the earth. Some derangement actually does take place, however, from these causes, but it bears no comparison to the counter-currents and eddies which are found in the ocean, arising from the numerous and insurmountable obstacles which are thrown in the way of the regular equatorial streams. In the supposed case, which was before put merely for illustration, we considered the globe to be entirely covered with the waters. Such is not, however, the reality now, although this preternatural effect has certainly existed, on one most memorable occasion, the evident traces of which attest the fact on every part of the surface of the globe. Such is not, however, the usual state of things; on the contrary, the ocean occupies about two-thirds of the whole surface, while the remainder is broken into a thousand dispersed fragments, each opposing its solid form, as the sphere revolves, to the regularity of the oceanic movements. If the smooth and polished wheel of the turner be made to revolve in water, the movement, however rapid, produces little or no commotion in the fluid; but let the polished wheel be changed for one having a toothed or unequal edge, and we shall instantly perceive a very opposite effect. The effects of the paddles of the steamboat on smooth and tranquil waters will also bring this subject home to the mind of every one. We cannot then look for the same regularity of movement in the equatorial currents of the ocean that is perceptible in the equatorial currents of the atmosphere.

AGRICULTURE, &c.

[From the New York Farmer.]
Suggestions relative to Florists' Work for April and May. By the Editor.

Although the edible productions of the vegetable kingdom are regarded as the substantial bounties, and flowers as the smiles, of Providence, yet we cannot dispense with the latter. We should seek our bread in sorrowfulness were no flowers strewed in our path. Did we not meet the animated and cheering countenances of our fellow creatures, did we not see much in all our journeying through life, to remind us that more than Eden bowers await those who make their fellow creatures smile, how miserable should we be! How kind is Providence! Though we may not have it in our power either to feed the hungry or to clothe the naked, yet we can all produce that effect on the countenances of others, that is so lovely and beautiful, and so reciprocally cheering to the heart. But alas! how many

are they who despise this blessing; and instead of laboring to diffuse smiles around them, cause sorrow to corrode the heart, and distress to disfigure the countenance. And how many there are, who, like our Father in Heaven, have abundance to feed and clothe, and to smile on others, and yet, alas! unlike Him, do neither. But let us all endeavor to unite our efforts with those of lovely spring, to make all nature smile. This is peculiarly the province of the fair sex.

SOIL.—As a general rule, flowers require a sandy loam, made rich by fermented manures, particularly by rotted leaves or vegetable mould. The ground should be well spaded and rendered as fine as possible. If the seeds are put in pots the soil should be sifted.

SITUATION.—Very few flowers require the sun for any length of time. They succeed better when in a slight shade the greater part of the day, particularly when the heat is most intense. Light and pure air are requisite.

TIME OF SOWING.—From the latter part of April to the first of June flower seeds are put in the ground. The depth, if the seeds are small, should not exceed from one fourth to half an inch. If dry weather is apprehended, a board laid on the drill for two or three days will prevent the moisture from being evaporated. Flower pots are used for the same purpose.

PLAN OF ARRANGEMENT.—Neatness, simplicity, and convenience, should be the characteristics, particularly of small gardens. Ovals and other easy unstudied figures are preferable to squares, diamonds, hearts, and triangles. The plants should be arranged according to their height, so that the high ones do not conceal the others.

PROPAGATION.—Every lady should know how to propagate plants by layers, cuttings, divisions, and offsets. Many of the most valuable plants are increased much more readily by these methods than by seeds.

DOUBLE FLOWERS.—Linnæus calls these *monsters*, a term very inappropriate, to say the least of it, for such beautiful productions of nature. Most double flowering plants do not produce seed, consequently they are increased by other methods. The less completely double they are, the more seeds they contain. Double flowers are produced by fertilizing half-double varieties, by cutting out the anthers, by fertilizing or crossing with different colors, and by single plants set out among those nearly or quite double. The seeds of these are then sown, which will probably produce some double flowers.

VARIABLENESS OF FLOWERS.—Exposure, culture, soil, &c. have a tendency to vary the color and size of flowers.

CURRENTS.—The currant is one of the most useful of all our small fruits. As soon as their size will answer, they are made into pies, so that they are in use from June until September. They are great and constant bearers, and will grow upon all varieties of soil.

Although the white and red currant are claimed as natives of the Island of Great Britain, yet they flourish much better in the northern part of the United States than they do in that country.

As the currant is useful, the bush may be rendered quite ornamental in gardens, if proper pains are taken with them at first.

Those who are wishing to have a good supply of fruit, and at the same time have their bushes ornamental, should procure as many straight well proportioned sprouts, of the last

year's growth as he wishes to cultivate. Let these be cut off a couple of inches above where they commenced the year's growth, or where the buds become regular; with a sharp pen-knife scallop out each bud beginning at the bottom, and proceeding up, at least one foot, or so far as you wish the stem of your bush to remain clear of limbs. In doing this be careful that not one bud is left, on what is designed to go into the ground, or on what is designed for the body of the bush. Stick the sprouts thus prepared in the ground, either where they are to remain, or they may be set one year in nursery form, and afterwards transplanted. Bushes properly prepared in this manner are as sure to live as those that have roots, and never will sprout from that part where the buds were taken from.

Every one, who has attempted to train a correct bush, as a standard, knows well what a task it is to keep down the sprouts from the bottom, which if left render it very unsightly. When bushes are trained in this way, the tops may be kept open, so as to admit the sun and air, and the currants will not only be larger, but better flavored.—[Goodsell's Gen. Farmer.]

IMPROVEMENT OF WOOL.—How far the farmers of this country may find the following article, from the London Farmer's Magazine, serviceable to them, we are unable to say; but it strikes us that the salve recommended would be beneficial to sheep, if applied after they are sheared.

MR. EDITOR.—From the increasing demand for white wool, many of the store farmers of this country have of late years allowed their flocks, even in high and exposed situations, to winter without a salving of any description whatever. This practice, except in some very peculiar situations, can seldom with propriety be continued above a year or two, as under this treatment both the quantity and quality of the wool invariably fall off, and seldom fails to produce a *hemphy* fleece, or, in other words, the wool gets imbedded with dead white hairs, which renders it only fit to be applied to inferior purposes, and thereby materially reduces the value of the fleece. Various salving mixtures have been recommended and adopted, but in few instances have any of them met with the approbation of the manufacturer; and when it so happens that the wool has been so heavily laid that it cannot be submitted to the process of manufacture without being previously scoured, much labor and expense are thereby incurred, and consequently the price of the wool considerably increased. Wool after having been scoured is much more liable to get discolored during the manufacturing process, and ultimately an article of less purity in color than goods which have been produced from the material as shorn from the sheep's back. Some wool growers, with anxiety to produce a fleece in a very slight degree removed from that which has been allowed to remain perfectly free of any salving whatever, have applied a greasing of animal or vegetable oil, but without the necessary precaution of adding a slight proportion of the refined spirit of tar, consequently the wool is of a yellow tinge, which renders it in a great measure unfit for the manufacture of white goods, and therefore a very considerable depreciation may be said to have taken place on the value of the material, in consequence of the injudicious application of oiling. Several of the most extensive sheep farmers in Peebles-shire, some of them indeed in the very highest and most exposed situations in the county, have for the last two years salved their flocks with powdered crude white arsenic and black soap, in the proportion of one pound of arsenic to three of soap, which are mixed up with seventy bottles of water, and this is considered sufficient for three score and ten sheep, being at the rate of a bottle for each, the expense of which does not exceed sevenpence a score. Of all salving hitherto

used in this county for the producing of white wool, this is allowed to be decidedly the best. The moment it is applied, all vermin of whatever description die instantly, and are never again to be found upon sheep which are salved with this composition; and it is the opinion of some of the most experienced in sheep farming, that stock under this treatment will in a very great measure be exempted from the louping-ill, a disease which kills thousands annually. From the nature and properties of the composition, many of the diseases which unsalved flocks are liable to be infected with, are at once eradicated or prevented by the application of this salve, which also destroys all inclination for rubbing against foggy or grassy banks, and thereby prevents the wool from getting imbedded with impurities, which are not unfrequently found to such an extent, that the wages of the laborer in picking it sufficiently adds so much to the price, that too often the manufacturer is obliged to apply it to an inferior purpose; and even when the material has been carefully looked over by the most discerning eye, previous to its being submitted to the process of manufacture, it frequently happens that thousands of these impurities make their appearance in the finished article, which in a great measure renders it unfit for the purposes for which it was intended. Sheep salved in this manner are seldom or never found to die in consequence of falling awl, or the wool to pell or fall off previous to clipping time. However, in place of soap and water, I would with much confidence recommend that the arsenic should be mixed with butter and cocoanut oil, and only to that extent which is necessary to give fixity to the arsenic, which, with a slight addition of the refined spirit of tar, is a salve which I have no hesitation in pronouncing is calculated to produce wool of the purest possible description. Under this treatment the fleece will not only be considerably finer, but very materially increased in quantity, independent of any additional weight that may be added by the application of the butter and cocoanut oil, and will be found to possess in a much greater degree the felting properties; consequently much more valuable as a clothing wool, or indeed for the manufacture of any description of goods to which the material can possibly be applied. Wool salved with this composition is also admirably adapted for mixing with skin wool, which has been removed from the pelt by the application of lime; and it is a well known fact, that when manufactured by itself, it is extremely liable to gild or get discolored during the hot days of the summer. After the necessary process of oiling has been performed, a very slight admixture of the salve material acts as a complete security against the skin wool getting discolored in the least degree, throughout all the various stages of manufacture; and even in scouring, the quantity of soap generally required would be considerably reduced by adopting the mixing system here recommended.

Your giving a place to the above in your paper will oblige your most obed't serv't, X.

MR. COKE—DEVON CATTLE.—Those who are exerting themselves to improve the husbandry of the country should not, on reading the following remarks of one of the best judges of cattle in England, the Rev. Henry Berry, be discouraged:

It is now about forty-two years since Mr. Coke, very properly considering the difficulties he had to encounter on his light poor soil, began to breed Devon cattle, and it is not a little creditable to his judgment that he has, during that period, scarcely referred to any thing which may, properly speaking, be called a cross—certainly, to none of which he could permanently avail himself—and yet his Devons, take them altogether, are by far the best I have

ever seen. I much doubt whether the county of Devon can produce such an animal as one of Mr. Coke's bulls. I am totally free from prejudice on these matters, and, therefore, candidly admit the ox in question to have been, in my judgment, at the time I saw him, the most complete I ever put my hand on.

The dairy of Devon cows appears to be, and I am assured is, highly productive, each cow, no matter what her other excellences, being rejected which proves a bad milker. They present great uniformity of character, with all the genuine distinctions of the pure North Devon cattle, and, with great aptitude to fatten, possess precisely the compact bodies and short legs, which constitute the *multum in parvo* I have so often advocated. Much as I admire the Norfolk husbandry—much as I have seen to admire in the zeal of Mr. Coke's tenantry to evince their gratitude and respect, there are two things which I must censure and deplore. While the judicious and spirited improvements in tillage of this great landed proprietor have been forcing conviction, and obtaining adoption, his efforts as to the stock of the country have been comparatively vain, and he stands alone, a solitary instance of a man who for forty-two years has produced proof, and invited investigation into the merits of his Devons—has offered and committed costly sacrifices to carry his useful object, without, except in few instances, being able to induce his tenantry to adopt a profitable breed of cattle, for an unprofitable one—a system of economy devoted to the most useful end, in lieu of a system of extravagance, purchasing its advantages at a rate beyond all chance of remuneration. With, as I said before, few exceptions, the miserable and unthrifty homebreds are the cattle kept; generally speaking, little or no regular stock of cattle is maintained, and during the present year, in the month of September, short-horns, so called, and every wretched specimen conceivable of all that is bad, were consuming oil-ake in the yards, for the purpose of converting the straw to manure. On this subject Mr. Coke feels, and well he may, much disappointment, but it is not confined—this blindness to their true interests—to the article of cattle alone. In sheep it is the same; and prepared as I am to show, hereafter, that no breed in the island now equals, in profit, that of Holkham, I shall only here observe, that so far behind the rest of the world are the majority of Norfolk men on the subject of stock, that they appear to select with a view to obtaining those qualities which well-informed men would pronounce bad, and invariably reject.

WEeping TREES.—Mr. William Anderson, Curator of the Botanic Garden at Chelsea, writes as follows to the Prussian Gardening Society. Fascicles or bundles of shoots are often observed on trees, which resemble birds' nests at a distance; but, when examined, they prove to be a cluster of small twigs. Such bundles are observed on different trees, but more frequently on the white or common birch tree. In the year 1808, I observed such a bundle on a *Crataegus* (*Mespilus*) *Oxyacantha*, (hawthorn), and grafted young thorns with them, which, in two or three years, produced beautiful weeping branches. About the same time I observed such a bundle on *Ulmus campestris* (common elm), eyes of which were budded on healthy young trees, and every one produced a long hanging shoot. According to this observation, it would be very easy to produce a large collection of drooping or weeping trees. Our gardeners, however, multiply no species so numerously as the *Fraxinus excelsior* var. *pendula* (weeping ash); which variety often retains its hanging character when raised from seeds. We possess several such trees, of about ten feet in height, which were raised from seed of the original tree, obtained in 1780 from a nurseryman, who found it a few years previous to that in the neighborhood of Newmarket, in Cambridgeshire.—[Hort. Reg.]

NEW-YORK AMERICAN.

APRIL 5-11, 1834.

LITERARY NOTICES.

No. XX.

Boyd's Grove, Illinois, Jan. 25th. 1834.

It was so long since I had seen a stone at all deserving the name of a rock, that I took a good deal of satisfaction in scaling the bluffs of the Illinois, and traversing the adjacent ravines, before getting out on the prairie the morning that I left Ottawa.—In one of these rocky gullies—which run generally at right angles to the river, and with their precipitous walls in one place, and cavernous passages beneath the jutting limestone in another, often form some picturesque dell, or afford a romantic glimpse of the open country beyond—I saw the first cascade I have met with since leaving Pennsylvania. The fall was not more than ten feet, but the column of water being frozen in a solid sheet as white as the purest porcelain, presented a very singular appearance as it raised its pale glistening front beneath a canopy of stunted cedars, whose green branches impended from the rocks above. Our sleigh after winding for sometime among this broken ground, and passing over one or two small but beautiful pieces of bottom land lying among the ravines, reached at last the top of the bluff, where, instead of descending on the other side, the level prairie extended as far as the eye could reach beyond. A few hours drive brought us to a log cabin, which was our place for dining and changing horses, and here we found that owing to the newness of the route, arrangements were not yet completed for the stage going farther. H hearing a stranger speaking in terms of enthusiasm of the fine view from "Starved Rock"—a detached crag some 200 feet high, on the banks of the Illinois, where one band of Indians were surrounded and starved to death by another (I refer you to "Flin's Valley of the Mississippi," for the legend)—I made arrangements to visit the spot in the morning. A chill north easter swept over the bleak prairie as my travelling companion and myself, mounted upon two miserable nags, neither of which were shod, struck on an Indian trail, that brought us in an hours ride to the craggy and precipitous banks of the Vermillion river, which it was necessary to cross. A sickly looking, but rather interesting woman came out of a poor looking log hut, beside which, housed under a few boards, stood a handsome barouche—to direct us where to descend the bank; and my friend on foot leading his horse, mine followed, trembling, after him, and notwithstanding the steep path was glazed with ice, we descended the first pitch in safety. Pausing here for a moment, the confused masses of rock with trees and shrubs of all kinds growing in their crevices, reminded me as I looked around, of more than one scene of the kind in the river counties of my native State. It was now my turn to lead down the next pitch, which led to the frozen bed of the river. Upon gaining the edge I perceived that the descent was a perfect glare of ice, and pausing a moment to hand a loaded gun, which I carried, to my companion, lest it might be discharged in the accident which I anticipated: my horse lost his footing even as I turned in the saddle, and falling flat over upon me, down we slid together. I had not gone two yards, however, before a small jutting rock brought me, but little bruised, to an anchorage, while my unfortunate consort, after sliding over a part of my person, went, though struggling fearfully to regain his feet, slipping to the bottom.—He landed at last erect, with his face up the ascent, and though now on the level ice of the river, the poor brute seemed to think he was still midway on the declivity. He had been hurried over so roughly—for without looking at all behind him, he stood trembling for an instant, and then in spite of all the outcry we could raise to keep him back, commenced ascending to where we stood, and actually persevered till he had gained the place from whence he had started.—The only way now to effect our purpose, was for one to go below and the other to drive the horses down to him. This we indeed did, and I do not know when I have been more amused, than upon seeing my worthy Bucephalos, as if taught by past experience, quietly—when he found he must go—placing himself upon his haunches, and sliding down the little hill with a degree of coolness and skill, that would have been envied by the boldest schoolboy on Flattenbar-rack. Crossing the Vermilion we were compelled to drive our horses in the same way up the bank on the opposite side, and by catching hold of the branches of trees, drag ourselves after them as we best could. Once on the height nothing but a level plain of rich prairie land lay between us

and the bluffs of the Illinois. It was crossed here and there at intervals of a few miles, with Indian trails, about a foot in width, and worn as deep as if they had been trod for centuries. They ran in various directions, and were generally as straight as the flight of an arrow. A heavy rain throughout the previous night had swept all the snow from the prairie, and these black lines drawn over its brown surface, were now perceptible at a great distance. A long reach of woodland immediately before us, indicated our approach to the Illinois bottoms, but on entering the timbered ground, where the snow still lingered in considerable quantities, we found ourselves on the slippery bluffs, a hundred feet above the level of the river opposite, without the possibility of descending to its bed. These bluffs were divided about every half mile by the romantic ravines, already described; and having now discovered that we had entirely missed the road to "The Starved Rock," it only remained for us to attempt descending through these passages, and find the place by a route of our own. We led the way by turns, and urging our unwilling horses down the frozen beds of the little streams, which impart their coolness in autumn to these sequestered dells, we tried three ravines in succession, without attaining our object. One would bring us up against a dead wall of limestone, in the crevices of whose base the rill we had been following suddenly disappeared, a second carried us to the abrupt edge of a precipice, about fifty feet above the river, whose rich bottoms, extending far away below, reminded me, with the occasional copses and detached clumps of trees which studded them, of points of views in the valley of the Mohawk. Nothing, on so small a scale, could be more picturesque, than the nook to which the third ravine led us. It was to the upper edge of a double cascade, over the second fall of which an arch of rock projected, so as to shut out from view the basin into which the water finally fell below. The passage through which we reached the spot, was a mere fissure in the side-hill; and when, not wishing to get my feet wet, I urged my horse to the brink of the little cascade, the long icicles pendant from the hanging rock above were almost within reach of my riding-whip. A number of gnarled and stunted cedars, "moist trees, that have out-lived the eagle," flung their dusky branches over the chasm, and when summer foliage glitters on the tall stems, whose naked boughs project above them, the sun must be wholly excluded from this cool retreat.

Our horses were so fagged out when we extricated ourselves from this ravine, that we did not think it well to try another; and my companion being afraid of freezing his feet, which were wet from his having dismounted at the most difficult parts of the descent, I was sorry to be compelled to give up the search and return to our lodgings, after an eight hours' ride, without having seen the interesting point we had taken so much trouble to attain.

The stage proprietor resident at Chicago had arrived at the farm house during our absence; and hearing that two gentlemen were detained upon the road, had, with great politeness, at once taken measures to send us on the next morning. The room, too, in which we had slept before—four in two beds, and three on the floor—had now been vacated by five of its occupants, and my companion and I each appropriated a couch to himself. We were hardly warm under the cover, however, before the tramping of horses, with the sound of travellers' voices, was heard without; and the good dame thrust her head into the room in the vain expectation of showing them an unoccupied bed. My companion pretended to be in a sound sleep; and I intimated that I should betake myself to my buffalo robe and the floor, in case a bed-fellow were thrust in upon me: whereat, the kind lady was exceedingly miffed; and we could hear her through the board partition a moment afterwards, expressing herself after this amiable fashion; "Ugh! great people, truly!—a bed to themselves—the hogs!—They travel together—and they eat together—and they eat enough, too—and yet they can't sleep together!" Here the husband, an intelligent middle-aged man, who did everything to make our situation comfortable during the thirty-six hours we spent at his cabin, interposed, and silenced his better half; and the new comers, wrapping themselves in their cloaks before the fire, in a few minutes all became still about the establishment.

The good dame, who must have been a fine looking woman in her day, and was, I believe, in spite of her scolding ways, really well disposed towards us at heart, gave us a capital cup of coffee, and a kind farewell in the morning. A four-horse wagon,

with an active driver, quickly accomplished a mile of rough road through the grove, and brought us once more to the edge of the smooth prairie. I can conceive nothing more desolate than the appearance of that boundless plain. The fires had traversed it in the autumn as far as the eye could reach, and the snow having now disappeared entirely from the upland, the black and charred surface was all that met our vision wherever it wandered. A dark sullen sky which lowered over head added not a little to the gloominess of the prospect; and the day being excessively cold, our ride for the next fifteen miles over this dreary plain was anything but agreeable. At last we came to some broken ground, dotted here and there with a handful of shrubbery, from which every moment a pack of grouse, and occasionally a bevy of quails would rise. The little village of Hennepin—called after father Hennepin—next hove in sight; though it lay so sheltered along the banks of the Illinois, that we were nearly upon the hamlet before its vicinity was discoverable.

After stopping an hour or two to dine and feed our horses, we left the driver to get down the steep bank, which, though not rocky, is about 50 feet high, and very precipitous on that side of the river, while my friend and I descended to the ice, and walked over the river, which was here a broad and noble stream, with some beautiful alluvial islands on its bosom. The difference of temperature here and on the bleak prairie above, was astonishing; and when I sat down upon a fallen tree among the tangled vines of the rich bottom opposite to Hennepin, and watched a flock of green paroquets fluttering among the witch-elms, which here and there skirted the shore, while the sun for a moment piercing his murky veil touched with gold the icicles that glazed their drooping branches, I could fancy myself transported to a different climate. The driver overtook us at last, and then we commenced making our way through a timbered bottom, which, for appearance of rank fertility, excelled any spot I have ever beheld. The trees, which were of enormous size, seemed chained together at every point, by the huge vines which clambered to their very summits, locking the stately stems in their ponderous embrace, and clasping each other bough with some twining tendril, which, having thus secured its prey on one tree, seemed like a living animal to have bounded to another, and fastened its eager grasp upon some limb as yet untouched. Beneath the whole an interminable growth of under-wood, protected by the woven canopy above, and flourishing rankly in its living fetters,

"Like prisoners wildly overgrown with hair,
Put forth disordered twigs."

A half hour's ride carried us through this teaming region to the foot of a steep and open-wooded hill, which, ascending with some difficulty, we came out once more upon the prairie, and found the change of temperature instantaneous. The road over the dry, grassy plain was very good, however, for the first six or eight miles, and as the evening began to close in intensely cold, we rattled them off in a very short time. At last, we came to a deep frozen gully, in crossing which our leaders bruised themselves so badly by breaking through the ice, that when we reached a spot of the same kind, but rather worse, a mile or two in advance, the frightened animals recoiled from the place, and refused to cross it. Our driver, a doughty little chap about five feet eleven, who rejoiced in the name of Sampson, and was a capital whip, by the bye, after using every exertion to get his whole team over, was at last compelled to give up the point, and proceed to detach the leaders from the wheel horses. This, with our aid, was soon done; and my companion remaining with the leaders on one side, Sampson and I made a dash at the frozen brook, and, breaking through in the midst, the horses gave such a spring to free themselves from the wagon, that the swingletree bolt snapped, and had not the heroic little champion held on to the reins as tenaciously as a certain criminal judge in your city to his office, we might have been left a prey to the next drove of Philistinean wolves that should rove the prairie in quest of a supper. Sampson, however, was true to his name; and with a mighty arm bringing up his foaming steeds all standing, we crawled over the head of the rampant wagon (the hind wheels only had gone through the ice) and sprang to the firm ground. The swingletree was soon tinkered fast again; but now came the difficulty of getting the unwilling leaders over, who, it is presumed, had been no uninterested spectators of what had just been going forward; coaxing and whipping availed nothing; and we at last succeeded only by buckling two pair of reins together and passing them over the brook, two of us pulling on the horses' mouths, while the third applied a smart castigation

behind. One of the poor animals again broke in, and floundered dreadfully before he reached a firm footing on the other side. But this was not the worst; our poor little Sampson in attempting to jump, plunged in himself to his knees, and suffered much inconvenience from it afterwards. The evening was indeed so cold that our wheel horses, who were coated with ice, their long tails being actually frozen solid, were in danger of freezing to death, had we been compelled to delay much longer. But, placing now the leaders on the firm ground beyond them, one smart pull served to extricate the wagon from the hole, and deliver us finally from our quandary. We had five or six miles still to go before reaching a house, and feeling some anxiety about Sampson's wet feet, we urged him to put the horses—nothing loath when once started—to the top of their speed. He did indeed, drive furiously; but when we arrived at the house whence I write, the poor fellow's feet were frozen. Rushing at once to the fire, he would doubtless have lost them, had there not chanced to be a physician present, who directed us what to do. The good humored little patient was removed without delay to the back part of the room, and we commenced pouring water into his boots until they melted from his feet, the temperature of the water being gradually heightened till it became blood-warm, while a bucket of ice-water stood by for the sufferer to thrust his feet in whenever the returning circulation became too violent for him to endure. In the morning, though his feet were dreadfully swollen, he was enabled, by tying them up in thick horse blankets, to move about, and even return with his team. To the simple and judicious suggestions of the travelling physician present, our little hero was in all probability indebted for escaping a most awful calamity: a settler in this neighborhood having lost both legs a few days since by an exposure similar to Sampson's.

I am now staying at the house of a flourishing farmer, whose sturdy frame, bold features, and thick long black hair, would, with his frank address, afford as fine a specimen of the western borderer as one could meet with, and never allow you to suspect that ten or fifteen years ago he was a New York tradesman. He lives, like all other people of this country, in a log cabin, which has many comforts about it however; not usually found in these primitive domiciles. Having a large family, with no neighbors nearer than ten miles on one side and twenty on the other, he maintains a schoolmaster to instruct his children: the room I occupy at night being fitted up with desks and benches as a school room. His farm, which lies along the edge of a beautiful and well watered grove, supplies him with almost everything that he wants; and having once pursued a different mode of life, he seems now to realize the full independence of his situation, &c. more even than those who have always been brought up as farmers. I told him this morning, as he sallied out to chop, with his two sons axe in hand, all clad in their belted capotes and white woollen hoods, that I should like to meet his sun-burnt features and independent step in Broadway, to see how many of his old acquaintance would recognize the pale mechanic in the brown back woodman. He promised me, if he came in winter, to appear with the guise in which I then beheld him, adding in western phraseology, "The way in which I'll do that, Squire, will be a caution."

After being detained here some days, waiting for the St. Louis stage, and losing my travelling companion, who, having bought a horse, has gone on by himself, I have concluded that it would never do to go out of this country without visiting Galena and the mining country: and as there is now a stage running thither, I shall take the first opportunity to go with it. I have amused myself for the last three nights in watching for wolves by moonlight, at the edge of the wood, a few hundred yards from the house. They come howling round the house after nightfall, and if one is 'in luck' at all, are easily shot. But last night, after leaving my position but for five minutes, I heard the report of a rifle, and hastening to the spot, where a lad staid to fill my place for a moment, I found that a gray and a black wolf of the largest kind had approached suddenly within two or three yards of the muzzle of his gun, and startled him so, that he missed them both. In the confident hope of their return—for the bait that we had thrown about the place was still there—I took the little fellow's place, and wrapping myself in my buffalo skin, lay watching on the ground till nearly daybreak; and the enemy then not making his appearance, I was glad to creep shivering to bed.

Upon entering my room, which contained three

beds, I observed, after striking a light, that the one opposite to mine was occupied by a new-comer, while a sheet suspended from the ceiling near the head of the other, and concealing the phrenology of its occupants from view, was evidently meant as a caveat against reconnoitering that part of the apartment.

Two gentlemen and a pretty young woman, who I was told was a bride on her way to St. Louis, breakfasted with us the next morning. And how was I shocked and horrified to see Madam, after wrapping herself in a handsome cashmere shawl, while their sleigh was getting ready, raise her white lace veil and place the stump of a pipe between her rosy lips! Can you conceive a more legitimate cause for divorce? Whose love would not end in smoke at witnessing such an awful phenomenon? "An American bride smoking a pipe." What a subject for Cruickshank to illustrate, by way of frontispiece to the next edition of Captain Hamilton's "Men and Manners!" Genins of Trollopism, shield and shelter us! If a woman must smoke anything less ethereal than a jest, let not the accursed vapor steal their dew from lips so fresh. Let not her 'piping time' arrive so soon. Let not—I can no more.

You shall hear from me next at Galena. Till then, farewell.

WRITINGS OF WASHINGTON.—In noticing some weeks ago these admirable volumes, published by Mr. Sparks, we referred to some of the early papers of Washington. Among these, written in his own hand, is a series of maxims under the head of "Rules of civility and decent behavior in company and conversation." Of these there are 110. The only specimens published we extract, and agree with Mr. Sparks in the opinion, that "whoever has studied the character of Washington, will be persuaded that some of its most prominent features took their shape from the rules thus early selected and adopted as his guide."

1. Every action in company ought to be with some sign of respect to those present.
2. In the presence of others, sing not to yourself with a humming noise, nor drum with your fingers or feet.
3. Sleep not when others speak, sit not when others stand, speak not when you should hold your peace, and walk not when others stop.
4. Turn not your back to others, especially in speaking; jog not the table or desk on which another reads or writes, lean not on any one.
5. Be no flatterer, neither play with any one that delights not to be played with.
6. Read no letters, books or papers in company, but when there is a necessity for doing it you must ask leave. Come not near the books or writings of any one so as to read them, unasked. Also, look not nigh, when another is writing a letter.
7. Let your countenance be pleasant, but in serious matters somewhat grave.
8. Show not yourself glad at the misfortune of another, though he were your enemy.
9. When you meet with one of greater quality than yourself, stop and retire, especially if it be at a door, or any strait place, to give way for him to pass.
10. They that are in dignity or office have in all places precedence; but whilst they are young, they ought to respect those that are their equals in birth or other qualities, though they have no public charge.
11. It is good manners to prefer them to whom we speak before ourselves, especially if they be above us, with whom, in no sort, we ought to begin.
12. Let your discourse with men of business be short and comprehensive.
13. In visiting the sick, do not presently play the physician, if you be not knowing therein.
14. In writing or speaking, give to every person his due title, according to his degree and the custom of the place.
15. Strive not with your superiors in argument, but always submit your judgment to others with modesty.
16. Undertake not to teach your equal in the art himself professes: it savors of arrogance.
17. When a man does all he can, though it succeeds not well, blame not him that did it.
18. Being to advise, or reprehend any one, consider whether it ought to be in public or in private, presently or at some other time, also in what terms to do it; and in reproving, show no signs of cholera, but do it with sweetness and mildness.
19. Take all admonitions thankfully, in what place soever given; but afterwards not being culpable take a time or place convenient to let him know it that gave them.

20. Mock not, nor jest at any thing of importance; break no jests that are sharp biting, and if you deliver any thing witty and pleasant, abstain from laughing thereat yourself.

21. Wherein you reprove another be unblameable yourself, for example is more prevalent than precept.

22. Use no reproachful language against any one, neither curses nor revilings.

23. Be not hasty to believe flying reports, to the disparagement of any one.

24. In your apparel be modest, and endeavor to accommodate nature rather than procure admiration. Keep to the fashion of your equals, such as are civil and orderly with respect to time and place.

25. Play not the peacock, looking every where about you to see if you be well decked, if your shoes fit well, if your stockings sit neatly, and clothes handsomely.

26. Associate yourself with men of good quality if you esteem your own reputation, for it is better to be alone than in bad company.

27. Let your conversation be without malice or envy, for it is a sign of a tractable and commendable nature, and in all causes of passion admit reason to govern.

28. Be not immodest in urging your friend to discover a secret.

29. Utter not base and frivolous things amongst grown and learned men; nor very difficult questions or subjects among the ignorant, nor things hard to be believed.

30. Speak not of doleful things in time of mirth, nor at the table; speak not of melancholy things, as death and wounds, and if others mention them, change, if you can, the discourse. Tell not your dreams but to your intimate friends.

31. Break not a jest where none take pleasure in mirth. Laugh not aloud nor at all without occasion. Deride no man's misfortune, though there seem to be some cause.

32. Speak not injurious words, neither in jest or earnest. Scoff at none, although they give occasion.

33. Be not forward, but friendly and courteous; the first to salute, hear and answer, and be not pensive when it is a time to converse.

34. Detract not from others, but neither be excessive in commending.

35. Go not thither, where you know not whether you shall be welcome or not. Give not advice without being asked, and when desired, do it briefly.

36. If two contend together, take not the part of either unconstrained, and be not obstinate in your opinion; in things indifferent be of the major side.

37. Reprehend not the imperfections of others, for that belongs to parents, masters and superiors.

38. Gaze not on the marks or blemishes of others, and ask not how they came. What you may speak in secret to your friend, deliver not before others.

39. Speak not in an unknown tongue in company, but in your own language; and that as those of quality do, and not as the vulgar. Sublime matters treat seriously.

40. Think before you speak; pronounce not imperfectly, nor bring out your words too hastily, but orderly and distinctly.

41. When another speaks, be attentive yourself, and disturb not the audience. If any hesitate in his words, help him not, nor prompt him without being desired; interrupt him not nor answer him till his speech be ended.

42. Treat with men at fit times about business, and whisper not in the company of others.

43. Make no comparisons; and if any of the company be commended for any brave act of virtue, commend not another for the same.

44. Be not apt to relate news, if you know not the truth thereof. In discoursing of things you have heard, name not your author always. A secret discover not.

45. Be not curious to know the affairs of others, neither approach to those that speak in private.

46. Undertake not what you cannot perform; but be careful to keep your promise.

47. When you deliver a matter, do it without passion and discretion, however mean the person may be you do it to.

48. When your superiors talk to any body, hear them, nor neither speak nor laugh.

49. In disputes be not so desirous to overcome as not to give liberty to each one to deliver his opinion, and submit to the judgment of the major part, especially if they are judges of the dispute.

50. Be not tedious in discourse, make not many digressions nor repeat often the same matter of discourse.

51. Speak no evil of the absent for it is unjust.

52. Make no show of taking great delight in your victuals, feed not with greediness, cut your bread with a knife, lean not on the table, neither find fault with what you eat.

53. Be not angry at table whatever happens, and if you have reason to be so show it not, put on a cheerful countenance, especially if there be strangers, for good humor makes one dish a feast.

54. Set not yourself at the upper end of the table, but if it be your due, or the master of the house will have it so, contend not lest you should trouble the company.

55. When you speak of God to his attributes, let it be seriously in reverence and honor, and obey your natural parents although they be poor.

56. Let your recreations be manifold not sinful.

57. Labor to keep alive in your breast that little spark of celestial fire called conscience.

FOREIGN INTELLIGENCE.

THREE DAYS LATER.—By the packet ship Europe, Capt. Maxwell, we have received London papers to March 16th, and Liverpool to the 15th (Saturday), inclusive.

There have been fresh disturbances at Madrid.—The dates from that capital are to March 7th.

LONDON, SATURDAY, MARCH 15.—Censals, which left off at 81 5-8 3-4 this day sent'night, opened on Monday at 91 1-2, since which time they have not been higher than 91 1-2 5-8, nor lower than 91, closing last night at 91 3-8 1-2.

Money has not been near so plentiful; and the Bank of England has been making the Westminster Bank feel its power and influence, in making large offers of money on loan, in sums of not less than £2,000 on India Stock, and Exchequer Bills, at 3 per cent. 5 per cent. interest is now required for money in the city; and very lately it might have been obtained at 3 per cent. with ease.

LIVERPOOL, MARCH 15.—The splendid new American ship Kensington, which was stranded on the Welch coast, during the late gales, while on her first voyage from New York to Liverpool, has been raised by Messrs. Seddon and Leadley, and towed into Carnarvon Bay. She will shortly be brought round to Liverpool.

LONDON, MARCH 14.—Last night Mr. Ripton moved for leave to bring in a bill "for relieving the Archbishops and Bishops of the Established Church from their legislative and judicial duties in the House of Peers." After a discussion, attended by rather remarkable circumstances, to which we have elsewhere alluded, the motion was negatived by a majority of 67—the numbers being 125 and 58.

LONDON, MARCH 15.—Last night the North American Postage Bill went through Committee, was reported, and ordered to be read a third time on Monday.

Mr. Buckingham gave notice, that on the 26th of May he would move for leave to bring in a bill for the prevention of duelling; and also for the appointment of a select Committee to inquire respecting the vice of drunkenness.

Lord Althorp stated that he intended to propose that the House should adjourn for the recess from Wednesday, the 26th instant, to Monday, the 14th of April.

AMSTERDAM, MARCH 10.—The Handelsbald says—"Constant Polari, alias Carrara, was to day found guilty by the Court of Assize of a forcible entry at night, and robbing in an uninhabited house, and condemned to stand on a scaffold at the Hague for half an hour, to be confined in a house of correction, and to the payment of costs, with orders for an extract of the sentence to be posted up at the Hague and at Brussels, and that the articles, as many of them as are in the hands of justice, shall be restored to the owner."

"In the course of yesterday Polari narrated all the circumstances that preceded, accompanied, and followed the robbery of the diamonds; he repeated his previous declaration, that he was the sole person in the robbery, and that it was suggested to him by the gold ornaments, which he thought he could distinguish from the street in the palace of the Prince; that he never had any communication with any person in the Palace."

[From *Galiznan's Messenger*.]

DISTURBANCES AT MADRID.—We have received from Madrid by express the Gazette de, the Age, and the Bulletin of Commerce, of the 4th inst. The Gazette has the following:—"In the night of Sunday last, symptoms of disorder were observed in a house named El Paradiac, in the street called Toledo, and at length it arose to a great height, the peo-

ple within uttering seditious cries. But before the magistrates and troops could arrive, many of the respectable inhabitants of the neighborhood, of their own accord, assembled to suppress the disturbance, giving evident proofs of their zeal and resolution to maintain the laws and legitimate cause of the Queen Isabella II. Two of the disorderly persons were killed on the spot, and all who offered any resistance to the troops or attempted to make their escape were wounded and immediately conducted to the royal prison, with all who appeared to be their accomplices, the neighbors continuing to lend their assistance to the authorities. However scandalous and criminal this conduct was, it did not extend sufficiently wide to interrupt the public tranquility, nor was it even known at any distance from the place where it took place.

The Age gives a much more serious character to these events, and represents Madrid to be in a state resembling anarchy, stating that several inhabitants, whose names it gives, have been attacked in the streets by the Carlists, and compelled to take up arms in their own defence. Many arrests have taken place, it says, and most of those who have been taken to prison are friends to the Queen. Groups of Carlists pretend to be the night patrol, and go their rounds accordingly. Under the date of 7 in the evening, it adds—"The danger is imminent; the insurgents are firing in the quarter Arapies." This journal concludes by urging the Government to use the utmost severity.

The Bulletin of Commerce accuses the Royalist Volunteers of being the authors of what has taken place. It states that the disorder has existed for several nights, and that at last a party of the perturbators had come to the point of firing upon the partisans of the Queen, in the quarter of the Cabada, shouting "Charles V. for ever!" They afterwards retired to a house in the street called Toledo, which they invested with the name of the Castle of Charles V., and where they made a desperate resistance, till 5 or 6 of them were killed, and about 30 wounded and taken to prison. Some of the troops were also wounded, missiles of all kinds having been hurled at them by the rioters. The Bulletin also concludes by recommending that no mercy should be shown to the rebels.

The following is an extract of a letter of the 4th instant, from Madrid:—"Several members of the Royal Court of Madrid have been dismissed as Carlists. On account of the dissatisfaction occasioned by the decree relative to suburban militia, it has been repealed. A royal order of Charles V., countersigned by the Bishop of Leon, his Minister of Justice, orders the Carlist troops who support his cause to shoot all that may be found fighting for Isabella II. However, adds the decree, the august persons of the Queen and the two Princesses her daughters shall be respected."

The *Indicateur* of Bordeaux of the 8th inst. gives the following from St. Sebastian of the 5th—"On the day before yesterday the rebels of Biscay were surprised at Omate by Brigadier Espartero, at the moment they had piled their arms, and were sitting down to their meal. They were completely routed, 800 of them having left their muskets behind them, and their loss in killed, wounded, and prisoners, amounting to 230. The commander of the Chinchua Queen's volunteers having arrived opportunely at Elosno, fell upon the fugitives, and killed a great many more of them. A few days ago the whole of the insurgents of Biscay, forming a force of 7,000 men, with a few bands from Guisusoa and Alva, besieged Guernica, and the Queen's garrison, notwithstanding it had been reinforced by 1,300 men, was obliged to give up the position for want of ammunition and provisions. In retiring, however, they made about 30 prisoners, amongst whom is the commandant Barroniti. After their defeat at Omate, the rebels, it is to be presumed, cannot for a long time assemble in any great numbers."

A letter of the 7th inst. from Bayonne announces that the Spanish ex-Minister, M. Zea, has taken his departure for Rome, but it is not believed that he is charged with any mission.

There had been a disturbance in Saragossa on the 27th ult. and some fighting in the streets, by which several lives were lost; but it is not very distinctly stated whether it originated in a Carlist insurrectionary movement.

The Memorial Bordelais of the 8th inst. has the following—"We learn from St. Sebastian that the decree for organizing the Urban Militia has been publicly burnt in that town, without the authorities being able to prevent it. An express was immediately sent off to convey this news to Madrid. According to the last accounts from the Capitol, extreme effervescence

prevails there. The people loudly call for the dismissal of Ministers, particularly of Burgos and Zarco del Valle. The discontent has become general, and if the Queen's government does not pursue a different course, a revolution will break out at all points, and blood will be shed in abundance."

LIVERPOOL COTTON MARKET, March 11.

Since our report last week the cotton market has continued depressed, and the prices we then quoted are no longer obtainable: we reduce them 1d per lb on Bowed, Alabama, and Orleans; about 1d on Brazil, and 1d on Sea Island. Speculators have taken 300 American and 300 Surat, and Exporters 700 Surat. The import this week is 25,413 bags, 116 Sea Island and 143d to 20d—90 stained to 114d—2,610 Bowed 8d to 9d—3,460 N Orleans 84d to 93d.

SUMMARY.

LIBERAL COURTESY.—By the annexed correspondence, it will be seen, that the British Government, propose to present to each of the Institutions in the United States, enumerated below, a copy of a very valuable publication now in progress in England. This country is indebted much to Mr. O. Rich, an agent for the purchase of books in London, for his participation in this matter—and in the act of the British Government, we see with satisfaction a liberal and enlightened feeling of comity towards the United States.

London, Feb. 21st, 1834.

SIR—In consequence of your suggestion, that the Record Commission were desirous of presenting copies of their valuable publications to some of the Literary Institutions of the United States, I have the honor of enclosing herewith, a list of the principal Libraries where they would be most acceptable, and to which I shall have great pleasure in forwarding copies. I have numbered them according to their relative importance, in order that the Commissioners may be the better enabled to judge which to send to. Some of the latter numbers are inserted more on account of their locality, there being other Libraries of more importance, but situated in the immediate neighborhood of the Institutions mentioned in the first part of the list. It will be a great gratification to me to be the medium of transmitting to the United States, this noble mark of the liberality and good feeling of the British Government towards my Country, and I feel confident that it will be productive of the happiest effects in drawing together the bonds of union between two nations more closely allied by natural ties than any other two on the face of the Globe.

With sentiments of respect and esteem, I have the honor to be, very sincerely, your humble servant,

O. RICH.

C. P. COOPER, Esq.

Secretary to the Record Commission, &c. &c. &c.

PUBLIC LIBRARIES.

1. The Philadelphia Library, Philadelphia, Pennsylvania.
2. The Boston Athenaeum, Boston, Massachusetts.
3. The New York Society Library, New York.
4. The Charleston Society Library, Charleston, South Carolina.
5. The Baltimore City Library, Baltimore, Maryland.
6. The New York State Library, Albany, New York.

UNIVERSITY LIBRARIES.

14. The Library of Bowdoin College, Brunswick, Maine.
11. The Library of Dartmouth College, Hanover, New Hampshire.
7. The Library of Harvard University, Cambridge, Massachusetts.
12. The Library of Amherst College, Amherst, Massachusetts.
15. The Library of Brown University, Providence, Rhode Island.
8. The Library of Yale College, New Haven, Connecticut.
16. The Library of the College of New Jersey, Princeton, New Jersey.
- The Library of the University of Virginia, Charlottesville, Virginia.
17. The Library of the University of North Carolina, Chapel Hill, North Carolina.
10. The Library of the College of South Carolina, Columbia, South Carolina.
18. The Library of the University of Georgia, Athens, Georgia.
19. The Library of the University of the State of Alabama, Tuscaloosa, Alabama.
13. The Library of Transylvania University, Lexington, Kentucky.
21. The Library of St. Louis University, St. Louis, Missouri.

20. The Library of the University of Ohio, Athens, Ohio.

NEW BOSWELL'S COURT, LINCOLN'S INN,
February 22d, 1834.

SIR—Being assured that his Majesty's Government and the Record Commissioners entertain sentiments in all respects corresponding to those which you recently stated to me were entertained by the United States towards the British Isles, I have had no hesitation in instructing his Majesty's Printers to prepare sets of the Record Publications for the whole of the American Libraries, mentioned in the list accompanying your letter of yesterday.

I am, Sir, your obedient humble servant,

C. P. COOPER.

O. RICH, Esq.

These Public Records, of which the cost for each set is about *Two hundred pounds sterling*, consist of "the Statutes of the Realm," "Domesday Book," "Rymer's Collection," and other rare and ancient public documents, which, considering our descent, cannot but be of great value here, as consulting books.

APPOINTMENTS BY THE PRESIDENT,

By and with the advice and consent of the Senate.

WILLIAM M. PRICE to be Attorney for the Southern District of New York, in the place of James A. Hamilton, whose commission has expired.

JOHN P. HALB to be Attorney for the District of New Hampshire, in the place of Daniel M. Durell, whose commission has expired.

JAMES W. EXUM to be Marshal for the District of West Florida, reappointed.

GEORGE K. WALKER to be Secretary for the Territory of Florida, in the place of James D. Westcott, whose commission has expired.

DESTRUCTION OF THE PACKET SHIP NEWARK.—

This vessel, lying out in the North river, waiting a wind to proceed to *New Orleans*, and having on board a very valuable cargo, took fire last night at half past 11 o'clock, and burnt to the water's edge.—Boats from the shore and from the Austrian frigates put off to her as soon as the flames were discovered.

THE MEAT OF DISEASED CATTLE.—An investigation of an interesting character has recently engaged the attention of the faculty in Paris. In consequence of the supposed custom among the butchers, of exposing for sale the flesh of animals that had died of various diseases, it was determined by the government to ascertain, if possible, what diseases, in animals intended for the butcher, are capable of communicating to their meat deleterious qualities. The result of the inquiry, which was pursued with great diligence, was, that only one of the diseases of cattle possesses a contagion for the human subject, that is not destroyed by the process of cookery: this disease is *malignant pustule*. Vast numbers of cattle, it appeared, were constantly sold for slaughter while laboring under other complaints, but no authenticated case could be discovered in which harm had resulted from the use of their meat. Thousands even of the cattle slaughtered while laboring under the contagious typhus that prevailed among them so extensively in 1814, 1815, and 1816, were used as food without any discoverable injury. Singular as this fact may seem, it appears to be well established by this investigation.

On the whole, the conclusion drawn in the report is, that butcher's meat is deleterious to man in two conditions—1st, When spoiled by too long keeping; and 2d, When the animals slaughtered were affected with malignant pustule.

Although the process of cooking may prevent any injurious consequences from the eating of a diseased animal, yet it is very unpleasant to know the fact that the beef on our table is from cattle sick with typhus, with liver complaint, with inflammation of the lungs, and many of the disorders incidental to such animals, and the only dependence is on the integrity of the butchers, who will not give such meat to their customers, knowing it to be diseased. One great advantage which the Mosaic law and Rabbinical institutions have over

all modern customs, is blending religious with political regulations, purifying both soul and body at the same time. The beef exposed in our markets with leaden seals must necessarily be free from all or nearly all the impurities in cattle complained of above. An experienced person, who has studied the anatomy of the beast, is commissioned and paid by the congregation to kill all kinds of butcher's meat. The animal is not stunned with blows, producing stagnation and congestion of the blood; the throat is cut with a remarkably sharp knife, and all the veins and arteries are emptied; the lungs are searched with the hand; if the liver is attached to the ribs, or there are impurities, malformation, or any apparent disease, it is condemned, and the leaden seals are not attached to the meat. It is thus that the observance of ancient laws by this ancient people give them great protection against feeding on diseased animals, and our old New Yorkers, of all religious denominations, who understand the object, generally give a preference to the meat with leaden seals.

FANNING MILL.—An ingenious wight, named William Gall, has constructed a pair of self-acting fanners, which, without the aid of man, sift wheat, corn, &c. The simplicity of the invention is astonishing. By a funnel of sheet-iron, the wheat descends upon an iron wheel full of brackets; the wheel is so nicely balanced, that the moment the wheat falls the wheel revolves, and throws the wheat into a pair of fanners on the flat below. On the outside of the iron wheel is a wooden one, and over it is a belt attached to the fly wheel of the fanners, which impels them, and so long as a particle of wheat is left, the machine moves and throws it out.—[Sat. Eve. Post.]

Lines occasioned by the following notice taken from the Baltimore Gazette, and reprinted in the American during the prevalence of the Cholera. "Died on Thursday last, at Hospital No. 3, Sister Mary Frances, one of those Angels in human form, who are found, not in the midst of luxury, but in all our hospitals, supplying the wants of, and ministering comfort and consolation to the sick and the dying, regardless of personal danger, and rejecting all temporal compensation. "The deceased was found in the morning attending as usual to the patients in the hospital, with the smile of peace and serenity on her countenance; she sickened about 8 o'clock, and by 7 in the evening was a corpse."

TO THE SISTERS OF CHARITY.

For you, ye heaven-sent Sisters, pure and meek,
No idle, flattering accents I intend—
I know, full well, no earthly meed you seek:
Above all mortal praise your thoughts ascend.
Undaunted intimates of death and pain!
You heed no minstrelsy of earth—strong lyre:
The softest siren notes would sound in vain
To ease impatient for the heavenly choir.
But who that trends life's rough and weary way,
If some fair prospect open on his sight,
Seeks not his fellow wanderer's step to stray,
And make them partners in his new delight?
Turn then, all ye who, with indignant mind,
Behold the violence of this mortal state;
Where craft and guile on every hand you find,
With all the forms of selfishness and hate—
Here let your insatiable brow unbend,
And warmest feelings of the heart expand;
For, if to earth some gleams of Heaven descend,
They shine most bright upon this sacred band.
And ye who sport beneath the golden beams
That o'er youth's jocund morning shed their light,
To whom the downward path of life still seems
Immeasurably distant from the sight;
Oh! think me not a censor cold and stern,
A frowning foe to all that's bright and gay,
If, for a moment, I would have you turn
And see these Sisters tread their holy way.
I would not have fierce superstition's power
Bear down your minds, in sullen gloom to grope:
I would not overcloud one radiant hour,
Nor crush one rising bud of youthful hope:
Yet, stay awhile, nor all your moments waste
For joys inconstant as the vernal sky:
You here may deep, though silent, pleasure taste,
Whose impress on the soul shall never die.
For how can earth present a goodlier scene,
Or what can waken rapture more refined,
Than dauntless courage, silent and serene,
With maiden gentleness and love combin'd?
Behold in yon receptacle of woe,
Where victims of disease assembled lie,
That gliding form, with noiseless footstep go,
From couch to couch, her angel task to ply:
She dwells mid sounds and sights of pain and death;
The feeble plaint, the involuntary cry,
The fierce convulsive throw, the infectious breath,
The heaving groan, the deep-drawn burning sigh.
Oh! child of frolic, in whose giddy brain
Delusive fancy's ever on the wing,
Think you this gentle maid feels nought but pain?
That in her path no lovely flowerets spring?

Gay visions round your pillow nightly throng—
The morning ramble, and the evening dance,
The rout, the feast, the soul entrancing song,
The flatterer, a whisper, and the lover's glance.
Around her couch no brilliant phantoms play;
No airy spectre of past pleasure flies;
But deeds of mercy which have mark'd the day
Give tranquil slumber to her tear-stain'd eyes.
They're precious gems, those tears that wet her cheek
Worth more than all that earth or ocean know:
The noblest language of the heart they speak;
From high and holy ecstasy they flow.
Her feelings ye alone can understand
Whose deeds have wak'd the sufferer's grateful prayer:
Who've felt the pressure of the dying hand,
The rich reward of all your pious care.
No sad or strange reverse her pleasures dread;
Of time and chance, they mock the strong control.
Her heaven-aspiring virtues ever shed
A cloudless light upon her peaceful soul.
The fullies that command this world's esteem,
Within her spirit find no resting place;
Like idle mists that cross the solar beam,
They serve its bright and changeless way to trace.
Yea! such this sacred band, such peace is theirs;
Unchang'd when days shine bright, or tempests lower
Through life they pass, untainted by its cares;
When death draws near, they gladly hail his power.
And then, like birds that seek a better clime,
On swift untiring wing their spirits rise,
And gladly leave this turbid stream of Time,
To take their homeward progress thro' the skies.

SILVIO.

[From the Calcutta Quarterly Magazine and Review.]

THE SONG OF THE FORGE.

Clang, clang,
The massive anvils ring
Clang, clang,
A hundred hammers awing,
Like the thunder rattle of a tropic sky
The mighty blows still multiply,
Clang, clang,
May brothers of the dusky brow,
What are your strong arms forging now?
Clang, clang—we forge the couler now,
The couler of the kindly plough:
Sweet Mary mother, bless our toil;
May its broad furrow still unfold
To genial rains to sun and wind,
The most benignant soil.
Clang, clang—our couler's course shall be
On many a sweet and sheltered lea,
By many a streamlet's silver tide,
Amidst the song of morning birds,
Amidst the low of sauntering herds,
Amidst soft breezes which do stray
Through woodbine hedges and sweet May,
Along the green hill's side.
When regal autumn's bounteous hand,
With widespread glory clothes the land,
When to the valleys from the brow
Of each resplendent slope, is roll'd
A ruddy sea of living gold.
We bless, we bless THE FLOUGH
Clang, clang,—again, my mates what glows
Beneath the hammers' potent blows?
Clink, clank,—we forge the giant chain,
Which bears the gallant vessel's strain
Midst stormy winds and adverse tides:
Secured by this, the good ship braves
The rocky toadstead, and the waves
Which thunder on her sides.
Anxious no more, the merchant sees
The mist drive dark before the breeze,
The storm cloud on the hill;
Calmly he rests, though far away,
In boisterous climes, his vessels lay,
Reliant on our skill.
Say, on what sands these links shall sleep,
Fathoms beneath the solemn deep:
By Africa's prehistoric shore,
By many an ice berg, loam and hoar,
By many a pining western isle,
Basking in Spring's perpetual smile:
By stormy Labrador.
Say, shall they feel the vessel reel
When to the battery's deadly peal
The crashing broadside makes reply;
Or else, as at the glorious Nile,
Held grappling ships, that strive the while,
For death or victory?
Hurrah—clang, clang—once more, what glows,
Hark brothers of the forge, beneath
The iron tempest of your blows
The furnace's red breath?
Clang, clang—a burning shower clear
And brilliant, of bright sparks, is poured
Around and up in the dusky air,
As our hammers forge the sword.
The sword!—extreme of dread; yet when
Upon the freeman's thigh 'his bound
While for his altar and his hearth,
While for his land that gave him birth,
The war drums roll, the trumpets sound,
How sacred is it then!
Whenever for the truth and right
It flashes in the van of fight,
Whether in some wild mountain pass,
As that where fell Leonidas;
Or on some sterile plain and stern,
A Marathon, or a Bannockburn;
Or amidst crags and burning rills,
The Swiss Alps, grey Tyrol's hills;
Or, as when sank the Armada's pride,
It gleams above the stormy tide:
Still, still, whene'er the battle word
Is Liberty, when men do stand
For justice and their native land,
Then Heaven bless THE SWORD!

THE PILGRIMS OF THE RHINE.—We have seen in the hands of Wm. A. Colman, a copy of this new work of Bulwer. It is eminently beautiful in its typography and plates—of which latter there are twenty-seven.

The **SENTRY BOX**, engraved by Danforth, from *Leslie's* picture, is also to be seen at the same place, and is well worth looking at.

[From the *St. Louis Republican*, March 10.]

THE MORMON DIFFICULTIES.—A late number of the *Enquirer*—a paper just started at Liberty, Mo.—contains a military order from Governor Dunklin to the captain of the "Liberty Blues," commanding him to hold himself and his men in "readiness to assist the civil authorities in apprehending and bringing to trial the persons offending against the laws, in November last, in Jackson county, in conflicts between the Mormons and a portion of the other citizens of that county." He is commanded to attend the court in that county, during the trial of the cause, and execute such orders as may be given him by the Judge or Circuit Attorney. Under these orders, and at the request of Judge Ryland, who stated that a number of Mormons wished to testify before the Grand Jury, Captain Atchison marched his company into Independence, on the day appointed for holding court, having a number of Mormons under his protection. After a stay of about three hours it was concluded by Judge Ryland, the Circuit Attorney, and Attorney General Wells, that "it was entirely unnecessary to investigate the subject on the part of the State, as the jury were equally concerned in the outrages committed, and it was therefore not likely that any bills would be found." The Captain was therefore directed to return to Liberty and to discharge his men. "To see a civil court (the Governor says) surrounded by a military force, is well calculated to awaken the sensibilities of any community," and the Governor charges his subordinate officer to perform his duties in the mildest manner possible. It is certainly a new thing in this country, to see the military called in to protect the civil authorities in the exercise of their just powers; and goes far to prove how far we have relaxed in virtue and a regard for the laws which ought to govern us. Every patriot must hope, that the occasion may seldom arise when it shall be necessary to surround a judicial tribunal with such guards. It is a pernicious example, but rendered, perhaps, necessary in the present case by the extraordinary circumstances attending the conflict.

FOREIGN INTELLIGENCE.

APRIL 5TH.—At a late hour we received by the Liverpool packet, *Pacific*, our London files to the 5th ult.; and we are indebted to the kind consideration of the Mate of the *Pacific*, for the London Times of the 10th March, and the Liverpool Standard of the 11th for which he will accept our thanks. These are also due to Mr. Hope, the Pilot, who finding our boat unable to pull up against a strong head wind, made a signal for his pilot boat, the William Bayard, to take her in tow, and bring her up to the Narrows.

In the House of Commons Mr. Hume's motion for a repeal of the corn laws, by substituting a fixed duty, was defeated on Friday 7th, after two nights' debate, by a majority of 312 to 155.

On the same day Lord Althorp introduced a bill to repeal the House tax.

Paris dates are to the 8th of March; Madrid and Lisbon to the 1st. Disturbances of a serious nature, but without loss of life, occurred in Paris on Sunday, the 23d of Feb. They were undergoing judicial inquiry. In the Chamber of Deputies they had also been discussed. Gen. Jacqueminot, the Commander of the National Guards, said

The National Guard, I do not hesitate to say it, is tired, fatigued, and discontented (murmure), and in fact, gentlemen, the position of the citizens composing it is become intolerable, for they are continually under the necessity of taking up arms to defend their shops and warehouses. The citizen, instead of taking his wife out to walk on a Sunday, is obliged to shoulder his musket. As for myself, I am thirsting after that repose of which I have been deprived for the last three years. As for the blood-greedy men, I abhor them as much as M. Barrot himself can abhor them.

Of general news there is nothing important.

Burgos had not resigned his seat in the Spanish Cabinet.

The *Foreign Intelligence* by the Pacific—of which we gave an outline on Saturday—though much later than before received, is in truth of very little interest; and our columns are at this moment too much crowded with matter of near and pressing importance to leave us room for miscellaneous extracts.

In England, affairs look well enough. The rejection of Mr. Hume's proposition for a repeal of the corn laws, and for allowing the importation of foreign corn at a fixed rate of duty, together with the failure of a previous motion by Sir I. Ingoldsby to abolish the excise on malt, (which amounts to near £5,000,000 sterling *per annum*), encouraged Ministers to repeal the house and window taxes—two vexatious and not very productive sources of revenue.

A petition had been presented to Parliament from the shipping interests, praying that the practice of *impressment* for the Navy might be abolished. It had not been discussed, but Lord Grey had intimated incidentally his doubts of the expediency of complying with it.

The Reverend Mr. Gleig, author of the *Subaltern*, and the doer-up of Lord Londonderry's military campaigns, and who, though a clergyman, had distinguished himself by his zeal, in opposition to the Reform Bill—had received from Lord John Russell the appointment of chaplain to the Chelsea Hospital. The appointment is badly viewed by the whole Ministerial press.

A plethora of money, or superabundance of capital seems to be complained of generally in England. Mr. Alexander Baring, said in his place in the House of Commons—that if the *twenty millions* which are to be paid to the slave owners in the colonies, instead of being funded, were issued in the shape of floating debt—that is, if, instead of stock redeemable at a distant period, (in which, according to Mr. B., there is now less confidence than there used to be) Exchange bills were issued—they could be negotiated at an interest not exceeding *two per cent. per annum*—that is, about the rate of our monthly interest in these times.

In France, Louis Philippe goes the whole against the liberty, or possibly the license of the press. The law for the suppression of publications sold by criers in the streets, was followed by the condemnation of M. Cabet, a member of the Chamber of Deputies, for a publication tending to bring the King's government into contempt. We annex a brief notice of the trial.

COURT OF ASSIZES.—SITTING OF FEB. 28.

Trial of M. Cabet.—A strong military force was stationed in the Palais de Justice and the environs; troops of the line were bivouacked in the area opposite the Court of Accounts, and the whole companies occupied the Salle des Pas Perdus and the galleries of the Court of Cassation. Military patrols and a multitude of police agents circulated in all the passages and avenues.

The court was crowded, principally by persons of note, including many deputies, among whom we observed Messrs. Dupont de l'Eure, Berard, Arago, Lafitte, Garnier Pages, Georges Lafayette, Legendre, d'Argenson, de Ludre, Cormenin, Odillon Barrot, Laboussiere, Maille, Corcelles, Puyraveau, Mauguin, Comte, General Bertrand, &c.

The Registrar read the authorization to prosecute, granted by the Chamber of Deputies, and other papers of mere form, and then proceeded to read the two articles inserted in the *Populaire* of January 12 and 19, upon which the prosecution was grounded. The first was entitled *La Republique dans la Chambre*. The other article was entitled *Crimes des Rois contre l'Humanité*, after censuring Louis Philippe for repelling the Poles, in obedience to Nicholas, represents his system as counter-revolutionary, anti-national, and anti-popular, and himself as the enemy of the patriots of all countries. Both these articles were signed "Cabet." The Registrar then called Messrs. Lafayette, Arago, Dupont de l'Eure, Lafitte, Odillon Barrot, and Bernard, the witnesses summoned on the part M. Cabet.

The Procureur General, however, objected to their being examined, as the prosecution was for offences against the laws of the press.

M. Cabet maintained his right to have them heard, on the ground that one of the passages complained of was, "the evil is in Louis Philippe," and he

wished to prove that it was he alone who governed, and who in particular had chosen Prince Talleyrand and other personages of the same description, but he concluded by renouncing his claim to interrogate witnesses.

M. Persil then addressed the jury, at considerable length.

M. Marie, counsel for M. Cabet, addressed the Court and jury on behalf of his client.

M. Garnier Pages having obtained leave of the Court, delivered an energetic speech in defence of M. Cabet.

M. Persil, in reply expressed his regret that the law against the associations had not been presented 18 months ago. Either the associations must be dissolved, or the monarchy of Louis Philippe must fall. "We (added he) fought against Charles X., and we will fight against the republic, if it must be so."

M. Marie spoke briefly in reply, after which, Mr. Cabet addressed the Court and the jury. He made a profession of his political faith, declaring that he wished not for a revolution, but for the people to obtain their rights by the force of public opinion. The year 1793 was a tempest that might have arisen under a monarchy. The best Republicans were those who wished for blood the least.

The President then summed up, and the Jury retired, and after three quarters of an hour's deliberation, returned and delivered a verdict of *guilty* upon the second count.

The Court in consequence condemned M. Cabet to two years imprisonment, interdiction of civil rights for two years more, and a fine of 4,000f.

LAFAYETTE is spoken of in a late letter from Paris, in the Times, as about soon to resume his seat in the Chamber.

We do not see in the disturbances at Paris or Lyons, any indications to justify the alarm expressed by some of the London papers, respecting the duration of Louis Philippe's government.

In Spain all goes on slowly and doubtfully. Difficulties occur about convoking the Cortes, and the delay tends to alienate the liberals from the Queen's government. The Queen Regent is spoken of slightly as to her private deportment, as though another Godoy were to be raised up in an obscure favorite she has found.

In Portugal the quarrel endures, and will endure, apparently, for notwithstanding the decisive advantage gained by Saldanha over the Miguelites on the 18th February, Miguel still at the latest dates from Lisbon, (1st March,) held *Santarem*—while misunderstandings prevailed among Pedro and his generals.

Of the Northern powers little is said, and of their movements and plottings less appears to be known.

THREE DAYS LATER FROM ENGLAND.—The ship *Lotus* arrived last evening, sailed from Liverpool on the 16th ult., and we are indebted to Captain Watts for the Liverpool Mercury of the 14th, the only paper he brought.

LIVERPOOL, March 13.—The sales of Cotton for the week ending this evening, amounted to only 9000 bales, and prices declined 1-4d. per pound. The arrivals were only two from the U. States, and one from Brazil. Our corn market was dull, and prices rather declined.

LONDON, March 13th, (correspondent of the Liverpool Mercury.) Public matters to day have not been mixed with any intelligence, or domestic occurrence. Proceedings in Parliament do not appear to excite any interest whatever, and the prevailing impression appears to be that this Parliament will separate without doing any thing whatever. The Bank of England has now offered to lend money in sums not less than 2000l. on India Bonds and Exchequer Bills, at three per cent. Money is again very plentiful, and of easy discount. The issue of the debate on the corn trade continues to be the subject of conversation and disappointment amongst all classes of the citizens, and next to the budget nothing has excited them so much.

The money market has been heavy today; Consols have declined to 91 1-4 from 91 1-2, the price at which they opened. Spanish and Portuguese are much at the price of yesterday, but very little has been done, and the tendency of the money market is drooping.

The Colonial Market is without interest; the demand continues limited, and the market is but scant-

ly supplied; the imports are very fair, but we think that as the season advances prices will decline; most of the quotations are merely nominal, and the principal article, Sugar, is selling about 300 hhds. daily at 50s. for brown, 52s. to 54s. 6d. yellow, and fine 68s. to 68s. 6d.; Mauritius, 4707 bags went by public sale this day, at 44s. to 56s. 6d. for low brown to fine yellow, being former prices. Oils—There is still a very good demand for all sorts of seal and fish at higher prices.

FALMOUTH, Sunday morning, 11 o'clock.—The Pike has this morning come in, having left Lisbon on the afternoon of Tuesday last. The account she brings is of a much more cheering character to the Constitutional cause than what has lately been received. An engagement took place on Sunday morning with the outposts of the two armies, which brought on a general engagement, the report of which was a complete defeat of the Miguelite force that lay outside of Santarom. The few that remained from the effects of the dreadful slaughter retreated within the walls of the city, upon which it was expected an immediate attack would be made, as Don Pedro left here yesterday, accompanied by the Duke of Terceira, for the army. I have no time to say more, as other expresses are about leaving.—[Courier, March 10.]

NOW READY,

AN INTERESTING AND USEFUL MAP.

Upon which is delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It may be had either in sheets, price \$1 25, or put up in morocco for pocket maps, price \$1 50, or on rollers at \$2 25, in any quantity, by applying to the subscriber. D. K. MINOR, 35 Wall street.

New-York, April 2, 1835.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, plus wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 40, page 772 of this Journal.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORNBURN,

347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

Mr. Thornburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine. Mechanics' Magazine and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbonate, Luzerne county, Pennsylvania. Hudson, Columbia county, New-York, { January 29, 1833. }

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for shins. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A2d if RM&F

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in lengths of 14 to 15 feet counter sunk holes, ended at an angle of 45 degrees with splicing plates, nails to suit.
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Dip, Declination and Variation of the Needle in the United States. By A CITIZEN OF NEW-YORK. [For the Railroad Journal.]

If the manufacturer of compasses in Birmingham, England, will be so polite as to send to Doct. Smith, 28 Water st., New-York, two of his needles, that stand alike in their directive course for three days successively, he will then answer the question put by him in the Railroad Journal, of March 22d, 1834; for he never has seen two needles, which were imported from England, that stand alike for that length of time.

THE BRAZILIAN BAMBOO.—"Among the trees which attracted our attention," says Dr. Walsh in his travels in Brazil, "were the different species of bamboo, some of which were of enormous size, and some of singular beauty. Of the first kind were many that measured two feet in circumference, sending out large lateral branches, and so tall as to resemble forest trees. Others, of equal magnitude, without any branches, shot out in a single stem divided into regular joints, smooth and tapering to a point, till they attained an immense height. Some were not so thick, but ran up till they became so slender that they bent down, gradually tapering to a very fine point, as thin as a horse hair, and waving across the road like long fishing rods. I cut one of them, which had shot up from the valley below, about the middle, where it was not quite so thick as my wrist. After carrying it some time in my hand, where it felt lighter than a cart whip, I laid it along the road and measured its length, and found it fifteen yards long, so that the entire plant must have been ninety feet, tapering, and polished the whole way with the most exquisite finish." Another kind was so prolific that it covered the whole surface of the forest, climbing to the tops of the highest trees, and clothing them with the most exquisite verdure. Sometimes it ran from tree to tree, covering the whole sloping surface of a glen with a level uniform curtain of the richest drapery. This vegetable surface is called "grass of the thicket." It yields the cattle a supply of green and wholesome fodder at all seasons.

✧ The following Gentlemen have consented to act as Agents for the NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE; also, for the MECHANICS' MAGAZINE—the AMERICAN RAILROAD JOURNAL—and for the AMERICAN PLOUGH-BOY:

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THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

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A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published.

Also, the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

Also, the PLOUGH-BOY, a cheap agricultural publication, of eight quarto pages, is issued once a week, at \$1 50 per annum, in advance. It contains much interesting reading upon agriculture, &c.

✧ All Letters and Communications for the above publications, may be addressed, free of postage, to D. K. MINOR.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

✧ The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersunk heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are furnished with Spikes made at the above named manuf., for which purpose they are found invaluable, as their adhesion is more than double any other spikes made by the hammer.

✧ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

✧ Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New-York; A. V. Jones, Philadelphia; T. Janvier, Baltimore; Legend & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J22 1am

H. BURDEN.

TO CIVIL ENGINEERS.

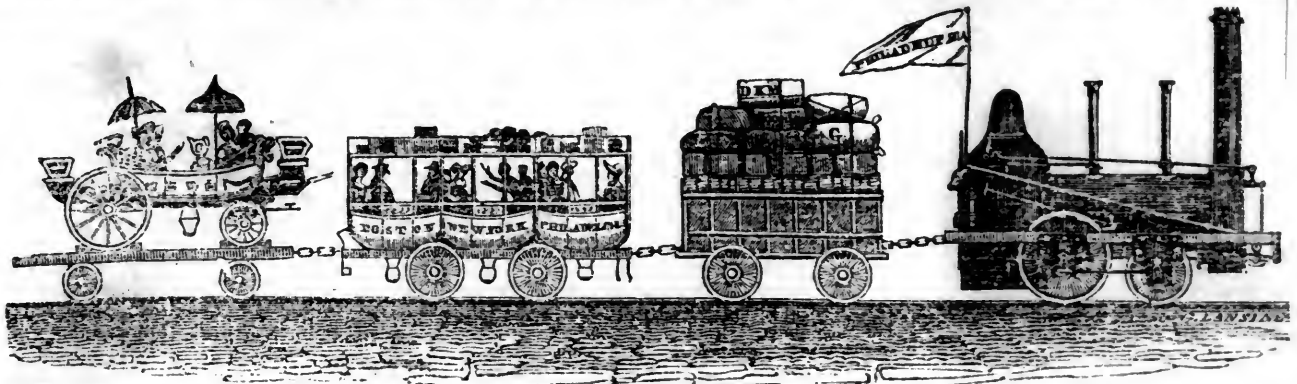
The Western Railroad Company, incorporated by an act of the General Assembly of the State of Tennessee, for the purpose of constructing a Railroad from the town of Jackson, in the county of Madison, by the most practicable route to the Mississippi river, wish to employ one or more persons as engineers to survey the route and superintend the location and construction of said road. Gentlemen who wish employment in the above capacity, will forward to the undersigned on or before the 3d day of June next, the terms upon which they are willing to engage, also the most unquestionable testimonials of good character and scientific and practical skill in works of the above description. An election of an engineer will not take place before the 3d of June.

By order of the Free't & Directors.

JOS. H. FAIBOT, Cash'r & Sec.

Jackson, March 18, 1834.

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, APRIL 19, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, APRIL 19, 1834.

It is much to be desired that the bill mentioned in the following notice may become a law:

SURVEY OF THE NEW-YORK AND ERIE RAILROAD ROUTE.—A bill providing for this survey through the southern tier of counties, at the expense of the State, under a principal engineer to be appointed by the Governor, is now before the Legislature.

INTERNAL IMPROVEMENT.—A project for connecting, by a sloop and steamboat canal, the great western lakes and the Hudson river is on foot, and seems to command great attention from the inhabitants of the interior of our State as well as those of Michigan and Ohio. The plan is to render navigable the Oswego, Cayuga, Oneida, Seneca, and Mohawk rivers, the Oneida lake and Wood Creek. We give the following proceedings of the Executive Council of the Territory of Michigan. The project is one of great importance, and we trust will be found practicable.—[Standard.]

EXECUTIVE DEPARTMENT, }
March 7th, 1834. }

RUDOLPH BUNNER, ESQ.,

President of the Convention at Oswego, N. Y.

SIR,—In accordance with the resolution of the Legislative Council of the Territory of Michigan, I have the honor to transmit herewith their resolutions, concurring "in the views adopted at a meeting of the citizens of the county of Oswego, New-York, on the 12th Dec. 1833, relative to the formation of a navigable communication on the American side between Lakes Erie and Ontario."

I have the honor to be, very respectfully, your obedient servant,

G. B. PORTER.

COUNCIL CHAMBER, }
Detroit, March 1st, 1834. }

Resolved, by the Legislative Council of the Territory of Michigan, That the efforts made in the western part of the State of New-York and elsewhere, to effect a navigable communication, on the American side, between Lakes Erie and Ontario, are highly laudable, and meet with the entire concurrence in this House.

Resolved, That this enlightened enterprise, if successful,

will be of vast usefulness to this Territory, and the whole country bordering upon the great lakes.

Resolved, That such improvement is the more imperiously required, in consequence of the rapid advance of our neighbors in Upper Canada, and, in the event of future wars, would be of the utmost importance to the security and defence of this frontier.

Resolved, That we concur in the views contained in the memorial and resolutions on this subject, adopted at a meeting of the citizens of the county of Oswego, New-York, on the 12th of December, 1833, which have been communicated to this House.

Resolved, That the Governor of this Territory be requested to transmit a copy of the foregoing resolutions to Hon. Lucius Lyon, Delegate in Congress from this Territory, and to Rudolph Bunner, Esq., President of the Convention at Oswego, referred to in the previous resolution.

JOHN McDOWELL,

President of the Legislative Council.

(Attest,) John Norvall, Secretary.

TRANTON, April 12.—*Delaware and Raritan Canal.*—The water, let into the feeder week before last, continues to flow and gradually increase in the main Canal; there will soon be sufficient, if no breach occurs, for boating hence to Princeton. The main Canal is of sufficient capacity to contain 8 feet in depth and 60 feet wide at the surface.—[State Gazette.]

The following Report, relative to the use of Railroads in Pennsylvania, will be found interesting to many of our readers :

Report relative to the Use of the Pennsylvania Railroads—MR. KEATING, Chairman—Read in the House of Representatives, March 4, 1834.

The Committee to whom was referred, on the 9th December last, so much of the Governor's message as relates to the transportation on and use of the railroads of this Commonwealth, report—

That they have investigated the subject committed to them, with all the deliberation which it required, and that they herewith submit a bill embracing the result of their inquiries.

The novelty of the subject, and the difficulties which surround it, will at once appear from the fact, that, in the course of their investigations, the committee have met with no parallel case to which they could look for conclusive information. All the railroads in this country, and all those in Great Britain, (so far as your committee know,) are owned by private companies; and no information was within their reach, in relation to the railroads on the continent of Europe, which could be availed in this case.

Having, therefore, no precedent to guide them, in relation to railroads made by a state

or government, the committee were obliged to confine themselves to the investigation of the general principles applicable to the case, to the analogies to be derived from the experience of private companies, and to the opinions of enlightened and experienced men.

The first general principle they considered, was, what was the object of these works? Whether intended to benefit a large trade, carried on a long line of public work; or to facilitate the intercourse between points not far distant from each other? Thus, the first inquiry is, undoubtedly, was the Philadelphia and Columbia railroad made to benefit the great trade between the east and west, between the Allegheny and the Lakes, on the one side, and the Delaware on the other; or was it chiefly intended for the readier and cheaper transportation to the market of Philadelphia of the various produce of the rich counties of Chester and Lancaster? After it shall be decided which of these objects is the most important, to the accomplishment of that object the plan must be made to conform. Upon this point the committee believe there can be no doubt. The great resources of the State could not have been appealed to. Three millions of the public money would not have been expended to facilitate any intercourse of a local and limited character. If a state is ever justifiable in undertaking a great work of this kind, it can only be where the benefits are to be general, and where the advantages of them can be felt in the remotest corners of her territory. In looking back to the history of our public improvements, we obtain proof that this was really the object first had in view. The public-spirited citizen, who for so many years devoted his time and his best abilities to the promotion of the improvement of the State, and who has, in a measure, identified his name with them, appears to have been the first who brought the subject before the Legislature. In H. R. vol. I, 1826—7, we find that on the 21st of March, Mr. Lhman introduced the following resolution:

"Whereas the State of Maryland has incorporated a company, with a view of intersecting the Pennsylvania canal, for the purpose of conveying the trade of Pennsylvania to Baltimore. And whereas, &c.—Therefore,

"Resolved, that the committee on inland navigation and internal improvement be instructed to consider the expediency of requiring the board of canal commissioner to make suitable examinations, within the present year, with a view to the aforesaid objects, and to make report early in the ensuing session of the Legislature; and also to make report in relation to the practicability and probable cost of a railway along the valley of the Susquehannah, from the Pennsylvania canal to Columbia, and

from thence through the city of Lancaster to Philadelphia."

And in their report of December 28, 1827, the canal commissioners observe, that they believe that a communication from Columbia, by railway, to Philadelphia, is decidedly preferable. Regarding this railway as an important feature in the system of improvement, they have been gratified to find, that from the bank of the Susquehanna, (for surmounting which a stationary engine will be required,) the limit of graduation for locomotive machinery may be preserved the whole distance to the city of Philadelphia.

Thus, it is evident that this road was undertaken with a view, principally, to facilitate the great eastern and western trade, and that no system should be adopted which can, in any manner, impair its usefulness in this respect; and the great object being the reduction of the price of transportation for heavy and bulky articles of comparatively little intrinsic value, but carried from remote parts of the State, no regulation should be made which may in the least create a tax upon this trade, by increasing the price of transportation upon the railroad. It behoves the Legislature to bear in mind, that the lumber, the coal, the iron, the grain, the flour, the salt, the whiskey, &c. &c. of the west, are all articles of comparatively low price, many of which now struggle with difficulty in the port of Philadelphia, against the importation from eastern or transatlantic ports—and that any regulation tending to check or to impede transportation, or to raise the price of freights, is a direct tax upon the trade, upon the industry, whether agricultural, commercial or manufacturing, of Pennsylvania, injuring our means of competition with foreign industry, both at home and abroad. It is a bounty given to the foreigner, without any equivalent to ourselves. Let us, therefore, in the system of management of our road, discard every prejudice, whether resulting from preconceived ideas, or from local interests, and view the question in its broadest light, as one affecting the whole industry of Pennsylvania.

The great objects of transportation are economy, rapidity, and certainty; and to these three items all others should be made to yield.

1. What kind of power should be used on the road?
2. Whether it should be a high road or not?
3. By whom the motive power should be owned?
4. By whom the cars should be owned?

After which, we shall be able to arrive at safe conclusions as to the provisions of a law to regulate transportation on our roads.

The first question is, as to the power? Two kinds may be used, animal or mechanical, horse or steam power. If we examine the profile of the Columbia railroad, we will find its grade constantly varying; part of it ascending and another part of it descending; varying through every grade, from a dead level to an inclination of forty-five feet per mile. This naturally leads us to the conclusion that the power must be such that it should pass with equal facility (though with varying rapidity) through all the changes of grade, of an ascent of forty-five feet per mile, or a descent of the same steepness; and it is evident that no horse power can effect this. He cannot drag up hill the same weight that he can drag down hill, unless the load be much less than a maximum, in which case there is a great loss of power, and great additional expense. It has been suggested that the power might be increased, by having spare horses stationed along the line, at such points as would present additional resistance; but this is inapplicable in a road presenting so many and such varieties of grade as the Columbia railroad.

Again. It is well known that scarcely can two horses be found possessed of the same speed. All the horses must be made, however, to travel at a uniform rate upon a railroad, and as the load cannot be shifted according to the ever-varying strength of each, it follows that

the average will occasion great injury to the weaker horses, while the stronger ones will not work at their maximum of strength, which of course produces an additional expenditure.

This evil is more sensibly felt in proportion to the increased length of the road; as the engine (while supplied with fuel and water, and well oiled,) continues to work for any reasonable time without injury or impairment of its effect, while the power of the horse is constantly impaired by the fatigue of his muscles, until at last it becomes necessary to relieve him, which occasions much loss of time. In point of speed, likewise, great advantages are derived from the use of locomotives, since their rate of travelling on such a line as the Columbia railroad, with the heaviest load, need not be under ten miles an hour, when a horse should not, when loaded, travel faster than two and a half miles to produce his maximum of effect.

Reasoning from analogy and theory, we conclude that horse power should not be used where locomotive engines can work with safety. Experience confirms this position.

There is scarcely a railroad of any extent, admitting the use of steam power, in which it is not chiefly or wholly used. In England, the Liverpool and Manchester, the Stockton and Darlington railroad, and others, the St. Etienne and Lyons road in France. In the United States we have, as instances, the Baltimore and Ohio, the Baltimore and Susquehanna in Maryland, the Petersburg and Roanoke in Virginia, the Charleston and Hamburg in South Carolina, the Newcastle and Frenchtown in Delaware, the Camden and Amboy in New Jersey, the Hudson and Mohawk, and the Schenectady and Saratoga railroads in New York, and in our own State the Philadelphia, Germantown, and Norristown railroad, and the Little Schuylkill railroad,—on almost all of which horse power was at first used, and on which it has since been in part, or wholly, replaced by locomotive engines with great advantage. It is understood that on all these roads, engines will be used exclusively in preference to horses as soon as the necessary arrangements can be made to dispense with the latter.

Upon this point the committee are also permitted to refer more at large to the experience obtained on a road in this Commonwealth, upon which a large trade was carried last summer, and experiments carefully made, with a view to ascertain the comparative expense of transportation by engines and by horse power, and in which there was a decided advantage in favor of the former, even after making large allowances for the expense of repair to the road and of deterioration to the engines. Although the committee would not feel themselves at liberty to exhibit, in a report of this kind, facts which were communicated to them for their own information, in relation to the operations of a private company, they are enabled to state that, after making all reasonable allowances, the expense by horse power is at least one-third greater than that by engines, and that after the improvements suggested by experience shall be introduced, the economy will probably be much greater. The road does not suffer materially from the use of the engines, and the transportation is more regular, systematic, and under control.

The opinions of experienced men have been obtained upon this point, and while it would be easy to adduce the authority of many persons, they will be satisfied with referring the House to the letter of Moncure Robinson, Esq., addressed to a committee of this House last year, and which is attached to this report, and to the opinion of the canal commissioners, as expressed in a special report lately made to the Senate.

The single item of economy in the making and keeping in repair of the horse-path, is an object worthy of attention. The making of the horse-path on sixty miles of double track is estimated by the canal commissioners at eighty-five thousand dollars; and the annual expense of repair of horse-path is estimated by Mr. Gay at three hundred dollars per mile per

annum, or a yearly expenditure of upwards of twenty-five thousand dollars, which will be rendered entirely unnecessary by the use of steam power.

Nor is there any reason to apprehend that the curves on the Columbia railroad will interfere with the security of engines, as the curves between the two planes are larger than those on other roads upon which such engines are successfully used.

The next inquiry is, whether they should be considered as high roads or not? The committee come to the conclusion, that the high way principle is entirely inapplicable on a road upon which a large trade is intended to pass, and that the exclusive use of locomotive engines makes it inexpedient as well as improper to open it as a high road. Upon this point, the committee are aware that an impression has existed with many, that the high way principle is the old and established system, and that the attempt to restrict it is an innovation. This is entirely an erroneous impression. If railroads were in every respect analogous to turnpike roads or canals, the opinion might be correct; but differing as they do entirely in their construction and use, the position is untenable. We are, on the contrary, justified in asserting, that no railroad of any great length, or of great travel, has ever been so considered. In England all the railroads in use, except the Surry and Croydell, are used exclusively by the companies that own them. It has not been in our power to procure the charters of many of the railroad companies of this State, but we can cite many in which the exclusive principle is distinctly admitted; and these will be found to include most, if not all those which are now extensively used: such, for instance, as the Baltimore and Ohio, and the Baltimore and Susquehanna railroads, the Newcastle and Frenchtown, the Petersburg, the Chesterfield, the Charleston and Hamburg, the Mohawk and Hudson, the Saratoga and Schenectady, &c. Moreover, the same principle is distinctly recognized in the Mad River and Lake Erie railroad company's charter, and in several others before us. We are, therefore, warranted in the assertion, that the legislation, not only in Great Britain, but also in New York, Ohio, Delaware, Maryland, Virginia, and South Carolina, distinctly recognise the impossibility of admitting the high way principle. The committee refer the House to the previously published opinions of the canal commissioners, of Mr. Gay, &c. and would chiefly invite the attention of the House to Mr. Robinson. In practice there is no road of any length which has been found to answer on the high way principle. The best instance is unquestionably the Minehill and Schuylkill Haven railroad, whose length however is only ten and a half miles; and which being used only for a descending coal trade, horse power offers no analogy with a great State improvement like the Pennsylvania railroads. In England, we know of but one road that is a high way—it is the Surry and Croydell, which is a tram road, (not a railroad,) and which has never been either productive or valuable.

On the high way principle it would be impossible to secure a constant, expeditious, and cheap transportation for all goods coming to Columbia. Transporting companies might probably be formed, who would attempt to carry the whole produce from Pittsburgh to Philadelphia, and whose object and interest it would be to drive off all competition. The great out-lay of money required to keep up a constant line of engines and cars on the road, would soon throw the business into very few hands, over whom there would be neither check nor control. All the evils of a monopoly would exist, without any of its advantages—while all the evils of competition might still continue; an occasional understanding between companies would produce great fluctuations in the prices of freight and transportation, coming on suddenly and taking the distant unawares. This is not a gratuitous supposition—we have seen

these fluctuations upon every high way in the United States. The accidents which occasionally occur on our turnpike roads, by the racing of stage coaches, would recur with the more frequency on our railroads, on account of the greater dangers resulting from carelessness or inattention. The strictest police could not guard against them; as it would be impossible to determine, with precision, the causes of accidents, and the persons through whose agency they had occurred. Instances might be mentioned, from the personal experience of your committee, in which trains of cars traveling in the same direction, on the same road, and belonging to the same owners, have, by the inattention of their drivers, been suddenly brought into contact, occasioning loss of property and death to horses, or damage to engines. Such cases are more likely to occur where the property would be owned by different individuals.

An attempt at a strict police, on a high way, would be in truth ineffectual; but it would be attended with a great deal of petty litigation, of heart-burning, or real or alleged injustice or oppression.

By placing the business under one management, the utmost economy could be obtained; and of course the trade of Pennsylvania would be benefitted, and the travelling on the road greatly increased.

Having come to the conclusion that the use of horses ought not to be permitted, and that the highway principle is inadmissible; the committee proceed to inquire, in the third place, by whom should the motive power be owned? Two plans have been offered, both deserving of great consideration. The one, to place it in the hands of the agents of the State; the other, to farm it out to contractors. At the first blush, it would seem that the former were the more desirable. It strikes the attention, as the fairer and the more efficient mode: that which keeps the control of the road most in the power of the State. If there must be a monopoly, all would be disposed to yield it rather to the State than to an individual. But the advantages are rather apparent than real—the plan is more plausible than substantially good. On the continent of Europe all agencies of an analogous character are in the hands of government. In Great Britain they have with more propriety been placed in those of a contractor; and in this country we have, in cases nearly parallel, found great advantage in farming out such undertakings. No better instance can be found than in the post-office department. It was at one time thought, and we believe attempted, to have the mail transported entirely by the United States. It was soon found, however, that all the advantages resulting therefrom would more readily attend short contracts, say for 4 years. There is more economy. Individuals working on their own account, under a strict supervision, are obliged to pay more attention to it than could be obtained from salaried officers. The difficulty of the selection of proper officers, the dangers from an increase of patronage, the want of a balancing or checking power to prevent injustice, are among a few of the evils incident to the conferring this duty upon salaried officers. For such men, there would be no motive (exclusive of a sense of duty) to produce an increase of travel on the road; since the more frequently it was used, the greater would be their duties, without any additional compensation.

With a contractor, the case would be different. To him the increased travel or transportation would be a source of increased gain. It would be his duty to procure assistance on the best terms, and of the best kind. His own interest would soon satisfy him that no imperfect cars or engines, no new and untried inventions, green from the brain of the inventor, could be advantageously applied on such a road. In the hands of such a contractor, it would become a matter of business, not experiment. Closely superintended in the execution of his contract, by a proper officer appointed by the

canal commissioners, under the sanction of the Governor, there would be every desirable security for the proper use of the road. The State engineer would act as an umpire between the public and the contractor, and his decision might be with or without appeal. In order to make this plan unexceptionable, it merely requires that the duties of the contractor should be carefully pointed out to him, and that the execution of the contract should be strictly enforced. The amount to be charged per ton per mile, for all kinds of goods, being specified in the contract, and he being bound to carry it for all on the same terms, a maximum price of transportation might be obtained, advantageous to the whole state. Having the exclusive use of the road, it would be made his duty to keep a register, in which all goods should be entered, in the order in which they were presented for transportation; and he should be bound to transport them in the same order, and within a certain time fixed in the contract; which would insure impartiality and celerity to the transportation of goods. Any neglect or omission would be reported to the engineer, whose duty it would be to see justice done and the contract duly executed, or the penalties thereof enforced.

There is in such a contract, offered to the highest bidder and open to all applicants, no injustice or hardship to the community at large. It is consulting the public good, to establish such regulations as will make the road most useful. Such a contract would be analogous to a mail contract, of which no one complains as an arbitrary measure of government. There is as yet no common law in relation to the use of railroads—there can be no rights acquired at common law to provide for. The State has made a railroad at an immense expense, and has a right to say in what manner it shall be used.

4. The next question is, by whom the cars should be owned? It has been recommended, and from respectable sources, that while the motive power could not be in the hands of every one, the cars might be owned by individuals. This the committee regret to dissent from. Nothing could be more unjust, than to throw either upon the Commonwealth or upon individuals, the expense of dragging cars which were not made of the best materials or in the best manner. Any one acquainted with railroads and cars must know that the power required to draw one car, sometimes is two or three times as great as that required for a car of apparently similar construction, and coming out of the same shop. If the cars belong to the owner of the motive power, it will be his interest to find out and correct the deficiency of the hard running car—but if they belong to individuals, no such interest exists; and provided the inspection on the road can be passed, each will be anxious to make cars after his own peculiar notions of economy or fitness. The inspection of a car, when finished, is not an easy thing—nor can it be a satisfactory one, unless it be taken to pieces. It must be an inspection of parts; an inspection of materials before they are used; an inspection of workmanship as it proceeds in the shop, which can alone insure a good running car. If the owner of the motive power also own the cars, he may have his own shops, his own foremen, and insure a proper construction of cars.

Again, nothing is more injurious to a road than a badly running car. It may press against the curves—it may injure the rails, &c. If the cars belong to the owner of the motive power, the inspection and control of the state engineer becomes easier and more effective; but if his attention be divided by numberless petty workshops along the road, his superintendence must of course be less efficient. Again, suppose an accident occurs in the breaking of an axle or wheel, on the road, while travelling at great rapidity with steam power, on whom is the loss to fall? It may have resulted from the wilful use of inferior, but cheaper materials, which the sordid economy or ignorance of the maker

of a car may have told him was "strong enough" for the purpose, while no other person would have thought of using it. Such accidents may occur—much property may be injured—lives may be lost—the road materially impaired—while the unconscious individual was merely trying an experiment as to the sufficiency of some iron in his shop.

If the cars belong to the owners of the motive power, there is a remedy. Let him be made, by his contract, the insurer for the safe delivery of all goods entrusted to his care—the insurer against all risks whatever, whether from accidents of the engines, from combustion of the goods, from damages by the breaking of cars, from robberies or neglect on the road. It will be his interest then to avoid such accidents.

Such are general principles which in the opinion of the committee should guide in making a contract of this kind. The duration of the contract is a matter of doubt; they have fixed it at the shortest possible period, say three years, with a clause, that if at the expiration of that time a new contractor should outbid the former, or if the state should refuse to continue to let the road out, then the new contractor or the state should be bound to take the property in the possession of the contractor, such as engines, cars, &c. at a fair valuation or appraisal, if he should so require it. Such terms are in all mail contracts, and present no novelty.

Were the road finished and of established character, and could we hope to get at once good proposals for it, the committee would cheerfully have extended the lease; but as the first term must necessarily be an experimental one, it has been thought best to make it as short as possible, consistent with obtaining any bids. The committee doubt not that there is already forming, in this country, a class of men experienced in the use of railroads, who, backed by some friends, will become regular bidders for such contracts hereafter, in the same manner that a class of experienced and respectable mail contractors has been formed in every part of the country. While we admit the propriety of having almost all public works done by contract, as being the cheapest, most satisfactory manner, the committee do not see why the use of railroads alone should be exempted from this system.

The bill which they herewith report, differs but little from that reported by a select committee, and which passed this house last year, but was lost in Senate, from the lateness of the season.

It makes it the duty of the Governor to advertise for proposals, and should he receive satisfactory ones, to execute a contract for the use of the road, with the highest and best bidder—the terms of the contract to be previously prepared by an experienced engineer, to be appointed by the canal commissioners, and to be thrown into proper legal form by the Attorney General; the whole being revised and approved of by the Governor. Should the Governor, however, receive no satisfactory bids, (of which he is left the sole judge,) then he is to appoint one or more agents of transportation, whose duty it will be to provide the necessary engines, cars, &c., and attend to the transportation, on such terms as the canal commissioners, under the direction of the Governor, shall fix and determine.

In the meanwhile, the bill authorizes the canal commissioners to consult some experienced railroad engineer, as to the location of water stations, warehouses, &c., and under his direction to cause the same to be erected; and also authorizes them to purchase or contract at once for the manufacture of six locomotive engines, to be completed as soon as possible, and which, when completed, they are to transfer to the contractor at cost, should any contract be made.

The committee were aware of all the difficulties with which the subject is beset, and they have endeavored to steer clear of the most

formidable ones. They have trusted to experience, wherever its results could be obtained. They have consulted the most eminent engineers in the country, and they now submit the whole subject to the Legislature, conscious that as no perfect scheme can be advised at first, it is best to adopt, in the outset, such a plan as, in its future modifications, will involve least sacrifice of private property, and fewer claims for remuneration for damages to the same.

AGRICULTURE, &c.

Description and Drawing of Hussey's Grain Cutter. Communicated by the INVENTOR.

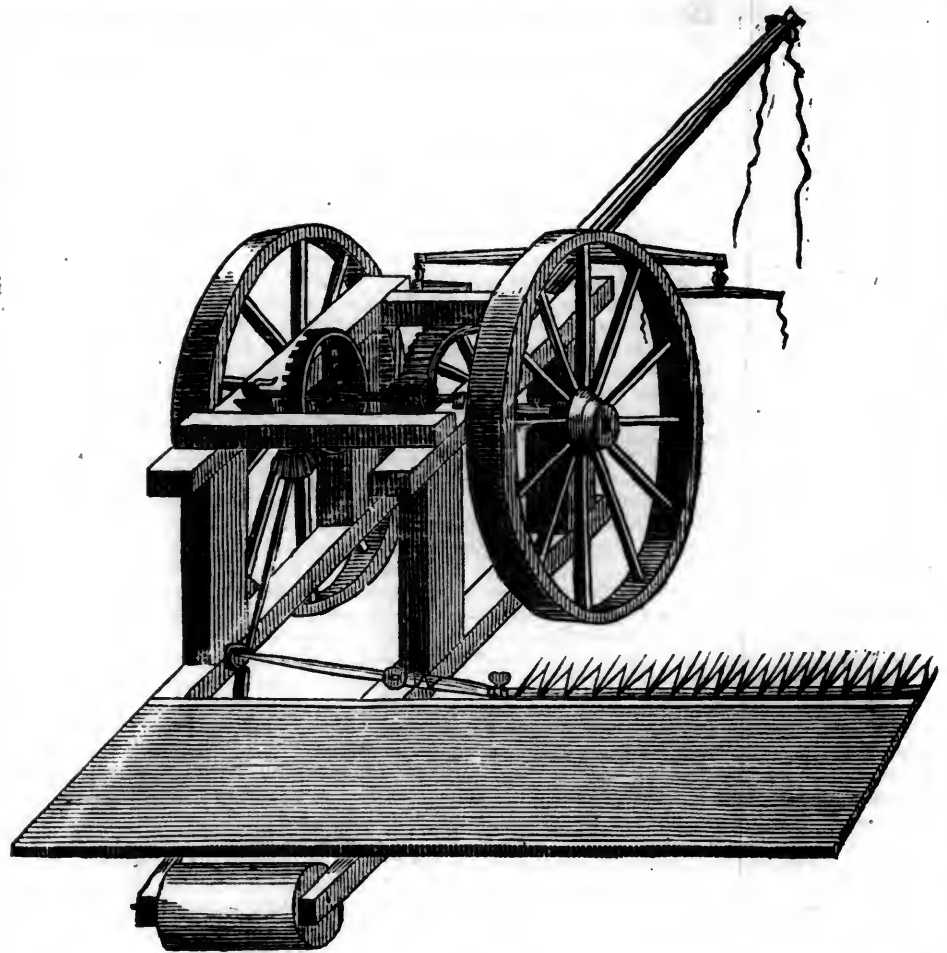
[We have seen one of Mr. Hussey's grain cutters, manufactured in this city by Messrs. R. Hoe & Co. It is a simple, substantial machine, and from its construction and the perfect manner of cutting a little artificial field of grain, we would add our own recommendation to that of the respectable names in the certificate. The inventor is about taking it into the grain regions of the western part of the state, to exhibit its operation at the next harvest.]

This machine consists of a frame of good oak or ash, sustained by two wheels forward, and one wheel or roller in the rear, and is constructed in the following manner: Two sills are connected by several cross rails; on these sills are fixed four posts; two top rails are framed to the tops of the posts, parallel with the sills, and connected also with cross rails, as seen in the plate. To the forward posts is hung the main axle, with journals running in metal boxes: on this axle the wheels are fixed with square boxes: these wheels sustain the forward part of the machine, and furnish the cutting power. Across the rear ends of the sills is fixed a plank floor of good pine, extending several feet beyond the right wheel. This floor is horizontal, and its distance from the ground will be the length of the stubble. On the front edge of this floor is fixed a row of iron teeth, pointing forward horizontally, forming a comb: the teeth are formed of two parts, one part above and one below, and joined at the points, forming a range of mortices, through which runs a saw with the teeth sharp on both sides: this saw is moved by a crank which receives its motion from the main axle.

Two horses are attached to the machine and driven on the stubble, when the teeth are presented to the standing grain, which they receive between them, as the saw with a quick motion cuts it off, the morticed teeth forming a bearer above and below the saw. The velocity of the machine, while cutting, gives an impulse forward to the butts of the straws, causing the grain to fall backwards on the floor. As it accumulates on the floor, it is deposited or pushed off in heaps with a rake formed for the purpose, by the operator, who rides on the machine.

H. Huxley & Co., 81 Barclay st. New-York, are agents for selling the above machine.

This may certify, that we, the undersigned, members of the Agricultural Society of Hamilton county, state of Ohio, at the request of Mr. Obed Hussey, attended an exhibition of a machine for cutting grain by horse power, invented by him. The experiment was performed at Carthage, in this county, about the first of July last, before a large company of spectators, composed of farmers of the neighborhood, the citizens of Carthage, and several from Cincinnati, who appeared to be united in the expression that it was a valuable improvement in agriculture. In our opinion the experiment was completely successful, although several impediments occurred during the exhibition by the breaking of some weak parts; these obstructions were plainly to be attributed to the imperfect manner in which the machine was made, it being a first experiment, and experi-



ence not having yet taught how to proportion the strength of the several parts to meet the stress which each part might be subject to, on its trial, some pieces being of wood, which should have been of iron; but we have no doubt but all these imperfections can be remedied in a second machine. We were satisfied that the impediments referred to were not to be ascribed to any defect in the principle, for, while the machine was in operation, the performance was complete, until some part broke by the violence to which it was subjected, it having two horses attached to it, and they several times driven on a brisk trot; at this speed the grain was cut as well, or better, than when the horses were driven slow. The machine performed well, both at the rate of two and a half and five miles per hour; and although the horses were several times urged, they were not driven so fast at any time as to determine at what speed the machine might be moved, and do good work. The wheat was found to be cut much cleaner, and to be left in better order for binding, than when cut by the cradle. The saw which cuts the grain was made without a temper for cutting, consequently would not continue sharp long at a time; but no difference was perceived in the execution, the grain being cut equally clean, and fast, whether the saw was dull or sharp. This was attributed to the peculiar construction of the cutting apparatus. With regard to the quantity of grain which the machine is capable of cutting in a given time, we can only say, that we saw the machine move at the medium rate of three and a half or four miles per hour, cutting a swath five feet three inches wide; and we have no doubt but the machine may be extended with advantage to a half a rod in width on ordinary smooth ground. In this case the machine would pass over one acre in going the distance of one mile. From the general satisfaction expressed at the exhibition alluded to, and our own impressions, we would recommend Mr. Hussey's grain cutter to the notice of all grain growers, being satisfied ourselves, that if future

trials should equal the first experiment, it will be a valuable improvement to all large farmers.

D. C. WALLACE, Sec'y of the
Hamilton Co. Ag. Soc.
J. D. GARRAND,
CALVIN CARPENTER.

I was present at the exhibition of Mr. Hussey's grain cutter, and concur in the statement of D. Wallace and others. The impediments referred to by them were in one instance caused by the loosening of a cog wheel by loss of the wedges, the other by the breaking of a two-inch wood screw, where a strong bolt should have been used. But for these two casualties, I am of the opinion that the machine would have performed without interruption. The performance of the machine while in operation was complete and satisfactory. I have since that time seen a machine on the same principle, constructed by Mr. Hussey, in a strong and durable manner. I have no hesitation in recommending it to be a valuable improvement.

T. B. COFFIN.

[From the New York Farmer.]

LANDSCAPE GARDENING.—From the Report of the Visiting Committee of the New-York Horticultural Society for 1828, we make an extract. The subject still needs the encouragement of the Society.

"With regard to landscape gardening, the Committee have to report that, from the examination which they were able to make in the vicinity of this city, they are of opinion this part of horticulture is yet in its infancy among us as an art. The art of laying out grounds, so as to display all their beauties and conceal their defects, is a subject of much interest in Europe, where large sums are expended in embellishing the grounds surrounding the dwellings of the proprietors. There the profession of landscape gardener is common, though almost unheard of among us; a pro-

fession requiring the practical gardener's skill, with a knowledge of the qualities and nature of forest trees, their capacity for picturesque effect, either separately or in groupes, a correct taste in selecting natural or creating artificial beauties, and a practised eye in discriminating the varied features of natural scenery. With these qualifications, the landscape gardener has tracts of land of considerable extent and diversity to operate on, assisted by all the resources which the wealth and taste of the proprietor can supply. The grounds attached to the country residences of our citizens are usually too limited to give much opportunity for the display of this style of gardening, and are generally appropriated to the more useful and profitable purposes of the kitchen garden, or the orchard, a small portion near the dwelling being reserved for parterres. There are, however, many beautiful sites in the neighborhood of our city, particularly those which border on our waters, in which a fine effect might be produced, by a proper application of the principles of this branch of horticulture. For improvements in this, as well as in the preceding departments, we must depend upon the greater diffusion of wealth among us, and the consequent greater leisure and opportunities for devotion to the pleasures of such pursuits. It is the legitimate province of our society to accelerate the progress of improvement in this respect; and the committee would beg leave to recommend the subject to their attention, as worthy of the same encouragement which the Society offers to the other branches of horticultural skill.

A. HALSEY, Chairman.

"New-York, January 27, 1829."

MAPLE SUGAR.—We give the following on this subject, although for the present the time for making the sugar will be past before this number reaches our subscribers :

"In the northern and western sections of this state, particularly in the counties of Jefferson and Lewis, the inhabitants are very laudably engaged in transplanting these trees into orchards, and along the lanes and roads. In the town of Lowville, one farmer has an orchard of six hundred trees. Those growing on low, wet lands, are not as productive of sugar as those on upper lands. The latter may be known by the roughness of the bark, and by growing to a larger size.

"The trees are tapped when about eight or ten inches in diameter, and will, at this period, produce from three to six pounds of sugar each season. Very large trees have been known to produce fifteen pounds. The sap or juice of these trees may be converted either into sugar or well flavored molasses. The best method of obtaining the sugar is to have the buckets perfectly clean; and when sufficient quantity of the sap is collected for boiling, it should be strained through a woollen cloth into the evaporator. The best evaporating vessel should be about four by six feet long, and eight inches deep; the bottom of sheet iron, and the sides of wood, set in mason work, so as to protect the sides from injury by fire. The advantages of this construction are, rapid evaporation, by having the surface of the fluid very great in proportion to its depth, consequently a saving of fuel, and preventing that blackness which is communicated to the sugar when boiled in a vessel entirely of iron. After the fluid is boiled to the consistence of West India molasses, it is allowed to cool, and then strained through fine flannel. It is again put over a gentle fire in a clean vessel, with a quantity of fresh blood well mixed with it. The blood will coagulate, and rise with the impurities to the top, which are carefully skimmed off. After this, a slow evaporation is kept up, taking care not to burn the sugar, until it is sufficiently done to granulate, which may be known by its granulous effect on the tongue. Most people, however, have various and peculiar methods of ascertaining its crystalline state.

It should now be removed from the fire, and stirred until cool, when it will be composed of large sparkling grains. The sugar made by this process is found to be far superior to that made in the common way of running it into moulds or cakes, and is susceptible of high refinement."

ASPARAGUS.—There are several varieties of the garden asparagus, as the large German, the red and green topped, the Battersea, Dutch, large Reading, &c. The large German red, and green topped, are considered preferable.

Asparagus is propagated from seed, but is often increased by offsets from the old roots. Beds are thought to succeed best when set with young seedling plants; but the shoots will not be ready for use as soon as when set with offsets. The seed should be sown early in May, on a bed of light rich garden soil.

They may be sown quite thick, and allowed to grow in the bed one summer.

In the fall, or early in the spring, a bed should be formed in some part of the garden, where it is intended it shall remain, by trenching it eighteen inches deep, and mixing with a suitable quantity of manure. Some prefer beds of only two and a half feet wide, calculated for two rows, set at eighteen inches distant; others form their beds four feet wide, and set three rows at the same distance. But of whatever width the beds are made, the roots should be placed at least eighteen inches distant from each other, and should be placed nearly on a level with the walks between the beds. After the roots are placed upon the beds they should be covered over about four inches deep with fine loose mould. The first year after setting, asparagus should be allowed to grow without cutting, and in the fall, after the frost has killed the tops, they should be cut off, and the bed covered over three or four inches thick with stable manure. In the spring following, the manure should be made loose with a fork, but allowed to remain upon the bed, that the young shoots may be blanched a greater length. The soil and litter should ever be kept six or eight inches thick over the crown of the roots. When good strong plants are set they will produce shoots fit for cutting the second year after setting. The young shoots may be cut until the middle of June, after which they should be allowed to grow up for seed. In selecting plants for setting, none should be used which have not a good crown or bud, as the lateral roots, or those destitute of buds, will not sprout, although they will remain in the ground many years without rotting.

In cutting asparagus, care should be taken not to injure the buds upon the crown, which are close to the lower end of the shoot; for this purpose a knife with a narrow point should be used, which should not be allowed to go as deep as the buds. When a bed of asparagus is well planted, it will continue to produce well for twelve or fifteen years, and when it is found that the shoots decrease in size, a new bed should be formed before the one is taken up, that the family may be constantly supplied with this wholesome vegetable.—[Goodsell's Genesee Farmer.]

GRAFTING AND SETTING OUT TREES IN THE SAME SEASON.—In the spring of 1830, I bought thirty trees of a different size to set in my orchard. In digging up the thirty large ones, we dug up a considerable number of small crooked things that were not worth anything to the owner; I therefore obtained about

sixty from the nursery. They were of all sizes, from the bigness of a pipe-stem to that of a man's thumb. I carried them home and put them in a barn. The next day being rainy, I went to work and grafted them. As soon as it was fair weather, I had them set out in rows, each kind by itself. The result was, that upwards of fifty grew and did well. The large ones were set out, and I engrafted them; some the same day, and some a few days after, and they did as well as any scions that I ever set.

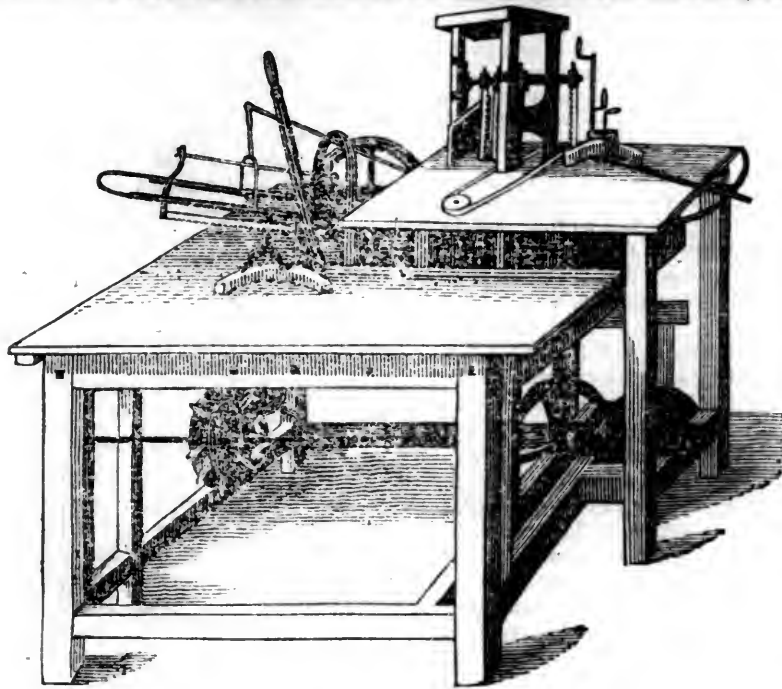
Let trees be properly set, and I would then graft them and warrant them as cheap as I would any trees whatever. Z. SARGENT. Gardiner, March 2, 1834.—[Maine Farmer.]

CANKER WORMS.—Mr. Goodsell: Permit me, through the columns of your paper, to communicate a simple and easy method of destroying the effects of that great enemy to our orchards, the canker worm. Six years since, while walking in the forest and examining the capsules of the *Castanea Americana*, or chesnut burr, the idea struck me that they might be applied to advantage in preventing the effects of the canker worm. I took a piece of strong twine and sail needle, and made a band of them, placing all the backs one way, which caused the spines to project in all directions; I tied it round the trunk of an apple tree in the centre of an orchard that was much injured the year before, which bore abundantly without the leaves being injured in the least, while those around were all ruined for that year.

I have since tried it several times with entire success. A set of bands will last many years if taken off when the insects have done ascending, and secured in a dry place. I have usually put the bands on the trees about the middle of March.

In sections of the country where chesnut burrs are not easily obtained, I would recommend the use of the *dipsacus fullonum*, or fuller's teasel; although I have never tried it, I have no doubt it would make a sufficient barrier to prevent the ascent of the canker worm. NATHAN RUGGLES. New-Haven, (Ct.) Feb. 26, 1834.—[Goodsell's Farmer.]

TO PREVENT BEER FROM BECOMING ACETOUS.—There is a way to prevent beer from getting acetous, or what is called hard, which is as simple as it is efficacious. Reasoning on the plain principles of chemical science, we were led to try it, and have this summer found its truth and advantage. It is nothing more than to suspend a knob of marble by a piece of tape from the bung hole to near the bottom of the barrel, upon which, being pure carbonate of lime, the acid quality of the beer acts on its incipient formation: it consequently becomes neutralised, and thus is kept from turning hard or sour. In our experiment the marble was considerably eaten away, except where the tape encircled, and the beer remained sound and fresh to the last drop. We mention this discovery as being a point of some consequence to householders, and especially to farmers and their laborers in harvest time; for it is more likely that weak beer should become sour than strong; it is much more healthy to drink it fresh than ever so little turned off, and, in the way of economy, many barrels might be saved, which are every year thrown into the hog-tub from becoming undrinkable. It will do good, however, to every species of beer, and, we expect, to any kind of home-made or even foreign wines in cask, which have or are likely to become tart or sour.—[Oxford Journal.]



HAMILTON'S SAWING AND BORING MACHINE.—This machine is designed for sawing and boring wood or timber, and is claimed by Colonel Hamilton in his specification to be "*an improvement in the mode of sawing felloes of wheels, circular and curved segments, mitre joints, tenons, and also boring of felloes and hubs of wheels;*" and generally for sawing circular, curved, and plain surfaces.

The machine is propelled by a two horse power steam engine. Animal or water power may be applied for the same purpose. The particular form required is sawed out of the timber with perfect accuracy and great expedition, by means of one or more thin narrow saws moving up and down. There is also belonging to this machine a horizontal saw for cutting segments of circles their proper lengths, and with proper inclinations for joints, tenons, &c. &c. Hubs of carriages are bored with perfect precision. All these operations are effected by the changing position of the material, accommodating itself as it comes in contact with the saw or auger, so as to receive the exact form, inclination, &c. required. Every thing is done, without marking or laying out, with mathematical accuracy by means of scales, which are distinctly laid down on the machine.

The machinery which guides and steadies the material in its movements may be readily varied, so as to form segments of wheels of greater or less dimensions; and the boring may also be more or less inclined. The scale indicates the exact position which the part of the machine that guides the material required to form a wheel,—for instance, of greater or less circumference. Slats and legs of chairs may be made of various lengths, and thicknesses, and shapes, as fashion or utility may dictate.

This machine affords a happy specimen of labor saving, and may be advantageously applied to a variety of useful purposes. It occupies but little space, only a part of a small room. No skill is required in using it. A mere laborer, or a boy, can learn in a few hours to use the machine, and to produce the article as perfect as the most skilful machinist. Like many other labor saving ma-

chines, it performs that part of the labor which the accuracy and strength of the human hand are incompetent rapidly, and with precision, to perform; it, in fact, does the work which is the most difficult and toilsome to the laboring manufacturer.

The expedition with which materials of small value, and with very little waste, are converted into articles of comparatively much greater value is entitled to particular notice. Chair backs sawed from our native curled maple are worth from *eight to twelve and a half dollars* per hundred.

By the aid of this machine, which costs only about *three hundred dollars*, a common laborer may do the work of twenty or thirty mechanics. The merit claimed by Colonel Hamilton consists chiefly in the facility and accuracy with which the material is adapted to the saw, so as expeditiously and uniformly to produce the exact form which is wanted.

METHOD OF DRESSING SKINS PRACTISED IN MAROCCO.—The following account of the method practised in dressing skins in Morocco was transmitted to the Zoological Society by W. Willshire, Esq., a Corresponding Member of that Society, in a letter dated Mogadore, May 5, 1830. Its results are stated to be excellent, as regards the preservation and color of the fur, and the flexibility of the pelt.

Wash the skin in fresh water to deprive it of the salt; as soon as this is done, scrape the flesh off, when take two pounds of alum, one quart of buttermilk, and two or three handfuls of barley-meal, which mix well together, and lay on the fleshy side of the skin equally; fold up and press it together carefully, and let it lie two days. On the third day take it to the sea-side, wash the skin well, and when clean and free from mixture, hang it up to let the water run from it: then take two pounds of alum finely powdered, and throw or spread it equally on all parts of the skin; again fold up as before, and allow it to lie three days, when it will be in a proper state to dry in the sun, laid flat, without taking away the powder. When it is dry, take a pint or two of fresh water, and sprinkle it upon the skin, and again fold it up carefully for about two hours, to imbibe the water; then lay it on a table, and, after scraping it free from the mixture and flesh, take a sand-stone (rather rough) and rub the skin well until it becomes soft and pliable, then hang it in the shade to dry. The process is then complete.

When the skin is perfect, having the head, horns, &c. take off the horns, and fill their cavity with a mixture of equal parts of powdered alum and ashes of charcoal dissolved in water, and expose them two days to the sun. Saturate the trunks of the horns with eight ounces of alum dissolved in water, and fold up with the skin, and apply the same on each occasion when employed in curing the skin. The flesh on the head and jaws to be carefully taken off, filling the same with powdered alum. It should remain in the sun until perfectly dry.

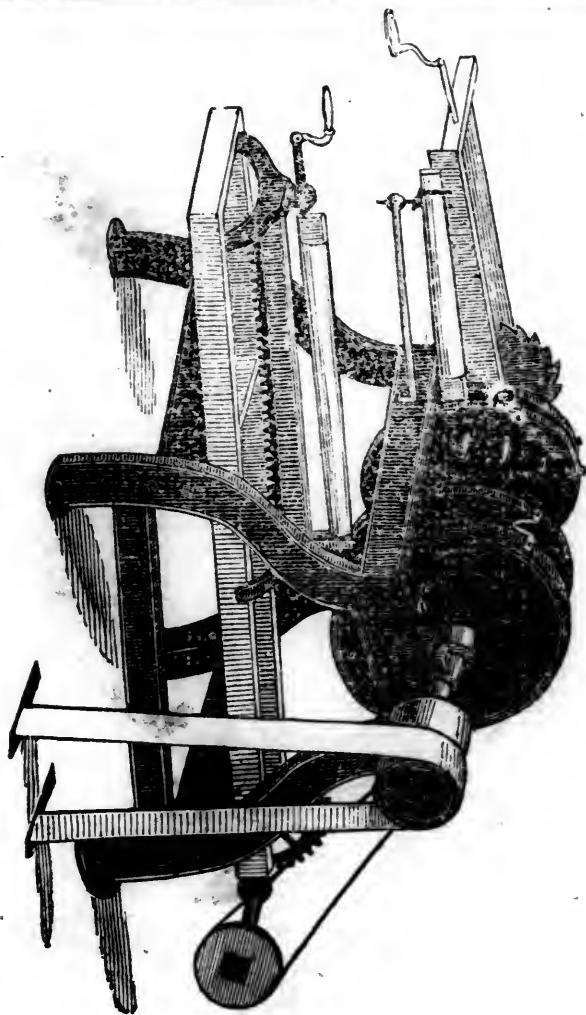
In addition to the foregoing description of the mode used in Morocco, in dressing skins, as related by the persons employed by Mr. Willshire, it may be well to observe that the process does not take so long at Mogadore, as Mr. W. has often received back skins of the Aoudad and Leopard from the dresser, on the third or fourth, and never exceeding the fifth day, perfectly cured. Allowance has been made by the dresser, in the foregoing description, for the difference in the climate of London.

The skins of smaller animals must not be subjected to so lengthened a process, or they will become harsh, and the pelt impoverished. —[Proceedings Zoolog. Soc.]

THE PRESS IN CHINA.—There is but one journal in the Chinese language in the whole Chinese empire; it is published at Pekin, and is called the *King Pao*, or "Messenger of the Capital." It contains all the ordinances submitted to the Emperor for approval by the six ministers of Pekin, and the various authorities of the provinces, as well as by the commandants of the military corps. The amount of subscription is a liang and an ounce of silver (about equal to twelve francs) per annum. The inhabitants of the capital alone have the advantage of receiving the paper every day at a regular hour; for, as China has no such establishment as a post-office, the country subscribers get their papers only as occasion may favor; consequently, those living at a considerable distance from the capital receive them very irregularly.

CAUSES OF INDIGESTION.—Among the chief causes of indigestion (says Dr. Wilson Philip, in his treatise on this disease,) which act directly on the muscular fibres of the stomach, are narcotic and other offensive substances received into it. I have found that although opium applied to the external surface of the alimentary canal and heart produces no sensible effect on their muscular power, applied to their internal surface, it produces the same effect as when directly applied to the muscular fibres themselves, impairing their power, unless the quantity be extremely minute, and instantly destroying it if the quantity be considerable. It is probable that other offensive substances acting on the stomach—tobacco, distilled spirits, strong peppers, those of an acrid or putrid nature generated in the stomach itself, &c., may also in the same way immediately affect the muscular fibres. It is not uncommon for a fit of indigestion to be induced by taking suddenly considerable quantities of iced fluids. Violent and repeated vomiting also debilitates the muscular fibres of the stomach. But of the causes which immediately affect them, the most frequent and powerful is morbid distention, the most common cause of which is eating too fast; another frequent cause being high seasoning and great variety of food, or such as particularly pleases the palate, by which we are induced to eat after the appetite is satisfied.

WISWALL'S YOKE CUTTER FOR DRESSING SPOKES OF WHEELS.—By means of a circular saw operating in connection with the cutter wheels, the timber is squared and cut to any length that may be required, and the tenons of the spokes are then formed of any required dimensions. The spoke being presented to the action of the first cutter, or ten-



on wheel, by hand, the tenon is formed in less than a minute; and the body of the spoke is dressed into shape and smoothly finished, first on one side and then on the other, by two operations, in another minute, more perfectly than it could be by any mere hand tool, though used by the nicest operator. No means of forming the round tenon which is to be inserted in the rim was exhibited. This, it is obvious, must be effected by a fourth operation. The whole machine is evidently capable of a more perfect construction than that examined by the committee; but such as was exhibited in operation is evidently a useful improvement, and a labor saving machine of great profit. It saves all the time which an operator by hand necessarily expends in judging by his eye of the exactness of the shape given, and to be gained by his tool, and may be operated in artificial light, when the laborer by hand would be scarcely able to judge of his own work. There is therefore much gained by the art of making wheels, which artists in that branch of mechanics will find profitable to themselves, as they can employ their journeymen more usefully on other parts of the wheel, and in adjusting them to each other.

EVERY NERVE APPROPRIATED TO ITS FUNCTION.—From this law of our nature, that certain ideas originate in the mind in consequence of the operation of correspondent nerves, it follows—that one organ of sense can never become the substitute for another, so as to excite in the mind the same idea. When an individual is deprived of the organs of sight, no power of attention, or continued ef-

fort of the will, or exercise of the other senses, can make him enjoy the class of sensations which is lost. The sense of touch may be increased in an exquisite degree; but were it true, as has been asserted, that individuals can discover colors by the touch, it could only be by feeling a change upon the surface of the stuff, and not by any perception of the color. It has been my painful duty to attend on persons who have pretended blindness; and that they could see with their fingers. But I have ever found that by a deviation from truth in the first instance, they have been entangled in a tissue of deceit; and have at last been forced into admissions which demonstrated their folly and weak inventions. I have had pity for such patients, when they have been the subjects of nervous disorders, which have produced extraordinary sensibility in their organs—such as a power of hearing much beyond our common experience; for it has attracted high interest and admiration, and has gradually led them to pretend to powers greater than they actually possessed. In such cases it is difficult to distinguish the symptoms of disease from the pretended gifts which are boasted of. Experiment proves, what is suggested by anatomy, that not only the organs are appropriated to particular classes of sensations, but that the nerves, intermediate between the brain and the outward organs, are respectively capable of receiving no other sensations but such as are adapted to their particular organs. Every impression on the nerve of the eye, or of the ear, or on the nerve of smelling, or of tastes, excites only ideas of vision, of hearing, of smelling, or of tasting; not solely because the extremities of these nerves, individually, are suited to external impressions, but because the nerves are, through their whole course, and wherever they are irritated, capable of exciting in the mind the idea to which they are appropriate, and no other. A blow, an impulse quite

unlike that for which the organs of the senses are provided, will excite them all in their several ways; the eyes will flash fire, while there is noise in the ears. An officer received a musket ball which went through the bones of his face: in describing his sensations, he said that he felt as if there had been a flash of lightning, accompanied with a sound like the shutting of the door of St. Paul's. On this circumstance, of every nerve being appropriated to its function, depend the false sensations which accompany morbid irritation of them from internal causes, when there is in reality nothing presented externally; such as flashes of light, ringing of the ears, and bitter tastes or offensive smells. These sensations are caused, through the excitement of the respective nerves of sense, by derangement of some internal organ, and most frequently of the stomach.—[Bell's Bridgewater Treatise.]

ARABIAN HORSE.—Perhaps the most remarkable point about the Arabian horse is the extraordinary smallness of the head and mouth,—so small, indeed, is the latter that you would think they might use a common tumbler for a water bucket.

Observations on the Prevailing Currents of the Ocean and their Causes. [From the United Service Journal.]—Continued from p. 216.

In considering the origin of the eurrents of the ocean, it must be kept in mind that they proceed from two distinct causes, and thus exhibit one of the most wonderful and provident effects to be seen in the order of the works of the Creator. Water and air, if left stagnant, soon become corrupt and unwholesome; and it is evidently a wise provision of the Almighty, which has furnished the laws by which a constant circulation and movement are kept up in both. In the case of the atmosphere, the circulation occasioned by the winds takes place, partly by means of the revolutions of the earth on its axis, and partly by the expansive nature of air when affected by the heat of the sun. The lower beds of the atmosphere are elevated into the higher regions by heat; and other portions of the fluid, rushing in to fill the vacuum, occasion streams of wind of various degrees of force. The seasons of the year, and the duration of the effects of summer and winter in various latitudes, also occasion similar currents of air more or less durable, according to circumstances. But in the case of the currents of the ocean, there are but two causes from which constant currents can primarily arise: one from the rotatory motion of the earth, from west to east, which causes an apparent current from east to west in the open seas near the equator; the other cause arises from the inclined position of the earth with regard to the sun, by which a greater evaporation takes place from the waters of the sea within the tropics, than in the more temperate and frigid zones; and on the other hand, a proportioned condensation of this vapor (in the form of rain, dew, and snow,) takes place in the latter regions, greatly superior in quantity to what falls, during the whole year, in the former. These effects of temperature are so vast, when viewed upon the scale of the whole earth, that the balance of the ocean would be deranged by them, thus losing water in one region and regaining it in two others. This want of equilibrium is, however, obviated by constant currents in the ocean, from the poles towards the tro-

pics.* In figure 1 of the following plate, (where the outer line denotes a supposed boundary to the atmosphere,) we see the vapors rising from the equatorial regions, and passing towards the poles, where they return to their parent deep, in the form of dew, rain, and snow. Thus restored to the ocean, they flow towards the tropics, and there chime in with the prevailing currents, in their course to the westward. In the central part of the same figure an idea may be formed of the effect of an intervening continent, in opposing its solid form to the fluids through which it is rapidly and constantly passing, with greater velocity than those fluids can possibly follow it. At 1, the equatorial current meets an opposing cape, which divides it into two parts: one flows pretty freely from the north-west, being kept, however, in its place by the north polar currents pressing towards it. It meets another projection at 7, still farther to the north; and after passing it, the stream is forced into its more natural position near the equator, and proceeds in its westerly course, after forming a great counter-current or eddy in the sheltered gulf at 6, where navigators would fall in, for days together, with what would appear, if viewed on a small scale, totally opposed to the theory now under explanation. Returning to the Cape at 1, we find the other half of the northern equatorial stream proceeding to the south-west, where it fills the deep gulf, or sea, at 3, and keeps up the waters there at a high level, on a principle which will immediately be explained. It cannot, however, make its escape in a body or current from this gulf, but, being confined by the southern division of the equatorial stream, a variety of eddies on a considerable scale are produced at 2. It is unnecessary to explain the figure further, by proceeding to the southern hemisphere, where similar effects are produced by nearly similar causes at the points 4 and 5; we may therefore proceed to explain upon what principle the level of the sea in the gulf at 3 is kept up at a higher level than the same surface in the bay at 6, an effect which is known to exist in several remarkable instances on the globe, and which, according to the theory, ought to exist in every situation similarly situated.

By fair analogy, we find that, in this, as in other parts of nature, what takes place on a small scale may also be looked for on a larger. Proceeding then upon this principle, and considering minutely the rapid and rocky course of a brook or river, we find that, so long as the water flows over a smooth and equal bed, the depth and surface of the stream are in all places alike, as in figure 2 of the plate. But when, on the other hand, a fixed and solid opposition is encountered, in the form of a projecting rock, derangement in the level instantly takes place, to a degree proportioned to the bulk of the opposing ob-

* It is probable, perhaps even certain, that heat has also a very considerable influence in keeping up the movement and circulation of the waters, but it is not likely that currents of great extent are set in motion by this cause. Water, like air, expands by heat, and contracts by a certain degree of cold, not, however, so low as the freezing point, for at that temperature ice is formed, and the formation of ice is always accompanied by violent expansion, so great, indeed, as to burst the strongest vessels, and to cause explosions like cannon, in the lofty glaciers of Alpine regions.

As warm water rises above the colder, (except in the extreme case of ice, which always floats,) and as currents and counter-currents are always acting horizontally, and then intermixing the fluids from the poles and from the tropics, it is obvious that an interchange must also be constantly going on vertically, in the waters of the ocean, and thus completing the circulation of which the great superficial currents, already described, are the leading cause.

Fig. 1.
Theory of the General System of the Currents both of aqueous and aerial Fluids.

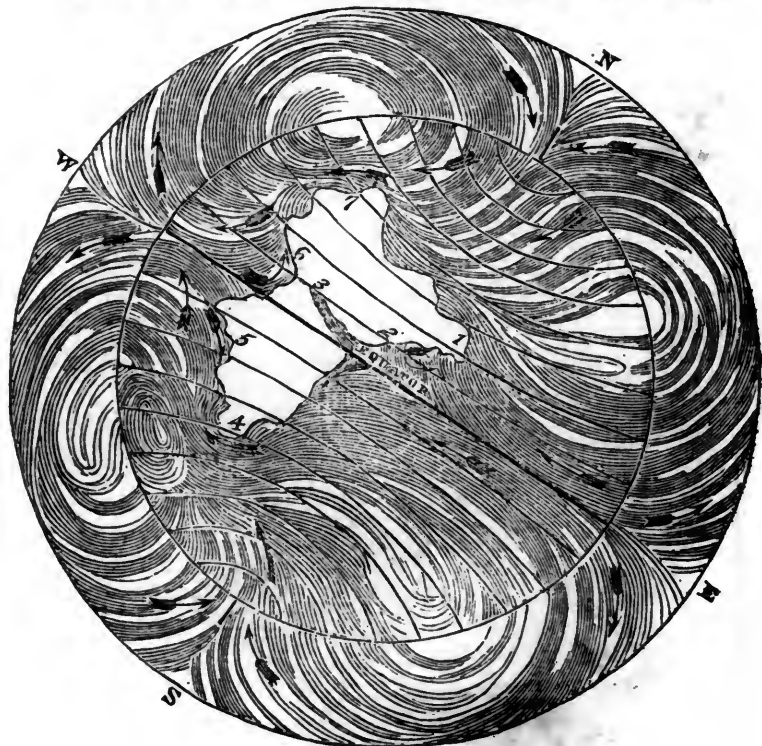


Fig. 2.
Unopposed Current.



Fig. 3.
The Consequence of Opposition.



ject. An accumulation or rise in the water takes place on the upper side, until the current finds a vent at one or both extremities, and without this vent, the accumulation increases until the water flows over the top, when the difference of level above and below the object is at once apparent (see fig. 3). But supposing the impediment to be small, in proportion to the size of the stream, still, in every case, a change of level must be the consequence; and the recovery of tranquillity is only completed at some distance below the object, where it, at length, falls again into the general inclination. Beneath or behind this opposing rock, then, there is a sheltered nook, upon which the stream can only act in the form of an eddy; and in such nooks buoyant objects are often kept, as it were, imprisoned by the force of the stream on each side, and floating round in one continual circle. These eddies of the smaller rivers are equally well known to fish and fishers, as both are there sure to find their wished-for prey. Now, all these effects are to be expected on the great scale of the ocean current, as well as in the smaller instance of an inland brook. The streamward side of these mighty rivers will always be found on a higher level than the eddy side; and consequently the inland gulf at 3, (fig. 1,) ought to be considerably higher than the

waters in the bay at 6, which remains sheltered from the powerful action of the current. Thus the level of the Red Sea, which is filled and kept up by the action of a powerful stream across the Indian Ocean, was found, by the French engineers, to be so considerably higher than that of the Mediterranean, that much difficulty and expense would have been incurred in the canal which was once projected across the isthmus of Suez, in order to facilitate the communication with India by this route. A second instance of this effect no doubt exists in the gulf of Mexico, compared with the level of the north Pacific on the western coast of Mexico; but the actual difference of level has not yet been ascertained. A remarkable instance, however, of this difference of level, obviously arising also from the above cause, has been kindly communicated to us by Sir H. Douglas, who was then governor of New Brunswick, where it was found that, in a proposed canal intended to have been cut from the top of the Bay of Fundy to Bay Verte, in the Gulf of St. Lawrence, (a distance by land of only fourteen miles,) the difference of level of the two seas was no less than sixty-three feet,* the rise of the tide in Bay Verte being

* Surveyed by Mr. Francis Hall, and reported upon by Mr. Telford.

only seven feet, while that in Cumberland Bay, of the Bay of Fundy, exposed to the full force of the Gulf stream, was seventy feet. The Bay of Fundy is kept at this high level in consequence of the projecting peninsula of Nova Scotia impeding the current which rushes along that coast towards the north, and which, from the bend of the coast towards the north-east, is carried in that direction, leaving the gulf of St. Lawrence as a sheltered eddy or nook.

We may now proceed to a cursory view of the whole existing system of the currents, as far as the observations of navigators have made us acquainted with them; but in the rapid sketch which is alone consistent with the limits of a paper of this description, it would be impossible, and even injudicious, to be led from the general outline into any notice of the innumerable minor currents of which seamen have frequently made mention, and which may often be looked upon as eddies and counter-currents, produced by the main body of the stream,† and being occasioned by a variety of changing circumstances, may not again be found in the same exact position.

As it is necessary in this circuitous course to start from some particular point, which may be considered as it were a commencement of the circle, we may adopt as the most proper the western line of the continent of America, whereby the circle is more nearly broken, from pole to pole, than by any other of the dry lands of the earth. Setting out then from this point, and viewing more especially the equatorial line of currents, we enter the immense expanse of the North and South Pacific, where every account that has touched upon the currents tends to establish the fact of their westerly course; and as the force of these currents must there be more steady and equal than on any other part of the globe, from their being unopposed by any thing more important than clusters of small islands, we should not expect them to assume that dangerous and impetuous power by which they are frequently distinguished in the Chinese sea, and in the Atlantic. Mr. Mariner, and other navigators, have given us some interesting proofs of the existence of westerly currents,* in the adventures of parties of natives, passing from one island to another, being carried to a distance of many hundred miles, and being found on islands from whence they were utterly hopeless of ever being able to regain their native shores. Of this portion of the globe, however, it must be admitted that we as yet know but little with regard to the currents. But if we find in the Indian Ocean, and in the Atlantic, a series of well established facts in support of the system now under consideration, we have a full right to extend it, by analogy, to the less visited parts of the globe, especially when corroborated by the few but striking facts just alluded to. Proceeding then in a westerly course, and having reached the western bounds of the Pacific, with the Chinese islands and shores on the one hand, and the continent of New-Holland on the other, we hear of a succession

of powerful currents from the eastward, forcing their devious courses through the crowded archipelago, and pointing towards the east coasts of Africa. Here the currents on both sides of the equator, being confined in a much smaller space than in the Pacific, and being forced by the form of the land out of that position which is naturally given them by the rotatory motion of the earth, become more violent, and consequently more obvious. In their efforts to retain their position north of the equator, they act with great force against the shores of the seas of Bengal and of Arabia, occasioning in the former the well known and formidable surt of Madras. Finding no vent in a northerly direction, the united stream is forced to the southward, along the east coast of Africa, and if left at liberty, it would follow the southerly impetus thus given to it, and flow into the southern ocean. In this, however, it is opposed by the south polar currents, and it therefore no sooner arrives at the Cape of Good Hope than it doubles that point, in the well-known Agulhas stream, and, running in a north-westerly direction, hastens to regain its natural position on each side of the equator. The force of this current off the Cape is so great, that nothing but a prevalence of westerly winds at some seasons could enable outward-bound ships to make head against it; and even with these favorable winds, ships are constantly found driven to the westward in the very face of the wind.

In following out the course of the equatorial stream across the Atlantic, we find it in part crossing the equator obliquely, and this great moving mass of waters, striking upon the eastern point of Brazil, is divided into two streams, one driven to the southward by the form of the coast of South America, until it is forced round Cape Horn, as it had before doubled the Cape of Good Hope, and joins in with the waters of the Pacific; the other, taking a north-westerly course towards the Caribbean sea and the Gulf of Mexico, passing with considerable force amongst the islands of the West Indies. Having reached the Gulf of Mexico, which opens its extended arms, as it were, to receive it, the current is there brought to a full stop, being precluded from advancing to the westward, or northward, by the form of the lands, and the waters being in consequence accumulated into a higher level than perhaps in any other known position of the whole globe. This elevation has often been supposed, and has even been shown to be demonstrably certain, without, however, any good reason having even been assigned for the phenomenon. We here, therefore, find a natural, and even necessary cause, upon the same principle as has been already explained by fig. 3 of the plate. The high level of the sea in the Gulf of Mexico cannot, however, pass a certain boundary, and the swell of waters at length finds relief by the only possible, though tortuous course, that is left open for its issue. The stream then rushes with a violence proportioned to its late confinement, round the south point of East Florida, and here, taking the name of the Gulf Stream, it proceeds to the northward, along the coasts of the United States to Newfoundland, where it encounters the Great Bank; and becomes again divided, one portion continuing towards the north and east by Iceland and the coast of Greenland, until again stopped by the north polar currents; and the other, bending to the east and south, is terminated in an

immense vortex in the centre of the north Atlantic, where it accumulates on the surface prodigious quantities of the *fucus natans*, or Gulf-weed, which is known to flourish in the warm waters of the Gulf, and to be carried by the stream into the Atlantic, and there covers the surface for hundreds of miles, together with floating timber and other bodies, washed out by the rivers of America. In this great eddy, then, the famous Gulf Stream may be said to terminate; but not so the other portion of the current which had passed on towards the north: when met by the north polar currents from the arctic seas, it is headed back towards the south, along the coast of Norway, and into the North Sea. We here feel its effects upon our own coasts, especially of the north of Scotland, and of Ireland, where floating substances from southern latitudes are frequently found. A minor branch passes through our channel, and rejoins the greater stream across the Bay of Biscay; and the whole at length becomes blended once more in the equatorial current off Cape Verde and the coast of Africa.

In an interesting work which has recently appeared—the Narrative of Capt. Owen's Voyages for the Survey of the Coasts of Africa—we have a distinct proof of the great obscurity which still overshadows the subject of the currents. In the observations on the results which have been gained by this long, interesting, and most fatal expedition, we find the greater part of the subject connected with the currents summed up in the following passages at the end of the work.

“As in the foregoing narrative but few observations have been introduced respecting the currents, and as it is a subject of much speculation and interest, at least to those connected with navigation, the following remarks from Capt. Owen's Journal may be considered worthy of publicity.

“It is a well known fact, as regards the African seas, that there is a perennial current which sets into the Atlantic Ocean, round the entire southern extreme of that continent; this current varies in its velocity in different situations, and at different periods, from five miles to one mile an hour. Some writers have supposed that, with reference to the Great Ocean, the Atlantic may be considered as a kind of mediterranean sea, the evaporation from which, together with winter frosts to the northward, must be supplied from the Southern Ocean, in like manner as the Mediterranean is fed from the Atlantic; and this hypothesis is borne out by the strong perennial currents about the shores of Cape Horn, and through the islands in its vicinity. But it is remarkable that these currents never appear to extend more than twenty leagues beyond the common deep-sea soundings, while their velocity is much decreased when near the shore; from which it may be understood that the depth is much diminished, and the stream broken by projections of bank and sand.

“Ships are frequently carried to the westward, quite round the Cape of Good Hope, even against the strongest north-west gales, by this current.”

Capt. Owen then proceeds to state the dangerous nature of the short though high waves produced by the currents and wind being in opposition, and the most effectual course by which the danger may be avoided. It is quite clear that every thing here

† Major Rennell's work on the currents is accompanied by a laborious and valuable volume of charts, which, if any objection could be made to them, might be considered so minute as to produce confusion. It appears that the courses of the minor eddies have been laid down wherever any naval authority could be produced for their existence, although it is more than probable that a large proportion of them may not again be found in the same position by future navigators.

stated is strictly in accordance with the theory here advanced. He bears witness to the *constancy* of the current from east to west; and in other parts of his work, when treating of the east coasts of Africa, and those of Madagascar, he mentions the rapid nature of the currents *passing down from the northward towards the Cape*, by which, in one instance, the *Leven*, in making the point of Mombas, was driven so far to the southward, that it took her *six days* to regain what she had lost by the failure of the wind for about *three hours*.—[Vol. II. p. 150.]

It is known also that, off the Cape, ships have been driven to the westward, at the rate of sixty or seventy miles per day, *even against* a strong westerly wind.

The only part of Capt. Owen's statement which in any degree stands opposed to what is now advanced, is the allusion to the constant currents at Cape Horn. These are not *stated* to run to the eastward, or *into*, instead of *out of* the Atlantic, but that fact is implied by the theory of *evaporation* from the Atlantic, which is counter-balanced by *entering* currents at both capes. This is opposed by the general reports of the navigation of Cape Horn; it is opposed also, most distinctly, by the much better attested facts of currents *out of* the South Atlantic towards the north. For if evaporation took place on so great a scale as to produce *entering* currents at the two great capes, we must admit that an *entering* current should also flow from the colder latitudes of the north, which is not the case. As to the fact of the current at the Cape being little felt *close in shore*, and gradually diminishing in force as it extends to the open ocean, a hundred miles or more from land, it is in every way consistent with the whole theory of inland rivers. In the case of a projecting bank or rock in a river, the actual point of contact is exposed to great violence, but every other point of the stream exhibits the phenomena described by Capt. Owen off the Cape. Under the most projecting rock or point, comparatively smooth water is generally found close to the side; while the main body of the stream drives past with a distinct and rippling outline, diminishing in force, however, as it spreads out into the expanding pool below.*

We have thus passed in review the great and leading course of this wonderful and most admirable system by which the waters of the ocean are kept in that continued movement so necessary to their purity, and by which, also, it is highly probable that many important ends are effected, in regard to the amelioration of the climates of various parts of the earth. The land and sea breezes of the hotter climates are now well known, and also their causes. We may na-

turally suppose this wholesome interchange to be powerfully affected by streams of current from the cooler latitudes; and we also may be assured that the heated waters of the Gulf Stream must carry along with them into the Frozen Ocean a degree of warmth which cannot but materially affect the rigidity of those latitudes. Even in our own country, we are well aware, from continued experience, of the mild effects of a westerly wind. We have no particular warmth to look for from the *lands* to the westward of us; on the contrary, the winters of Labrador and of Canada are well known to be unusually severe. But when we find that a vast reservoir of heated water, and consequently of *warm vapors*, exists in the Atlantic, we can no longer find a difficulty in naturally accounting for the mild and humid effects of our westerly winds, which, even in winter, produce on Ireland and the west coast of Britain the verdant growth of a milder season.

It is scarcely necessary, in conclusion, again to revert to the theory of the winds being the prime movers of the currents; for besides the arguments already adduced, by which we trust it has been shown that ocean currents could not but exist, even if there were no winds whatever, we have only to examine the numerous instances mentioned even by Major Rennell, of ships being drifted far to *windward*, in the very teeth, not of transient breezes alone, but of settled and heavy gales. "One ship," says he, "was carried 10° of longitude (*equal to 570 miles*) to the westward, between Cape Verde and the Cape of Good Hope, and yet had been subjected to the south-east trade wind. Another was driven 220 miles, between the Canaries and the coast of Brazil. Another in the equatorial current, in June and July, was set 297 miles to the westward, in *five following days*, between 3° north and 4½° south, and yet had entered the south-east trade wind." Such, and numerous other instances, well known to all seamen, are sufficient to show that the currents must be set in motion by some much more powerful and less *superficial* cause than the mere *friction* of the winds, however fixed or severe. That the winds agitate the *surface* of the waters no one will attempt to question; but that this agitation can extend to the vast depths at which the law of fluids above explained must operate, we have not the slightest reason to suppose. Major Rennell brings forward, in proof of his theory, the well known fact, that the surface of a canal, or of a lake, is always higher at the *leeward* than at the *windward* side. This fact is at once admitted, but it is one of very small effect, and merely *superficial*, being occasioned by *waves*, and instantly subsiding with these waves. But in order to prove the point, it must be shown, that in a straight canal of several miles in length, with a strong breeze right on end, the force of the winds, near the middle of the distance, (where they must have acquired their full force,) can affect an object of no great weight *at the bottom of the canal, and at a depth of four or five feet*. If this effect takes place in canals, or in large inland lakes, such as those of North America, and also at considerable depths, the theory might be supposed to derive some support from it. But this is not the case; and in inland lakes, of whatever extent, although the surface may be raised on the leeward side, in violent winds, objects deposited at a few

feet of depth lie perfectly secure and unmoved.

The winds would not, therefore, effect the end for which the great circulation of the waters of the ocean is obviously intended; and any theory of the currents, which is mainly founded on so false a ground, however ably it may be treated, cannot but mislead the mind, and in many instances prove injurious, not only in a scientific, but also in a practical point of view.

NEW-YORK AMERICAN.

APRIL 12—18, 1834.

LITERARY NOTICES.

For the first time since we commenced our *Saturday Reviews*, we ask indulgence at the hands of our readers for being unprepared with one. But in very truth we have been too much engaged, heart, mind, and body, during the past week, in what we deem the sacred cause of Liberty and the Constitution, to have had either leisure or inclination for any mere literary labor. The traveller in the far West, too, whose letters add a relish usually to the *Saturday* paper, fails us—or rather, probably, Mr. Post Master Barry's mail carriers fail us—this week; and we throw ourselves, therefore, on the indulgence of our readers.

SUMMARY.

The Norfolk Herald of onday, is in mourning for the death of Judge Robert B. Taylor, one of the most eminent citizens of Virginia.

It is our painful duty (says the National Intelligencer of yesterday,) to announce the decease of the Honorable LITTLETON P. DENNIS, a highly respected and most estimable Representative in Congress, from the State of Maryland. He expired yesterday afternoon, at his lodgings in this city, after an illness of six or seven days.

Charles R. Leslie sailed Wednesday in the Philadelphia for London. The Professorship of Drawing at West Point did not answer his expectations, and duty to his family compelled him to return to Europe.

Last evening, by invitation, Mr. Leslie met a number of brother artists and literary gentlemen, at an entertainment at the rooms of the Academy of Design, who testified to him their admiration of his genius, and their regret that he was not longer to remain among us.

With the exception of Col. Trumbull and Mr. Dunlap, one prevented by illness, the other by the somewhat increasing infirmities of age, all the painters, engravers, and sculptors of the city and vicinity were present, together with Messrs. Washington Irving, G. C. Verplanck, James Hillhouse, F. G. Hallock, and other literary gentlemen.

It was a parting tribute—well deserved on the one hand and rendered with taste and feeling on the other.

The following letter from Commodore Ridgely, sets forth the liberal contributions made at the Navy Yard, Brooklyn, in aid of the Poles—the money is in the hands of Mr. George W. Lee, Treasurer of the Naval Lyceum, to be paid over to such Committee as may be raised to assist these exiles.

NAVAL LYCEUM, UNITED STATES NAVY YARD.

New York, April 15, 1834.

I am requested by several of the members of the United States Naval Lyceum, employed and residing at this station, to transmit the within amount of money, \$146.50, to you as a Committee, to be used as you, in your better judgment may think proper, for the benefit of the unfortunate but gallant Poles, who have been lately brought to this country in the frigates of Austria.

I take great pleasure in saying that part of the contribution was made up by the Joiners employed in the yard, and the Seamen and Mariners afloat, who voluntarily gave them twenty-five cents each, and

* Major Rennell gives many interesting instances of bottles and other bodies carried by the currents. In one case a bottle was thrown overboard from the Osprey, of Glasgow, on the 17th of January, 1822, in 6° 13' south latitude, and 15° 35' west longitude, and it was found on the 27th of July of the same year, in Mayard Bay, in the island of Trinidad.

In another case, still more remarkable, a bottle was thrown from the American ship Lady Montague, on the 15th of October, 1820, two leagues north-east of the island of Ascension, and was picked up on the west coast of Guernsey, the 6th of August, 1821, and notice of it sent to the Admiralty. It is certain that this bottle must have passed, in ten months, over the whole course of the Gulf Stream, and from thence be carried (probably by the coasts of Iceland) into the North sea, and through the English Channel. We cannot, however, decide from this, or almost any instance of floating bodies, as to the *rapidity* of the current, for we cannot tell how long it may have been detained at various points, nor how long it may have remained on the spot where it was eventually discovered.

who would have contributed more, had I permitted them. I am Gentlemen, very respectfully,

Your obedient Servant,

CHAS. G. RIDGELY.

It gives us great pleasure to learn that the CONVENTION for the settlement of our claims on SPAIN, which the President announced at the opening of the present session as in progress, was signed at Madrid on the 17th of February, and may be shortly expected at Washington. We hasten to communicate this information, which to the claimants, is so important, and to the country at large so gratifying, as it furnishes another proof of the success of the just and enlightened policy pursued by our venerable Chief Magistrate.—[Globe.]

IMPORTANT RESOLUTIONS.—The following resolutions have been submitted for the consideration of the House of Representatives of the United States: By Mr. VANCE, of Ohio.

"Be it further enacted, That from and after the passage of this Act, instead of the compensation now allowed by law, there shall be paid to the within named officers the following sums per annum:

"To each of the Secretaries of State, Treasury, War, and Navy, four thousand dollars. To the Postmaster General, three thousand five hundred dollars. To each Assistant Postmaster General, eighteen hundred dollars. To each of the Comptrollers of the Treasury, two thousand dollars. To each of the Auditors of the Treasury, two thousand dollars. To the Solicitor of the Treasury, two thousand dollars. To the Register of the Treasury, two thousand dollars. To the Treasurer, two thousand dollars. To the Commissioner of Indian Affairs, two thousand dollars. To the Commissioner of the General Land Office, two thousand dollars.

"And that there be deducted from the compensation now allowed by law to the Clerks in the Departments of State, Treasury, War, and Navy, including those in the General Land Office, at the rate of thirty-three and one third per centum per annum.

"That from all officers of the customs, by whatever name designated, or in whatever manner employed, there shall be deducted from the compensation now allowed to them by law, at the rate of thirty-three and one-third per centum per annum.

"That from all officers connected with the system of the public lands, either as Surveyors General, Registers, Receivers, or Clerks, there shall be deducted from the compensation now allowed to them by law, at the rate of thirty-three and one-third per centum per annum.

"That from all the Clerks in the General Post Office, Deputy Postmasters, their Assistants and Clerks, there shall be deducted from the compensation now allowed to them by law, at the rate of thirty-three and one-third per centum per annum.

"That from all persons connected with the Indian Department as Superintendents, Agents, Sub-Agents, Interpreters, Agents for removals, Commissioners, or in whatever other manner employed, there shall be deducted from the compensation now allowed them by law or regulation, at the rate of thirty-three and one-third per centum per annum.

"That to the members of the Senate and House of Representatives, instead of the compensation now allowed by law, they shall receive six dollars per day and six dollars for every twenty miles travel to and from the Seat of Government. And that from and after the expiration of the present Presidential term, the salary of the President of the United States shall be fifteen thousand dollars per annum."

The BANK OF WASHINGTON, at Washington, has stopped payment.

The notice of the stoppage of payment by the Bank of Washington, another of the inevitable consequences of "the experiment" which is carrying disaster and devastation over the whole face of the country, was as unexpected to us as it will be to our readers. In the perfect integrity of the administration of that Institution, entire confidence is reposed; and the step which it has taken is doubtless the result of irresistible necessity.—[National Intel.]

ANOTHER AND ANOTHER.—The Patriotic bank of Washington—which it was supposed might, by the aid of the Pet Bank there, escape the fate which three of the banks of the District have undergone—has found that aid not forthcoming, and has accordingly been obliged to suspend specie payment. A public notice from the President and Directors of the Bank avers its solvency notwithstanding.

We regret to hear of the alarming illness of Ho-

RATIO GAFFS Esq., of Montreal, a merchant of high character and great personal worth, and well known by his extensive business relations in the States, as well as in the Canadas. His death (which was hourly expected at the date of our information) will be a severe deprivation not only to his amiable family, but to the city, to the prosperity of which, his enterprize has greatly contributed, and particularly to the numerous visitors from the United States, to whom his courtesies and civilities have been so liberally extended.—[Albany Argus.]

COURT FOR THE CORRECTION OF ERRORS.—Tuesday, April 15.

The Chancellor moved that the extra term of the Court be held on the 23d day of August next, at the Capitol in the city of Albany. On motion of Mr. Maillon, the question as to the time and place was divided; and after some conversation between several members of the Court, the time, (23d August) was agreed to. Mr. Kenble then moved a resolution that the term be held at the City Hall, in the city of New York. Mr. Westcott moved to lay the question on the table—Lost. The motion to hold the term at the Capitol in the city of Albany was lost—yeas 13, noes 17, as follows:

Ayes.—The President, Chancellor, Justice Savage, and Messrs. Conklin, Edmonds, Edwards, Fisk, Hubbard, Hubbard, Macdonald, Stower, Tracy, Van Schaick—13.

Noes.—Messrs. Armstrong, Bishop, Cary, Foster, Griffin, Halsey, Kemble, Lansing, Livingston, McDowell, Mack, Maillon, Quackenboss, Seger, Seward, Sudan, Westcott—17.

The motion that it be held at the City Hall in the city of New York was then agreed to. Adjourned to Friday, the 25th inst.

From the Boston Mercantile Journal.

ACCIDENT ON THE RAILROAD.—We learn that a serious accident occurred yesterday afternoon, on the Boston and Worcester Railroad. As the locomotive was returning from Newtown, with a train of passenger cars, when near the Four Corners, H. H. Fuller, Esq. and lady, of this city, attempted to cross the track with a horse and chaise, in advance of the locomotive. Mr. Fuller, it appears, was not aware of the proximity of the Engine, and unfortunately crossed the track at the moment the Engine approached, without perceiving it. The consequence may be anticipated. The locomotive struck the wheel of the chaise, shattered and overturned it. Mr. and Mrs. Fuller are considerably injured, but we are happy to learn not dangerously.

RICHMOND, APRIL 2.—The driver of the Northern mail cart yesterday morning before day, drove over a steep bank, a few miles this side of Hanover Court House, and falling under the horses' feet, it is believed, was trampled to death by them. He was apparently dead when left by the stage. In consequence of this melancholy occurrence, the Northern mail was delayed two or three hours to its arrival in this city yesterday morning.—[Whig.]

[From the Daily Advertiser.]

LATEST FROM SPAIN.—VIA BORDEAUX.—By the Brig Rome, Capt. Davi, arrived last night, from Bordeaux, having sailed on the 16th March—the Editors of the New York Daily Advertiser have received files of papers to the 11th, containing Madrid dates to the 6th March, and Bayonne to the 9th.

The Capital of Spain continued perfectly tranquil. No change in the ministry had taken place, nor was any talked of. The Northern Provinces were in a very rebellious state. The Carlist party was far from being subdued.—We have only time to make the following translations:

A correspondent writes from Bayonne the 8th March, by a courier extraordinary, which left Madrid the 5th March, we learn that on its departure the capital was perfectly tranquil. The Queen had left for Arangnes. No change in the ministry had taken place, nor was the subject even mentioned.—A movement had taken place, by a party of the Carlists who had been put down, and some 8 or 10 had been killed, and several arrested.

Another courier which left on the 6th, represented that Madrid was perfectly tranquil.

The success of the Queen's troops, at Onati, in capturing 120 persons, 590 guns, and a squadron of mules with munitions of war, belonging to the Carlist party, is confirmed.

Col. Lorenzo had captured a large body of insurgents at Aspetia.

It was reported that the Courier from Paris had been assassinated by the insurgents, near Bedous.

Tolosa and Villafraanca are constantly occupied by the troops of Il Pastor.

Murder of Captain Skirling.—Intelligence has been received of the murder of Captain Skirling, who was engaged under the direction of the Board of Hydrography, in surveying the west coast of Africa. On the 23d of December, 1833, he left his ship early to commence the survey of Cape Roxo, in a boat, accompanied by four men and a boy. On the boat landing, the natives, apparently attracted by the glitter of their instruments, attacked them, shot the cockswain, and then speared the captain. They were so intent upon plunder, that they allowed the rest of the crew to escape. They hid themselves in a bush, and after some time made their way down to the coast, and fortunately signaled the boat of the tender to the Etna. Captain Skirling served under Captain Hewitt, in the Fury, in the survey of the North Seas. He then sailed in Captain P. P. King's expedition round Cape Horn, and succeeded Captain Stokes in the command of the Beagle. He was a most charitable and good man, and had left a wife and two children to deplore his early death.

Ignorance v. Knowledge.—Knowledge has the wantonness of a child and the cruelty of an ogre.—He builds up systems in one age, only to overturn them in another; he begets theories in one century, and not only exposes them to perish, but is himself the unnatural instrument of their destruction in the next. He resembles Homer's infant on the seashore, raising castles of sand with pains and perseverance, then with hands and feet demolishing its labors; or he may be likened still better to Titan, devouring, as fast as they see the light, the offspring of his own loins. Now turn we to Ignorance, and what do we behold? Not content with evincing the tenderness of a parent, by defending, like a lion, his own notions and opinions whenever they are attacked, he rushes forward with disinterested courage to the succor of systems and theories with the procreation of which he had nothing in the world to do, the moment he sees them deserted by their natural protectors, and in danger of being annihilated by the ruffian Improvement, or that shocking desperado, Reform. This promptitude to espouse the weak is extremely amiable in Ignorance. Let him but see a principle in any science, astronomy, geology, anatomy, metaphysics, or politics, no matter how philosophical its pedigree, in danger of being roughly handled by what is called the march of intelligence, or the extension of experience; in other words, hustled by a knot of ill-looking facts, like a foot-passenger in Oxford street by a gang of pickpockets, Ignorance at once cries, "To the rescue!"—makes common cause with the doctrine in distress—knocks down one fact with a flat contradiction—flops another with a shout—puts a third "hors de combat" with a horse-laugh, and by this chivalrous conduct not unfrequently extricates his friend, and gives some useful error or venerable prejudice a new lease of its existence. But in the catalogue of the vices of Knowledge, although there be many blacker, there is none so contemptible as his curiosity.—Ignorance, it must be allowed by his best friends, is in some few particulars rather more inquisitive than becomes his dignity; he is sometimes too anxious to discover what his next door neighbor is to have for dinner; or how many thousand pounds the old lady on the other side of the street has got in the Three per Cents; or what business the gentleman, who lives six houses higher up, has with the fat man in a green coat and pink cravat, who knocks at his door every day, except Wednesdays, at five minutes past two precisely; but what of this?—it is only in downright trifles that any body can justly tax Ignorance with curiosity—when was he ever known to meddle with the great secrets of the world?—When, for instance, was he ever caught, like the elder Pliny, peeping into the crater of a volcano? Never; he leaves such low tricks to those Paul Prys, yelped philosophers. He would have remained in the dark for ever as to the laws of electricity, before he would have stooped to the mean artifice of Dr. Franklin, who, on pretence of flying a kite, insinuated himself into the confidence of a thunder-cloud, made himself acquainted with all its private affairs, and then (to crown his baseness) published them to the whole world. Nature never leaves her wardrobe, or a drawer of one of her scrutatoires unlocked, but these dirty fellows, your men of science, take advantage of the oversight to tumble her dresses, read her family papers, and often purloin her trinkets for their cabinets and museums. What are mineralogists but a gang of thieves, who have discovered the secret springs of the chest, in which Nature keeps her treasures? What are phrenologists but pick-locks, who actually boast of having in their possession a key to the whole mystery of the human mind? The mathematician

you may swear is about nothing handsome—he is generally to be found in angles and corners. The astronomer waylays nature by night; the botanist, in wild and sequestered places—

"In wood or grove, by mossy fountain side,
In valley, or green meadow;"

wherever, in fact, she is likeliest to be found asleep, or undressed. Who, then, can doubt the purity of the intentions with which he pursues his cryptogamias and syngenesias? No question, Apollo's pursuit of Daphne was nothing in the world but a botanical excursion:—the divinity only wanted to ascertain the nymph's class and order. Then what have the conchologists and entomologists to say for themselves? The elders in the apocryphal legend, Heaven knows, were filthy old fellows enough; but their obscenity was chastity, compared to the conduct of these men of periwinkles and butterflies; they did not put on their spectacles—at least it is not so written—to contemplate the bathing beauty; they were content to stare at Susannah's charms with the naked eye. Not so the entomologists; not even spectacles are enough for them; they must actually have microscopes, or they think they see nothing.—[Metropolitan Magazine.]

The Poetical Works of the Rev. George Crabbe; with his Letters and Journals, and his Life, by his Son. London: John Murray.

We select the following instance of delicate, liberal, and sincere patronage of destitute genius, unequalled, perhaps, in any age, but we fear, vainly to be looked for in this. But the great Edmund Burke possessed a fine mind, a feeling heart, and a genius which sympathized with genius wherever found.—The Poet of "The Village" and "Annals of the Parish," sought for fame and fortune in London—the *El dorado* of youthful hope. His hopes sustained repeated and cruel disappointments; poverty progressed upon him, until he was driven to the verge of extreme destitution, though it weakened not his piety nor subdued his dependence upon a protecting Providence: that Providence asserted itself and rewarded him through a suitable agent. When the prospects which he attached to the judgment, liberality, or self-interest of the book-selling tribe, were extinguished, and that he knew not where to find the next day's bread, for manna dropt from heaven in his days no more than in ours, he bethought him as his last resource to write to Edmund Burke, and enclosed him a specimen of his poetry. Hope deferred was not suffered to sicken our author's heart—he received an immediate answer from the great champion of rational liberty and Gospel truth, inviting him to an interview. Mr. Crabbe's son shall tell the rest:

"Mr. Burke was, at this period, (1781) engaged in the hottest turmoil of Parliamentary opposition, and his own pecuniary circumstances were by no means affluent; yet he gave instant attention to this letter, and the verses which it enclosed. He immediately appointed an hour for my father to call upon him at his house in London; and the short interview that ensued entirely, and for ever, changed the nature of his worldly fortunes. He was, in the common phrase, 'a made man,' from that hour. He went into Mr. Burke's room, a poor young adventurer, spurned by the opulent, and rejected by the publishers, his last shilling gone, and all but his last hope with it; he came out virtually secure of almost all the good fortune that, by successive steps, afterwards fell to his lot—his genius acknowledged by one whose verdict could not be questioned—his character and manners appreciated and approved by a noble and capacious heart, whose benevolence knew no limits but its power—that of a giant in intellect, who was, in feeling, an unsophisticated child—a bright example of the close affinity between superlative talents and the warmth of the generous affections."

If our space permitted, we should like to pursue further this period of the poet's life and fortunes— suffice it to say that Mr. Burke took him into his house, placed him at his table, gave him the advantages of his books, and conferred all these favors with a delicacy that never suffered his guest to experience a feeling more painful than gratitude. Although Crabbe had not been regularly educated, Mr. Burke got him ordained by Dr. Young, then Bishop of Norwich, and, by introducing him to other patrons, did not suffer the course of his fortunes to stop until the poor poetical adventurer became the incumbent of two livings, and was enabled to pass the rest of his life in happiness and "learned ease."

Both Houses of Congress adjourned on Tuesday, in token of respect to the memory of the deceased member from Maryland, Mr. Dennis, whose funeral was to take place next day.

Appointments made by the Governor, with the advice and consent of the Senate, April 11.

New York.—John T. Morris, culler of staves and heading.

April 16.—*New York.*—Michael Ulshoeffer, Associate Judge of the Court of Common Pleas.

YOUNG MEN PROSCRIBED!—The House of Assembly this day REJECTED the bill incorporating the YOUNG MEN'S ASSOCIATION FOR MUTUAL IMPROVEMENT. This vandal blow will astound our citizens! There is not on record another such act of Legislative proscription and intolerance.

This Association is conferring immense benefits upon the youth of our city. It has grown, under the fostering care of our citizens, into vigor and maturity. It has ample means to perpetuate its usefulness, and only wanted, what has been granted to all other Literary Associations, an act of Incorporation. But this small boon is denied! The Legislature refuses its protection to some fifteen hundred of our Young Men who are associated for Mutual Instruction!

The above paragraph is from the Albany Journal.

SPAIN.—It will be recollected that in the previous amnesty of the Spanish Government, the language was deemed so unexceptionable that many of the exiled members of the Cortes refused to avail themselves of it. We now publish the last, made under the new Minister, which is conclusive, without any qualification or reservation, and such as will be deemed unexceptionable.

OFFICIAL.—Spanish Amnesty.—Decree.

"Considering the reasons which you have laid before me, and complying with the opinion of my Council of Ministers, I have thought proper, in the name of my beloved daughter Donna Isabel Segunda, to extend the Royal Decree of Amnesty to all the ex-Deputies of the Cortes, who may be out of the kingdom in consequence of opinions expressed by them as such Deputies, granting them permission to return freely to the bosom of their country.

"Take notice hereof, and do all that may be necessary for its fulfilment."

Signed in rubric, and addressed to Don Francisco Martinez de la Rosa

Madrid, February 7, 1834.

DEATH OF MR. GATES.—The Montreal Herald, of Saturday last, thus announces this event.

We stop the press to announce an event that occurred last night, and which will be received by the community in general with the deepest sorrow—the death of the Hon. HORATIO GATES, than whom a more honest, upright, just and independent man, never distinguished the annals of mercantile or political history.

Lightning.—The severity of the lightning which accompanied the heavy fall of rain on Wednesday evening was very great. The main-topmast of the U. S. ship John Adams, lying at the wharf at the Navy Yard, at Gosport, was struck; the electric fluid descended the top and main mast to the keelson, splitting and shivering the mast, and then ascending passed out of one of the gangway ports, setting fire to the ship, which was extinguished with but slight damage, owing to the prompt arrival of the engines. The shock of the heavy explosion at 6 o'clock, so much resembling the report of a heavily charged cavalry pistol, was also severely felt in several parts of our towns—a female servant in a family on Town Point, was knocked down and so much stunned that she did not recover for a considerable time. We learn that a small house in a lane near the Steam Mill was struck with the lightning, and a woman and a child, in one of the rooms, for a time rendered insensible.—[Norfolk paper, April 11.]

NEW ORLEANS, SATURDAY, MARCH 29.—Cotton.—The increased difficulty in negotiating Bills on Europe and the North, has suspended operations for the last few days; the reduction in the rate of Exchange has its corresponding effect on prices; and the market, at this moment, and during several days, has been dull, in consequence. We continue to quote at former rates, because no sale at a reduction will authorize a change; but we repeat the remarks of Brokers, who say that the rates last quoted would be very difficult to obtain; indeed, some go so far as to say that they are nominal. The principal operations, prior to the stagnation, are, viz: 700 bales, at 12 1-8; 80 at 11 5-8; 17 at 11 1-4; 68 at 12 1-2; 88 at 14; 31 at 11 1-2; 500 at 13; 28 at 11 1-4; 261 at 11; 134 at 11; 20 at 12; 11 at 13 1-2; 200 at 13 1-2; 150 at 14; 21 at 13; 40 at 12 1-2; 100 at 13; 57 at 13; 65 at 14 1-2; and 35 at 11 3-8—all of Louisiana Mississippi; of Alabama and Tennessee, the following, viz:—168 at 10 3-8; 50

at 13; 90 at 10 1-4; 450 at 10 3-4; 220 at 10 1-2; and 600 bales, rate unknown; choice Cotton has brought a fraction over our highest quotations; and, notwithstanding every thing, this description maintains its price.

Sugar continues to be in the usual good demand—we do not alter our quotations; prices are not steady, but vary from 1-2 to 1 cent, according to the want of the seller or the credit of the purchaser.

Molasses.—The season for this article will soon be at a close—the former good demand still continues without any change in price.

Tobacco.—There is an increased demand for this article.

Flour.—There is a falling off in price since our last publication.

Whiskey.—We have again to remark an exceedingly depressed market.

Coffee remains without any change.

Hides.—The market may be considered rather dull.

Freights.—The rates quoted last week remain without material alteration; we do not, however, as then, say brisk.

CHARLESTON MARKET, APRIL 12.

Home Productions.

COTTON.—Sea Island 25 a 35; Stained 10 a 16.

Maine 22 a 25.

Santee 20 a 24.

Short staple, 10 a 13 1-4.

Rice—Inferior to good 2 a 2 1-2; prime 2 1-2 a 2 1-2.

Flour—Philadelphia, Baltimore, and Richmond, \$5 a 5 1-4.

Corn—56 a 70; Oats 38 a 43; Peas 66 a 70.

Tar—Wilmington \$13; Georgetown, none.

Pitch—\$11; Rosin, \$11 a 12.

Bacon—64 a 7 1-2 cents. Hams 9 a 10 1-2.

Lard—8 a 9 cents. Soap—Yellow 6 a 7.

Oil—Sperm 90 a 110 cents per gallon.

Lead—in bars, 6 1-2 a 6 3-4 cts per lb.

REMARKS.

COTTON.—There has been a good demand for all descriptions of this article this week, until yesterday, when in consequence of the inclement state of the weather there was nothing done.—Since the receipt of favorable accounts from Europe, an advance of 1-2 cent on Uplands has been demanded and in some instances obtained, one very prime lot was disposed of at 13 1-4.—The sales down to yesterday morning have been 6151 bales Uplands, as follows:—135, at 13 1-4; 107, at 13 1-4; 13, at 13 1-4; 443, at 12 1-4; 685, at 12 1-4; 106, at 12 1-4; 188, at 12 1-4; 193, at 11 1-4; 633, at 11 1-4; 22, at 11 1-4; 509, at 11 1-4; 213, at 11 1-4; 493, at 10 1-4; 52, at 10 1-4; 103, at 10 1-4; 107, at 10 1-4; 30, at 10 1-4; and 13 at 9 1-4 cents.

RICE.—Remains the same as at the close of the last week, and the demand for any quality except strictly prime, very limited.

Flour.—Still remains dull.

GRAIN.—One cargo of about 3,000 bushels good White Corn, brought 70 cts.

MOLASSES.—100 bbls. N. Orleans Molasses brought 31 cents cash.

The China Trade now that the monopoly of the East India Company is done away, is becoming an object of great inquiry and general interest in England. Sir J. Brabazon Urnston, late President of the English factory at Canton, has published, or rather privately circulated, a pamphlet on the subject in London, of which we find the following notice in the London Times.

The extract recommends, it will be seen, the selection of a new trading station in preference to Canton.

Sir J. Brabazon Urnston, notwithstanding the idea which he entertains with others of the impracticable character of the Chinese Government, has directed his pamphlet chiefly to show that Canton is a bad port for carrying on the tea trade; that the British trade ought to be removed to a more convenient station; and that a more convenient station would be found in the island of Chusan, of which he gives the following description:—

"The island of Chusan is situated in latitude 30 deg. 26 min. north, and longitude 121 deg. 41 min. east. It is about nine leagues, or 27 miles, in length, from N. E. to S. W., and about five leagues, or 15 miles, in breadth, from N. W. to S. E. Chusan lies off the provinces of Chekiang, to which it appertains, and is about 10 or 12 miles to the northward of Kit-tow Point, which is the extremity of a long and mountainous promontory of Chekiang province; and the nearest approach of Chusan to the continent of China is at this place. Chusan is the largest and principal of the considerable group generally called the Chusan islands or Archipelago, and is nearly opposite to the river leading to the port and city of Ning-po; and not far from the bay of Hangcheoufoo, which bay terminates in a river called the Tchen-tang-chiang, or otherwise the Cien-tang-keang, leading to the large and important city of Hangcheoufoo, the capital of the province of Chekiang. These cities will be noticed hereafter. The chief town (or city, as it is called) of Chusan, is Ting-hai, which stands about a mile from the harbor; and close to the water's side, at the harbor,

is a village with several houses. It is at this latter place, where we had formerly our factory, as already mentioned. The city of Ting-hai is said to contain 4,000 or 5,000 inhabitants, but I have not been able to ascertain, from any authorities, what the entire population of the island of Chusan is. Ting-hai city is surrounded by a wall, with bastions, and is defended like the generality of Chinese towns—that is, with a few miserable guns."

At this island we had formerly a factory, which was broken up by the jealousy of the Chinese in 1703. It has abundance of excellent water; a harbor completely land locked, protected against all winds, and one of the safest in the world; and being at a very inconsiderable distance from the continent of China, is in the immediate neighborhood of the most flourishing, opulent, and commercial provinces of the empire. It is to this part of the Chinese dominions to which our exports are chiefly sent, though landed at Canton. The opposite coast has several large cities, navigable rivers, and an enterprising and wealthy population.

There can be no doubt that on a comparison of the geographical situation of Chusan with that of Canton, the preference would be given to the former as a British commercial station; but what assurance have we that our author's project would be adopted at the Court of Peking? Would it not require several more embassies to the Emperor, more successful than any which we have yet sent, to obtain such a change? Would not the whole Hong at Canton, with the Governor and the tax-gatherers, be in an uproar at the very proposition of deserting their port? Our author does not disguise the difficulties of the undertaking, but expresses his sanguine belief, that if we were resolute to make the change, it might be ultimately accomplished.

Sir Richard Church, K. C. H.—Few men have exemplified the instability of fortune or the mutability of human affairs more than this gallant officer.—During the war he embodied and commanded the Greek light infantry corps, with which he materially assisted in the capture of the Ionian Islands, particularly Santa Maura, where he highly distinguished himself. Soon after the general peace he entered the service of his late Majesty the King of Naples and Sicily; here he rose to the highest point of favor with the Sovereign, and honors and rank were liberally bestowed upon him. Nominated to the command of the Calabrias and the Abruzzi, with extraordinary powers, he cleared those provinces of the numerous hordes of brigands and robbers which had long infested them; and his name is yet held in terror by their descendants. In 1820-21 the attempted revolution in Sicily commenced, and Church firmly adhered to the King, amidst many vicissitudes; at length the spirit of intrigue prevailed to so great a degree in the Royal councils, that Church was thrown into prison, from which he refused to emerge unless allowed to exonerate himself before a court martial, upon which he was honorably acquitted. Party ran, however, too high for his stay in Naples, and Church accepted the command, and was appointed Generalissimo of the Greek forces; for some time matters ran on with tolerable success; at last fortune was on the wane, and Church was defeated with great loss in his attempt upon Athens; but continuing to retain the command, he contrived to render important services to the cause in Western Greece, by confining and repelling the incursions of the Turks under Redschid Pacha. Capo d'Istria, jealous of his popularity, thwarted and baffled all his projects, and Church, at length disgusted, resigned the command, and for several years lived in exile at Ægina, neglected and forgotten. On the accession of King Otho the star of his fortune once more reigned in the ascendant, and Sir Richard Church is now Ambassador Extraordinary from Greece to the Court of St. Petersburg.—[Naval and Military Gazette.]

From the London New Monthly Magazine for March.
THE PARVENU COUNTESS.

"To hold the mirror up to Fashion."

"How is her Ladyship?" asked a little, thin, old woman, bent double with age, and clothed in rusty mourning. "How is her Ladyship?" repeated the poor old creature with a hurried earnestness, and an emphasis so strong, that, like the knock on the Earl of Anketell's hall door which had preceded the question, it seemed impossible that the sound could have been caused by the emaciated and diminutive figure that stood at the portal.

"How is her Ladyship?"—well I like that," replied a tall, corpulent servant, whose red swelling cheeks and thick purple lips gave an expression to his mockery somewhat between burly contempt and rage,

at being so seriously disturbed for nothing, and by nobody.

"How is her Ladyship; well, what impudence the common people have come to!"

"My good fellow, I entreat you to answer me," said the old woman, her fine, sharp, and prominent old features, and large grey eyes casting forth an expression of imploring earnestness.

"My good fellow?" well, if I stand this from such as you, I'm —, muttered this surly porter, slamming the door in the poor creature's face.

The knock was repeated with redoubled energy, and the porter re-opened the door with a visible resolution to get rid of the intruder.

"Give your Lady this," said the old woman, thrusting towards him a sealed letter: "give her this, and I assure you, she will be overjoyed to see me."

"My lady never suffers us to take in begging letters."

"This is not a begging letter; and here is a half-crown for your trouble."

"Well, what impudence you beggars have come to! You are a genteeler beggar than I should have thought by your looks; but, my good woman, it is more than my place is worth to receive petitions from beggars."

"Stand aside! open the door! be quick! Here's my Lord and the Duke of — coming down stairs!" said a lad in livery, whose countenance spoke a gentle nature,—that is, a nature not so long in office and authority as that of the surly porter of Lord Anketell's hall.

True it was that the stripling Duke of —, who had just come into his immense estates after the nursings of a long minority, had terminated a pretty long interview with Lord Anketell, and his Lordship was accompanying his Grace from the drawing-room down stairs to the hall, and the servants had not been made aware of his approach. Some confusion and bustle took place; but the folding doors were widely thrown open, six or seven servants, in their splendid liveries, hastily drew up in a double line, bowing profoundly to the peers as they passed between, and holding their breaths whilst his Lordship gave the Duke a shake of the hand,—cordial and sincere in full proportion to his rank and unequalled affluence. It was in this scene of hurry and confusion that the little old woman in black had contrived to slip past the servants through the door without being perceived.

She had fitted, with a witch-like rapidity suited to her strange figure, through the outer hall, had passed the vestibule and the great staircase, and had actually got into the inner hall, and at the foot of the back stairs, without being perceived. Here she met a maid-servant descending with a small silver tray of sandwiches and liqueur glasses, and she immediately began to intreat her to take the letter to her Lady, offering the solitary half crown as an inducement. The maid coolly put the half crown in her pocket, and reading contemptuously the superscription of the letter, threw it into the tray, observing, as she passed, that it should be given to her Lady some time in the day, but she knew it would never be opened, for letters "of that look" never were. It was at the moment when the old woman was sinking upon a bench, overcome with affliction, that the servants of the hall discovered her. They had missed her immediately the Duke had got into his cab; and, after staring in every direction, to their astonishment they beheld her sitting, as they thought, at her ease in the inner hall.

"You impudent old wretch! how dare you get there?" cried the enraged porter, waddling to her, and seizing her by the shoulder to thrust her into the street. He had already pulled her to the foot of the grand staircase, when the woman thrust out her attenuated and withered arm, and grasped with her long thin fingers one of the volutes of a scagliola pedestal which supported a massive or-molu lamp.

"No power on earth shall force me hence! I will see Lady Anketell, or here will I die!" cried the old creature with a tone which almost terrified the servants. There was something dreadfully impressive in it, and it appeared almost supernatural when its energy and resolution were contrasted with the form from which it proceeded.

The porter seized her shrivelled, spider-leg like fingers, declaring, with an oath, that he would wrench them off, or crack her joints, if she did not let go her hold. He suited the word to the action, and evinced no symptoms that he had uttered an idle threat. His thick lips became purple with rage; but his victim firmly retained her hold, and bit her under lip that seemed more like parchment, whilst her eyes stared wildly at him, dilating as in the paroxysm of frenzy.

"For God's sake, Burton, don't break the poor old creature's wrist!—wait and she will give way," said the lad we have before mentioned; and he took hold of the sturdy arm of his fellow-servant to restrain his violence.

"Let go, or I will squeeze your very nails off," said the porter, and she uttered a faint screech, and her face became convulsed, though she seemed to grasp her object with undiminished firmness.

"Burton, she will pull down the pedestal and break the lamp; the noise will disturb his Lordship, and you know his temper when anything goes wrong.—Leave her alone, and I will get a policeman."

These arguments of the lad had more effect than his appeal to humanity. The porter let go his grasp, the lad was sent for a police officer; and the footmen stood in a group; discussing whether it would be better merely to have the woman turned out, or taken before a magistrate.

In a few minutes the boy returned with a police officer. All eyes were immediately turned to the place of recent struggle, and every voice simultaneously cried out, "By — she is off; she has escaped!"

Where can she have got to?—how could she get away?—it is impossible! and a score of similar ejaculations, seemed to convey the idea that the servants really began to think they had been contending with a witch that had vanished into air.

"Go to!" said the policeman; "why down stairs, to be sure, and she has robbed the house; and escaped, probably, up the area steps."

This idea was adopted by all; each accused the other of stupidity, in not having at first thought of a thing so palpable; and at last all turned with fury on the lad for having prevented the violent ejection of the woman in the first instance. The poor boy stood in speechless terror, overwhelmed with the idea of having been the cause of a robbery in his Lordship's house. At length the policeman assumed the direction of affairs, and having placed a servant at the front and another at the back area, to prevent escape, he descended with a third, in order to search the offices and basement story of the mansion.

The supreme wisdom of all the parties was here entirely at fault. The fact was, that whilst the porter had stood with the outer door ajar waiting for the return of the foot-boy with an officer, and whilst the rest of the servants had got round him to settle the difficult point of simple ejection, or of ejection followed by custody in the station house, and correction by a magistrate, the old woman had almost flown up the grand staircase, and had entered a magnificent ante-room, where she stood gasping for breath, and her senses perfectly bewildered at the dreadful scene she had gone through.

It was with difficulty that she collected her scattered thoughts; but at last she grew sensible of the magnificence around her, and she began to reflect that the splendour seemed to realize, or surpass, all she had read in fairy tales about oriental grandeur and magic treasures. She peered fearfully through the scene, her mind too saddened by one sole object to be attracted by wealth, except through a vision of its power over the affections of nature. She found a door partly opened, and holding her breath, and stopping like a mortal upon the precinct of hallowed ground, she entered a bed-room, so superb as to make the preceding chamber appear almost poor. A painted ceiling, mirrors extending from that ceiling to the ground, buhl cabinets, and tables of enamel and gold, covered with china vases, bouquets, bijouterie, and jewelry of dazzling lustre, might have confused the brain of any person whose mind was sufficiently at ease to be moved by splendor. There was a large bed, with its golden canopy, and royal purple curtains lined with rose satin, and on it was a human figure, but so buried in pillows of down, and shaded by lace, that it was impossible to tell whether it was the person of a child or of an adult. At the side of the bed were two tables of enamel and gold, and of buhl, the one covered with new novels, and with poems and books of prints, superbly bound, and the other hid by a profusion of trinkets, rouge pots, scent bottles, perfume caskets, mirrors set in gold, and ornaments beyond an ordinary capacity to name. A golden candelabrum, on a gold salver, stood in the middle, and its untouched contents showed that the patient had not been disturbed to cloy the surfeited appetite with refreshments. The once decent, but now rusty and somewhat tattered mourning of the old woman, with her humble widow's weeds, formed a singular contrast to the surrounding splendor, as she stood, with a palpitating heart, by the bed-side, gazing on it with a fearful restlessness, as if she dreaded to be seen by the object it supported, whilst at other moments she gazed upon the sleeping figure,

with an affection which seemed too intense to be endured. At last the figure moved, the lady awoke, and raised her beautiful face from the pillows, like a pearl from cotton.

"Oh God! Mary, child!" cried the old woman, as she staggered towards the bed, and made an effort to throw herself upon it, endeavoring to clasp her daughter in her arms, but the bed was by far too high, and the lady put out one of the most delicate and pretty hands ever seen, and shaking her lace ruffle, she beckoned to her mother not to come too near.

"My dear mother," said she, "for goodness' sake don't come so near; you don't know the mischief you might do. I have a fever on me, and your clothes are really wet. Why, you have not come through the rain?"

The old woman buried her face in the bed clothes, and sobbed piteously. At length recovering herself, she said, with a hurried tenderness—

"Oh, Mary, tell your poor, old mother, is there any danger?"

"Not exactly danger; but if my Lord were to know that you had been here, it might occasion an unpleasantness between us."

"But, Mary, child, are you not in danger?"

"Danger, mother, how can I be in danger! am I not legally married, and have my rights; but when a man of Lord Anketell's rank and estate marries a workhouse apothecary's daughter like me, it is only grateful in me not to mortify him by my family, and in his own house too, and before his servants I trust in goodness you did not announce yourself as my mother?"

A large tear, or rather a continued tear, ran down the pale and withered cheek of the mother. With a tone altered almost to chilling apathy, she cried, "Mary, I read in the newspaper that you were dangerously ill. You had never written to me since your marriage, and I was content not to mortify you; but when I found your life in danger—I who had nursed you through the cruel diseases of your infancy—I who had—oh God! oh God!—it was too much to let my child go out of the world without kissing her poor face—once, all my own. I have walked to London from ——— to hear one word of tenderness from my own child; and I find her life not gone; but nature is extinct, and you are the child of pride—not my child."

"Lord Anketell's wife, you meant to have said, mother. But I really was ill. I caught a cold at Almack's; but as his Lordship wanted an excuse for not attending the House whilst the ——— bill is in committee, he got the newspapers to publish that I was dangerously ill. Ha! ha! ha! Pray, mother, reach me that handkerchief, and the eau de Cologne. Your tears, I do declare, have taken all the curls out of my hair, and my wrist, too, is wet through and through. Lord, ma, only see the lace—"

"And you are not ill, Mary," said the old woman; "not really ill;" and she pressed the fair little hand to her haggard lips—hung over the face of her daughter, regardless of that which alone occupied that daughter's thoughts—the curls and the lace.

"But, ma, how shabby, how very shabby, and dirty, too, I declare—la, I would not have had my Lord's servants see you for the universe. You will never leave off those odious, unbecoming weeds—and father dead so long. Well, I'm glad to find you still living; and I hope you have been happy, and well—and—"

"Very happy, very well," said the old woman, wringing her hands and sobbing bitterly.

"La, I thought I heard footsteps; didn't you?—do stop, you make such a noise—no, it is a mistake. Well, ma, I heard of your design about the tombstone in our churchyard and the monument. I was so alarmed—but I knew you hadn't exactly the means to incur such an expense—and so I was comforted, and—"

"Mary, Mary; that monument is already erected to your poor father's memory, and it expresses—"

"Gracious goodness! not that he was the village apothecary, I hope?"

"Yes, that he was for fifty years the doctor of that petty workhouse—the shopkeeper of our petty village—and that he was beloved by the poor, and respected by the rich."

"Oh, how very unfortunate; for my Lord naturally wishes to avoid all tracing of my parentage, and Burke's Peerage merely says that Lord Anketell married Mary, daughter of ———, Esq., of ———, in the county of ———, and that reads very well."

"Oh, Mary, your brain is turned, and it breaks my poor old heart! My last illness cost me all the remains of my little property; even your poor old father's silver watch was sold, and now I—"

"Well, ma, that must have been your own fault, for

never was there a better mother; and had you written one word—but give me that pocket book off the table—no, not the red with the gold clasp, but the purple with the ruby."

The old woman mechanically handed the pocket book, and the fair lady raised herself on her downy pillows, and began to count its contents, and to decant on the operation, as she turned over leaf after leaf.

"No, that 126*l*. is for Mr. Taylor's bill, my shoe-maker; he has not been paid anything for four years, and must be paid; and this—let me see—what did I put these notes in this leaf for? oh, I remember, 93*l*. for the plumassier; and this 55*l*. is for the perfumer's account; and 37*l*. for the brushes and trifles of that description; but oh, this odious Madame de Treasor, my milliner and dressmaker—619*l*. in one year, and less than a half—well, my lord's check is not enough—he must settle this bill himself, for I'll have nothing to do with it. But here, my dear ma, I have no occasion to settle Mr. Payne's bill for the brushes and knick-knacks, and so, suppose you take this 37*l*. And the young and beautiful countess stretched out her hand, holding the folded notes slightly pressed between her thumb and finger towards the old woman, who stood aghast with astonishment.

"Ha! ha! ha! Well, ma, you make me laugh; you may well be astonished when you see such sums, and recollect how the shillings used to be saved, and the broken bottles sold from father's shop, to buy me my winter's cloak and clogs—but take the money."

The old woman shook her head, and thrust the proffered notes from her.

"Why, ma, I should not offer them to you if they weren't mine. To be sure, when a rich man, or a man of title, marries a poor girl, he doesn't marry the whole family; and indeed it is not exactly honest for a woman to give away her husband's property to poor relations; but his lordship gave me this money for myself, and has no right to know what I have done with it; and if I appear in good style as his wife, and don't get into debt beyond his allowance, what right has he to complain; besides, if a rich old man marries a fine young woman, I don't see that the obligation is all on one side; and besides you are my mother."

The mother groaned bitterly.

"It is not like helping cousins, nephews, nieces, and a swarm of toad eating, insincere, heartless kindred, so, ma—but, good gracious! the room is haunted, or I did hear footsteps, and a sigh, too. Pray, ring the bell—no, not for the world—the servants would see you—but ma, look all round the room for me. You know how nervous I was when a child. Well, you won't stir? Good heavens! take the money and say good bye, and let me ring the bell, for I begin to be very much frightened. Here, dear mother, take the money, for your clothes are very thin for this bitter weather, and you must want it—indeed you must."

During all this time, the poor old woman had stood upright and rigid; like a figure of extreme old age suddenly petrified. Her large gray eyes were dilated, and though they glanced upon her daughter they bespoke perfect vacancy, or at least an unconsciousness of the volubility with which she had been assailed. As the daughter again pressed her to take the money, she took the notes in her hand and crumpled them without the slightest alteration of attitude or change of countenance. Lady Anketell became alarmed, and thought the mother was what she called "death struck." "For God's sake, take the money and go!" she exclaimed with earnestness. The old woman's lips were a little convulsed; she recovered her senses, and suddenly catching a glance at the ball of crumpled notes that she had been pressing in her palm with the grasp of convulsion, she dropped them on the floor, shaking her head, and clapping her hands, she left the room without uttering a word. She appeared like a corpse moving by mechanical contrivance. Lady Anketell followed her with her eyes till she had got out of the door; and then, taking an oval hand-mirror from her toilette, she began to adjust her curls, lest her waiting woman might see them in their disordered state.

As the mother descended the grand staircase, she was met by Lady Anketell's waiting woman followed by a footman with a tray and cold fowl and tongue, and decanters of wine. "I am ordered, Madam," said the maid, courtesying with the most profound respect, "to give my Lord's most respectful compliments to you, and to say that his Lordship entreats that you will not leave the house without taking refreshments. His Lordship begs you will remain as long as is convenient, and, above all things, he hopes that you will order the carriage when you feel disposed to return home." The old woman was startled at these sounds of respect and kindness: they

touched her heart. Unable to speak, she shook her head in token of dissent. She had been recalled to sensation and consciousness: her efforts to conceal her emotion were fruitless: her lips were strongly convulsed, and, putting her hands to her face to hide her feelings, she burst into tears, and hurried out of the house through the line of servants, who bowed to her most respectfully as she passed through the hall. The humility of the servants was a contrast to their previous brutal violence, which could not be surpassed, except by the contrast between the manners of the daughter of the Countess of ———, and as plain Mary ———, the apothecary's daughter of ———, the belle of the village for whom so many shop-lads had once received and given many broken heads and bloody noses.

In fact, the sound of footsteps and the sigh which Lady Anketell had heard, or fancied she had heard, in the bed room, were not the sounds of a super, nor altogether of an unnatural being. His Lordship, in passing the ante-chamber, had been attracted by the deep sobs of his mother-in-law. He had entered the bed-room, and, concealed by the curtain, he had witnessed the whole scene between the daughter and the mother. His feelings were moved to the extent of offering the poor old creature refreshment and the ride home; they were moved to this extent, and no further.

Two pounds thirteen shillings and four pence half-penny was the sum precisely which the poor old widow had in her pocket, as she tottered down the steps from the portico of her daughter's mansion at Whitehall. She hurried to the ——— inn, at White-chapel, and that night took her outside place in the mail to ———. It was a wet and bitterly cold night, preceding, by eight-and-forty hours, that night on which all hearts are made glad, all stomachs are filled to the verge of extravagance and wantonness; it was the night of the twenty-third of December, when the decrepit old widow seated herself outside the ——— mail, immediately behind the coachman. The wind drove the sharp sleet so fiercely that no ingenuity of the loom could withstand its searchings, and but for the cold at the heart, the old widow might have been sensible that her daughter was not wrong in describing her dress as old, threadbare, and shabby—shabby—in such a night. The little curved hunchback was drenched to the skin, and looked like a whisk of frozen straw—a bunch of white bristles. The coachman, moved to pity, procured her an ostler's coat where he changed horses, and with-out the hope of the perquisite. Arrived at the village of ———, the widow was lifted into her cottage. The bright warming pan was put in requisition, and less than twelve hours had witnessed the transition of the old creature from sobbing on the quilt of Lady Anketell, in her splendid room, to gasping under the brown and red rug in her stone paved chamber. In four hours she was a corpse.

THE TOWNSMAN.—BY LEIGH HUNT.

More Boots; and no more Smith!

Boots being a subject of inexhaustible interest to the contemplative mind (whether the mind be of such an order as deeply observes the boots of other men, or of such as sits in the shape of a well-dressed body, more deeply considering its own; or lastly whether it be of that class, which uniting experience with reflection, comes to the question with an impartiality humanized by self-love,) we have willingly acceded to a request made to us for the utterance of some further thoughts on a matter so obviously connected with the "march of intellect."

Nor is it to be objected, that we are travelling out of the path of our Townsman, in devoting a whole paper to this very urbane subject; for besides its right to the application of that epithet in its ordinary sense, as implying a polished elegance, it is well known to all the lovers of shoe-leather, that there is no boot like your "town-made boot;" and therefore no town-made article connected with the subject, whether boot or essay, can be anything but what is extremely proper and metropolitan.

Much could we say on the lustre of boots from all antiquity, especially during the heroic ages of Greece, when to say that a man was "well-booted," was to say that he was well-armed at all points, and irresistible. Homer's fondness for this epithet is so remarkable, that boots perhaps may be considered as the things he admired most, next to good cheer.—"Boot and saddle" of mutton may be conjectured to have been his military cry—his interpretation of the sound of the trumpet. But we cannot enter at any length into the epical or historical parts of our subject. We must be content with catching a few of the most illustrious lights of it, as they strike upon un from the legs of ages; such as the Seven-league

boots of Giganticide, the boots of Napoleon, and on Frederik the Second, those of the cat that waited on the Lord Marquis of Carrabas whose descendant has become so famous in the songs of Béranger,) and the boots of my lord the Bishop, who was made to dance in them by that merry Radical, Robin Hood; a dance still performed in private, they say, by some of his lordship's successors, in a delirium of anticipation.

We know but a single ill thing of boots in the whole circle of their history, and that is, the ingratitude with which one of them suffered Sir John Suckling to die of him, after having been the most brilliant and accomplished friend they had had in the annals of high life. Sir John, as every one knows, was one of the tip-top wits of the Court of Charles the First; and no man had ever done greater justice to the exterior manifestation of what a wit has in him, by the grace and spirit of his attire, from top to toe. His feather must have been among the airiest, and his boots among the most solid yet animated, that ever announced the quality of the wearer. We say nothing of his failure in a campaign—doubtless the work of envious fortune. A servant, envying the fortune that he still had in the shape of money, robbed him and ran away: Sir John, in his indignation, though the most generous of men, called for his boots in order to pursue the scoundrel, when on thrusting his foot down, his heel encountered a nail, or knife, or some such horror, (we forget what,) which the rascal is supposed to have stuck into the boot on purpose, and the result to the gallant poet was mortal. "Where were ye, nymphs, (who preside over boot-making,) when ye could allow such a catastrophe to take place? Nay, where were ye, who preside over dancing, and riding, and all 'poetries of motion,' that ye did not put a voice into the boot, and make it cry out against the approach of the ill-fated leg?" The tragedy was long ago, but the sweet wit is alive in his writings, and we cannot but feel for his wound to this day. That couplet alone in his *Ballad on the Wedding*—

Her feet beneath her petticoat,
Like little mice, stole in and out.

ought to have brought down Venus to save him. But Venus can sooner get people into scrapes than out of them. Perchance the boot, being, of course, exquisites of its kind and too small, was even less easily got off than on; so that the plunge being once taken—But we shall be distressing too much the legs of the reader's sympathy.

We had our admiration very pleasantly excited the other day by the candour of a friend of ours—a wit and a patriot withal, and one that would part with his leg and boot together to do the State service—that he never had any thing new sent home from the makers of his habiliments, but it made him rise that morning with the greater alacrity. It should be added, that he is both young and handsome enough to render an attention to these things natural and graceful. Yet what signifies handsomeness? If we are not handsome, we may have a handsome taste—an air—an address; and it is not a man's fault if nature has not given him a good leg. His nurses and progenitors must look to that. His soul may have a good leg—calf may be in his brain; why should he not help out his limbs accordingly, and, with the boot-maker's assistance, make his leg appear worthy of him? We remember the time ourselves, when a knock at our chamber-door, with "the tailor has brought the things, Sir," or the opening of our eyes upon a new pair of boots standing in the corner, and demanding (as the poets say) our legs inside of them, gave a new color to the morning. A youth buds forth into new clothes, as a tree with its blossoms. Nip not his buds too coldly, nor breathe dulness upon the polish of his Warren's jet. He will outgrow his blossom, and produce fruit by-and-by. Charles Fox, one of the most natural of men, was at one time a buck about town, with red heels to his shoes. Petrarch reminds a friend, in one of his letters, of the time when they used to pace the streets of Avignon, conscious of their cloaks and stockings, and afraid of a spot of mud. But we grant that "the same is not the same." A youth may be a dandy, and nothing else, and remain one as his life. That is not desirable certainly; though, what he is, and that his thoughts cannot soar above that, perhaps we ought to be thankful that they can go even so high, and that a regard for his mud. Mud is him from sheer grovelling in the countryman in the red will not what he likes. The bad weather, for fear he will not wear his boots in seen men in town, such spoiling them; and we have selves preposterously would have thought them him, who nevertheless appear by comparison with save the boots they had on from quite as anxious to ostensible uses,

and occasionally turned round to survey them, as nicely as if they stepped in again.

It must be owned, that boots, like other honors, are not to be worn without their drawbacks. The pulling on of a new pair, even when nothing dandified is intended, is often no joking matter; unless, indeed, a man has arrived at that time of life, or philosophy, or adversity, or *spindle-shankism*, when he has no more respect for his leg than for his walking-stick; or rather so much tenderness or pity for it, that he will consult its ease above all things. We confess this to be the ease with ourselves, to whichever of those four causes the reader may choose to attribute it; therefore, as we have not been without our experience the other way, we may own, that, like Mr. Pepys when he chuckled at seeing people go to be married, it is not without something of a peculiar feeling of entertainment that we think of any one's undergoing the "torture of the boots," when the maker has just brought them home, and his helping them to put them on. There they go at it, the patient straining and tugging with the boot-hooks, the maker humming and *palm*ing the fit, or non-fit, vowing that nothing can be better, and that a *little* more thrust at the instep will do the business. Occasionally they stop to take breath, or the bootmaker takes the hooks into his own hands, and then they go at it again; or they take the foot out and *recommence*! Horrible, yet refreshing moment! Big with the thoughts of the next tug! Then comes that detectable evidence of a struggle, the shoeing-horn; and the bootmaker, though he hails it as the terminator of all difficulties, knows very well that the instep will stick again, and that the gentleman will walk for the next ten days in a Valley of the Shadow of Gout, not because the boots have been made as directed, but because he has not the heart to send them home again.

And yet this shall be nothing, perhaps, to the achievement of taking the boots off again at night! Wear them all day he must, for he has got them; and get them off at night he must, or how is he to go to bed? Meantime his feet have swollen; their prison seems, for the last three hours, to have been growing closer and closer; and get them off he cannot! Boot-jacks are tried; servants are tried; the boy, suddenly letting go, is kicked almost through the wall. What is to be done? Sometimes there is no help for it, short of cutting the boots off; and blissful must be the release even then, to any one but a miser, spite of the convulsive twitches and resentment of the ill-treated muscles. We know a philosopher, now lost to all sense of his boots, except when he has to buy new ones, who, one night, when a young man, in the joviality of his despair at not being able to get off a pair, laughed at the impossibility of sleeping in them, and fairly took them to bed with him. Horrible was his waking about four o'clock in the morning, with a sense in his legs as if they had been turned into mile stones.

We had something to say on boots mudded, and boots too large, and boots suddenly burning one's legs at the fire-side, &c. &c.; but adieu, boots. We must suddenly break off and leave you, else we shall have no room to bid another adieu, little expected by us when we wrote our last, and in fact, denounced as impossible. Let no man say what will happen next Sunday; for we are positively about to give up our use of the name of Smith? 'Tis true!—and all, after all, to please Smith himself;—nay, to please John Smith!—John Smith whom we should still designate the Smithest of all Smiths, and therefore the voidest of all right to a particular consideration, had he not convinced us we were in the wrong by one of the most agreeable and charitable of letters. This was the correspondent whom we alluded to in our last, and whom in consequence of our not having referred to his first letter to mend our recollections, we had mistaken for Tomkins. Tomkins (as we are now reminded) he spoke of in that letter, but it was out of an inclusiveness of sympathy, and because while feeling for the sensitiveness of the Smiths, he thought himself bound not to overlook minor claims; or as he overwhelmingly puts it because "your creed teaches me to consider others first." Now who can resist such a Smith as this? Has he not brought together and concentrated the whole common-place universality of the Smiths into one particular and shining light, and forced us to acknowledge in his person the thoughtfulness due to others, even in a jest? and let us add (without giving the good-natured suggestion an air of solemnity beyond what he intended), that it is a good symptom of the times, when sympathy is so widely and so extending, that the "vested interest," even of a jest is good humoredly questioned in its behalf. Well, we have owned our weakness in this matter (for we are not strong minded and anti-conventional enough to own, except in this whisper of

a parenthesis, that we consider it a strength), and shall frankly, and at once, give up all similar future use of the name of Smith. We do not care who taxes us for it. Being above poverty of spirit, we are above taxation. We shall "go on, Sir" (as the man said), "superior to a vicious sarcasm," "By excess of pride," saith Bacon, "the angels fell;" and by the excess of the desire of knowledge man fell; but in charity there is no excess, neither can Smith—we beg pardon, "man nor angel come in danger by it." This last slip of the tongue must be excused. Bad habits, like boots, are difficult to conquer.

Next week, we intend to make immense reparation to the name of Smith, and utterly to baffle the hopes of its scoffers, by touching upon the various memories, male and female, that have rendered it eminent.

GENEROSITY OF A ROBBER.—After the defeat at Hedgely Moor, the Lancastrians concentrated their forces on the plain of Hexham Levels and there waited the advance of the Yorkists, resolving to place on the issue of the expected contest their final overthrow or triumph. The result of this battle is well known: the army of Henry was completely routed, and even the high cap of state, with its two rich crowns, fell into the hands of the Duke of York, who shortly after ascended the throne of England by the title of Edward the Fourth. Henry fled from the field; and Margaret, his queen, with the young prince Edward, escaped into an adjoining forest. They had scarcely entered within its intricacies, when they were seized by a band of ruffians who had there located themselves. Regardless of her rank, sex, or situation, they stripped the queen of her jewels, and were proceeding to greater indignities, when a quarrel arose between them as to the distribution of the spoil.—Seizing this favorable opportunity for escape, the prince and his mother fled into the interior recesses of the forest. As the royal fugitives were pursuing their toilsome journey through this wilderness, a rustling of the trees forewarned them of approaching danger; but before they could reach concealment, a robber confronted them in their path. "Ruffian," exclaimed the queen, assuming the dignity and haughtiness of carriage familiar to her, "thou hast tarried over long; thy comrades have been before thee, and despoiled us of our treasures." "Truly," answered the robber, "their chief will find but worthless prey in what they left you. You may pass: 'twere better that you take the right hand path, its windings lead to an opening of the forest." "Stay! man," said Margaret, "though a desperate outlaw, there yet may be some spark of pity in thee, some reverence for a kingly name." "Pity and reverence are terms alike unknown to me," replied the man, "and kingly power is but an idle sound to him who knows no away—respects no laws;" "Yet will I trust thee," answered the Queen, "for fortune leaves us little choice of friends. Behold this boy—the son of Henry of Lancaster, your king." Whether surprise overpowered him, or a latent nobleness of mind forbade him to insult fallen majesty, the robber chief uncovered his head, and proffered his assistance to the wanderers. "What service said he, 'can I render to you and the prince your son?' " "Provide us with a place of concealment," eagerly rejoined the queen, "and effect our escape beyond the reach of York." "Concealment," said the robber, "is not difficult; and what more I can do I will do: for the present follow me to a cave hard by, where you may repose in safety, and wait a favorable opportunity of rejoining your friends." He led the way through an unfrequented path, and brought them to "a wretched but secure asylum" in the forest, which, in memory of the unfortunate queen, still retains the name of the "Queen's Cave."—[Fisher's Pictorial Illustrations.]

Extract from Bulwer's "Pilgrims of the Rhine."

"I know not what the love of others may be," said Gertrude, "but ours seems different from all which I have read. Books tell us of jealousies and misconstructions, and the necessity of an absence, the sweetness of a quarrel; but we, dearest Albert, have had no experience of these passages in love. We have never misunderstood each other, we have no reconciliation to look back to. When was there ever occasion for me to ask forgiveness from you? Our love is made up of only one memory—unceasing kindness!—a harsh thought, a warring thought, never broke in upon the happiness we have felt and feel."

"Dearest Gertrude," said Trevelyan, "that character of our love is caught from you; you, the soft, the gentle, have been its pervading genius; and the well has been smooth and pure, for you were the spirit that lived within its depths."

**List of Subscribers to the Railroad Journal
who have paid in advance to Jan. 1, 1835,
—continued from March 22, 1834.**

James Dean, Burlington, Vt., (omitted in the first list)
J. Edgar Thomson, Philadelphia, Pa. do.
S. Van Rensselaer, Albany, N. Y.
R. L. Keen, New-Orleans, La.
T. J. McKeen, do.
Ross Winans, Baltimore, Md.
John Elgar, Philadelphia, Pa.
C. Tower, Waterville, N. Y.
D. Dasher, Tusculum, Ala.
D. McKenzie, Petersburg, Va.
Chas. Dyer, Jr., Providence, R. I.
Jas. Camak, Athens, Ga.
W. Dearing, do.
W. Lumpkin, do.
W. Williams, do.
W. H. Swift
Alexr. McGrew, Cincinnati, Ohio
D. M. Curtis, Deep Creek, Va.
Ami Clark, Meriden, Conn.
C. Barnard, Jr., Hartford, Conn.
E. L. Miller, Elizabethtown, N. J.
Israel Wells, Vincenton, N. J.
Jacob Tidd, West Roxbury, Mass.
Howland, Ward & Spring, Charleston, S. C.
Wm. Parker, Westborough, Mass.
Solomon Holman, Huntington, Ind.
C. Crozet, N. Orleans, La.
D. Levy, St. Augustine, Fla.
W. H. Talcott, Albany, N. Y.
Holbrook Association of Teachers, Andover, Mass.
J. D. Steele, Vansville, Md.

NOW READY,

AN INTERESTING AND USEFUL MAP.

Upon which is delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It may be had either in sheets, price \$1 25, or put up in Morocco for pocket maps, price \$1 50, or on rollers at \$2 25, in any quantity, by applying to the subscriber.
D. K. MINOR, 35 Wall street.
New-York, April 2, 1835.

CIVIL ENGINEERS.

The Western Railroad Company, incorporated by an act of the General Assembly of the State of Tennessee, for the purpose of constructing a Railroad from the town of Jackson, in the county of Madison, by the most practicable route to the Mississippi River, wish to employ one or more persons as engineers to survey the route and superintend the location and construction of said road. Gentlemen who wish employment in the above capacity, will forward to the undersigned on or before the 3d day of June next, the terms upon which they are willing to engage, also the most unquestionable testimonials of good character and scientific and practical skill in works of the above description. An election of an engineer will not take place before the 3d of June.

By order of the Pres't & Directors.

JOS. M. TALBOT, Cash'r & Sec.
Jackson, March 18, 1834.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 24, 1833.
For further information on this subject see No. 40, page 778 of this Journal.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J45 17

**RAILROAD CAR WHEELS, BOXES AND
AND OTHER RAILROAD CASTINGS.**

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.
Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8

ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
m18



INSTRUMENTS.

**SURVEYING AND NAUTICAL INSTRUMENT
MANUFACTORY.**

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing & Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.
m23

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. Also the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon dale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, {
January 29, 1833.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty ed nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely cooled to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 18, 1833. A29JRM&F

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in lengths of 14 to 16 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. 1/2 do.	
40 do. 2 do. 1/2 do.	
800 do. 2 1/2 do. 1/2 do.	
500 do. 3 do. 1/2 do.	

soon expected.

250 dn. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 2 3/4, 3, 3 1/4, and 3 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.
A. & G. RALSTON,
9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.
d11meowr

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street, corner of Malden lane.
J31 61

**ENGINEERING AND SURVEYING
INSTRUMENTS.**

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.
WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.
Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the Department of Construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other descriptions of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.
Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.
E. H. GILL, Civil Engineer.

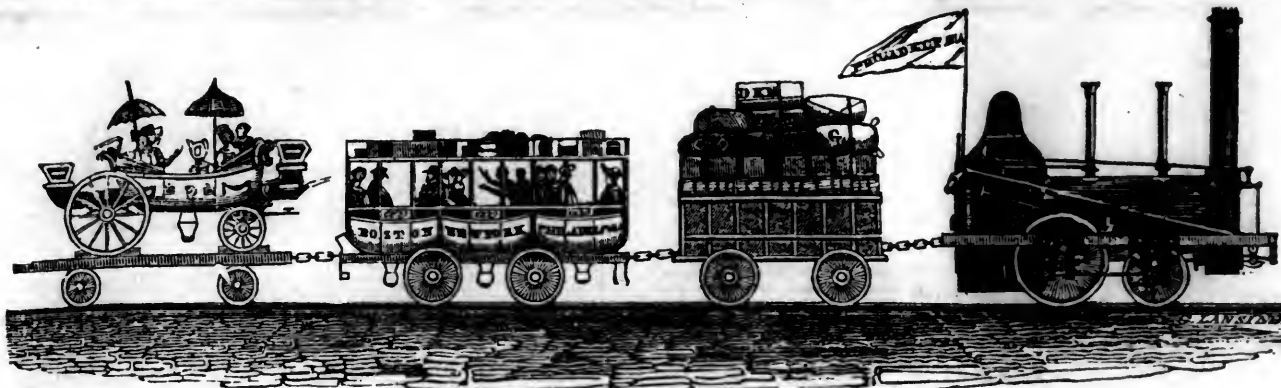
Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which I have combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Germantown, and Norristown Railroad

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, APRIL 26, 1834.

[VOLUME III.—No. 16.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, APRIL 26, 1834.

MR. BURDEN'S BOAT.—In answer to various inquiries respecting this boat, we may say, after taking pains to ascertain the fact that she will take her place in the North River line on or before 1st June.

The banks of the upper level of the Chesapeake and Delaware Canal gave way last Saturday morning, and the water of the canal nearly all escaped. This accident will compel the trading vessels between Philadelphia and the ports on the waters emptying in to the Chesapeake bay, to go round by sea as herebefore.

A good beginning.—Letters from Boston of the 17th instant, mention that the receipts on the 16th instant of the Boston and Worcester railroad, from passengers, were one hundred and fifty dollars.—The Locomotives now travel over the first ten miles of the road. It is expected that in a few days the whole of the first section will be completed and the travel extended to Needham.

Survey of the New-York and Erie Railroad Route. By J. S. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

SIR,—I find in your Railroad Journal of Saturday last, the first object of notice contained therein is to the following effect:

"SURVEY OF THE NEW-YORK AND ERIE RAILROAD ROUTE.—A bill providing for this survey through the southern tier of counties, at the expense of the State, under a principal engineer to be appointed by the Governor, is now before the Legislature."

A railroad located as above described has long been a favorite object of my attention, and, as I apprehend, has, more than once, been a subject of observation in conversation with

you. I do conceive, if properly constructed, it bids fair to be ultimately the greatest thoroughfare in the United States, if not in the world. A slight knowledge of the country through which it must necessarily pass, the connection it will form between the waters of the ocean and the immense range of interior lakes, will give to it such a flood of business as must surpass any conception we at present can form an idea of.

I cannot, at the present moment, go into a minute description of the peculiarities of the formation of the ways now contemplated, but promise you to have it ready for insertion in your next number. It will possess the merit of entire singularity, if no other. But what will more particularly recommend it for adoption on this extensive route, is, that it is capable of being carried into complete effect at one quarter the expense of railroads on the construction of those now in use. Your obt. servt.

J. S.

Hoboken, April 23d, 1834.

The Liverpool and Manchester Railway. [From the London Mechanics' Magazine.]

We have been favored with a copy of the report made by the Directors of this Company, and find in it so much matter of fact that is of universal interest, on the subject of railways and locomotive power, that we need offer no apology for transferring it (with but little abridgment) to our pages. Mr. Grahame, and the other partisans of canal navigation, who still persist, with so much honesty and candor, in representing that the profits of this railway arise mainly from the conveyance of passengers, and that it cannot possibly compete with canals in the conveyance of goods, will observe in this report some rather stubborn facts on both these heads. The common-road steam-carriage charlatans too, who tell us that the expense of working a steam-carriage on a granite highway will be not more than sixpence per mile, and the tear and wear next to nothing (for "1,700 miles" at least), may learn from the circumstantial details here given of the actual expense of working such carriages on a railway, where the friction is many times less than on the best granite road than can be constructed, how much occasion they have to blush for the delusive representations they have sent forth to the public. We do not of course include in this class of public deceivers any of those honest and intelligent individuals—the Heatons, Hancocks, and Saxulas, of the day—who frankly subscribing to the undeniable fact, that there is more friction to be overcome on a common road than on a railway, have proposed to themselves to determine by experiment whether it would not be cheaper to work steam

carriages against that greater friction, than to be at the expense of laying down railways to avoid it—in some cases at least, if not in all. These last are adventurers of a very different stamp; they calculate on a particular result, which, though as yet unascertained; is neither impossible nor improbable; and as long as they pursue the reasonable object they have in view by honorable means, they shall command as they deserve our best encouragement and support.

LIVERPOOL AND MANCHESTER RAILWAY—FOURTH HALF-YEARLY MEETING.

LIVERPOOL, January 23, 1833.

Report.—The Directors, in submitting to the Proprietors a statement of their accounts and proceedings for the half-year ending 31st December, 1833, have to report a considerable increase in the general business of the concern, as compared with the corresponding six months of the previous year.

The total quantity of merchandise conveyed in the six months between Liverpool and Manchester was..... 806 tons. To and from different parts of the line, including Warrington and Wigan..... 9,733 Between Liverpool and Manchester and Bolton..... 18,708

Total quantity conveyed..... 98,247
Quantity of coal from various parts to Liverpool..... 32,304
Ditto to Manchester..... 7,330

Total to Liverpool and Manchester.... 40,134
The number of passengers booked at the Company's offices.... 215,071

The number of trips of 30 miles performed by the locomotive engines with passengers was..... 3,253
With merchandise..... 2,587

Total..... 5,840

Compared with the corresponding six months of the last year, the increase in merchandise conveyed has been..... 11,405 tons. In passengers 32,248.

The present winter has been in an extraordinary degree stormy and wet, which has no doubt diminished the amount of travelling.

The wetness of the season also has prevented the railway from being maintained in that complete order which is desirable; while the boisterous weather, with the dirty state of the rails, has impeded the passage of the trains, not unfrequently rendering assistant engines necessary to ensure their progress, even on the level parts of the way. These circumstances have unavoidably increased the charge for locomotive power. On the other hand, the navigation of the river, owing to the long continuance of tempestuous weather, being frequently dangerous, and sometimes impracticable, the utility and importance of the railway convey-

ance have become more manifest and striking, and the natural consequence has been an accession of traffic to the Company proportioned to the required accommodation afforded to the public.

The following is a statement of the receipts and expenditures for the half-year; and the sub-joined table exhibits a detailed classification of the disbursements.

Half-year ending 31st December, 1833.

RECEIPTS.

Coaching department.....	£54,685	6	11
Merchandise do.	39,957	16	8
Coal do.	2,591	6	6

£97,234 10 1

EXPENSES.

Advertising Account.....	£6	10	0
Bad debt do.	374	10	1
Coach disbursement do., viz., guards and porters' wages, 1,168 <i>l.</i> 4 <i>s.</i> 6 <i>d.</i> ; parcel carts, horsekeep and drivers' wages, 361 <i>l.</i> 1 <i>s.</i> 7 <i>d.</i> ; materials for repairs, 689 <i>l.</i> 12 <i>s.</i> 6 <i>d.</i> ; men's wages repairing, 1,041 <i>l.</i> 1 <i>s.</i> 3 <i>d.</i> ; gas, oil, tallow, cordage, &c., 196 <i>l.</i> 4 <i>s.</i> 11 <i>d.</i> ; duty on passengers, 3,224 <i>l.</i> 11 <i>s.</i> 11 <i>d.</i> ; stationary and petty expenses, 277 <i>l.</i> 4 <i>s.</i> 5 <i>d.</i> ; taxes on offices, stations, &c., 116 <i>l.</i> 0 <i>s.</i> 8 <i>d.</i> ; guards' clothes, 64 <i>l.</i> 15 <i>s.</i>	7,138	16	9
Carrying disbursement account, viz., agents and clerks' salaries, 1,723 <i>l.</i> 16 <i>s.</i> 9 <i>d.</i> ; porters and brakemen's wages, horsekeep, &c., 5,066 <i>l.</i> 6 <i>s.</i> 10 <i>d.</i> ; gas, oil, tallow, cordage, &c., 529 <i>l.</i> 17 <i>s.</i> ; repairs to jiggers, trucks, stations, &c., 366 <i>l.</i> 9 <i>s.</i> 11 <i>d.</i> ; stationary and petty expenses, 429 <i>l.</i> 5 <i>s.</i> 1 <i>d.</i> ; taxes and insurances on offices, &c., 456 <i>l.</i> 17 <i>s.</i> 7 <i>d.</i> ; sacks for grain, 110 <i>l.</i> 3 <i>s.</i> 10 <i>d.</i>	8,627	17	0
Coal disbursement account.....	82	0	9
Cartage (Manchester) do.	3,173	18	0
Charge for direction do.	312	18	0
Compensation (coaching) do.	142	4	8
do. (carrying) do.	223	10	11
Coach office establishment do. viz., agents and clerks' salaries, 302 <i>l.</i> 6 <i>s.</i> 8 <i>d.</i> ; rent, 30 <i>l.</i>	632	6	8
Engineering department acct. Interest do.	319	3	4
Locomotive power do., viz., coke and carting, 3,197 <i>l.</i> 4 <i>s.</i> 4 <i>d.</i> ; wages to coke fillers and waterers, 348 <i>l.</i> 8 <i>s.</i> 5 <i>d.</i> ; gas, oil, tallow, hemp, cordage, &c., 865 <i>l.</i> 14 <i>s.</i> 9 <i>d.</i> ; brass and copper, iron, timber, &c. for repairs, 3,755 <i>l.</i> 3 <i>s.</i> 7 <i>d.</i> ; men's wages repairing, 4,401 <i>l.</i> 4 <i>s.</i> 10 <i>d.</i> ; engine and firemen's wages, 784 <i>l.</i> 8 <i>s.</i> 5 <i>d.</i> ; out-door repairs to engines, 613 <i>l.</i> 3 <i>s.</i> 9 <i>d.</i>	13,965	8	2
Maintenance of way account, viz., wages to plate layers, joiners, &c., 2,937 <i>l.</i> 19 <i>s.</i> 2 <i>d.</i> ; stone, blocks, sleepers, keys, chairs, &c., 2,411 <i>l.</i> 2 <i>s.</i> 4 <i>d.</i> ; ballasting and draining, 925 <i>l.</i> 16 <i>s.</i> 11 <i>d.</i> ; new rails, 150 <i>l.</i> 16 <i>s.</i> 3 <i>d.</i>	6,425	11	8
Office establishment account, viz., salaries, 607 <i>l.</i> 2 <i>s.</i> ; rent and taxes, 75 <i>l.</i> 14 <i>s.</i> 3 <i>d.</i> ; stationary and printing, 22 <i>l.</i> 7 <i>s.</i> 8 <i>d.</i> ; stamps, 17 <i>l.</i> 2 <i>s.</i> 3 <i>d.</i>	722	6	2
Police account.....	1,022	7	6
Petty disbursement do.	61	19	6
Rent do.	603	10	8
Repairs to walls and fences.....	665	3	4
Stationary engine and tunnel disbursement account, viz., coal, 302 <i>l.</i> 6 <i>s.</i> 5 <i>d.</i> ; engine and brakemen's wages, 319 <i>l.</i> 11 <i>s.</i> 2 <i>d.</i> ; repairs, gas, oil, tallow, &c., 419 <i>l.</i> 15 <i>s.</i> 5 <i>d.</i> ; new rope for tunnel, 266 <i>l.</i> 3 <i>s.</i> 6 <i>d.</i>	1,309	16	6
Tax and rate account.....	3,409	11	0
Wagon disbursement do., viz., smiths and joiners' wages, 718 <i>l.</i> 19 <i>s.</i> 7 <i>d.</i> ; iron timber, castings, &c., 700 <i>l.</i> 9 <i>s.</i> 1 <i>d.</i> ; cordage, paint, &c., 23 <i>l.</i> 5 <i>s.</i> 2 <i>d.</i> ; canvass for sheets, 163 <i>l.</i> 6 <i>s.</i> 5 <i>d.</i>	1,611	0	3
Cartage (Liverpool).....	80	17	10
Law disbursement.....	390	3	0
Net profits for six months.....	56,350	1	9
	£40,884	8	4

1st July to 31st December, 1833.

DISBURSEMENTS APPORTIONED UNDER THE DIFFERENT HEADS OF EXPENDITURE.

	Per Passenger Booked.	Per Ton of Merchandise Liverpool and Manchester	Per Ton of Coal.	Per Ton on Bolton Tonnage	Coaching Department.	Merchandise Department.	Coal Department.	Bolton Tonnage.	Totals.
	s. d.	s. d.	s. d.	s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Disbursements in the merchandise department, consisting of portorage, salaries, parish rates, and insurance, £456 17 <i>s.</i> 7 <i>d.</i> , carting, stationary engine, &c. disbursements.....	-	3 9½	-	0 3¼	-	15,150 9 11	-	249 0 8	15,399 10 7
Disbursements in the coaching department, comprising portorage, salaries, repairs, duty on passengers, £3,224 11 <i>s.</i> 11 <i>d.</i> , &c. &c.	0 9	-	-	-	7,913 8 1	-	-	-	7913 8 1
Portorage, &c. in the coal department, after deducting amount received for weighing coal.....	-	-	0 0½	-	-	-	82 0 9	-	82 0 9½
Locomotive power account, proportioned according to the number of trips of 30 miles in each department, comprising repairs of engines, wages, coke, &c. &c.	0 8½	1 6½	-	-	7,779 0 1	6,186 8 0	-	-	13,965 8 1
Sundry disbursements, proportioned according to the receipts as between the coaching and merchandise departments, and according to the number of tons and miles conveyed, as between the Liverpool and Manchester and Bolton trade, comprising maintenance of way, police, and gate establishment, general office establishment, &c. &c.	-	-	-	-	-	-	-	-	-
Rates and taxes, interest on loans, and chief rents, proportioned according to the amount of profit in each department, calculated <i>exclusive</i> of these items of disbursement.....	0 6½	0 10½	0 1½	0 7	5,532 0 2	3,494 5 1	262 2 10	547 18 2	9,836 6 3
	0 6½	0 7½	0 2½	0 1½	6,120 19 11	2,526 6 3	411 1 5	95 0 5	9,153 8 0
Total disbursements.....	2 6½	6 10½	0 4½	0 11¼	27,345 8 3	27,357 9 3	755 5 0	891 19 3	56,350 1 9
Net profit.....	2 6½	2 10	0 11	0 5½	27,339 18 8	11,283 19 7	1,836 1 6	424 8 7	40,884 8 4
Gross receipts.....	5 1½	9 8½	1 3½	1 4½	54,685 6 11	38,641 8 10	2,591 6 6	1,316 7 10	97,234 10 1

Statement of Receipts and Expenditure on Capital Account, from the commencement of the undertaking to 31st December, 1833.

TREASURER, DR.

To amount of joint capital in shares and loans.....	£1,086,885	0	0
.. Ditto of dividends not paid.....	1,087	3	1
.. Surplus in hand after payment of the sixth dividend, in August, 1833.....	395	10	2
.. Net profits of the concern for the half year ending 31st December, 1833.....	40,884	8	4
	£1,129,252	1	7

TREASURER, CR.

By amount of expenditure on the construction of the way and the works, including the tunnel, excavations, &c. now in progress.....	1,039,818	17	7
.. Ditto in the hands of Moss & Co., bankers.....	28,476	11	9
.. Ditto in the hands of the treasurer.....	243	15	9
.. Ditto of arrears on calls.....	25	3	6
.. Ditto balance of book debts due to the company.....	10,688	12	0
	£1,129,252	1	7

During the past six months the excavation of the new tunnel from the vicinity of Waver-street lane to Lime-street has proceeded regularly and satisfactorily, and is now more than half completed.

In order to extend the advantages of a railway conveyance to the northern docks, and those parts of the town which are at a considerable distance from the railway station, the Directors transmitted a memorial to the Common Council, the Dock Committee, and the Commissioners of Sewers, proposing to construct, at the expense of the Company, a line of railway from Wapping to the Clarence Dock, by means of which merchandize deposited at the north end of the port might possess the same facilities of conveyance by railway into the interior of the country as goods in the southern portion of the town, besides relieving the streets from the noise and interruption of numerous waterside carts. This memorial, as might be expected, from the evident utility of the scheme, has been favorably received, especially by the Dock Committee, and the Commissioners of Sewers; the principal objection to the plan being that it was not sufficiently

general and extensive to afford to the public at large that measure of accommodation which appeared so easily practicable. The Directors, however, confidently look forward to the establishment on a comprehensive plan, probably to be undertaken by the Dock Trustees, of a line of railway with the requisite branches, along the dock quays from the northern to the southern extremities of the port; which measure seems alone wanting to give to the mercantile public those advantages of economy and despatch which a railway conveyance is so peculiarly calculated to afford.

The proprietors are aware that the subject of locomotive engines has always been one of great interest and importance. The charge under this head continues very heavy, arising in a great measure from the necessity of renewing and strengthening the frame work of the machinery; and from the purchase of copper and brass plates for the renewal of fire boxes and tubes.

The charge for coke has been a heavy item in the locomotive expenditure, amounting to nearly £6,000 per annum. The directors have lately been induced to try gas coke to a very considerable extent. The cost per ton is less than one-half the cost of Worsley coke; and although a greater weight is required to do the same service, and an extra consumption of fire bars and some other difficulties attend the use of it, the Directors have considered the experiment well worth making, in the hope of diminishing the expenditure in that department.

Several new schemes for an improved locomotive power have lately been brought under the consideration of the Directors. Past experience forbids any very sanguine anticipations of success in respect of untried speculations; at the same time, the Directors will not fail impartially to investigate the pretensions of any scheme from a respectable source, which professes to introduce improvement into so important a branch of the Company's establishment.

The charge for the maintenance of the way is another heavy item of the current expenditure. In particular parts of the road, especially on the descending lines of the inclined planes, the rails prove too weak for the heavy engines,

and the great speed at which they are moved; and from the breakages which have taken place, the Directors have thought it expedient to order a supply of stronger and heavier rails, to put down in those districts where the present rails have been found insufficient. This proceeding will in the first instance subject the Company to some increased expenditure. The Directors, however, have contracted (for the ensuing year) for that portion of the maintenance of way which consists of labor and small materials on terms of comparative advantage to the Company, which they expect will balance the increased outlay required for the purchase of stronger rails.

Observations on Flame—Mr. Rutter's Late Discovery. [From the London Mechanics' Magazine.]

SIR,—There is something very pleasing in applying chemical knowledge to the explanation of the various phenomena that are daily before our eyes. I now propose, with your permission, to make a few observations on the flame of a candle that is now burning on my table. I shall observe, at first, that the heat of the flame melts the tallow, which then ascends the wick by capillary attraction, and is in consequence subjected to intense heat; the tallow is next decomposed, and the principal part of the resulting gas is carburetted hydrogen, which is again decomposed in the following manner: When this gas is first formed, it expands in every direction, and thus getting into the hottest part of the flame, its carbon is deposited in an abundance of fine particles; the hydrogen now increases in volume three and a half times the bulk it possessed when in perfect chemical union with the carbon. This expansion, which is probably again more than doubled by the intense heat of the flame, causes the hydrogen to appear at the outer surface of the flame, where it unites with the oxygen of the atmosphere, and envelopes the white and luminous flame, or that part containing the particles of carbon, with a thin sheet of blue flame.

I now come to a very difficult part of this subject, which, I think, will, when satisfactorily explained, have a great tendency to illustrate Mr. Rutter's discovery of the advantage of burning water with coal-tar, which is by far the greater part carbon; the difficulty is, to account for the appearance of oxygen in the interior of the flame. Lord Bacon proved that flame would burn within the interior of flame; and Dr. Ure, in his *Dictionary of Chemistry*, relates a similar experiment, and gives the following definition of flame, founded on the researches of Sir H. Davy: "The flame of combustible bodies may, in all cases, be considered as the combustion of an explosive mixture of inflammable gas, or vapor, with air." It may seem very presumptuous in me to differ with such authorities as Davy and Ure, but my defence is, that I regard truth more than all the authorities in the world. I question the truth of the above definition of flame on this ground, that the flames of "explosive mixtures" give no light, but afford merely a feeble blue flame. This is the case with explosive mixtures of coal-gas, oil-gas, and indeed all gases containing carburetted hydrogen or olefiant gas; surely, then, the flame of a candle, or of olefiant gas from a small aperture, exhibits phenomena very different from the combustion of an explosive mixture. After giving the aforementioned definition, Dr. Ure says, alluding to flame: "It cannot be regarded as mere combustion at the surface of contact of the inflammable matter. This fact is proved by holding a taper or a piece of burning phosphorus within a large flame made by the combustion of alcohol. The flame of the taper or phosphorus will appear in the centre of the other flame, proving that there is oxygen even in its interior part." This is, in my opinion, no proof whatever of oxygen being in the interior part. There may be carbonic acid, or

there may be vapor of water, &c.; and what confirms this conjecture, is the well known fact that carbon can decompose carbonic acid, or at least unite with one atom of its oxygen, thus forming carbonic oxide; for carbonic acid is composed of one atom of carbon and two atoms of oxygen. Carbonic oxide may therefore decompose the vapor of water formed by the union of the hydrogen with the oxygen of the atmosphere, or carbon itself may decompose the vapor of water; this latter is my opinion. But, it may be asked, how does the vapor of water find its way into the interior of flame? In the case of the candle-flame, I apprehend, it is by the union of the hydrogen with the oxygen of the atmosphere at the surface of the flame; and I have before explained that the expansion of the hydrogen, when the carbon is deposited, is the cause of its being projected with considerable velocity to the outer surface of the flame. When the hydrogen thus unites with the oxygen, water is formed, which being immediately subjected to extreme heat, expands with great velocity into vapor, which is projected, not only into the interior of the flame, but from the sides where it is formed. The carbon decomposes this vapor, and, by uniting with its oxygen, hydrogen is again formed, which may be repelled by the sudden expansion, which it must have when the carbon seizes the oxygen, to the exterior of the flame, where, uniting with oxygen, it may again return to the interior—and thus play backward and forward many hundred times in a second. This play of affinities would, however, soon cease, were not the supply of hydrogen kept up by the continual and first decomposition of the carburetted hydrogen. That vapor is projected from flame is proved when I held the point of a pair of cold steel snuffers within, say three-eighths of an inch of the flame, by moisture being deposited; but the particles are so fine, and in so small quantity, that a dull appearance only of the steel results, which quickly vanishes on their removal. Should the snuffers be held very near the flame, small drops of water will appear on their removal. As this deposition of moisture takes place when the snuffers are held under the flame, and at a distance of perhaps one-fourth of an inch, I conclude it to be projected with considerable velocity, in the manner before pointed out, from every part of the flame; and I further consider that this atmosphere of vapor may, in some measure, account for the luminous halo which appears to surround the flame of a candle.

There are many other considerations which induce me to believe the above conjectures to be nearly right. One is, that if carburetted hydrogen be mixed with a very small portion of common air, its power of giving light is impaired, for part of the carbon is then burnt in its gaseous combination. Another circumstance that induces me to question the presence of oxygen in the interior of the flame of carburetted hydrogen, is the fact, that a small portion of carbon, when deposited on a small fibre of the wick of a candle, will remain in the white part of the flame without undergoing decomposition. Now, if oxygen were present in an uncombined state, and at such an elevated temperature, who can doubt that an immediate decomposition of the carbon would take place? But, it may be asked, why does not this portion of carbon decompose the vapor of water which you consider to be present in all flames containing hydrogen? One cause may be that the particles of which it is composed attract each other with part of their force, and cannot therefore exert their full force to decompose the vapor. That coal-tar cannot be burned like oil, is because it is nearly all carbon, and has not sufficient hydrogen to form the requisite quantity of vapor—what it does possess being only sufficient to supply part of its carbon with oxygen; the other part of the carbon deposited rises from the flame in dense black smoke. It may be further inquired,

why does not the black smoke, or the carbonaceous particles arising from a hot flame, unite with the oxygen of the atmosphere, and so form carbonic acid, which is invisible? I apprehend it is because of their low capacity for heat, and the instantaneous radiation of heat from their surfaces; the particles being thus deprived of their heat cannot unite with oxygen, which is also cold—for the union of carbon with oxygen will not take place under a dull red heat. Is it possible, then, to burn coal-tar without producing smoke? Nothing is more easy to a person possessing a slight knowledge of chemistry; let a long tunnel of fire-brick be constructed, leading to a chimney, and let a coal fire be lighted till the sides of this tunnel become of a white heat; if a small stream of coal-tar be now introduced, it will inflame, and as the particles of carbon deposited cannot lose their heat, and will be floating in a strata of air heated to redness, their union with oxygen must take place, provided sufficient air be admitted with the stream of coal-tar.

I shall now conclude with a few words on Mr. Rutter's project of introducing a small quantity of water with the tar. The water will first be formed into vapor, which will require some portion of heat; now this vapor may be decomposed by the carbon, when the hydrogen will again unite with the oxygen of the atmosphere, and vapor will again be formed, till the decomposition of all the carbon is complete. Perhaps two gallons of water is more than one gallon of coal tar could be made to decompose, and it would be very gratifying to me to see the actual fact proved by experiments so conclusive as to satisfy the doubts of the most sceptical. Your Salisbury correspondent states, that "15 lbs. of coal-tar," which I suppose is about equal to an imperial gallon, "and an equal bulk of water," say 10 lbs., "and 25 lbs. of Newcastle coke, will be found equal to 120 lbs. of Newcastle coal." But this is on the supposition that the whole of the water will be decomposed, which I consider a practical impossibility, for a large portion of the carbon must unite with the oxygen admitted to inflame the hydrogen.

Should Mr. Rutter, however, have formed too high an estimate of the heat gained by his process, there are other advantages attending it which must not be overlooked; for two intense chemical actions are supported with the same volume of air that either of them would require separately, which is of great importance in its application to steam boilers. Your Salisbury correspondent has certainly blundered in endeavoring to explain this. (See his paragraph, page 452, beginning with "Another condition," and ending with "gases.") He is also wrong in saying, (page 453), "The sides of the furnace in that vessel formed a part of the boiler, consequently their temperature never exceeds that of the contained water." How then is the heat communicated, if both sides are of the same temperature? According to my experience, the sides of boilers are often many hundred degrees hotter than the contained water, and sometimes red hot just at the outer surface.

I have no other object in making these remarks than to elicit truth, and prevent scientific men from trusting too much to "hope's delusive mine." I remain, sir, your obedient servant,
WILLIAM WITTY, JUN.

ANALYSIS OF OYSTER SHELLS.—One hundred grains of oyster shell will give Carbonate of Lime, 95.18; Phosphate of Lime, 1.88; Silica, 0.40; Water, 1.62; Insoluble animal matter, 0.45; Loss, &c. 0.46. From this view of the composition of recent oyster shell, it is obvious that no appreciable advantage can be expected in applying it as a manure from the minute proportion of animal matter which it has been shown to contain. It is as a carbonate of lime, and that nearly in a state of purity, that it should claim the attention of the agriculturist.—[Farmers' Register.]

On Railroad Wheels, &c. By WM. M. CUSHMAN. To the Editor of the Mechanics' Magazine and Register of Inventions and Improvements.

SIR,—There are few applications of science which make such continual and importunate calls upon its resources as the subject of railroads—its principles having place as well in the minute, as the more prominent parts; and to such an extent does this obtain, that, although casuists might dispute the endowment of sensibility, we may with some propriety credit the "sympathy" which subsists among its various constituent parts.

To those of your readers who know the important part the appendage, which forms the subject of this paper, acts in the successful operation of a railroad, no apology for its appearance would be proper or necessary. Impressed, however, with the belief that, in matters of science, nostrums and secrets are the peculiar property of empiricism, I am persuaded that liberality, to a certain extent, among engineers, in a mutual interchange of ideas through public journals devoted to such objects, will be attended with the most beneficial results to the profession and its members generally—it is the hope of contributing a trifle to such result, which induces me to send for publication, the subsequent compilation from my common-place book.

The problem assigning to the parts of the wheel the proportions requisite to sustain a given stress, has been investigated;* but as I have never seen any discussion touching the particular distribution of metal to obtain the requisite strength with the least quantity of metal, and at the same time to offer the least resistance to motion, after briefly reciting the mode of proceeding in order to attain the single condition of strength, I propose to examine that necessary to the attainment of the latter conditions.

To determine the dimensions of the rim, arms, &c., consider them rectangular prisms, calculate the stress these prisms will bear; and lastly, dispose them in the best form for strength and motion on the various parts of the line.

Each arm must be of sufficient strength to bear the greatest stress that can ever fall upon it, which is half the weight of the car and its load; then this formula holds,

$$\frac{S}{2200} = a; (1.)$$

in which S is put for half the weight, and a for the surface in inches of the section of the arm.

In the rim this formula holds,

$$t = \sqrt{\frac{c \times S}{850b}}; (2.)$$

in which c = the length of the arc between the arms, in feet, at the mean diameter of the rim; S, as before; b = the breadth of the rim, in inches; and t = the thickness of the prism, in inches—to be disposed in the best form for strength and for the rim. The formula (2) is general, but the other is affected by the number of arms; it is designed for a 3 feet wheel, having 10 arms, or a 5 feet wheel, having 12.

But since, in rolling bodies, each particle of matter resists motion in proportion to the square of its distance from the axis of motion, it is evidently an object of the first importance to dispose of the weight of metal as near the axis of motion as is consistent with strength, safety, and the perfection of the wheel in other respects.

To illustrate the effects of this principle, let

* Vide Tredgold on Railroads. Science is deeply indebted to this author: his work on railroads, however, published in their stunted infancy, although in many particulars sound, is in others behind the age; it has the merit of having been a pioneer—of having deracinated by a rigorous application of scientific principles, the absurdities which at that period entangled the subject. It is in our own country that many of its most important principles have been developed, with a rapidity corresponding with the fertile genius of our countrymen, and the impetus and zeal every object to which they direct their attention receives.

the weight of a car and its load be 3 tons, and suppose further, that a wheel of 3 feet diameter is the height most suitable for the road it is to run upon. Now, if it be desired to sustain a given constant weight by a prism of a given breadth, supported at each extreme, it is manifest that, as the distance between the supports is increased, the depth of such prism must likewise be increased in a certain ratio; and vice versa. This condition is expressed in formula (2.) in its true ratio—hence, in increasing the number of arms, we diminish the weight of the rim, and effect a transfer of metal towards the centre of motion; and this may be done without injury to the wheel in any respect.

I shall in the first place assume formula (1) to be general, to illustrate the effect resulting solely from the change of place of the metal from the exterior towards the interior.

Excluding the part of the radius occupied by the nave and rim, the quantity of metal for an arm will be 19.92 cubic inches, and on the hypothesis of 10 arms, the surface of a section through the rim will be 4.090 inches; but on the hypothesis of 9 arms, the sectional surface is 4.315 inches: hence the volume of the rim for 10 arms is less than that for 9, by 25.5 cubic inches.

These preliminaries made, in order to effect a comparison of the efficiency of the two wheels:

Let the prism representing the volume of any arm be divided into an indefinite number of equal parts, by planes cutting it orthogonally, and m = one of these parts; let also r, r', r'', r''', &c., ad infinitum, be the respective distances of these quantities from the axis of motion, and x = the sum of the rectangles of the subdivisions into the squares of their respective distances from the axis: then, by the law, we get

$$mr^2 + mr'^2 + mr''^2 \&c. \text{ ad inf.} = x;$$

which expression, since each term is affected by the same quantity m, becomes

$$m(r^2 + r'^2 + r''^2 \&c. \text{ ad inf.}) = x; (3.)$$

In assigning a value comparatively small to m, we shall have for all practical purposes the value of x: thus, let $m = \frac{1}{10}$ of the mass of the arm, which (taking the diameter of the nave 5 inches, and considering the last half inch of the arm merged in the rim,) is represented by 19.92: then, r, r', r'', &c. become 1, 2, 3, . . . 36; and,

$$\frac{19.92}{30} (6^2 + 7^2 + 8^2 \dots 35^2) = 9864 = x. (5.)$$

Again, since the matter in the rim lies in a circle described about the axis, it is at every point equally distant from the axis; its mass, therefore, drawn into the square of its distance from the axis, will be its moment of inertia: hence,

$$36^2 \times 25.5 = 33048 = x'; (6.)$$

wherefore, the relative resistances to motion of the means used to attain the same end, in the two wheels, are as

$$x : x' :: 1 : 3.35.$$

2d. But the mass of each arm may, in general, be diminished in the ratio of the increase of number, to that contemplated in formula (1.) in consequence of conditions entering therein.

The value of x (form. 5) is reduced by the addition of a single arm, $\frac{1}{10}$ for each arm; their sum being 9, gives x for the total diminution in resistance to motion offered by each, which in amount is just sufficient to make the new arm; whence the relative moments are as

$$x : x + x' :: 1 : 4.35;$$

if the number be increased to 11, the relative moments stand thus,

$$1 : 6.94;$$

if to 12, thus,

$$1 : 9.62;$$

and so on for a greater number.

Such are the results when the principle of momentum of inertia enters as a condition in the determination of the problem.

Extending this principle, we see that the wheel of greatest efficiency with the least quantity of metal would be one without spokes, i. e. having a sheet of metal extending from the nave to the rim: but the limit to the number of arms will be attained when the rim has such a thickness that, when further reduced, there would be danger of fracture from other causes than the stress it is to bear.

I shall not extend my remarks further. By those acquainted with subjects of this nature, the consequences which flow from them will readily be appreciated. My aim has been not to define with precision the exact form necessary in practice, but to illustrate the importance of introducing the principle of momentum of inertia; and to indicate, in a general manner, the changes which ought to be made in the ordinary form, from its introduction.

WM. M. CUSHMAN, C. E.

Albany, April 14, 1834.

AMERICAN PATENT—Specification of a Patent for Improvements in the Wheels of Railroad Carriages. Granted to JOHN ELGAR, Civil Engineer, City of Philadelphia, November 19, 1833.

To all whom it may concern, be it known, that I, John Elgar, Civil Engineer of the city of Philadelphia, have invented certain improvements in the wheels of railroad carriages, by one of which improvements they are made to adapt themselves more readily to curved roads than such as have been heretofore used for that purpose; and by the other a construction is given to them which will render them more firm and durable than those now in general use; and I do declare that the following is a full and exact description of my said improvements.

The self-adjusting conical wheel for running upon curved roads is well known to engineers, it having been made the subject of a patent by Mr. James Wright, and a modified form of it being now used on the Baltimore and Ohio railroad. The plan which I have devised is a new modification of this principle, by which some of the inconveniences which have hitherto attended its employment are in a great degree, if not altogether, obviated.

Instead of making the wheel conical on its whole tread, like Wright's, or of forming the conical part against the flanch, and leaving the other part cylindrical, as in those used on the Baltimore road, I form the cone on the outer part of the tread of the wheel, opposite to the flanch, leaving that part of the tread which extends from the flanch towards the opposite side cylindrical, or nearly so, for one half of its width, more or less, and then tapering outwards in such degree as may be most convenient, according to the curvature of that part of the road which has the smallest radius.

The curved part of the road is adapted to these wheels, by widening the track in proportion to the radius of curvature, so as to admit the conical part to roll on the interior rail, whilst the cylindrical part bears upon the exterior rail. This construction obviates the objection arising from the wrong tendency of the cone when running on the exterior rail, and adapts the whole more perfectly to those parts of the road which are straight, and produces other advantages, which will readily occur to experienced engineers.

In order to render railroad wheels more firm and durable than those now in use, I form that part of the wheel usually occupied by the spokes of two plates of iron, preferring for this purpose thick sheet iron of three eighths of an inch, more or less, in thickness. These sheets of iron are raised so as to be concave, or dishing, forming the segments of a large sphere, or, if preferred, they may be made conical. These plates have a hole in their centres to receive the hub, or nave, and have a flanch turned up, over which the hoop of the hub may pass; or, if preferred, the hub may be secured in other ways. If the rim or tire

is of wrought iron, the plates may have a flanch turned at their peripheries, through which they may be rivetted on the interior of the rim. When the rim is of cast iron, the plates may be secured without a flanch, one being cast within the rim, on either side, against which the plates may fit, rivets or bolts passing through them and through the flanch, to secure them in their places. Other modes of fixing the plates in their places may be devised, and I do not mean to confine myself to any specific plan of effecting this object, the manner of doing so not in any way affecting the principle upon which my improvement is founded. This mode of construction is particularly adapted to wheels for locomotive engines, that run either on common roads or on railways.

What I claim as my invention in my first described improvement, is the making the wheel of a railway carriage conical on its outer edge, and cylindrical between said conical part and the flanch, for the purpose of adapting it to run upon curved roads, and applying it thereto upon the principle, and in the manner herein before set forth.

What I claim as my invention in my second described improvement, is the substituting of metallic plates (generally of wrought iron,) for the spokes usually employed; and the giving to such plates a form which shall be convex, either curved or conical, from the rim to the hub of the wheel.

JOHN ELGAR.

IMPORTANT DISCOVERY.—We are informed by two gentlemen who lately passed through Syracuse, N. Y., that Mr. Avery, the proprietor of an extensive iron foundry in that place, has made a very important discovery in relation to casting of iron. The best kind of earth used in foundries is brought we believe from Canada. Mr. Avery analyzed this earth, and found it to contain a certain portion of blue clay. Following this up by a series of experiments, he discovered that if *common fine sand* was mixed with *common blue clay*, in the proportion of one tenth part of clay to nine tenths of sand, it would constitute the best possible composition for casting that he had ever used. Even the most delicate castings came out perfectly free of sand, and required no sort of cleaning by vitriol. He dismissed ten of his cleaners on the spot. Mr. Avery has taken out a patent for his discovery, and estimates that his composition will make an immense saving in the expense of iron foundries—in the diminution of labor, the cheapness of the sand, and in the disuse of vitriol in the process of cleansing. We hope that our neighbors of the furnace will immediately test it by experiment.—[Brattleboro' Independent Inq.]

THE BANKS OF NEWFOUNDLAND.—These banks extend over a space of forty thousand miles, and are from thirty to forty-five fathoms below the surface of the ocean. The shoals are inhabited by innumerable tribes of muscles and clams, to which it is a favorite residence, as they can easily bury their shells in the soft sand. They have enemies to contend with. The cod fish resort to this coast to prey on them. They keep a constant watch, and swim about a foot above the sub-marine sands; when a muscle opens its shell, it is immediately seized and devoured. At other times the fish do not wait; they are provided with a horny protuberance round their mouths; with these they burrow in the sand, and capture the muscle in its shell. The fishermen of various nations, French, English, and Americans, who resort to these banks, take annually from eight to ten millions of fish; on opening them they find the remains of twenty or fifty muscles in each; sometimes the muscle shells are found either wholly or partially dissolved. The first care of the fishermen, after taking their sta-

tions, is to ascertain the depth of water; the lines must be regulated so as to lie on the bottom, where the fish are always engaged in this species of sub-marine war

FEMALE SUPREMACY.—By all external symptoms, says an amusing writer in this month's Metropolitan, we may apprehend that the reign of women is fast approaching: look at the present aspect of Europe; a Queen of Spain, a Queen of Portugal, a prospective Queen of England. So that we are, at last, to be duly brought under "petticoat government." There is, too, Mrs. Norton conducting a magazine, and Mrs. Cornwall Wilson a weekly publication. Have not women invaded literature and art in all its branches—nay, the most awful arcana of science? There is Mrs. Somerville teaching us the mechanism of the heavens; while Miss Harriet Martineau gives us lessons on political economy.—[London paper.]

SALT.—The people of Onondaga County, N. Y., believe that they have under them an inexhaustible mass of rock salt, and that in raising this, instead of brine, they shall save half the expense of manufacturing, and be able to supply the Atlantic towns with salt cheaper than they can import it. There is one difficulty which now threatens, and that is the expense of fuel. The wood now used at the different salt springs now in operation amounts to 400 cords a day, and as the works are in use 200 days in a year, the annual consumption is 80,000 cords.

PRODUCTS AND PROFITS OF A FARM.—Full debit and credit accounts of farming operations afford one of the best sources of practical information. The following is from the Farmer's Register:

Sir—At the solicitation of a friend I am induced to give a statement of the products of my farm for the year 1833, and of its general arrangement. In doing this, as my grain is not yet all thrashed and taken to market, I cannot now arrive at perfect accuracy; but from what is thrashed and sold, I can make a correct estimate of the quantity, and I have ascertained the price for such as has not been actually sold. My farm is situated on an extensive plain, that was once covered pretty generally with small pine timber. The soil is sand, occasionally gravel, and more or less mixed with loam. It consists of two hundred acres, of which thirty acres are in wood, twenty in meadow, and ten acres of waste, leaving for cultivation about one hundred and forty acres of arable, or land used for the plough, which is divided into seven lots, of twenty acres each. One of these lots is planted in corn, on clover sod. The corn is the large twelve rowed early yellow, and my usual produce is about fifty bushels per acre. My mode of cultivation is, that after the lot has lain one year in clover, to plough it the last of April or first of May, about six inches deep: then furrow both ways with a light corn plough; the first time across the furrows about two feet nine inches apart, the next about three feet. I plant immediately after furrowing. As soon as the corn is up the length of the finger, I harrow it with a large heavy harrow lengthwise with the furrow, as the ground was originally ploughed, and take two rows at a time. Two men or boys follow the harrow with aprons, out of which they plaster the corn, and also raise any plants which may have been thrown down by the harrow passing over them. In a week after I plough once between the rows as they are planted the narrowest way; the men follow with the hoe, and they will finish twenty acres in ten days. In about a fortnight more, I plough it the widest way of planting, twice between the rows, and throw the ground towards the plant. I cut the stalk above the ear as soon as the kernel in the ear is hard, and secure the stalks in shocks. We husk the corn on the hill, and two men will gather

one hundred bushels of ears in a day. The lot which was in corn, I put down the succeeding year to oats, and it commonly produces about forty bushels per acre. This lot I seed down with western clover seed, eight quarts per acre. Two lots are in wheat which were likewise the year previous in clover seed. The one is ploughed the first of August, and again just previous to sowing in September; the other but once the last of August or first of September, about a fortnight previous to sowing. These lots have the benefit of my barn manure, which is scattered on such portions as I think require it most.

I commonly sow about one bushel twelve quarts per acre, and my common yield is twenty bushels of wheat per acre. Thus four lots are employed, one in corn, one in oats, two in wheat; the remaining three are in pasture. Two of these are again to be ploughed up in the fall for wheat, and the remaining one is for corn the succeeding season. The experience of twenty years has confirmed me in the belief that this is the most successful mode of cultivation in our soil, and I have at all events been satisfied with the amount of produce my farm has yielded me. I annex a statement showing the amount of produce and the proceeds therefrom of my farm, for the year 1833, and the expenses of its management.

Cr.

20 acres meadow, 2 tons hay per acre, sold at \$7½ per ton,	\$300 00
20 acres producing 1,000 bushels corn, for which I am offered 62½ cts. per bushel,	625 00
40 acres producing 800 bushels wheat, sold at 8½¢,	850 00
20 acres producing 800 bushels oats, sold at 37½¢,	300 00
500 bushels potatoes at 2½¢,	125 00
3000 weight of pork, at \$5 50,	165 00
Sold one beef,	25 00
500 lbs. butter, at 16 cts.,	80 00
225 lbs. wool, at 4½¢,	112 00
55 lambs, increase of my flock,	80 00
	\$2,662 00

The item of pasturage not put down.

Dr.

To hiring one man per year,	\$100 00
To do. do. seven months,	70 00
To hiring 15 days in haying and harvest,	13 12
3½ tons plaster at \$7 50,	26 25
3½ bushels clover seed at \$7 50,	26 25
Taxes,	15 00
Mechanics' bills,	50 00
	320 63
Income,	\$2,341 38
The farm sold at \$60, for 200 acres,	\$12,000
Stock and implements valued at	1,000
	\$13,000
Interest on this sum at 7 per ct.,	910 00
Gain,	\$1,431 83

Making the entire interest upon \$13,000, after deducting expenses, about 18 per cent. There are other profits from the farm not enumerated in the within statements, such as house-rent, garden, orcharding, raising of poultry, &c. I will put them against any little incidental expenses not enumerated, but which they will be amply sufficient to defray. The labor upon my farm is performed by two men as above stated, but under my own direction, and all our operations tend to lessen the amount of labor as much as practicable; and I find that nothing conduces more to this result than to keep ahead of my work through the season. For myself, I labor but moderately, but keep up a constant supervision. I will only farther add, that since I have adopted the principle of total abstinence from ardent spirits, at all seasons of the year, I think I have not only gained vastly in the amount of work done by my men, but my farming business has gone on more cheerfully.

Yours, respectfully,

TEUNIS HARDER.

Kinderhook, Columbia Co. Jan. 14, 1834.

In consequence of the resignation of the Postmaster at Kittery, Maine, and no candidate being recommended to succeed him, the Postmaster General has discontinued that office.—[Eastern Argus.]

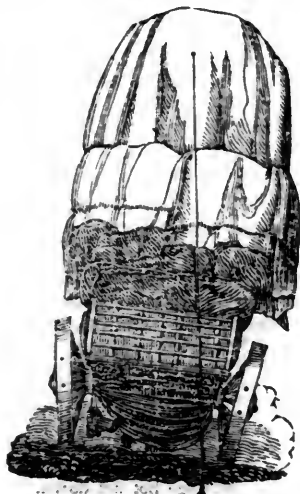
Animal Mechanics, or Proofs of Design in the Animal Frame. [From the Library of Useful Knowledge.]

(Continued from page 215.)

There is another curious circumstance in the form of the thigh bone, showing how it is calculated for strength as well as freedom of motion. To understand it we must first look to the *dishing* of a wheel. The *dishing* is the oblique position of the spokes from the nave to the felly, giving the wheel a slightly conical form. When a cart is in the middle of a road, the load bears equally upon both wheels, and both wheels stand with their spokes oblique to the line of gravitation.

If the cart is moving on the side of a barrel shaped road, or if one wheel falls into a

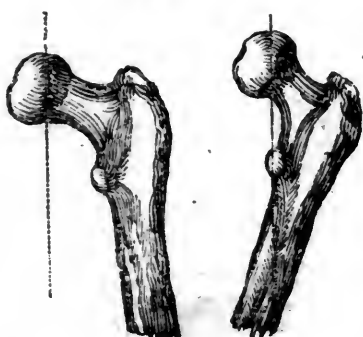
Fig. 17.



rut, the whole weight comes upon one wheel; but the spokes of that wheel, which were oblique to the load, when it supported only one-half of the weight, are now perpendicular under the pressure, and are capable of sustaining the whole. If roads were made perfectly level, and had no holes in them, the wheels of carts might be made without dishing; but if a cart is calculated for a country road, let the wheelwright consider what equivalent he has to give for that very pretty result proceeding from the obliquity of the spokes, or *dishing* of the wheel.

When we return to consider the human thigh bone, we see that the same principle holds; that is to say, that whilst a man stands on both his legs, the necks of the thigh bones are oblique to the line of gravitation of the body; but when one foot is raised, the whole body then being balanced on one foot, a change takes place in the position of the thigh bone, and the obliquity of that bone is diminished; or, in other words, now that it has the whole weight to sustain, it is perpendicular under it, and has therefore acquired greater strength.

Fig. 18.



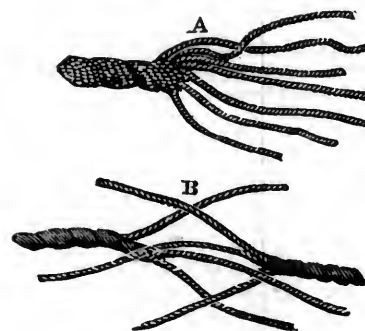
CHAPTER V.

OF THE TENDONS COMPARED WITH CORDAGE.—Where nature has provided a perfect system of columns, and levers, and pulleys, we may anticipate that the cords by which the force of the muscles is concentrated on the moveable bones, must be constructed with as curious a provision for their offices. In this surmise we shall not be disappointed. To understand what is necessary to the strength of a rope or cable, we must learn what has been the object of the improvements and patents in this manufacture. The first process in rope making is hatchelling the hemp; that is, combing out the short fibres, and placing the long ones parallel to one another. The second is spinning the hemp into yarns. And here the principle must be attended to, which goes through the whole process in forming a cable; which is that the fibres of the hemp shall bear an equal strain; and the difficulty may be easily conceived, since the twisting must derange the parallel position of the fibres. Each fibre, as it is twisted, ties the other fibres together, so as to form a continued line, and it bears at the same time a certain portion of the strain, and so each fibre alternately. The third step of the process is making the yarns. Warping the yarns is stretching them to a certain length; and, for the same reason that so much attention has been paid to the arrangement of the fibres for the yarns, the same care is taken in the management of the yarns for the strands. The fourth step of the process is to form the strands into ropes. The difficulty of the art has been to make them bear alike, especially in great cables, and this has been the object of patent machinery. The *hardening* by twisting is also an essential part of the process of rope-making; for without this it would be little better than extended parallel fibres of hemp. In this twisting, first of the yarns and then of the strands, those which are on the outer surface must be more stretched than those near the centre; consequently, when there is a strain upon the rope the outer fibres will break first, and the others in succession. It is to avoid this that each yarn and each strand, as it is twisted or hardened, shall be itself revolving, so that when drawn into the cable the whole component parts may, as nearly as possible, resist the strain in an equal degree; but the process is not perfect, and this we must conclude from observing how different the construction of a tendon is from that of a rope. A tendon consists of a strong cord apparently fibrous, but which, by the art of the anatomist, may be separated into lesser cords, and these by maceration, can be shown to consist of cellular membrane, the common tissue that gives firmness to all the textures of the animal body. The peculiarity here results merely from its remarkable condensation. But the cords of which the larger tendon consists do not lie parallel to each other, nor are they simply twisted like the strands of a rope; they are, on the contrary, plaited or interwoven together.

If the strong tendon of the heel, or Achilles tendon, be taken as an example, on first inspection it appears to consist of parallel fibres, but by maceration these fibres are found to be a web of twisted cellular texture. If you take your handkerchief, and, slightly twisting it, draw it out like a rope, it will seem to consist of parallel cords; such is, in fact, so far the structure of a ten-

don. But, as we have stated, there is something more admirable than this, for the tendon consists of subdivisions, which are like the strands of a rope; but instead of being twisted simply as by the process of hardening, they are plaited or interwoven in a way that could not be imitated in cordage by the turning of a wheel. Here then is the difference: by the twisting of a rope the strands cannot resist the strain equally, whilst we see that this is provided for in the tendon by the regular interweaving of the yarn, if we may so express it, so that every fibre deviates from the parallel line in the same degree, and consequently receives the same strain when the tendon is pulled. If we seek for examples illustrative of this structure of the tendons, we must turn to the subject of ship rigging, and see there how the seaman contrives, by undoing the strands and yarns of a rope, and twisting them anew, to make his splicing stronger than the original cordage. A sailor opens the ends of two ropes thus:*

Fig. 19.



and places the strands of one opposite and between the strand of another, and so interlaces them. And this explains why a hawser-rope, a sort of small cable, is spun of three strands; for as they are necessary for many operations in the rigging of a ship, they must be formed in a way that admits of being cut and spliced; for the separation of three strands, at least, is necessary for knotting, splicing, whipping, mauling, &c. which are a few of the many curious contrivances for joining the ends of ropes, and for strengthening them by filling up the interstices to preserve them from being cut or frayed. As these methods of splicing and plaiting in the subdivisions of the rope make an intertexture stronger than the original rope, it is an additional demonstration, if any were wanted, to show the perfection of the cordage of an animal machine, since the tendons are so interwoven; and until the yarns of one strand be separated and interwoven with the yarns of another strand, and this done with regular exchange, the most approved patent ropes must be inferior to the corresponding part of the animal machinery.

A piece of cord of a new patent has been shown to us, which is said to be many times stronger than any other cord of the same diameter. It is so far upon the principle here stated, that the strands are plaited instead of being twisted; but the tendon has still its superiority, for the lesser yarns of each strand in it are interwoven with those of other strands. It however gratifies us to see, that the principle we draw from the animal body is here confirmed. It may be

* A strands and yarns opened. B, ends opened and laid for splicing, in a manner exactly like the interlacing of the tendon.

asked, do not the tendons of the human body sometimes break? They do; but in circumstances which only add to the interest of the subject. By the exercise of the tendons, (and their exercise is the act of being pulled upon by the muscles, or having a strain made on them,) they become firmer and stronger; but in the failure of muscular activity, they become less capable of resisting the tug made upon them, and if, after a long confinement, a man has some powerful excitement to muscular exertion, then the tendon breaks. An old gentleman, whose habits have been long staid and sedentary, and who is very guarded in his walk, is upon an annual festival tempted to join the young people in a dance; then he breaks his tendo Achillis. Or a sick person, long confined to bed, is, on rising, subject to a rupture or hernia, because the tendinous expansions guarding against protrusion of the internal parts, have become weak from disease.

Such circumstances remind us that we are speaking of a living body, and that, in estimating the properties of the machinery, we ought not to forget the influence of life, and that the natural exercise of the parts, whether they be active or passive, is the stimulus to the circulation through them, and to their growth and perfection.

CHAPTER VI.

OF THE MUSCLES—OF MUSCULARITY AND ELASTICITY.—There are two powers of contraction in the animal frame—elasticity, which is common to living and dead matter, and the muscular power, which is a property of the living fibre.

The muscles are the only organs which properly have the power of contraction, for elasticity is never exerted but in consequence of some other power bending or stretching the elastic body. In the muscles, on the contrary, motion originates; there being no connection, on mechanical principles, between the exciting cause and the power brought into action.

The real power is in the muscles, while the safeguard against the excess of that power is in the elasticity of the parts. This is obvious in the limbs and general texture of the frame; but it is most perfectly exhibited in the organs of circulation. If the action of the heart impelled the blood against parts of solid texture, they would quickly yield. When by accident this does take place, even the solid bone is very soon destroyed, but the coats of the artery which receive the rush of blood from the heart, although thin, are limber and elastic; and by this elasticity or yielding, they take off or subdue the shock of the heart's action, while no force is lost: for as the elastic artery has yielded to the sudden impulse of the heart, it contracts by elasticity in the interval of the heart's pulsation, and the blood continues to be propelled onward in the course of the circulation, without interval, though regularly accelerated by the pulse of the heart.

If a steam engine were used to force water along the water-pipes, without the intervention of some elastic body, the water would not flow continuously, but in jerks, and therefore a reservoir is constructed containing air, into which the water is forced against the elasticity of the air. Thus, each stroke of the piston is not perceptibly communicated to the conduit pipe, because the intervals are supplied by the push of the compressed air. The office of the reservoir

containing air is performed in the animal body by the elasticity of the coats of the arteries, by which means the blood which flows interruptedly into the arteries has a continuous and uninterrupted flow in the veins beyond them.

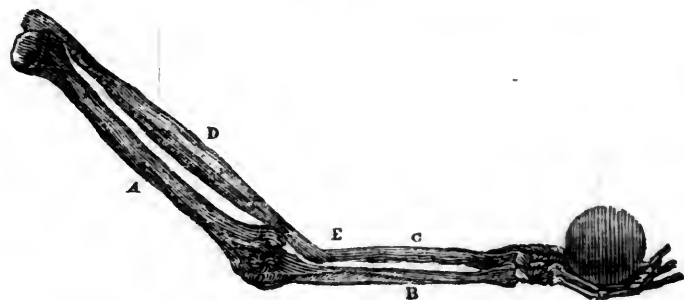
A muscle is fibrous, that is, it consists of minute threads bundled together, the extremities of which are connected with the tendons which have been described. Innumerable fibres are thus joined together to form one muscle, and every muscle is a distinct organ. Of these distinct muscles for the motions of the body there are not less than four hundred and thirty-six in the human frame, independent of those which perform the internal vital motions. The contractile power which is in the living muscular fibre, presents appearances which, though familiar, are really the most surprising of all the properties of life. Many attempts have been made to explain this property, sometimes by chemical experiment, sometimes on mechanical principles, but always in a manner repugnant to common sense. We must be satisfied with saying that it is an endowment, the cause of which it would be as vain to investigate as to resume the search into the cause of gravitation.

The ignorance of the cause of muscular contraction does not prevent us from studying the laws which regulate it, and under this head are included subjects of the highest interest, which, however, we must leave, to pursue the mechanical arrangement of the muscles.

Since we have seen that there are four hundred and thirty-six distinct muscles in the body, it is due to our readers to explain how they are associated to effect that combination which is necessary to the motion of the limbs, and to our perfect enjoyment. In the first place, the million of fibres which constitute a single muscle are connected by a tissue of nerves, which produce a unison or sympathy amongst them, so that one impulse causes a simultaneous effort of all the fibres attached to the same tendon. When we have understood that the muscles are distinct organs of motion, we perceive that they must be classed and associated, in order that many shall combine in one act; and that others, their opponents, shall be put in a state to relax and offer no opposition to those which are active. These relations can only be established through nerves, which are the organs of communication with the brain, or sensorium. The nerves convey the will to the muscles, and at the same time they class and arrange them to as to make them consent to the motions of the body and limbs.

On first looking to the manner in which the muscles are fixed into the bones, and the course of their tendons, we observe everywhere the appearance of a sacrifice of mechanical power, the tendon being inserted into the bone in such a manner as to lose the advantage of the lever. This appears to be an imperfection, until we learn that there is an accumulation of vital power in the muscle in order to attain velocity of movement in the member.

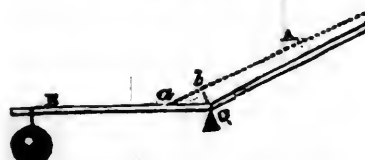
Fig. 20.



The muscle, D, which bends the fore-arm, is inserted into the radius, E, so near the fulcrum, or centre of motion, in the elbow joint, and so oblique, that it must raise the hand and fore-arm with disadvantage. But, correctly speaking, the power of the muscle is not sacrificed, since it gains more than an equivalent in the rapid and lively motions of the hand and fingers, and since these rapid motions are necessary to us in a thousand familiar actions; and to attain this the Creator has given sufficient vital power to the muscles to admit of the sacrifice of the mechanical or lever power, and so to provide for every degree and variety of motion which may answer to the capacities of the mind.

If we represent the bones and muscles of the fore-arm by this diagram, we shall see

Fig. 21.



tendon to the lever into which it is inserted. It represents the lever of the third kind, where the moving power operates on a point nearer the fulcrum than the weight to be moved.

Here A represents the muscle, B the lever, and C the fulcrum. The power of the muscle is not represented by the distance of its insertion, *a*, from the fulcrum C. The line which truly represents the lever must pass from the centre of motion perpendicularly to the line of the tendon, namely C *b*. Here again, by the direction of the tendon, as well as by its actual attachment to the bone, power is lost and velocity gained.

We may compare the muscular power to the weight which impels a machine. In studying machinery it is manifest that weight and velocity are equivalent. The handle of the winch in a crane is a lever, and the space through which it moves, in comparison with the slow motion of the weight, is the measure of its power. If the weight raised by the crank be permitted to go down, the wheels revolve, and the handle moves with the velocity of a cannon ball, and will be as destructive if it hit the workman. The weight here is the power, but it operates

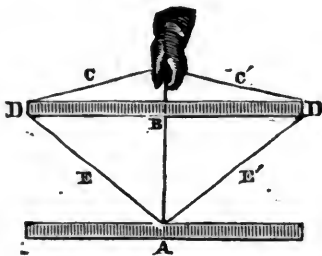
that power is lost by the inclination of the

with so much disadvantage that the hand upon the handle of the winch can stop it: but give it way, let the accelerated motion take place, and the hand would be shattered which touched it. Just so the fly wheel, moving at first slowly, and an impediment to the working of a machine, at length acquires momentum so as to concentrate the power of the machine, and enable it to cut bars of iron with a stroke.

The principle holds in the animal machinery. The elbow is bent with a certain loss of mechanical power; but by that very means, when the loss is supplied by the living muscular powers, the hand descends through a greater space, moves quicker, with a velocity which enables us to strike or to cut. Without this acquired velocity, we could not drive a nail; the mere muscular power would be insufficient for many actions quite necessary to our existence.

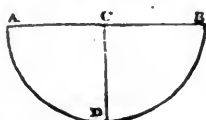
Let us take some examples to show what objects are attained through the oblique direction of the fibres of the muscles, and we shall see that here, as well as by the mode of attachment of the entire muscle, velocity is attained by the sacrifice of power. Suppose that these two pieces of wood, to be

Fig. 22.



drawn together by means of a cord, but that the hand which pulls, although possessing abundant strength, wants room to recede more than what is equal to one-third of the space betwixt the pieces of wood, it is quite clear that if the hand were to draw direct on the cord, A B, the point A would be brought towards B, through one-third only of the intervening space, and the end would not be accomplished. But if the cord were put over the ends of the upper piece, C, D, E, and consequently directed obliquely to their attachment at A, on drawing the hand back a very little, but with more force, the lower piece of wood would be suddenly drawn up to the higher piece, and the object attained. Or we may put it in this form: If a muscle be in the direction of its tendon, the motion of the extremity of the tendon will be the same with that of the muscle itself: but if the attachment of the muscle to the tendon be oblique, it will draw the tendon through a greater space; and if the direction of the muscle deviate so far from the line of the tendon as to be perpendicular to it, it will then be in a condition to draw the tendon through the greatest space with the least contraction of its own length.

Fig. 23.

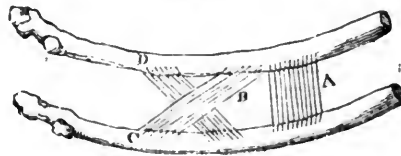


Thus, if A B be a tendon, and C D a muscle, by the contraction of C to D, the extremities of the tendon A B will be brought

together through a space double the contraction of the muscle. It is the adjustment on the same principle which gives the arrow so quick an impulse from the spring of the bow, the extremities of the bow drawing obliquely on the string.

To free breathing, it is necessary that the ribs shall approach each other, and this is performed by certain *intercostal muscles*, (or muscles playing between the ribs,) and now we can answer the question, why are the fibres of these muscles oblique?

Fig. 24.



Let us suppose this figure to represent two ribs with thin intervening muscles. If the fibres of the muscle were in the direction A, across, and perpendicular to the ribs; and if they were to contract one third of their length, they would not close the intervening space; they would not accomplish the purpose. But being oblique, as at B, although they contract no more than one third of their length, they will bring the ribs C D together. By this obliquity of the intercostal muscles they are enabled to expand the chest, in inspiration, in a manner which could not be otherwise accomplished.

In the greater number of muscles the same principle directs the arrangement of the fibres; they exchange power for velocity of movement, by their obliquity. They do not go direct from origin to insertion, but obliquely, thus, from tendon to tendon:

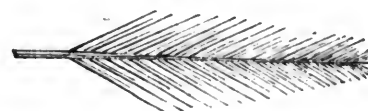
Fig. 25.



Supposing the point A to be the fixed point, these fibres draw the point B with less force, but through a larger space, or more quickly than if they took their course in direct lines; and by this arrangement of the fibres the freedom and extent of motion in our limbs are secured.

But the muscles must be strengthened by additional courses of fibres, because they are oblique; since by their obliquity they lose something of their force, and therefore it is, we must presume that we find them in a double row, making what is termed the *penniform muscle*, thus—

Fig. 26.



and sometimes the texture of the muscle is still further compounded by the intermixture of tendons, which permit additional series of fibres; and all this for the obvious purpose of accumulating power, which may be exchanged for velocity of movement.

BLINDNESS OF PASSION, OR MISTAKES OF A KAMTSCHATKAN BEAR.—Fish, which forms their chief nourishment, and which the bears procure for themselves in the rivers, was last year excessively scarce in Kamtschatka. A

great famine consequently existed among them, and, instead of retiring to their dens, they wandered about the whole winter through, even in the streets of the town of St. Peter and St. Paul. One of them finding the outer gate of a house open, entered, and the gate accidentally closed after him. The woman of the house had just placed a large tea-machine, full of boiling water, in the court: the bear smelt to it and burned his nose; provoked at the pain, he vented all his fury upon the kettle, folded his fore-paws round it, pressed it with his whole strength against his breast to crush it, and burned himself, of course, still more and more. The horrible growl which rage and pain forced from him brought all the inhabitants of the house and neighborhood to the spot, and poor bruin was soon dispatched by shots from the window. He has, however, immortalized his memory, and become a proverb amongst the town's-people, for, when any one injures himself by his own violence, they call him "the bear with the tea-kettle."—[Capt. Kotzebue's New Voyages round the World in the Years 1823-1826.]

AGRICULTURE, &c.

WATER FOR GREEN-HOUSE PLANTS.—Soft pond water, such as is supplied from the watering or floating of meadows, holds in solution, and in its most limpid state, all the food which most plants require; and it is only such food as they are capable of taking up by their spongioles, or digesting by their system. Such water is not attainable by every person; but I think that a good substitute might be artificially procured by placing some turfs from a common or sheep-walk, into a large wicker-basket; and, after nearly filling the basket with them, to place *two turfs manured with a thin layer between them of poultry or sheep dung*, at the top of the basket. The best and softest water that can be had should then be poured over the turfs till it filtrates, in a clear state, into a recipient vessel placed underneath. A bushel-basket would last, for this purpose, many weeks, and suffice for the saturation of some hundreds of gallons of water with nutritious matter, and also for the detention of other particles which could not be assimilated by the organs of the plants.—[Mr. Mearns, gardener to the Duke of Portland.]

ENCLOSURES.—Most of the modern nations of Europe still enclose their lands in the ancient method. Property is so much subdivided in France by the extinction of the law of primogeniture, that no *field enclosures* are to be observed in that country,—a few march-stones, a row of trees, or particular single trees here and there, marking the boundaries of estates. Throughout Germany, Bohemia, Switzerland, Spain, and Italy, enclosures are only found near farm-houses and villages, the bulk of the corn being raised on extensive unenclosed grounds. On the other hand, the land in Holland and Belgium is in general very much enclosed, so much so, that the fields appeared half choked with hedge-row trees and hedges. The same remark very nearly applies to the south of England, where much valuable ground is occupied with, certainly beautifully luxuriant, but sadly neglected hedges. The land in Ireland is also too much subdivided, and mostly with turf walls, which are generally very unfit to detain live stock. It is in the north of England, and the best cultivated districts in Scotland, that enclosures, suited to the improved state of the husbandry of the kingdom, are to be found. There, not only whole farms are enclosed, but the size of the enclosures conforms to

that system of husbandry which is suited to the nature of the soil. There, the growing crops of all kinds receive shelter from the vicissitudes of the weather, and protection from the depredations of live stock; and the live stock themselves enjoy, as a recompense for their confinement within the enclosures, peace and plenty unmolested.

A fence occupying elevated ground bestows more shelter to fields than in other situations; and on this account, if any other circumstances will permit it, the elevated summits of rising ground ought always to be chosen as the sites of fences. Such sites place a thorn-hedge beyond the crushing power of a heavy fall of snow. But it generally happens that the lower ends of fields cannot be enclosed in a straight line,—a rivulet or hollow between two rising grounds frequently terminating their lower ends. In that case, the fence ought to follow the course of the water or hollow ground, in order to provide an egress for the surface-water coming from both sides of the rising ground. A serpentine fence in a hollow, contrary to one on a rising ground, affords more shelter than a straight one, in the direction of the wind, which almost always takes the direction of the valley. A public road or canal passing through a property, or an old plantation growing in the middle of the land, affects the shaping out of enclosures. Whether any of them exists before or after the land is enclosed, the irregular sides of the enclosures, which alone should contain wedge-shaped ridges, should be placed next the obstacle.

The advantages of enclosing land may thus be summed up. Enclosures shelter corn against the inclemency of the weather, and they prevent the trespasses of men and animals. They not only afford the most excellent shelter to live stock, but they insure them peace and protection while feeding, or when at rest. They enhance the value of land in every situation; and they greatly beautify the appearance of a country. They confer ease of mind to the farmer by securing his crops, and flocks, and herds, from danger; and they impart confidence to the country gentleman, that the enclosing of his estate of land and wood will continually improve his means, so long as he continues to protect it by maintaining the fences in an efficacious manner.

ON THE CULTURE OF THE GARDEN BEAN.—I have been very successful for half a dozen years in obtaining two crops of beans from the plants. In the summer of 1826, my first crop of magazin and early long pod beans was by a very strong and violent wind blown down; this was done when the beans were in full blossom. The crop from the blossoms which the plants then possessed was very fine and abundant, and gathered during July. In three weeks after, the beans were prostrated, each stem pushed forth from near the root one or more, in some instances four to six, fresh stems; these bloomed freely, and produced an abundant crop, which were gathered during September. Since that grew, I have uniformly bent down, so as to break the stalk near the root, my first and second crops of beans; I have by this means obtained four crops of beans from two sowings, and which supplied me from July 1st to 31st October. By this method only half the seed was required which I had been accustomed to use, and the greatest advantage to me was, that only half the ground was required, so that my

advantages by this method are four-fold. I always pinch out the tops when the plants are in full bloom; this throws the vigor into the production of fruit instead of a continued increase of stem and foliage.—[Cobbett.]

RECIPE FOR DRESSING SALLAD.

BY THE REV. SIDNEY SMITH.

Two large potatoes, pressed through kitchen sieve, Smoothness and softness to the salad give, Of mordent mustard add a single spoon, (Distrust the condiment that bites too soon;) But deem it not, thou man of herbs, a fault, To add a double quantity of salt, Four times the spoon with oil of Lucca crown, And twice with vinegar procured from town; True flavor needs it, and your poet begs, The pounded yellow of two well boiled eggs; Let onions' atoms lurk within the bowl, And, scarce suspected, animate the whole And lastly, in the flavored compound toss A magic spoonful of anchovy sauce. O! great and glorious,—O! herbaceous treat,— 'Twould tempt the dying anchorite to eat; Back to the world he'd turn his weary soul, And plunge his fingers in the salad bowl.

BEST TIMES FOR REMOVING LAURELS, &c.—Evergreens, if taken up carefully, may be planted with success at all seasons. About eight years ago, I superintended the planting of some very large ones, consisting of Portugal, and Common Laurels, Cedars, &c., in the month of July, when the weather was very dry, at Sulby Hall, Northamptonshire, the seat of Geo. Payne, Esq., which did remarkably well. If, however, the situation be dry, and the soil light and sandy, they will in general, with the exception of hollies, do best, if planted in November or December, providing the weather be mild. On the other hand, if the soil be low and retentive of moisture, they thrive best if planted in May. In both cases, it is indispensably necessary that all large plants be taken up with large balls, the roots being as little damaged as possible. S. H.—[Hort. Register.]

SUBSTITUTE FOR HOPS.—I was highly delighted in finding so much in the Register calculated to interest ladies. My wife remarked the other day, that she had got fully the worth of the subscription already. I trust you will, in every number, have an eye to that; and as I have lately become acquainted with a fact which may be convenient to them at some period, I will briefly mention it on this occasion, and if it be indeed new to you, (as it is to me,) you can use it for the interest and instruction of the ladies, if you see cause. It is the substituting the Life Everlasting (the botanical name I do not know,) for hops, in making yeast.

The yeast is made of the dried leaves and flowers just as yeast is made of the hop, and used in the same way. I am informed by those who have used it for some time, that bread is not as apt to become sour, and the flavor is finer than the hop bread. I have no doubt its qualities would be greatly improved if it were cultivated, and the leaves and flowers gathered as soon as they were ripe, and dried in the shade.—[Farmers' Register.]

FOSSIL MANURE IN NORTH CAROLINA.—It is enough to make the heart of the patriot bleed, when he reflects what North Carolina is, and what she is capable of being. With every thing in the way of resources, physical and moral, to make her a great, commanding and prosperous state—she is at best but stationary, and which you know is comparative declension. Her population and wealth are deserting her in one continued and augmenting stream, for other climes. And why? Simply because she will not improve the means which the God of Nature has placed at her disposal. Internal improvement is at present a more urgent want with us, than the improvement of our soils. Millions of our resources are lying dormant, for the want of facilities for transportation. Let me offer a single illustration, applicable exclusively to the eastern section of the state. The pine-trees, (long leaf,) of North Carolina, for lumber and naval stores, are unquestionably of greater value

than her slaves, if they could be made available. I have been informed upon the best authority, that 20 per cent. can be cleared on the capital embarked in making turpentine, when convenient to market. But for the want of this convenience, this immense resource can only be called into action on small portions of our navigable streams. I travelled a few days ago from Waynesborough to Fayetteville, a distance of sixty-five miles, through a country heavily timbered with the finest long leaf pines, and saw no evidence during the route of their being used for any thing but plantation purposes. I should except one tar kiln and half a dozen trees designed for tar timber, partly hewn and left to decay—but not one stroke of the axe for turpentine. Hundreds and thousands of acres are in the state that nature formed them. This is but "*e pluribus unum*," to show how profoundly the giant sleeps. But I am trespassing to much of your patience, and will force myself too a conclusion. Yours, &c. ISAAC CROOM.—[Farmers' Register.]

STAINS BY FRUITS are readily removed from clothes by wetting them, and placing them near lighted brimstone; a few matches will answer the purpose.

ARABIAN HORSE.—Perhaps the most remarkable point about the Arabian horse is the extraordinary smallness of the head and mouth,—so small, indeed, is the latter that you would think they might use a common tumbler for a water bucket.

INCREASE OF MANURE BY ROTTING.—It is, we believe, a very general impression that even dry vegetable substances undergo a great loss in rotting, and hence one of the strong and oft repeated arguments of the advocates of long unfermented manures, that 50 per cent. in weight is lost by fermentation, and 50 per cent. in the quality of the remainder. We recommend to their consideration the following extract from an article on the Rotation of Crops, by J. H. Couper, Esq. of South Carolina.

A sufficient amount of manure is yielded to keep the soil in the most productive state, if a stock of animals be kept on the plantation and the dry vegetable matter of the fields be carefully carted to the pens. The expressed cane, tops and leaves, from an acre of cane, yield about 10,000 lbs. of dry vegetable matter. An acre of corn, including blades, stalks, shucks and cobs, about 2500 lbs., when the yield of corn has been 20 bushels;* and the after crop of peas 1000 lbs., together 4500 lbs. An acre of solid peas 2000 lbs. The potatoe vines, pumpkins and turnips, being eat green, contribute only to the production of fluid manure. The total quantity of dry vegetable matter to be applied to the manuring of 16 acres in crop, will therefore be,

4 acres in corn, at 4500 lbs. per acre,	18,000 lbs.
1 " peas and turnips,	2,000
3 " cane, at 10,000 lbs.	30,000
	50,000

which, if merely rotted by rain, will yield 100,000 lbs. of manure; and if rotted by the urine and dung of stock, from 150,000 lbs. to 200,000 lbs.† or at least 25,000 lbs. of manure to each of the 4 acres proposed to be manured. To this supply of manure must be added from 50 to 70 bushels of cotton-seed from seven acres of cotton to be applied to the four acres of corn; and the peas that are ploughed in, preparatory to the potato crop of vines.

* Mr. Madison estimates the corn-stalk, with its appurtenant offal, at not less than three times the weight of the grain belonging to it.—[Address, Amer. Far. Vol. i. p. 171. See Idem. Vol. iv. p. 404, for Dr. Bellenger's estimate.]

† Three hundred stone of dry wheat straw increased by absorption to 719 stone in seven months. Straw, if simply rotted by moisture from the heavens, will double its original weight; but when rotted by the urine and turnip-fed stock, every ton will yield four tons of manure.—[Sinclair's Code of Agr. ch. iii. sec. 4. 5.]

Plan of an Apiary or Bee-house, by means of which the honey and wax can be taken without destroying the Bees. By G. [From the Quarterly Journal of Agriculture, &c.]

First,—Erect a building of wood, of dimensions according to the extent you may wish to avail yourself of the labor of bees. A frame building of 7 feet square, and 7 feet high to the eaves, will contain 90 hives of the dimensions after mentioned. The front should face the south or south-east. The sides of the house within should be shelved with stout plank, well supported by uprights and cross pieces, to hold the hives. The lower shelf may be about a foot from the floor, and the others about 14 inches apart. A tier of shelves is to be placed in the middle of the house, at the same distances from each other; this arrangement will leave two feet gangway between the shelves for the convenience of passing between the hives. There must of course be a door to each gangway, if the shelves are continued from the front to the rear of the house.

Secondly,—The hives must be made as near as may be of 12 inches square, and 12 inches high outside; it being found that a hive of these dimensions, well filled, is sufficient to support an ordinary swarm of bees through the winter. The hives should have a bottom board to fit close, but it need not be nailed fast; each hive must have two openings at bottom, exactly opposite each other, 3 inches wide, and $\frac{1}{2}$ inch high; these openings are furnished with shutters of tin or thin wood, moveable in a groove, in order to close them when the hives are to be removed. On the opposite side of each hive should be inserted a pane of glass, covered with a shutter, to enable you to see, on raising the shutter, that the hives are full. For the greater convenience of opening and shutting the apertures into the hives, they should be made of a slit of tin long enough to reach from the aperture, when closed, to the outside of the hive. In the front of the house there must be openings to correspond with the front hives within, and on the outside there should be placed a small shelf to each aperture for the bees to alight on.

You may begin to stock your house in the winter with old hives, placing a new hive of the above dimensions in front of the old one, and in the spring the bees, after filling up the old comb, will fall to work in the new hive. As soon as you perceive this, you may drive the bees from the old hive by striking on it, or by injecting the smoke of tobacco, and take it away; or take it away and set it down in front of the house, invert it and take off the bottom board—before night, the bees will have all left it and gone into the new hive. When the new hive is filled, close the apertures, draw it back and place another in front; open the communication, and they will in like manner fill this hive. You thus continue to supply hives till your shelves are full. In the fall you may take up as many as you find there are no bees in, leaving however sufficient honey to support the stock through the winter.

In order to derive the greatest possible advantage from their bees, some people take away in the spring all the old comb and honey that the bees have left unconsumed. But this should not be done until you are well assured that the bees can get their living from the early spring flowers. This can only be done, however, but by those persons

the bees will not sting, or by protecting the hands and face from their attacks.

G.

HORSES AND OXEN.—The following comparison between the expense of a yoke of oxen and a horse at a marketable age is given in the Report of the Trustees of the Kennebec (Maine) Agricultural Society, which we find in the Maine Farmer:

Raising a Horse.		A Yoke of Oxen.	
Use of Stud	\$4.00	Use of Bull	\$2.00
Use of Mare	20.00	Raising Calves	10.00
Keeping first winter	7.00	1st Wintering	12.00
Insurance	1.00	Insurance	50
At 1 year old		At 1 year old	
2d year—Summering	\$32.00	2d year—interest	\$24.50
Wintering	3.00	Summering	1.49
Interest	7.00	Wintering	4.00
Insurance	1.32	Tax	12.00
Tax	1.00	Insurance	33
	50		50
At 2 years old		At 2 years old	
3d year—Summering	\$45.00	3d year—Summering	\$12.82
Wintering	5.00	Wintering	7.00
Interest	11.00	Interest	12.00
Tax	2.71	Insurance	2.56
Insurance	.75		73
	1.50	At 3 years old	
At 3 years old		Price of Oxen	
4th year—Summering	\$66.33	Price of Horse	
Wintering	5.00	Difference	
Interest	15.00	Loss on the Horse	
Tax	13.98	Gain in the Oxen	
Insurance	1.00	Difference to raise	
Shoeing	1.50		
At 4 years old			
\$94.35			
Labor equal to breaking.			

Bots.—Much difference of opinion prevails among farmers, as to the cause of Bots, the manner in which they destroy horses, and the best method of protecting them against their attacks.

The Bots which cause the death of so many horses are hatched from the eggs of a Bee or Insect, which belongs to the Class Insecta, order diptera, genus *cestrus*. It is affirmed by entomologists that there are two species of the genus *cestrus*, which deposit their eggs upon horses, but which of the species it is that produces bots, or whether both of them do or not, they are not agreed.

The eggs which produce bots are deposited during the months of August and September, but how they are conveyed to the stomach is also unsettled.

This insect, like others of the same class, passes through different stages. Commencing with the egg, which hatches into a larvæ, which remains in the stomach through the winter, where it continues to increase in size, until the warm weather in the spring, when it passes off with the *feces*, and changes from its larvæ state to that of the perfect fly, or bee.

It is during the winter or fore part of the spring that these larvæ do the greatest injury to the internal coats of the horse's stomach.

From examination made on the stomachs of horses which have been destroyed by bots, it appears that the larvæ attach themselves to the stomach when small, by their antennæ, or horns, where they continue to increase in size as the season progresses, drawing their nourishment from the juices of the stomach. As the season approaches for their transmutation or transformation from the larvæ to the fly, they become stupid, and let go their hold upon the stomach and pass off with the remains of the animal's food, and from thence into the ground, from whence they emerge perfect insects.

When the number of these larvæ is not great, and the food and exercise of the horse are steady, they do not often affect him; but where the number is great, and the horse is fed irregularly during the last of winter they often prove fatal.

The season when horses are destroyed by bots, in this latitude, is from the middle of February to the middle of May. The remaining nine months in each year there is little danger to be apprehended from them.

Numerous experiments have been made, by immersing them in different substances, after

they have been taken from the stomachs of horses, in order to find something which would destroy them, by being given as a medicine, very few of which have ever given any encouragement of success.

During the time that this insect is in its larvæ state, it is covered with a thick, tough skin, which seems to protect it against the effect of any substance which can be introduced into the horse's stomach with safety.

As it is next to impossible to destroy bots in horses, the greatest safety is in making use of such preventives as are found beneficial.

The first step toward preventing bots undoubtedly is, to keep the horse's legs and sides as clear as possible from the nits or eggs of the insect, by scraping them daily with a sharp knife. By doing this the quantity is supposed to be materially diminished.

The next precaution is to keep horses moderately loose in their bodies, and not to make sudden alterations in their food, nor to treat them in any manner that would have a tendency to render them inclined to fever.

The articles most recommended to be mixed with their food are lime and ashes, either of which, if given in small quantities, during the three months when they are troublesome, are said to be efficacious. Salt is highly recommended by some, who suppose that, if a horse is salted once or twice each week, it will prevent his being troubled.

The manner in which bots operate, is by destroying so much of the inner coat of the stomach as to produce inflammation, or by collecting either at the upper or lower end of the stomach, and obstructing the common passage of the bowels; cathartics are to be recommended.

A late English writer on the diseases of horses says, "when bots fix themselves on the sensible portion of the stomach they may do no harm; but no medicine that we know of will destroy them." Another English writer on this subject says, that bots are generally attached to the insensible part of the stomach, and that while remaining there they produce health rather than injure it. Blaine, as well as most American writers, recommends common salt as one of the best preventives against inflammation from bots, and says it should be given daily.

Treating the disease by bots as an inflammatory complaint, undoubtedly is the course most beneficial, and will come under the same management as other inflammations of the bowels. The same causes that produce ordinary inflammations of the bowels are also liable to produce inflammation from bots, and these are—over-exertion, after which the horse is allowed to stand exposed to cold; poisonous substances mixed with food: but the most fruitful cause is the change of food. Perhaps there are more cases of inflammation produced by this last cause than all others.

Whatever is used as cathartics in cases of inflammation caused by this larvæ in horses, they should always be accompanied with gruel, boiled starch, flax-seed tea, or some thing of the kind, to prevent irritation; and the animal treated in every respect as for an inflammation of the bowels, without any regard to its being caused by bots, and no medicine should be given in the one case which would not be proper in the other. The whole course to be pursued may be summed up in a few words: first bleed, give physic, follow it with mucilaginous drinks, keep the animal warm, and if he recovers, feed moderately for several days.—[Goodsell's Farmer.]

CURE FOR THE BOTS OR GRUBS IN HORSES.—If you will excuse the subject, (for although graceless, it is valuable not only to agriculturists but to all classes, using that valuable animal the Horse,) I send you a remedy I used while our coals were brought to market in road waggons, which obliged us to use a great number of horses; and I never knew it fail of giving relief, in from one to five minutes, viz.: Pour out half a gill of spirit of turpentine

into the hand, and rub it on the breast of the horse while suffering; let it be applied to the hallow or pit of the stomach, just at the point where the neck joins the breast, on a space six to eight inches in diameter. The relief is certain, if the grubs have not already cut through the coats of the stomach.—[Farmers' Register.]

CURE FOR A FILM IN THE EYE OF A HORSE OR OX.—Edward S. Jarvis, Esq. of Surry, Me. in a letter to Mr. Joseph R. Newell, proprietor of the Boston Agricultural Warehouse, states as follows:

Have you ever heard of a cure for a film on the eye of a horse or an ox? I was told of one eighteen or twenty years ago, and have been in the practice of it ever since with perfect success. It was brought to my mind by just having had a proof of its successful application in a calf that had its eye hurt by a blow from another creature. A film formed over it, and it was thought its eye was lost. But by turning into the opposite ear a great spoonful of melted hog's fat, it was cured in 24 hours. I do not pretend to account for this, but I have seen it tried with success so often, that I think it ought to be made public, if it has not been before. I learned it of an Indian.

INOCULATING.—Mr. A. Robinson, in the Northern Farmer, gives an account of his method. He says—

I have found that instead of striking a horizontal, it is best to cut quite a sloping stroke, splitting down from this slope, perpendicularly, so low as to admit the bud, taken off in an oval shape, in the same careful manner as above described; having as much care to preserve a little wood at the eye of the bud as I had in taking it away in the former process. The bud then is to be thrust under the raised bark, down so low as to admit the bark of the stock to come in its former place, above the bud, for half an inch, where it immediately receives its usual nourishment; being bound up with coarse woollen yarn, which I prefer to any thing else. In winding on the yarn I am careful to draw it gently over the wound, omitting to cover the bud till the last, over which I then draw the yarn very softly. In this process, every part works so natural, and so smooth, if unbound the next day it would be difficult to distinguish the bud from a natural one; and, indeed, the bud as well as the bark of the stock seems not in the least affected. In this mode of inoculating, there is no such thing as not taking. On the other hand, the bark being cut square across, and the bud not being sufficiently thrust down, the bark of the stock coming to bear on the outer bark of the bud, at top of the slit, there is nothing to support it; but it dries and shrinks from its primitive place, admits air, and if the wood is taken out of the bud, it all fails together, especially if the eye of the bud is a little rubbed; at any rate, live or die, a dangerous wound is inflicted.

LIVE STOCK IN ROSS COUNTY, OHIO.—The amount of pork put up in this county during the year is about 20,000 barrels, worth about \$10 per barrel, besides a considerable amount which was driven to the eastern markets on foot. About 3000 head of fat cattle were sold to purchasers for the eastern markets, worth about \$4.50 per hundred. There was manufactured in Ross county about 40,000 barrels of flour, worth \$3.50 per barrel. This statement refers mostly to the amount exported, and sold by our farmers and dealers in the articles above specified.

THE BLACK OR COMMON ELDER.—The virtues of the elder are but little known among us. In continental Europe it is used with success in many diseases. From Hippocrates down to the present time, we are told by the French Society of Naturalists, the elder has been employed in medicine. Every one knows,

say they, its virtues and properties; they are not equivocal, for time and experience have confirmed them.

Its flowers are resolute, anodyne and emollient. Infused and drank like tea, they provoke and establish perspiration in certain fevers, colds and catarrhs. Fried with eggs, they operate as a purge; applied as a fomentation in the erysipelas, they reduce the heat and irritation, and are excellent in all inflammations of the skin; warmed and applied to the forehead and temples, they cure the migraines. They are used in the vapor bath for swollen legs, particularly in the dropsy, in which disease the berries, inner bark and roots of this plant are used with effect as diuretics and purgatives. From the berries a rob or thick syrup is made, which is given with success in bowel complaints, particularly in the dysentery.

Its flowers give a fine perfume to vinegar, and to wine the flavor of muscat. Apples, when laid on a bed of the flowers of elder when dried, and then confined from the air, acquire an exquisite taste. A decoction of its berries dyes linen, after passing it through alum water, of a greenish brown color, and from them good brandy can be distilled.

An English farmer, in the county of Devonshire, at a season when the whole of vegetation was destroyed by caterpillars, grasshoppers and other insects, observed that the elder remained untouched, in full health and vigor. This induced him to make an experiment which was attended with perfect success. With boughs of the elder he went over his fields whipping and rubbing gently his turnips, cabbage plants, wheat, &c., which drove off all those noxious insects, and they never returned to their destructive work. The strong stinking scent of the plant destroyed the eggs of these insects. Since that time the process has been used with success on fruit trees, and all other plants when attacked by insects. Some boil the branches, leaves, &c. of the elder in water, and then sprinkle it over those plants and trees attacked by insects, which has the desired effect.

This shrub flowers in June; after picking the flowers and berries they should be dried in the sun, and then laid up in a clean place free from moisture, for medicinal purposes.

There are varieties of the common elder. Some plants have deeply indented leaves. The leaves of some are streaked with yellow, others with white, and some with yellow and white. Some bear white and others green berries. The elder is multiplied by seeds, layers, and slips. They take root rapidly when planted in slips, as do most plants having much pith.

Hedges of elder are common in some parts of Europe. They are impenetrable, of long duration, and not subject to the depredations of cattle, from their odor being very offensive to them. Sheep will sometimes eat them.

The wood of roots of the elder is used in Germany and France in making toys, sword canes, snuff boxes, fishing rods, combs, and other articles, and by cabinet-makers and turners. WM. LEE.—[N. E. Farmer.]

CORN-SHUCK MATTRESSES.—As the laudable object of the Farmers' Register is to diffuse as widely as possible the mass of knowledge which relates to domestic economy, thereby procuring for the many the comforts which are at present possessed by the few; I take peculiar pleasure in aiding the benevolent design, so far as the narrow limits of my own information extend: and so, methinks, should every matron whose experience has surmounted the perplexities of household cares. For this purpose, I have deemed it of some importance to call the attention of its readers to the use of shucks in making mattresses. I have often been surprised to find shucks so rare in families, where every convenience was at hand to make (with the most inconsiderable expense) this article of comfort and utility.

Nothing but a little management is required for every farmer's family in the state to possess

them. Independent of the comfort of mattresses in summer, I have often heard experienced physicians plead hard for their general use in this bilious climate; though common sense, I should suppose, is sufficient to discover the relaxing and debilitating effects of being nightly smothered on a feather bed, through the heat of summer; and the increased suffering produced by their use, during the prevalence of fevers, incident to our climate.

For my own part, I have often suffered painful regret, as I have looked on the sick beds of the poor, where the possession of a hair mattress would be a luxury next to an impossibility for them to obtain; but I am happy to say, that the discovery of the use of backed shucks obviates all pecuniary difficulties, in the farmer's case at least.

There are few families in Virginia, where there are not some slaves, incapacitated by age or decrepitude for active labor; and since the bright era, which introduced the cotton gin, to supersede the use of fingers in picking cotton, they are thrown out of employment altogether; or have little else to do than to sit and stupify in the chimney corner. Now, for the benefit of all parties, I would recommend that a plenty of shucks, a flax hackle or common fork, and a barrel, should be conveniently arranged for the occasional exercise of the subject's faculties, until a sufficient quantity is shredded and packed up. When you have prepared your tick, and the weather is suitable, immerse and soak the shucks well in clean water, and then spread them thin in the hot sun to dry. This will cause them to curl and acquire the elasticity of hair. Be careful after hackling every bunch, to cut off the hard ends.

These shucks stuffed in a common tick, and tacked in squares through and through, will be quite comfortable on a feather bed, where cotton cannot be afforded—but if a case is made after the mattress style, and batts of carded cotton laid at the top and bottom, of several thicknesses, and neatly tacked in squares, they may be made to equal, if not surpass any hair mattress, for you can have them as thick as you choose; and in neatness and purity of material, they will surpass, the hair, though they may not in durability. I should think it a useless or presumptuous display of my own knowledge on the subject, to describe farther the process of making mattresses, but that I was told by an intelligent young housewife, that she had no idea how they could be conveniently completed. As I shall, in such dilemmas, ever feel it a delightful task to assist the young idea, I will merely suggest, that the piece which divides the top and bottom of the mattress case should be sewed all round the bottom, and bound with tape made for the purpose. The top part should be sewed to one side of this piece only, like a lid to turn back, until the batts of corded cotton are laid on the bottom of several thicknesses, and the shucks carefully and regularly packed in.—Place the layers of cotton again over the shucks, and turn the lid over all, and bind it round like the bottom. It must be then laid on a frame, for the purpose of tacking it through and through. This will require a very long needle, which can be made at any blacksmith's shop.—A FRIEND TO COMFORT. February 20th, 1834.—[Farmers' Register.]

SHALLOW PLOUGHING.—I haul out my coarse manure and scatter it on the land, where it is most stiff and close and then use a one or two-horse turning plough to plough the manure in, but am careful not to break the land more than three or four inches deep. I then haul out my fine manure on another part of my cotton land, and let it remain in ox load heaps, till I can finish ploughing the land with the same turning plough, or a trowel hoe plough, as I may find most convenient, and then scatter the fine manure, and harrow it in with a five-tooth harrow.—[Farmers' Register.]

NEW-YORK AMERICAN.

APRIL 19—26, 1834.

LITERARY NOTICES.

THE REVIEW OF THE WEEK—which we had prepared at some length—is of stern necessity, excluded to-day—and we fear, such is the aspect of public affairs; until next Saturday.

SUMMARY.

[From the Salem Gazette.]

Mr. Benjamin Gile, of Danvers, whose name will be found in our list of deaths, was a man of a vigorous and independent mind, and of extensive information. Books were the chief source of his happiness through life. In his youth he served several campaigns in the Army of the Revolution; during the siege of Rhode Island in 1778 he served in a company commanded by his father, Capt. Ezekiel Gile, of Plainfield, in Col. Peabody's New Hampshire Regiment.

His Pension Certificate was received from the War Department on the day of his death—but for a part of his services. He served six months as a substitute for a man named Davis; for this service the Pension agent refused to allow the pension, because Davis's name was kept on the Rolls, instead of Gile's, though Davis himself, and several others, swore that Davis *did not*, and that Gile *did* serve during all that period,—thus affording an example how Truth and Justice are often baffled and defeated by artificial and technical jargon! In a battle during that campaign the two Lieutenants of the Company were killed by his side, Lieut. Dearborn by a cannon shot, and Lieut. Cobb by a musket ball through his heart,—yet the official rules of evidence have made it out that Mr. G. was not exposed to danger during that campaign.

FOREIGN EXTRACTS.—The press and importance of domestic affairs have absorbed all attention and all interest so much recently, that we have found little room for any items from foreign countries. We present today, however, two or three extracts from London papers somewhat curious.

The first is from the Times of 26th February, and is an exposition that really would seem hardly credible, but for the undoubted facts on which it is founded, of the open and extensive corruption of an English election—that of Liverpool.

[From the Times.]

The published evidence, taken before successive committees of the House of Commons in 1831, in 1832, in 1833 and more lately that obtained by the Commissioners of Municipal Inquiry, sufficiently establish these facts, and must dissipate all doubts on the subject, either now or hereafter. It is proved in these documents that the elections both of the magistrates and members of Parliament for the borough have, on several occasions of late, been influenced by the grossest pecuniary corruption and the most prodigal use of treating; that at the contest for the mayoralty in 1827, one of the candidates expended between £7,000 and £8,000, and the other about £12,000; that votes which were sold at 6s. each at the commencement, rose in market price to £12 and even £20, before the conclusion of the struggle; that after the second day, every working freeman who voted on the other side received a bribe; and that they attended the pay-room in crowds to receive their money, as the operatives of a factory to receive their week's wages. It is established likewise on the most irresistible evidence, that in the grander political contest of November, 1830, between Mr. Denison and Mr. Ewart, for the seat in Parliament, vacant by the death of Mr. Huskisson, each of the candidates expended upwards of £40,000!! It is stated by one of the witnesses who audited Mr. Denison's accounts, that the expenditure on the part of that gentleman amounted to £44,000, after deducting £3,000 from publicans' bills, which the Committee disallowed; and a witness from Mr. Ewart's committee admitted that though £34,000 passed through his hands, that sum did not include the whole of Mr. Ewart's expenses.

On this occasion likewise votes rose in price as the contest advanced, and towards its conclusion a single vote was sold for £80!! Nearly every freeman who came to the poll was bribed. The tickets given for enabling parties to claim payment from Mr. Denison's committee amounted to about 2,000; and one of the witnesses having obtained these tickets, copied from them into a poll-book against the name of each voter the sum which had been paid him. The fol-

lowing is the analysis of the list of the other candidate, Mr. Ewart's voters, with their respective prices, as drawn up by his own law agent:

600 freemen received	£10 and under
462	between 10 and 20
209	20 and 30
24	30 and 40
7	40 and 50
1	60

1,303

One circumstance which disgracefully distinguished the bribery practised on these two occasions from almost every other, was the open, fearless, and shameless manner in which it was conducted. The respective parties advertised for supporters, and announced the price which they were ready to give for votes on the walls of their committee rooms. Tickets or tally-papers were openly distributed, which were as regularly paid. The ingenious conductors of the election had thus the merit of systematizing corruption—of making the sale of consciences a counting-house affair, and of erecting regular banks of bribery, with the proper assortment of promissory-notes or poll-tickets, and bags of gold, with cashiers, examiners, and controllers of accounts!!

Another most striking and most melancholy characteristic of the contest was, not only the universality of the corruption among the poorer freemen, but the height to which the tide rose among persons in better circumstances, whom, but for the levelling nature of the system, and the gradual decay of the moral sense which it produces, the infamy ought not to have reached. It was mentioned by the Treasurer of Mr. Ewart's committee, that several "respectable" persons received large sums of money. A retired brewer demanded £50; a captain in the militia received 35l.; three brothers, "respectable men," were paid 30l. a piece; a druggist and his father, "both respectable men," received each 20l.; and a "respectable man," worth 10,000l., as he came early in the contest, was satisfied to pocket the paltry sum of 12l.!

A third revolting feature in these disgraceful transactions was, that some of the freemen, after promising their votes to one side, and taking its bribe, broke their infamous compact by incurring the additional infamy of accepting the money and supporting the cause of the other. The system of corruption and profligacy which distinguished these contests was so disgusting, that the Grand Jury of the borough presented it as a nuisance to the Town Council, whom they invited to abate it.

Now, such are the freemen or burgesses whom it is proposed to disfranchise—such is the system which it is proposed to destroy. It is in evidence that 2,661 of these burgesses received bribes in 1830; that nearly 2000 of the same persons still remain on the register entitled to vote; and it is well known, that though all householders, paying a rent of 10l. or upwards, are entitled to share with such corrupt men in electing their Parliamentary representatives, yet that the latter enjoy exclusively the power of electing the chief magistrates and bailiffs of the borough. The whole number of these old burgesses now resident does not probably much exceed the roll of those against whom corruption was proved, if we deduct from the former such respectable voters as never received a bribe, and who would compose a part of the new constituency in whatever manner it were modified. That the number of voters in Liverpool would not become inadequately low for every purpose of independent action, even though the comparatively small body of freemen who cannot rent a house at 10l. value were struck off the list, will readily be admitted when it is considered that nearly 8,000 householders are already registered under the Reform Act, and that the number is constantly increasing.

The next item is from a debate on the army estimates in the House of Commons. It is curious mainly from the speech of Cobbett.

Army Estimates.

Mr. Ellice thought it unnecessary, after the discussion which took place on Friday evening last, on the subject of these estimates, and after the house had voted the numbers of the effective service, to do more than put the first vote into the hands of the chairman. At the same time he should be very ready to answer any question which might be put to him respecting the various items, in order that they might be fully and clearly understood. The right hon. gentleman then moved the first vote,—"That a sum not exceeding 3,056,873l. 18s. 11d. be granted to defray the charges of His Majesty's land forces, for

service at home and abroad (except the regiments employed in the territorial possessions of the East India Company).

Mr. Cobbett offered no objection to the numbers of the army, because he was quite certain that 50,000,000l. of taxes could not be collected in gold without a standing army of 90,000 or 100,000 men. He felt it however, his duty to offer some objection to the pay of the army. The lowest private soldier received 7s 7d. a week, exclusive of meat, bread, coal, and candles, and a sum of 68,000l. was expended to supply him with small beer, or something in lieu thereof. But the sum received by the soldier was not so objectionable in itself as it appeared on comparison with the amount of wages received by laborers in the country. An hon. baronet, who accused him of exciting the people to acts of incendiarism, had in a letter to the poor law commissioners stated that the farmers had, in consequence of the fires, raised the laborers' wages from 3s. 9d. to 5s. a week. The hon. baronet had also stated that the farmers grumbled greatly at the rise which had taken place in wages, leaving it to be fairly inferred that he considered 5s. a week too much money to be given to a laborer for his week's work. Would that hon. baronet consent to vote 7s. 7d. a week to the soldier, and at the same time tell the laborer that he was paid too highly if he received 6s.? But in estimating the soldier's pay at 7s. 7d. per week, he was confident that he underrated the amount. He believed it it would be found, one thing with another, to be equal to 1s. 6d. a day. "But," said the right hon. secretary, "the pay which the soldier received was not too much, considering the hardships and fatigues he was obliged to endure; he was continually changing his quarters—at one time broiling under a burning sun, and at another frost-bitten by cold." The right hon. secretary was a very wise, sincere, able, and honest man, no doubt (general cries of "Hear, hear,") but the right hon. secretary knew nothing about what he was talking of, (laughter—not so much as the youngest of his children, who was now probably in the cradle. (More laughter.) He (Mr. Cobbett) did know something of this matter from experience. He had not been under a broiling sun, it was true, but he had been at least as cold a region as any to which British troops were sent, and had remained there 7 years together. "I happen to know," continued the hon. member, what so of it of life we led there; and if ever there was a pleasant life, ours was one.

Our summers were passed in fishing, shooting wild pigeons, rambling about the woods, and visiting the dwellings of the Yankee girls. (Laughter.) In winter our time was spent in skating on the river, walking about in snow shoes, or sitting before an excellent fire, singing, laughing, and drinking rum at 7d. per quart. (Laughter.) We had 7lb. of flour per week, 4lb. of the best meat, 6oz. of butter, a quartern of peas, and a quartern of rice—a greater allowance than falls to the lot of any two laborers in England. He thought, after this statement, that the House would not be of opinion that the condition of British troops abroad was very arduous. However, as a bargain had been made with the soldiers for the present year, he would not propose that it should be broken, though he would oppose its renewal. "But," asked the right hon. Secretary, "how can the soldiers be got rid of?" What, then, were they Janissaries? Could not his present majesty get rid of them as easily as the late King got rid of Sir Robert Wilson? What he objected to was the amount of pay given to the soldiers; while the laboring people of this country were so poorly remunerated for their work. He was afraid that the laborers, badly off as they were, had no chance of seeing their condition bettered, for he found it proposed by the poor law commissioners that they should be shut up in a sort of Bastille. But what else was to be expected from a report, the joint work of bishops, lawyers, and newspaper reporters? The hon. member concluded by saying that he should propose no amendment, as he understood a contract had been made for the present year, which must in fairness towards the soldiers be fulfilled.

Sir H. Hardinge had heard the hon. member for Oldham's speech with great astonishment. He did not think that the hon. member, who had once the honor of belonging to the army, would introduce topics calculated to lower the credit and character of the soldier. (Hear, hear.) He (Sir H. Hardinge) would show to the house that the British soldier received, at the present moment, smaller allowances than any other class but one of his Majesty's subjects. The report of the poor law commissioners distinctly stated that the soldier was ill-paid, as compared with other classes of his Majesty's subjects; and it further appeared from the same

document that the soldiers' was only brown bread, and that the convicts, who were supplied with white bread, held it up before the eyes of the soldiers asking them, in derision, how they liked their "Brown Tommy." He (Sir H. Hardinge) was ready to admit that, under existing circumstances, the soldier was sufficiently paid, but he was sure the house would not think that he was overpaid. (Hear, hear.) A pauper's family was better maintained by the country than a soldier's. In very few poor-houses indeed was any distinction made between the diet of females and males, of children and adults; while in the army, the women were allowed only half the rations given to the men, and the children half of that given to the females. It appeared also from a scale of the comparative comfort enjoyed by different classes of his Majesty's subjects, given in the report of the commissioners, that the soldier was the worst off almost of all. The lowest in the scale was the independent agricultural laborer; just above him was the soldier; then came the able-bodied pauper; next the suspected thief; then the convicted thief; and the highest in the scale—he who enjoyed the greatest degree of comfort—was the transported felon. He was ready to admit that the state of despondency into which a convict was likely to fall rendered it necessary, perhaps, to give him a greater quantity of food than was supplied to the other persons in the scale; but the point he was contending to establish was, that, in reality, the soldier was worse off than a person guilty of crime, and sentenced to transportation. (Hear, hear.) He therefore trusted that no reduction would be tolerated in the soldier's pay.

The next, is the report of a case of forgery; the delinquent in which, it appears, had taken refuge in this country, was tracked, followed, taken back and convicted.

SATURDAY, MARCH 8.

Forgery.—The King v. Edmund Campbell Brewer. The prisoner was indicted for the forgery of a bill of exchange for 13l. 5s. with intent to defraud the Stourbridge Canal Company. There were other counts stating different intents.

Mr. Whateley, Mr. Godson, and Mr. Scott conducted the prosecution, and Mr. Carrington and Mr. Lee defended him.

John Perry, examined by Mr. Godson.—I am an ironmonger at Stourbridge. The Stourbridge Canal Company owed me 11l. 14s. 10 1/2d. The prisoner was their agent. I applied to him at the end of last July for my account. He came to my house, and brought a bill drawn for 13l. 5s., to pay that account, and to pay the balance on his own private account.—There was an endorsement "Richard Smith—per proc. of Stourbridge Canal Company. E. C. Brewer." I paid away the bill. It came back dishonored on the 22d of October, and I sent it to the Canal Company's agent, Morris. (The bill was read. It was a bill dated the 25th of August, for two months, payable to Richard Smith or bearer, drawn by William Jones upon Messrs. Hanburs & Co., bankers, London.)

Cross-examined by Mr. Lee.—I had not received bills from the company that year.

Thomas Morris examined by Mr. Scott.—I have audited the account of the company. Prisoner came into their service in August, 1831. I occasionally audited his accounts. It was his duty to settle the accounts of the company. In September last I was about to audit his accounts, and prisoner sent me a note, stating that he had had permission to go out of town for a day or two, and should return on Tuesday, and would take all blame at the committee at his (witness's) not being ready. It was dated Sunday evening. He never returned into the service of the company, but absconded. I know the prisoner's hand writing. I believe the whole bill to be in his hand writing, and the endorsements also.

Cross-examined.—The endorsement is different from the face of the bill, but I believe it to be his hand writing.

Henry Eberhart, clerk to Messrs. Roberts, attorneys at Stourbridge, pursued the prisoner to Liverpool, and then embarked for America. Arrived at New York, and from inquiries found him at Utica, 300 miles up the country. There he was apprehended and carried before a magistrate, whence he was brought back to England, and delivered to the constable. After he was brought back to England, and was at Stourbridge, I asked the prisoner who was Richard Smith, the endorser. He hesitated for some time, and then said, "He is a friend of mine, and gave me the money to take it up." I asked him where he lived, and told him that if he had paid the money, Smith could not be hurt. He said "Yes, he

may." I asked him who was Jones, and said the whole bill was in his handwriting. He said "yes." After a little pause, he said "I knew I should be prosecuted on this bill, but having found myself involved, I uttered it, and stopped." He said he had paid it to Mr. Perry.

Cross-examined.—I had no power with me to bring him back from America. He came back voluntarily with me. He was at liberty afterwards, and during the voyage.

Craig, the constable, on the 27th of November last, received prisoner into his custody, and the prisoner told him the same story as to the last witness. He said it was drawn by Smith, but the names were fictitious, and asked if the crime was the same as if the names were known. The witness said he did not know. Prisoner said the last word he said when he left England was, he wished them to take up the bill. On the 29th, he wrote a note to Mr. Payne, requesting him to inquire as to that same question of Mr. Grazebrook, or some other attorney. This note was kept by Craig the constable.

It was proved that no person of the name of W. Jones, near Birmingham, banked at Hambury's, and that the person of the name of Smith was not known there.

The prisoner, a respectable young man, declined saying anything.

Mr. Whateley, for the prosecution, stated that the prisoner had borne an excellent character, and had filled a place of great credit for many years.

Mr. Justice Parke summed up the case to the jury, who found the prisoner GUILTY. Sentenced to be transported for life.

The following is the plan of the Federal Constitution of Switzerland, which was to be presented to the Assembly of the Zofining, on the 26th February.—It is divided into two parts—general principles and special provisions. Among the general principles, the most important is that which declares the sovereignty of the nation. Paragraph 8 declares the Swiss territory to be one and indivisible, and stipulates a complete equality of rights for all the inhabitants. The liberty of the Press and the freedom of discussion, are acknowledged without any restrictions. The first part of the compact, which comprises the general principle in 12 paragraphs, can never be altered. Among the special provisions, we observe by paragraph 13 the nation is divided into tribes, and the country into cantons. Paragraph 14 is in the following terms:

"The Executive of the Federal Constitution is entrusted to a Diet, the members of which are to be elected by the tribes in the proportion of the amount of their population.—Paragraph 17. The tribes of Switzerland are to contribute in proportion to their resources to the support and the expenses of the State.—Paragraph 18. The Confederation will establish at its own charges such patriotic institutions as the tribes of themselves are enabled to establish.—Paragraph 19. The tribes will have the right of giving themselves special Constitutions, but on the express condition that they are not at variance with the general Federal Constitution."—[National Gazette.]

"Scenes from the Life of Edward Lascelles, Gent.—Whatever investigations the captain had instituted with regard to the individual with whom the fire had originated, the result was totally unknown, except to the parties concerned. That due inquiry had been made, we all felt quite assured; for the crime was one of a very serious nature, and not likely to be overlooked by so strict a disciplinarian as Captain Morley. Nay, when the systematic arrangement of every thing on board, and the correct information the captain usually had of what passed in the ship, was considered, it seemed extremely probable that the guilty person had been detected. It was not, therefore, matter of astonishment to myself, or any one else, when at six bells in the forenoon, all hands were turned up for punishment. In the fore-part of the quarter-deck stood Captain Morley, dressed in full uniform, holding a folded paper in his hand, apparently the articles of war. Near him were the different officers, in cocked-hats and side-arms; and a little farther removed, the men.—All was now anxiety as to the culprit; and there was a general murmur of regret and surprise when Richard Elkins, the boatswain's yeoman, was called forward and committed to the custody of the master-at-arms. If there was one man on board the *Hesperus* a greater and more general favorite than another, it was Elkins. Civil and obliging to his superiors, kind and friendly to his equals, an excellent seaman, and always ready at the call of duty, he was respected and beloved both by officers and men.—

During the war he had been engaged in the hottest of the fray, and bore many honorable wounds in testimony of his gallantry. Repeatedly had he led the van of his comrades in boarding the enemy; twice had he, by his prowess, and at great personal risk, saved the life of an officer; and on one occasion he swam to the Admiral with despatches when the iron shower of balls and grape fell so thick that no boat could be trusted on the water.

The captain, having read before an uncovered audience the clause in the articles of war which related to the crime, folded up the paper, and with a tone of deep emotion addressed the unhappy man nearly in these words:

"Richard Elkins! through your carelessness yesterday the ship was nearly destroyed by fire; and your shipmates have only been saved from the most dreadful of deaths, by the merciful intercession of that Being before whose awful throne you had nearly hurried them. You have broken the articles of war, having, in direct opposition to orders, removed a lighted candle from the lantern in which it was placed for safety, and fastening it to a beam, left it burning in that situation when you went to supper, (four o'clock, p. m.) In consequence of this act of disobedience and neglect on your part, the fire broke out in the boatswain's store-room. Is this the case, sir, or is it not?"

"It is, sir!"

"I therefore consider it my duty to punish you, as an example to the rest of the crew; and much do I regret that one who is in every respect so deserving a man should have incurred so severe a penalty.—Strip, sir!"

Without a syllable in his own defence, or a single plea for mercy, he took off his coat and shirt, and his brawny wrists were tied to the gratings. One only appeal he made, but not in words; it was merely an expressive glance of his eye, by which he seemed to request the intercession of his officers and comrades. The benevolent commander marked that glance, and it was reflected back from his own countenance, as if he wished to second the appeal. But in vain; no one spoke, for all knew that the offence was too heinous to be forgiven.

The boatswain had taken off his coat, preparatory to giving the first dozen—the cat was ready in his hand—the stiff figure of the master-at-arms stood by, prepared to record the stripes, and the captain paced to and fro upon the deck, chucking into the air a small bunch of keys—his common practice when he was agitated. After making several turns of the quarter-deck, he at length stopped, and every one expected that he was about to give the signal to commence.—For a moment he stood gazing on the culprit: it was an interval of the most anxious suspense, and all eyes were eagerly fixed on him. At last, turning towards the boatswain, he raised his hand gently upwards, and gave the unexpected order—"Cast him off!" (unbind him.) In an instant the bonds fell from the poor fellow's arms, and he stood, unshackled and undisgraced, among his comrades.

"Elkins!" said the captain, "I cannot flog you; it is not twenty-four hours since God forgave us all; it is meet that I should now forgive you. Pipe down, Mr. Parsons!"

Three rounds of such hearty cheers, as made the timbers of the Old *Hesperus* ring again, succeeded this short, but truly eloquent address; and I believe I was not the only one on board who envied our noble-minded commander the grateful applause of the seer within his own breast—an applause which, certainly, he must have that day experienced.

The *Instituteur*, a journal of primary instruction presents the following general results of elementary instruction in the departments:—The number of children of both sexes who learn to read is nearly 2,000,000. But almost half the communes of France refuse to tax themselves voluntarily to assist the Government in spreading the blessings of popular instruction:—

Number of Schools.	
Elementary Primary	35,007
Superior Primary	373
Private	9,092
Total	44,472
Number of Pupils who frequent the Schools.	
Boys	1,175,248
Girls	731,773
Total	1,907,021
Total expense of primary instruction, 10,172,706f. 19c.; portion of this expense paid by the communes, 7,693,793f. 50c.; ditto by the departments, 2,054,051f. 41c. Number of communes taxed <i>ex officio</i> 19,032. Amount of the taxes, 1,994,319f. 60c.	

The unparalleled enterprize of the Yankees is manifested in every quarter of the world. The Governor General of India, Lord William Bentinck, has presented Mr. Rogers, supercargo of the ship *Tuscan*, with a handsome Silver Vase, bearing the following inscription:

"Presented by Lord William Bentinck, Governor General and Commander in Chief of India, to Mr. Rogers, of Boston, in acknowledgment of the spirit and enterprize, which projected and successfully executed the first attempt to import a cargo of American Ice into Calcutta."

The Vase is of a chaste and classic form, ornamented with flowers and fruit, intersected with foliage, and richly embossed.

Banks of Alexandria.—The Directors of the two banks which remain in Alexandria, viz: the Bank of Potomac and the Farmers' Bank, have announced that they will hold themselves personally responsible for the debts of those institutions respectively. The run upon them had ceased and the panic in a great measure subsided.

[From the Norfolk Beacon.]

THE PROSPECTS OF THE CROPS—GLOOMY INDEX!—We continue to receive the most depressing accounts of the prospects of the coming crops, produced by the flooding of the low grounds by the late unexampled heavy rains. We learn from Farmers in the vicinity, that those who have planted corn in their low grounds, had it entirely drowned, and that where they have not planted, the ground continues so soaked as to prevent its being prepared for that operation. A respectable gentleman who has recently passed through several of the proximate Counties of N. Carolina, states that there also the prospects for the corn crops are quite disheartening.

The New Orleans Courier of 2d April, notifies, under some of the most respectable signatures of the city, a public meeting to convene for the adoption of measures, to give to the tragedian, Cooper, a benefit on the plan of that given to him in this city.

THE POLES.—At a meeting held, in pursuance of a public notice; at the Merchants' Exchange, on Saturday, the 19th of April, Abraham Ogden, was appointed Chairman, and Wm. B. Townsend, was appointed Secretary.

Resolved, That
Albert Gallatin, Wm. B. Townsend,
Theodore Dwight, James G. King,
William W. Woolsey, S. V. S. Wilder,
Pela. Perit, Moses H. Grinnell,

be appointed a Committee for the purpose of collecting subscriptions here and elsewhere, and of distributing the same, for the relief of such exiles from Poland, as have been, or may be, lauded in this city, and to devise such other means as may be needful for the purpose of carrying into effect, the benevolent views of the subscribers to the Polish Fund.

On motion,
Resolved, That William W. Woolsey be appointed Treasurer of the Polish Fund, to whom all donations may be paid.
ABM. OGDEN, Chairman.

Wm. B. Townsend, Secretary.
The papers in this and other cities are requested to publish the above proceedings.

The ship *St. Andrew* was safely and beautifully launched this morning, about 9 o'clock. She will take her place in June, as a Liverpool packet, under the command of Captain Taubman.

Shipwreck.—The schooner *Diluvian*, (late) Green, master, from Baltimore bound to Charleston, when 15 or 20 days out, encountered a heavy gale in the Gulf Stream, during which Capt. Green was washed overboard and lost—both pumps choked, and the vessel having filled with water, the crew, with the assistance of Mr. Harrison, a passenger, by great exertions kept her before the wind and made for the land, which they fortunately reached about 15 miles to the southward of Cape Henry, on Friday night last, where they put the vessel on shore. The cargo consisted of corn, whiskey, coffee and flour, which has been mostly saved, though in a damaged state, and has been turned over to the Commissioners of wrecks. The vessel, we learn, may possibly be got off.—[Norfolk Herald, 16th April.]

WILKESBARE, (Pa.) 16th APRIL.—Reward of *Chivalry*.—A young hero by the name of Horace Williams was sentenced during our present session of Court to one year's imprisonment in the penitentiary and to pay a fine of \$500 for challenging to a duel. We believe this is the first conviction of the kind in

this county, and trust it will operate as a warning to others. A few such examples in different parts of the United States would effectually exterminate this despicable practice.

NORFOLK, April 16th, 1834.—Arrival of the *U. S. schr. Enterprize*.—The *U. S. schr. Enterprize*, Lt. Com. Downing, 37 days from Rio Janeiro, arrived at the Naval anchorage this morning. Officers and crew all well.

The *U. S. ship Peacock*, Capt. GEISINGER, and *schr. Bozer*, Lt. Com. FARRAUGHT, were at Rio 8th March, all well—the former waiting the arrival of the *Natchez*—the latter repairing.

The *U. S. ship Ontario*, Capt. SALTER, had sailed for the River La Plata.

The *U. S. ship Natchez*, Capt. ZANTZINGER, bearing the broad pendant of Com. WOOLSEY, was daily looked for at Rio from Montevideo.

The *U. S. ship Lexington*, Capt. McKEEVER, sailed for Portsmouth, N. H. 8 days previous to the sailing of the *Enterprize*.

Lieut. Com. WILLIAM F. SHIELDS, late Commander of the *Bozer*, and Midshipman WILLIAM H. BROWN, late acting sailing master of the *Peacock*, (for his examination) came passengers in the *Enterprize*. The E. left at Rio, several American vessels, among which were *Ships Exio*, Walker, for New York, in 10 days, and *Brig Sabra*, Winslow, for Richmond, in 7 do. The *Brig Barbary*, Brown, after being 10 days out, bound to Antwerp, had put back leaky. No news at Rio—Markets looking up.

List of Officers of the Enterprize.

SAMUEL W. DOWNING, Lieut. Commanding.
Timothy B. Benham, 1st Lieut.
James M. Watson, 2d do.
George Blacknal, Ass. Surgeon.
William P. Zantzinger, Purser.
Alexander C. Maury, Act'g Master.
Richard Forrest, Mid'n
Thomas T. Hunter, do.
Levin Handy, do.
Alex'r M. Pennock, do. } Come for their ex-
John D'Camp, do. } amination.
John Mooney, do.
William P. Milnor,
Charles Fales, Gunner.
Edward Harrison, Act'g Boatswain.
Charles B. Wright, Purser's Steward.

COMMERCIAL RECORD.

REVIEW OF THE NEW-YORK MARKET, APRIL 10.
ASHES.—The transactions have been limited until the close of business yesterday, when about 20 bbls. fresh inspected Pots were sold at \$4.25.

COFFEE.—Small sales of good quality were made yesterday at 63 cents.

COAL.—A cargo of 130 tons Liverpool Orrel was sold at \$8.75 on time. A good deal of Anthracite lies over.

IRON.—250 bags Para sold at 5 cts., 4 mos.

COFFEE.—There has been quite an active demand since our last report, and the sales amount to about 6000 bags—embracing about 1000 St. Domingo at 104 cash, to 11 cents on time; 800 bags old crop Brazil, 104 a 104 1/2 cents; 250 new crop, 114 a 12; 5 a 600 Laguira, 114 a 114 1/2; 100 good Porto Rico, 12; some Cuba, 10 a 10 1/2; Manilla, 12 1/2; Java, 12; a large parcel of Sumatra at a price not transported; and by auction, 500 bags old crop Brazil, 102 cents, 4 mos., and 68 bags Cuba, good, 114 a 114 1/2 cents, 3 and 4 mos. The transactions have been both for home use and export, and the stock is very much reduced.

COPPER.—Sales of Sheathing have been made at 23 1/2 cents.

COTTON.—Prices are fully maintained, and in consequence of the limited supply, an advance has in some instances been realized. The sales of the week amount to 1200. Stock on hand only 13,664 bales of all sorts.

Imports here—from
New Orleans.....30
Florida.....193
Alabama.....763
South Carolina.....237
North Carolina.....184

Total.....1407 bales.
Total import, since 1st inst.....6206 bales.
Export, from 1st to 17th inst.....6979 bales.

DOMESTIC GOODS.—There is a fair business doing.

FISH.—Nos. 1 and 2 Mackerel have advanced 25 cents per barrel.

FLAXSEED.—We have no sales to report.

FLOUR AND MEAL.—A fair but not very extensive business has been done in Flour, and without any further advance in prices.

FURS.—A large quantity of articles under this head have been offered at auction by the American Fur Co. and others. Only a small proportion of which were sold, and offers not being satisfactory.

GRAIN.—We have no arrivals of Wheat, of which the market is quite bare. Rye and Corn continue in demand at improving prices. No Southern in market. Oats remain as before.

HIDES.—The demand is more active.

HOPS.—We have heard of no sales. The article is extremely dull.

LEAD.—Several sales of New-Orleans Pig have been made this week at 5 1/2 cts. 6 mos., which is a reduction of 1/4 of a cent.

LEATHER.—Some considerable sales have been effected of Sole this week, by auction, at an improvement of 1/4 a cent on the previous transactions.

MOLASSES.—The supplies of late have been hardly equal to the demand.

OILS.—There has been an active demand of Whale Oil, for export, and pretty extensive sales have been made at 26 cents, which is an improvement.

RICE.—There have been no sales of any importance since our last report.

SKINS.—The American Fur Co. sold, by auction, 466 Shaved Deer Skins at 40 cents per lb.; 122 Red and Blue, 35 cts.; and 236 Gray, 25 cents, 5 mos.; 208 Bear Skins, 75 cents, and 169 Cubs, 50 cents each.

SUGARS.—There is a very active demand, and the stock of all descriptions is reduced quite low.

TEAS.—The cargo of the brig *Nabob*, consisting of about 4000 packages, was sold on the 17th, and went off with some degree of firmness, at rates about equal to the previous sales.

WHALEBONE.—A large sale was made at 17 cents, which establishes an advance.

WOOL.—12 bales Saxony Lambs were sold, by auction, yesterday, at 10 1/2 a 160 cents per lb., 4 and 6 mos.

FREIGHTS.—To Liverpool continue dull. To Havre, the packets are readily filled at our rates.

PHILADELPHIA MARKET.—Week ending April 19.

COTTON.—The stock is still very light, and only small parcels selling; the present supply does not exceed 150 bales.

DRUGS AND DYES.—A large parcel was sold by auction this week, at very low prices; some articles were forced off to close accounts.

DRY GOODS.—Continue to decline in value.

FEATHERS.—Western at 37 1/2 a 38c.

FISH.—No extensive sales of any description; our quotations designate value; No. 3 Mackerel are scarce.

FLOUR AND MEAL.—We have to advise a still further advance in almost all descriptions.

HOPS.—Different sorts, selling at 15 a 18c.

OILS.—A further advance in Lined Oil.

PROVISIONS.—150 bbls New York prime Beef, \$6 50; 300 kegs Western Lard, 8 a 8 1/2; 4 mos.; 113 do, 7 1/2; 70 do, Jersey, 9 1/2; 600 western Hams, 9; 10 hbls do, 8 1/2; 60 bbls cargo Pork, \$9 1/2; 30 do Mess, 13 1/2; 25 kegs butter, 8c.

RICE.—45 casks 23, 2 1/2 a 3c.

SEEDS.—Flax seed is worth \$1 25 a 1 30, and Clover, \$3 50—little doing in either.

WOOL.—Considerable demand in Felled and Fleeced, at quotations, 5 bales washed western, a 33c, on Thursday.

BALTIMORE MARKET.—April 22.

A little more animation in the Coffee market; 19 1/2c was offered for 400 bags St. Domingo, which offer was declined; it freely brings 11 cts. There is no alteration in prices of Tea; the groceries are well supplied; a cargo daily expected from Canton. Virginia Cotton is scarce, and would readily command 12 a 12 1/2c. Rice continues very dull.

The Banks improve in their discounts. Large quantities of Specie that was drawn out during the great excitement have been returned, and we hope soon to see confidence restored, particularly towards country banks.

FLOUR.—There is very little change since our last.

GRAIN.—No arrivals of wheat since our last report.

CHARLESTON MARKET. April 15.

COTTON.—The sale in Uplands were to a fair extent on Monday and Tuesday, at the full prices of last week. Yesterday later advices having been received from Liverpool via Savannah, of a further decline, purchasers held back until holders conceded to a small reduction, when they again came freely into market.

RICE.—During the first two days of this week, the market exhibited its usual dullness. Yesterday fair sales were made of all descriptions, some lots of very prime and choice were disposed of at \$2 75 and \$2 87 1/2.

SUGARS.—A lot of hbls. New Orleans was offered at auction yesterday on landing.

SAVANNAH, April 12.—COTTON.—During the early part of the week, the demand for Upland was moderate. The sales of the week amount to about 3,500 bales. We quote 10 a 12 1/2 and 12 1/2 a 13 for choice. In Sea Island there has been considerable done, particularly in the common qualities at an advance of from 1 to 3 cents on last week's prices. We quote 34 a 30, and upwards for choice.

FLOUR.—Is selling at our quotations, \$5 a \$6.

CORN.—Is retailing at 75 a 80 cents.

FREIGHTS.—To Liverpool, 3d. To Havre, no vessel. To New York, \$1 per bale. To Providence, \$1 1/2 per bale.

MACON, April 10.—COTTON.—Extreme prices 8 to 10 cents; principal sales 9 1/2 to 10 cents. Freight to Savannah, \$2 per bale.

MOBILE MARKET. APRIL 5.

COTTON.—The receipts since our last review are 5300 bales, the exports 5630.

The demand for cotton during the week has been moderate. Good and fine qualities are scarce.

Wholesale Prices.

COFFEE.—Sales to a fair extent have been made during the week at 13 1/2 a 14c for prime; inferior, dull at 11 a 12 1/2.

SUGARS.—The small quantity in market sells freely at 8c for prime.

FLOUR.—Import 75 bbls. No transactions have come under our observation.

CORN.—By the barrel \$1.50; in sacks \$1.50 a \$1.62 1/2.

OATS.—Per barrel \$1.00; in sacks \$1.50 a \$1.53 1/2.

RICE.—A small quantity has been received this week, which is held at higher rates.

MOBILE, April 4.—COTTON.—Sales of this article have not been so brisk, and the demand not as active for the last two days as at the close of last week. The receipts this week amount to 6500 bales quote, choice, 12 a 12 1/2; good, 11 1/2 a 12 1/2; good fair, 10 1/2 a 11 1/2; fair, 10 a 10 1/2; middling, 9 1/2 a 9 3/4; ordinary, 9 a 9 1/2.—[Mercantile Advertiser.]

FROM BENJAMIN LEVY'S NEW ORLEANS PRICE CURRENT OF APRIL 5.

COTTON.—The market was steady in the commencement of the week, but the sales of Thursday were at a decline of half a cent. This decline is attributable, in part, to late news from Liverpool, which has been of rather an unfavorable character. We have consulted with those well acquainted with the market, and have concluded to make no alterations this week; but they all agree in saying they are extreme prices, and could not, at this moment be obtained, unless for parcels of the very best description.

Liverpool Classification.

Ordinary.....9 1/2 a 9 3/4
Middling.....10 a 10 1/2
Fair.....11 a 12
Good fair.....12 a 13
Good and fine.....13 1/2 a 14 }

good demand.

Stock on hand.....Bales 105451
SUGAR.—The demand is not as good as formerly.
MOLASSES.—Former rates remain without change, and the demand continues fair at 20 a 21 cents per gallon.
TOBACCO.—The former good demand still continues, and we quote as heretofore 3, 4, and 5 cents per lb.
 Stock on hand.....Hhds. 5167
FLOUR.—Like almost every other article of produce, has still further declined in price—the market is overstocked.
CORN.—In the ear, is selling on the Levee at 75 a 87½ cents per bu. The supply is shelled, is scarce and in good demand. Quotation 1 cent. St Domingo of good quality, is scarce and in fair demand. We now quote fine Havana green at 12½ a 13½, Rio 11 a 12½, St. Domingo 10 a 11 cents per bu.
FEED.—There is a reduction in the price of this article.
FREIGHTS.—We make no alteration in the rates of Freight this week, but merely remark they are dull.

NOW READY,

AN INTERESTING AND USEFUL MAP.

Upon which is delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It may be had either in sheets, price \$1 25, or put up in Morocco for pocket maps, price \$1 50, or on rollers at \$2 25, in any quantity, by applying to the subscriber.
D. K. MINOR, 35 Wall street.
 New-York, April 2, 1835.

TO CIVIL ENGINEERS.

The Western Railroad Company, incorporated by an act of the General Assembly of the State of Tennessee, for the purpose of constructing a Railroad from the town of Jackson, in the county of Madison, by the most practicable route to the Mississippi river, wish to employ one or more persons as engineers to survey the route and superintend the location and construction of said road. Gentlemen who wish employment in the above capacity, will forward to the undersigned on or before the 3d day of June next, the terms upon which they are willing to engage, also the most unquestionable testimonials of good character and scientific and practical skill in works of the above description. An election of an engineer will not take place before the 3d of June.

By order of the Pres't & Directors.
JOS. H. TALBOT, Cash'r & Sec.
 Jackson, March 18, 1834.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, plus wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.
WILLIAM NORRIS, Secretary.

December 24, 1833.

For further information on this subject see No. 40, page 772 of this Journal.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBUEN,

347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and **American Gardener's Magazine.**

Mechanics' Magazine and **Register of Inventions & Improvements.**

AMERICAN RAILROAD JOURNAL and **Advocate of Internal Improvements;** and the **NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly;** either or all of which may be seen and obtained by those who wish them; by calling at 347 North Market street, Albany.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
 No. 264 Elizabeth street, near Bleecker street,
 New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
 J25 17

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, **AXLES** furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, **CAK SPRINGS.**

Also, Flange Tires turned complete.

ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 55 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfections of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing & Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use.

The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

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TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Esq. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
 Hudson, Columbia county, New-York; }
 January 29, 1833.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ship. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833.
 A29 of RM&F

RAILWAY IRON.

		Flat Bars in
Ninety-five tons of 1 inch by 1 inch,	lengths of 14 to 15	feet counter sunk
200 do. 1 1/2 do. do.	do.	holes, ends cut at
40 do. 1 1/2 do. do.	do.	an angle of 45 de-
800 do. 2 do. do.	do.	grees with spli-
800 do. 2 1/2 do. do.	do.	cing plates, nails
soon expected.		to suit.

250 do. of Edge Rail of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 2 1/2, 3, 3 1/2, 3 3/4, and 4 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON,
 9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.
 d17mewr

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street,
 J31 67 corner of Maiden lane.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.
WM. J. YOUNG,
 Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use of the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This Instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.
 Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.
E. M. GILL, Civil Engineer.

German town, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
 Germantown and Norristown Railroad

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THE ARMY.
HEAD QUARTERS OF THE ARMY,
Adjutant General's Office,
WASHINGTON, APRIL 19, 1834.

Order No. 31.

I. The Field Officers of Artillery are assigned as follows:

* 1st Reg't of Artillery,	Colonel, Fort Washington.
	Lt. Col. Fort Severn.
	Major, Fort Moultrie.
† 2d Reg't of Artillery,	Colonel, Augusta Arsenal, Geo.
	Lt. Colonel, Fort Marion.
	Major, (act'g) Fort Monroe.
† 3d Reg't of Artillery,	Colonel, Fort Monroe.
	Lt. Colonel, Fort Wolcott.
	Major, Fort Independence.
§ 4th Reg't of Artillery,	Colonel, Fort McHenry.
	Lt. Colonel, Fort Columbus.
	Major, Fort Monroe.

II. Company B, 1st Artillery, now stationed at Fort McHenry, will relieve Company I, of the 4th Artillery, at Fort Severn; and on being so relieved, Bvt Major Erving, with his Company, will repair to Fort McHenry. Capt. F. Whiting's Company, (I.) 1st Artillery, will repair to Fort Washington, and relieve Company F, when Bvt Major Mason, with his company, will proceed to join the garrison at Fort Monroe.

III. Fort Niagara will be evacuated, and the garrison, consisting of Companies D and H, of the 2d Infantry, will proceed to Fort Gratiot, and there relieve Companies E and H, of the 4th Artillery, when Bvt Major Payne, with his command, will proceed to New York, and thence, with his Company, take post at Fort Trumbull; Company H will join the garrison of Fort Hamilton.

IV. The Head Quarters of the 2d and 4th Regiments of Infantry are transferred, the former from Fort Niagara to Madison Barracks, the latter from Mobile to Baton Rouge.

V. The Field Officers of Artillery and Infantry, will proceed to their respective stations, as above designated, on the 31st of May, or as soon as circumstances will permit; and the movement of troops, under the direction of the respective commanding officers, will take place without unnecessary delay.

VI. Assistant Surgeon Minis is assigned to duty at Castle Pinckney, to which post he will repair without delay. Assistant Surgeon Stinnache will continue on duty at Fort Gratiot.

VII. The garrison of Fort Monroe will no longer be regarded as the exclusive School of Practice;—as, at all military posts, the commanding officer will be responsible for the discipline and proper instruction of the troops, in all their duties. The usual reports and returns from the post, will be made direct to the General of Department, who will exercise the same authority at Fort Monroe as at other military posts within his command: accordingly, the monthly, and other returns and reports, heretofore received from Fort Monroe, as of "The Military School of Practice," will be discontinued.

By order of Major General Macomb,

R. JONES, Adjutant General.

* House,	† Lindsay,	† Armistead,	§ Fenwick.
Walbach,	Crane,	Bankhead,	Eustia.
Gates,	Heileman,	Brooks,	Fanning.

[From the New Orleans Bee of 5th inst.]

Capture of an English armed Schooner.—We understand from a person whom we deem worthy of credence that he learned on board the schooner *Tita*, which arrived here day before yesterday from Mantanzas, that the Spanish revenue cutter, *Retilla*, had boarded and taken, on the coast of Cuba, an English schooner of war. The circumstances were briefly these:—The English vessel taking the Spanish cutter for a slave-trader, as was afterwards ascertained, fired upon her, whereupon she hoisted her colors, which having not been deemed a satisfactory evidence of her real character, a broadside succeeded, upon which an engagement took place, which resulted in the capture of the schooner, whose loss amounted to 14 men.

Sudden Death.—A man named James Brack, a clerk employed at the office of the Old Countryman, in passing down Frankfort street, about one o'clock yesterday afternoon, suddenly fell upon the sidewalk opposite the Pewter Mug, in a state of insensibility. He was immediately taken into an adjacent house, and efforts were made to revive him, but without success.—[Standard.]

The river St. Lawrence was open on the 14th of April, from Montreal to Quebec.

Capt. Lewis, of the schooner Northampton, arrived yesterday from the Island of St. Vincents, re-

ports that on the day he sailed, three successive shocks of an earthquake were felt there, one of which was extremely violent, and it was supposed did great damage. The Sea and the harbor was so high that it was with great difficulty that the vessels at anchor were prevented going ashore. A number of negro houses were destroyed, but the Captain had an opportunity of ascertaining whether any lives were lost.—[Jour. Com.]

Destruction of a Pirate and Death of an Officer and several men on board an English Man of War.—The New Bedford Mercury, says that Capt. Bennet of the ship *London Packet*, arrived there on Saturday, gives information that on the 3d March, off Ascension Island, he was spoken by his Britannic Majesty's man of war *Carlow*, and was informed that on the coast of West Africa, the *Carlow* fell in with a suspicious looking vessel armed with five guns and a carronade on a pivot amidships. The *Carlow* sent her boats to board, when the boats got along-side they found the vessel deserted, and in a few minutes after she blew up, killing one officer and several men belonging to the C. It was supposed that the explosion was caused by a match being led to the magazine and fired before the piratical crew left her. The English commander immediately sent his boats on shore and succeeded in capturing nineteen pirates, who were then in irons on board his ship.

It was ascertained from articles on board that this was the vessel that had robbed the brig *Mexican* of Salem of goods and \$25,000 in specie. The pirates were Spaniards and Portuguese. The commander of the *Carlow* sent letters by Capt. Bennet to the owners of the *Mexican*.

MONMOUTH N. J.—One or two vessels laden with oranges, came ashore near Squan, sometime last week, in consequence of which, we have had oranges here by wagon loads.

The *Susquehanna Democrat* (Pa.) of 16th April, has this significant editorial article:

There are several rumors in circulation too ridiculous to mention.

An Act relating to the Court of Common Pleas for the City and County of New York. Passed April 11, 1834.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

§ 1. An Associate Judge shall be appointed for the Court of Common Pleas for the City and County of New York, in the same manner as Judges of the several Courts of Common Pleas of this State now are appointed, who shall be a Counsellor of the Supreme Court, and shall have the same power to hold said Court of Common Pleas as the first Judge thereof, and may equally with him as presiding Judge, authenticate the records of said Court.

§ 2. Such Associate Judge shall receive a like trial fee, for every cause noticed for trial in said Court as is allowed in the Superior Court of the said city, to be received in the same manner and with the same restriction.

§ 3. Each term of said Court may continue until the end of the fourth week after the commencement thereof, and a new panel of Jurors may, by order of said Court, be summoned for the two last weeks of said term, and any writ or process may be tested on any day in term, and be made returnable on any other day in the same term or the next term; provided, however, that said Court may be adjourned on any day previous to the expiration of term, and also from any one day in the term over to any other day in the same term.

§ 4. The said first Judge and Associate Judge shall, except when sick or absent from said city, have sole and exclusive authority at chambers touching any suit, security, judgment or proceeding in said Court.

§ 5. All the powers now vested in the said first Judge by virtue of the Statutes of this State relative to any legal proceedings, are hereby given also to the said Associate Judge; and any proceeding commenced by one of said Judges, may, in his absence, be continued, decided, and perfected by the other of said Judges.

§ 6. The said Associate Judge shall have the same power as the said first Judge to hold, and in the same manner preside, in the Courts of General Sessions of the peace in and for the City and County of New York.

§ 7. This act shall continue in force for the term of five years from its passage.

§ 8. This act shall take effect immediately after the passage thereof.

State of New-York, Secretary's Office.

FIELD FLOWERS.—By Thomas Campbell.

Ye field flowers! the gardens eclipse you, 'tis true?
Yet, wildings of nature, I doat upon you,
For ye waft me to summers of old,
When the earth teemed around me with fairy delight,
And when daisies and buttercups gladdened my sight,
Like treasures of silver and gold.
I love you for jolling me back into dreams
Of the blue highland mountains and echoing streams,
And of broken glades breathing their balm,
While the deer was seen glancing in sunshine remote,
And the deep mellow crush of the wood-pigeon's note,
Made music that sweetened the calm.
Not a pastoral song has a pleasanter tune
Than ye speak to my heart, little wildings of June:
Of old ruinous castles ye tell,
Where I thought it delighted your beauties to find
When the magic of Nature first breathed on my mind,
And your blossoms were part of her spell.
Ev'n now what affections the violet awakes:
What loved little islands, twice seen in their lakes,
Can the wild water-lily restore;
What landscapes I read in the primrose's looks,
And what pictures of pebbled and minnowy brooks,
In the vetches that tangled their shore.
Earth's cultureless buds, to my heart you were dear,
Ere the fervour of passion, or ague of fear,
Had scathed my existence's bloom:
Once I welcome you more, in love's passionless stage,
With the visions of youth to revisit my age,
And I wish you to grow on my tomb.

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in semi-monthly form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made to the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y. D. K. MINOR, Proprietor. Jan. 22, 1834.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published.

Also, the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

All Letters and Communications for the above publications, may be addressed, free of postage, to D. K. MINOR.

RAILROAD TURNOUTS, REVOLVING PLATFORMS AND SIDELINGS.

The subscriber having been for some years engaged in constructing turnouts, and inserting the necessary switches and fixtures appertaining to the same, on the Baltimore and Ohio Railroad,—and as those works on that road will be shortly completed, he is desirous of being employed by any Railroad Company requiring work of the above description.

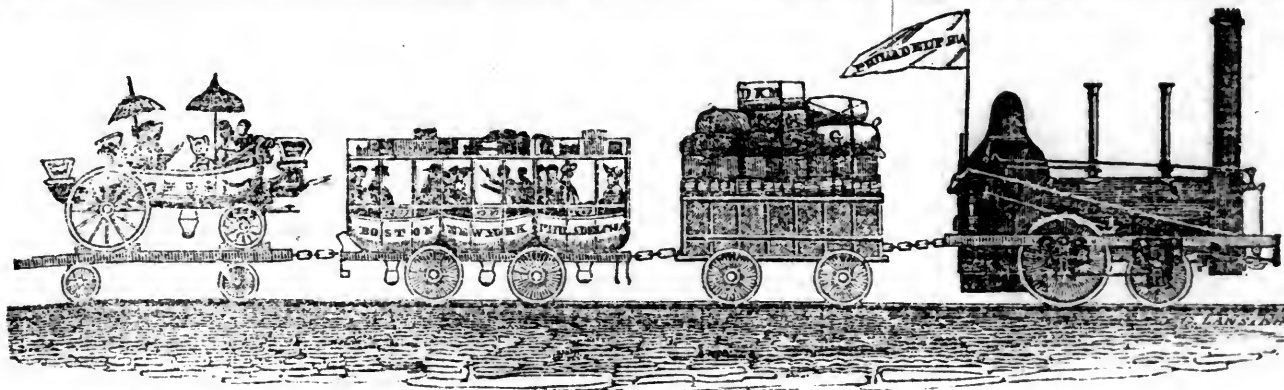
He will either contract at a fixed price to execute the work, he providing all the necessary materials and fixtures, or otherwise,—or he will engage himself at a stated salary.

In relation to his abilities and general character he begs to refer any Company, disposed to engage him, to the Baltimore and Ohio Railroad Company.

Letters can be addressed to him at the Office of Construction Baltimore and Ohio Railroad, Baltimore.

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REUBEN ALER.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, MAY 3, 1834.

[VOLUME III.—No. 17.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 3, 1834.

TO CORRESPONDENTS.—P. G. V. will please accept our thanks for his monthly statement of the weather. In reply to his query in his communication of the 6th April, containing the table for March, we would observe that we have received a report for every month, except December, 1833. With regard to the *irregularity* of the receipt of the Journal, and other New-York papers, referred to in the annexed extract, we can only say that the *fault* and "neglect" are not with us. Our papers are carefully and regularly mailed.

"I received yesterday, by mail, papers from New-York (say only) dated from 24th January, 1834, to March 15, 1834, inclusive, all in original envelopes, and in good order. Intermediate numbers I have received in part before, but not all yet. How is it possible that such neglects should or ought to occur.

"Avoylle Ferry, La., April 6th, 1834."

We also acknowledge our indebtedness to V. D. G. for his frequent and valuable communications upon the subject of railroads; F., upon internal improvements; S. D., upon road-making, and other subjects. This communications are always acceptable, although sometimes delayed by other matter on hand.

We have received, and shall, at our earliest convenience, examine the first annual report of the Philipsburgh and Juniata Railroad Company. The President, H. Phillip, Esq., to whom we are indebted for it, will please accept our thanks.

SLOOP CANAL FROM THE HUDSON TO THE LAKES.—In the Assembly of New-York, on the 14th of April, Mr. O. Robinson, from a select committee to whom was referred the petitions

of numerous inhabitants of Oneida, Oswego, and other counties, for the exploration, survey and estimate of a sloop canal from the city of Utica to the village of Oswego, on Lake Ontario, made an interesting report, and concluded by introducing a bill to provide for the survey of a ship or steamboat canal from Albany to Oswego, and also to improve the outlets of the Onondaga, Cayuga and Seneca Lakes.

The bill provides for the survey of the route commencing at Albany, thence up the valley of the Mohawk to the Oneida Lake, and thence down the outlet of said Lake, and the Oswego river, to Oswego, on Lake Ontario, of sufficient capacity to admit vessels of 200 tons burthen, also, so to improve the outlets of the Onondaga, Cayuga and Seneca Lakes, as to admit vessels of like dimensions.

On motion of Mr. Humphrey, four times the usual number of this report were ordered to be printed.

PENNSYLVANIA CANALS AND RAILROADS.—The following paragraph from the Harrisburgh Reporter of Friday last, presents a gratifying picture:

"The several lines of the Pennsylvania canal, are in excellent navigable order, and in full operation. The slight breach on the Juniata, which interrupted the navigation of that division for a few days, has been repaired. The Portage railroad is also in full operation, and immense quantities of produce and merchandise daily pass over it. The receipt of tolls on our public improvements since the commencement of the present financial year, have more than trebled the amount received during the same period of the last financial year! The receipts of the treasury up to this time, the tolls in the hands of the collectors not paid in, and the probable receipts for the balance of this month, will amount to upwards of one hundred and ten thousand dollars! During the corresponding period of the last financial years, the receipts were thirty-four thousand two hundred and thirty-eight dollars, showing an increase thus far, of upwards of seventy-five thousand dollars!!!

To the Editor of the Railroad Journal, &c.

Sir,—As I am a farmer, I have been so much occupied by my attention to planting trees, that I have really not had time to attend to my other business. The time for executing such business, in the spring especially, is so short, that it requires close attention to perform the work in season. I have now, however, got nearly through, so that you may rely on my communication being in readiness for your next number.

Your obedient servant, J. S.

Hoboken, April 23, 1834.

On the Construction of Diving Bells. By S. D. To the Editor of the Railroad Journal and Advocate of Internal Improvements.

SIR,—In the construction of the common diving-bell, an instrument now very extensively and importantly used, a complication of pulleys, barrels, and ropes, always liable to accident and interruption, is necessary to insure a supply of pure air to the person in the bell, and to remove the impure air constantly generating. It has struck me sometimes—although from its not having been already adopted, there probably exists some insuperable objection to the proposal, which I do not perceive—that a condensing syringe might be used with great advantage. This syringe might work into a small reservoir above water, from which the communication (a well-constructed hose would serve every purpose) would proceed to the bell; this hose, it is evident, might be of any length, coiled even while in use on the deck of the lighter, which always accompanies the bell, and connecting by means of an opening in the top of the bell, to which might be attached a stop-cock, by which the person inside would always be enabled to govern the supply. For the removal of the impure air, a second set of hose should connect with a second stop-cock; the upper mouth of this set would be in immediate communication with the atmosphere, while the condensing syringe above was supplying the bell with additional air, and thereby expelling from it additional water, the person inside would occasionally, at his discretion, open this second stop-cock, and allow a portion of the impure air to escape, which would be immediately replaced by pure air from the first set of hose, and thus a current of air might be created apparently more perfect, and attended with much less trouble than by the methods in present use. A sketch would more readily explain the simplicity of the mode; but a sketch requires a wood cut, and while doubting whether the idea is not open to some peculiar objection, I have not troubled you with one.

Very respectfully, Sir, S. D.
Boston, April 21, 1834.

On the Location of Railroad Curvatures. By VAN DE GRAEFF. [For the American Railroad Journal, and Advocate of Internal Improvements.—Continued from p. 162.]

Although a system of rectangular lines, traced from given co-ordinate axes, will, in general, furnish the best data for computation, yet cases sometimes occur when those calculations have to be made either from computed curves, or curves actually laid upon the ground. In a first location this case will sometimes happen, when, from difficulties which are found in advance of a line, it becomes necessary to

change a part of that which was either already computed, or actually laid. Such a case will sometimes occur, even when the operations in the field have been skillfully conducted; and in laying curves upon a surface already graded, it will be frequently necessary to compute from curves actually traced. The principles contained in the four last articles have been given chiefly with this object in view. But with regard to the two last articles, (7 and 8,) it may be observed, that, *when the curves are long*, it becomes very important to have some method of obtaining the position of the line *w* from the extremity of either curve; for a knowledge of only the length of that line will, in such a case, be of very little use in the field, unless the direction is also known, in order that the termination of any proposed curve may be immediately pointed out by an instrument placed at the termination of a given curve. There is no difficulty in obtaining very convenient formulas for the object thus proposed; but for want of room in this journal, I must proceed to other things.

10. Take a system of rectangular co-ordinate axes, having their origin at a given station in a tangent line, from which a certain required curve is to be laid, passing through a point designated by the co-ordinates x y ; the given tangent line coinciding with the axis of x : and let a system of rectangular lines be traced from the origin to the designated point, agreeably to the method proposed in article 4. It is then required to determine a method by means of which the instrument may be immediately directed into the true tangent at the designated point.

Let the successive rectangular lines, as traced from the origin, be represented by a b c d , &c. It may then be observed that the safest method of recording the lines a b c d , &c., in the field, will be to take a blank form,

$$\begin{Bmatrix} x = \\ y = \end{Bmatrix},$$

and then record each line in its proper equation, and with its proper sign, immediately as their values are determined by measurement.

A matter of considerable importance in the field, after the rectangular lines a b c , &c. have been traced to any proposed point, is to be able to examine, by the direction of the instrument, what the direction of the curve would be passing from the origin through that given point. Indeed, in difficult situations, a curve cannot be selected without such a datum; and if the rectangular lines a b c , &c. were not sufficient to furnish that datum with facility, a curve would have to be actually laid upon the ground, in order to judge of its fitness, even if a point were known through which it would pass. It would evidently be not difficult to direct the instrument, when placed at the given point, into the true tangent there, if the inclination of that tangent to the primitive tangent at the origin were known. For the last rectangular line traced will, of course, be either parallel to the primitive tangent, or perpendicular to it: and, in either case, it furnishes the means of directing the instrument into a line parallel to the primitive tangent at the origin. It is then only necessary to deflect an angle equal to the inclination of those two tangents, when that inclination is known, and the direction of the curve at the given point may then be perceived at once, from the position of the instrument, without that delay which would be occasioned by actually tracing a curve upon the ground, which must ultimately be relaid. The result, therefore, is, that a formula must be investigated, expressing the inclination of the two tangents in terms of the given co-ordinates x y . Take D to denote the inclination required;

then $D = 2 n T$, and consequently, by art. 2,

$$x = \frac{\sin. D}{2 \sin. T}, \text{ and } y = \frac{1 - \cos. D}{2 \sin. T}.$$

Eliminating D from those two equations, the result is,

$$\cot. \frac{1}{2} D = \frac{x}{y}.$$

Such is the formula required, and its applications are very extensive in the field: for it will thus be seen at once, whether or not the given point can be maintained; and this fact should be always ascertained, and the most judicious line definitely selected, before any curve is actually traced.

11. It is frequently necessary that several points should be designated, through which a curve is required to pass by means of a change of curvature at each of those points. To show the method of operation which ought to be pursued under such circumstances, take a system of rectangular co-ordinate axes, coinciding with the primitive origin and tangent line. Trace, parallel to those axes, a system of rectangular lines, given by the equations

$$\begin{Bmatrix} x = a + b + c + \&c. \\ y = d + e + f + \&c. \end{Bmatrix}$$

and terminating at the first designated point. Let the instrument be then placed at that point, and directed into tangent agreeably to the method explained in the last article. Take this second tangent as the axis of x , for a new system of rectangular co-ordinate axes; and parallel to these new axes, trace a second system of rectangular lines, given by the equations

$$\begin{Bmatrix} x = a' + b' + c' + \&c. \\ y = d' + e' + f' + \&c. \end{Bmatrix}$$

and terminating at the second designated point. Let the instrument be now placed at this second point, and again directed into the proper tangent by the same means as before. Take this third tangent as the axis of x , for a third system of rectangular co-ordinate axes; and parallel to this second new system of axes, trace a third system of rectangular lines, given by the equations;

$$\begin{Bmatrix} x = a'' + b'' + c'' + \&c. \\ y = d'' + e'' + f'' + \&c. \end{Bmatrix}$$

and terminating at the third designated point. Continue this obvious order of proceeding, until equations

$$\begin{Bmatrix} x = \\ y = \end{Bmatrix}$$

have been obtained for all the designated points; and then by means of those equations, and article 4, compute all the moduli of curvatures. Returning now with the instrument to the primitive origin, let each curve be traced from its proper modulus of curvature, and the line will be found to pass through all the designated points. If proper care be observed in chaining the different systems of rectangular lines, by means of which the equations

$$\begin{Bmatrix} x = \\ y = \end{Bmatrix}$$

have been obtained, there can be no disappointment in the result; and, consequently, if the designated points have been judiciously selected, there will very seldom be a necessity of tracing the same part of a line the second time; and thus the method of co-ordinate axes, when skillfully conducted, will constitute one of the most important systems of operations connected with the location of railroad lines.

In tracing the various systems of rectangular lines through the different points which may be designated for a curve, there is a principle of practical convenience which must be mentioned. I mean the principle of designating such points for a change of curvature, as will cause each section of the whole curve, between the designated points, to be composed of an integer number of chains, when those curves come to be ultimately traced, after their respective moduli of curvatures have been as-

certained by the methods explained above. It is indeed necessary in every case, except where the road-way is perfectly horizontal, to know the length of each of those separate curves, in order to select the designated point correctly with respect to grade; and this datum must therefore always accompany the levels. When a system of those rectangular lines have been traced to any given point, and the resulting equations

$$\begin{Bmatrix} x = \\ y = \end{Bmatrix}$$

have been thus obtained, the distance from the origin to that given point, in a right line, will obviously be truly expressed by $\sqrt{x^2 + y^2}$; which is a formula rendered very convenient for use, by means of a table of the squares and square roots of numbers. And this quantity may be frequently taken as the length of the intervening curve, by which to compute what the grade would be at that given point, and will always furnish an easy method of obtaining the approximate distance necessary in making a selection for the position of a line, as far as the levels have an influence. The next object, then, must be finally to designate such a point as near the point fixed by the levels as a desirable curvature will permit, and which will produce a curve, from the origin, containing an integer number of chains. The preceding principles will furnish very simple means of obtaining the desired point; but I cannot here enter farther into such details.

12. Let two curves be under consideration, having different origins, and tangent lines; and let one of those curves be given, from a system of rectangular lines or otherwise, and a point designated therein through which the other curve is required to pass. It is proposed to explain a method by means of which the modulus of curvature of the required curve may be computed.

Take a system of rectangular co-ordinate axes, corresponding with the given origin and tangent line of each curve respectively, and let the co-ordinates of that point in the given curve which is designated for the required curve to meet, as taken with reference to the co-ordinate axes of the given curve, be x y ; the values of these co-ordinates being computed by article 2, if the given curve be already laid in the field, but determined by means of a system of rectangular lines, when that curve has not been actually laid. Let the co-ordinates of the origin, taken with reference to the axes of x , and determined either by computation, or by means of a system of rectangular lines, be denoted by α , β ; α being supposed to coincide with the axis of x . Take z to denote the given inclination of the tangents at the origins of the two curves.

It is sufficiently obvious that the required modulus of curvature will be immediately derived from article 4, when the co-ordinates x' y' , of the designated point, as taken with reference to the new origin and axes, becomes known. The formulas for those new co-ordinates are,

$$x' = y + \beta. \sin. z + x + \alpha. \cos. z$$

$$y' = y + \beta. \cos. z - x + \alpha. \sin. z$$

These are the well known expressions given by most authors for the transformation of rectangular co-ordinates, and they only here stand transposed in such a manner as will best suit the engineer's purpose in the present inquiry. By means of article 4, the above equations immediately produce the following formula, for the value of the new modulus of curvature T' :

$$\sin. T' = \frac{y + \beta. \cos. z - x + \alpha. \sin. z}{y + \beta^2 + x + \alpha^2}$$

The theorem thus obtained has a very good form for computation, and when skillfully applied, it will frequently save much labor in the field, which would be otherwise required, when certain alterations are proposed in a line, once computed, or actually traced. In the prac-

tical use of this theorem, particular attention must be paid to the algebraic sign of all the quantities; but this does not here require an explanation.

VAN DE GRAAFF.

Lexington, Ky., April, 1834.

Experiments made on the Forth and Clyde Canal, to ascertain the best form of Canal Boats. By J. ROBINSON, Esq., Secretary of the Royal Society of Edinburgh. [From the Transactions of the Society of Arts, Second Part for 1833.*]

In the way in which experiments to ascertain the forms of least resistance of floating bodies have generally been made, so costly an apparatus, and so much precision and skill in observation, have been required in order to give any value to the results, that comparatively few persons have been enabled to undertake such investigations, notwithstanding the obvious advantage to be derived by those interested in canal navigation, from an accurate knowledge of the forms most suitable for vessels, according to the circumstances under which they are to be employed.

The great increase of speed which has lately been effected in railway carriage having made it expedient that corresponding improvements should be introduced into the transport of goods on canals; it became the interest of canal proprietors to use active endeavors for this purpose. The directors of the Forth and Clyde canal have shown themselves particularly well disposed to encourage such investigations, and have applied a considerable portion of their revenue to the construction of experimental steam-vessels, and to the improvement of the facings of the canal, so as to admit of the transit of large vessels at rates of speed which, until lately, have been supposed impracticable in confined water.

In order to obtain a maximum of effect from the power employed in such steam-vessels, it was necessary to ascertain as nearly as possible the form, which should be given to their bodies: and as much diversity of opinion existed on this point, I ventured to suggest to the directors that experiments should be made on the canal with models of a sufficient size to admit of safe conclusions being drawn from the results of the trials.

In consequence of this suggestion, four models were prepared, of the following dimensions:

- No. 1 was 8 feet 3 inches long, 2 feet wide, and 1 foot deep.
- No. 2 was 8 feet 3 inches long, 2 feet wide, and 1 foot 6 inches deep.
- No. 3 was 8 feet 3 inches long, 2 feet wide, and 1 foot 6 inches deep.
- No. 4 was 9 feet 1 inch each part, 1 foot wide, and 1 foot deep.

And the weight of each 187½ lbs.

No. 1 was quite flat on the floor, rounded at the bilges, and perpendicular in the sides at the midship section, but with a fine entrance and run.

No. 2 was made in the proportions of an ordinary coasting trader.

No. 3 in the proportions of a sharp-built schooner.

No. 4 was a twin boat, similar in its sections to No. 1, only that the breadth of each portion was half of the other breadth, while the depth was the same.

The weight of all the models being alike, their displacement of water was equal, although their draft, or depth of immersion, was necessarily different.

The usual way of trying the resistance of floating bodies is by drawing them across a dock or basin, by a cord running over delicately hung pulleys on a high mast, and with certain weights attached: the time is accurately noted which each form requires to move through a certain space, and the comparative resistances are calculated from these elements.

*Mr. Robinson was presented by the Society with their large silver medal for this very valuable communication.

This method presents many difficulties and disadvantages; and I therefore resolved on adopting a different one, which should admit of each experiment being carried on through a much greater space than can be accomplished by means of cords and pulleys. My first intention was to tow each model by a long slender line from the after part of a light steamboat, which was capable of running about seven miles per hour in the canal. This line was to have been attached to an hydrostatic dynamometer, and by this means the strain exerted on the towing line at every different rate of speed by each of the models in succession might have been approximated. I was enabled, however, by a suggestion from an ingenious friend (Mr. Oldham, of the Bank of Ireland), to adopt a much more summary and satisfactory way of determining the comparative resistance of the different models; and as it was the comparative resistance alone which required investigation, there could be no inducement to go through the more tedious process of trying the resistances separately, and of incurring the risk of error from mistakes in reading off the indications of the dynamometer.

I prepared accordingly a spar or yoke, of 16 feet 8 inches long, which was divided into 100 parts of 2 inches each; a small eye-bolt was fixed at each extremity, and a shifting hasp fitted to the middle part. With this yoke all the experiments were made by the two following processes. 1st, a model was attached by a slender towing-line to each eye-bolt, and the hasp was fixed exactly in the middle of the yoke, and linked to an outrigger on the steam-vessel, which was then set in motion at the required speed. If it was found that one of the models preceded the other, in consequence of

its offering less resistance, the hasp was shifted along the spar towards the sluggish one, until the resistances were balanced, and the two models ran abreast of one another. The relative lengths of the arms of the yoke then gave an inverse measure of the comparative resistances of the models, at that rate of speed; this being noted down, the hasp was brought again to the middle of the yoke, and the model which showed least resistance was by degrees loaded with weights until it again exactly balanced the other, and swam abreast of it; the amount of the added weights being likewise noted, afforded a second measure of the difference of the resistance of the two models.

Each of these forms of the experiment was gone through with different pairs of the models, and was frequently repeated through long spaces of the canal, as it was found that various circumstances interfered to render the resistances inconstant, such as approaching nearer to the one or the other side of the canal, passing a loaded vessel, or making a turn round a projecting part of the bank.

It was at first attempted to conduct the experiments by towing the models astern; but it was immediately found that the ripple of the wake of the steamer disturbed the uniformity of the resistance of the models. Various modifications were then tried with more satisfactory results, and finally the arrangement was made as follows: A spar, like a bolt-sprit, of about twenty feet in length, was run out a little above the level of the water from the bow of the steamer, the hasp of the yoke being attached by a link to the point of this spar, the models were in this way kept ahead of the steamer in smooth water, and were altogether undisturbed by any ripple or wave.

TABLE A.—Experiments with equal Loads.

Models tried.	United Weights of Vessel and Load.	Divisions in the arms of Yoke when at 3 miles per hour.	Difference.	Divisions in the Arms of Yoke when at 6 miles per hour.	Difference.
No. 1. Flat Vessel	192 each	48	4 div. or 1-12	50	None.
No. 2. Coaster....		52		50	
No. 1. Flat Vessel	256 "	46	8 div. or 1-6	50	do.
No. 2. Coaster....		54		50	
No. 1. Flat Vessel	320 "	47	6 div. or 1-8	49½	2-100 parts
No. 2. Coaster....		53		50½	
No. 1. Flat Vessel	392 "	45	10 div. or* 1-5	49	2 div. or 1-24.
No. 2. Coaster....		55		51	
No. 1. Flat Vessel	192 "	45	10 div. or* 1-5	50	.....
No. 3. Schooner..		55		50	
No. 1. Flat Vessel	256 "	43	14 div. or 1-3	50	.....
No. 3. Schooner..		57		50	
No. 1. Flat Vessel	320 "	41	12 div. or 1-4	uncertain	.....
No. 3. Schooner..		56		uncertain	
No. 1. Flat Vessel	392 "	45	10 div. or* 1-5	49	2 div. or 1-24.
No. 3. Schooner..		55		51	
No. 1. Flat Vessel	256 "	50	0 0	uncertain	.....
No. 4. Twin do..		50		uncertain	
No. 1. Flat Vessel	320 "	53	6 div. or 1-8	uncertain	.....
No. 4. Twin do..		47		uncertain	
No. 1. Flat Vessel	392 "	52	4 div. or 1-12	uncertain	.....
No. 4. Twin do..		48		uncertain	

in favor of No. 1.

TABLE B.—Experiments with equal Arms of the Yoke at 3 Miles per Hour.

Models compared.	Depth of Immersion in inches.	Weight of Vessels with their Loads.	Difference.
No. 1 Flat Vessel..	4.91	256 lbs.	32
No. 2 Coaster.....	8.5	288 "	
No. 1 Flat Vessel..	6.083	320 "	72
No. 2 Coaster.....	10.083	392 "	
No. 1 Flat Vessel..	4.17	192 "	42
No. 3 Schooner...	8.41	234 "	
No. 1 Flat Vessel..	5.75	320 "	42
No. 3 Schooner....	10.25	362 "	
No. 1 Flat Vessel..	4.17	256 "	00
No. 4 Twin Vessel.	4	256 "	

N. B.—The depth of immersion entered above is that observed when the vessels were at rest, and which did not appear to alter when in motion.

TABLE C.—Experiments with equal Arms of the Yoke at 6 miles per hour.

Models Compared.	Immersion in inches.	Weight of Models when loaded.	Difference.
No. 1. Flat Vessel....	4 2-12	192 lbs. }	—
No. 2. Coaster.....	6 4-12	192 " }	
No. 1. Flat Vessel....	4 11-12	256 " }	—
No. 2. Coaster.....	8 1-12	256 " }	
No. 1. Flat Vessel....	4 7-12	192 " }	—
No. 3. Schooner shape	7 9-12	192 " }	
No. 1. Flat Vessel....	4 11-12	256 " }	—
No. 3. Schooner shape	9 2-12	256 " }	
No. 1. Flat Vessel....	5 9-12	320 " }	—
No. 4. Twin Boat....	5 7-12	320 " }	

The accompanying tables contain the results of these trials, from which the important inference may be drawn, that there is no form which will present a minimum resistance in all circumstances; and that the form which is easiest drawn through a canal at a low velocity does not possess the same advantages at a higher rate of speed.

3. Looking into the table A, experiment 1st, we see that, although the resistance of No. 1 be to that of No. 2 as 13 to 12, when the velocity is 3 miles per hour, yet when the speed is increased to 6 miles, the advantage which No. 2 had over the flatter vessel entirely disappears.

Again, in table B, we see that in one experiment No. 2 carries two-ninths more weight than No. 1, with equal resistance, when the velocity is 3 miles per hour; but that when the rate is raised to 6 miles, the loads require to be made the same in both, in order to equalise the resistance.

It appears, from numerous experiments made at intermediate speeds, that this change in the relative resistance is progressive; there is reason, therefore, to conclude, that if circumstances had admitted of carrying on the experiments at a higher velocity than 6 miles per hour, the flatter formed vessel would have attained a superiority over the sharper ones: this conclusion is corroborated by the fact, that the swiftest going steam-vessels which have been built in this country are those which are nearly quite flat in the floor for a great proportion of their whole length.

The first practical inference which may be drawn from these experiments is, that all vessels which are intended to be tracked, or impelled by machinery, through canals at low velocities, should be built as sharp in their bottoms as circumstances will admit of, although this must necessarily increase their draught of water; the second inference is, that whenever vessels are intended to move in canals with a higher rate of speed than 6 miles per hour, the general form of the bottom should be nearly quite flat.

ITHACA AND OWEGO RAILROAD.—The following account of the Ithaca and Owego Railroad has been furnished us by a friend, who will please accept our thanks for his politeness. We are indeed gratified to learn that this road is in operation, as it will, beyond all question, dispel unfounded prejudices, and produce a proper spirit and feeling among those whose interest will be most promoted by their general introduction:

COMPLETION OF THE RAILROAD.—In pursuance of arrangements to that effect, as announced in our last, the first grand experiment on the Ithaca and Owego Railroad, was made on Monday of this week. At 9 o'clock in the morning, between fifty and sixty cars, each drawn by two horses, and loaded with salt, plaster, and passengers, left the head of the plane for Owego. The train was led by three pleasure cars, filled with passengers,—among whom were the president and a part of the directors of the railroad company, the engineer-in-chief, the assistant engineers, the superintendents of carpentry and masonry, a part of

the directors of the Bank of Ithaca, and several other gentlemen of high standing and respectability from Tompkins county. Thus arranged, and accompanied by a first-rate band of music, they proceeded to within about three miles of Owego, where they were met by four cars, filled with citizens from that and some of the neighboring towns, among whom were the members of the board of directors from that village, the officers of the corporation, the clergy, &c., as also the Owego band. As the cars approached each other, three hearty cheers went forth from the party from Owego, which in the same flow of good feeling was almost immediately responded to. After a few moments delay, the united train was again put in motion, and as it came in view from the bridge, one mile from the village, a field piece that had been placed there for the purpose, was discharged as a signal of its approach, which was immediately re-echoed by another from the village. On passing the park, in front of the academy, and whilst rounding the curve to come into Front street, one of the grandest spectacles presented, we do not hesitate to say, that has ever been witnessed in this section of the state, and we had almost said in our country. The streets, on either side of the park, presented one dense mass of admiring spectators, who had congregated from the neighboring towns and counties, whilst the doors and windows of the academy, the court-house, and the private dwellings, on the right hand and on the left, gave fair evidence of the "hearty welcome" that responded from every bosom. It was under these peculiarly gratifying circumstances that the cars, in regular succession, and at short intervals, rolled through our streets until they arrived in front of the hotel,—whilst the roaring of cannon, the ringing of bells, the waving of flags, the exhilarating music from two excellent bands, and the loud and oft-repeated huzzas of the multitude, produced an animation that brightened every countenance, and gladdened every heart. The scene was novel and interesting beyond description, and the reader must draw largely upon his imagination in order to have any thing like correct conclusions as to the high and universal gratification which prevailed.

About 3 o'clock, the company sat down to an excellent dinner, prepared by Mr. Manning, at the hotel. L. A. Burrows, Esq., presided at the table, assisted by T. Farrington, and S. B. Leonard, as vice-presidents. After the cloth was removed, several appropriate sentiments were given, some of which we give below. Judge Bloodgood, President of the Railroad Company, being called upon, rose and delivered a very appropriate address, and closed by offering a sentiment; but the committee had not been able to obtain a copy for publication when our paper went to press.

TOASTS.

1. The Ithaca and Owego Railroad. We hail its completion as a matrimonial alliance between the waters of the Cayuga Lake and the Susquehanna River; may its progeny be prosperity to the surrounding country, and a rich return to the enterprising individuals who have projected and accomplished the work.

2. Individual enterprise. It has erected a monument in this part of Western New-

York, which justly excites the pride of our citizens.

3. The Erie Canal, and New-York and Erie Railroad. The same liberality and foresight which hastened the completion of the one, will overcome the obstacles and prejudices which retard the construction of the other.

4. The Southern Tier of Counties. They have borne their share in the burthens of internal improvements. It is just that they should share in its benefits, by an extension of the system.

5. The State of New-York. Indebted to Nature for its advantages, and to its Citizens for the improvement of them.

6. Our Neighbor, and Rival in Internal Improvements—the Commonwealth of Pennsylvania. A timely exercise of sound policy on the part of New-York, will prevent a large slice of the Empire State from passing into the hands of Simon Snyder.

7. The Cayuga Lake has long courted the Susquehanna River. To-day we celebrate their wedding.

8. The President and Directors of the Ithaca and Owego Railroad Company. Their persevering and successful efforts entitle them to our gratitude.

9. Ithaca and Owego. Prosperity to the one is prosperity to the other.

10. The Stockholders of the Ithaca and Owego Railroad. May the revenues of the road enable them to sing to the tune of money in both pockets.

11. The memory of De Witt Clinton. He was the efficient friend and the able and eloquent advocate of internal improvements.

12. The constituted authorities of the State of New-York, and of the United States.

13. The New-York and Erie Railroad. Its construction no otherwise inexpedient or impracticable, than was the construction of the Erie Canal. The objections to both have the same foundation,—error. But a wise man has said, "error may be tolerated, when reason is left free to combat it."

Volunteers.—By N. Randall. John Randel, Jr., Engineer-in-Chief of the Ithaca and Owego Railroad. To his profound skill, and untiring perseverance, are the people of Owego indebted for their present celebration.

By John Randel, Esq. The Citizens of Owego. May all their future intercourse with the citizens of their sister village of Ithaca, be as happy and joyful as the intercourse of to-day.

By Wm. R. Collins. Richard V. De Witt, Treasurer of the Ithaca and Owego Railroad—the main spring of the work.

By J. S. Beebe. The Ithaca and Owego Railway. The true way to unite the interests, and promote the prosperity of the villages of Ithaca and Owego.

By D. C. Woodcock. John Randel, Esq., Chief Engineer of the Railroad. His character as a man of science, is well attested by the beauty and excellence of the work which he has just completed, and has heretofore been abundantly established by a verdict of \$226,000.

By Henry Ackley. The Ithaca and Owego Railroad Company, and Susquehanna and Cayuga Banks. May the former remove the deposits of the latter to the tune of ten per cent. profit.

By T. Farrington, Esq. The Engineer-in-Chief, the Assistant Engineers, Superintendents and workmen on the Ithaca and Owego Railroad.

By Samuel Crittendon. The matrimonial connection between the Cayuga Lake and Susquehanna River. May it multiply and increase abundantly.

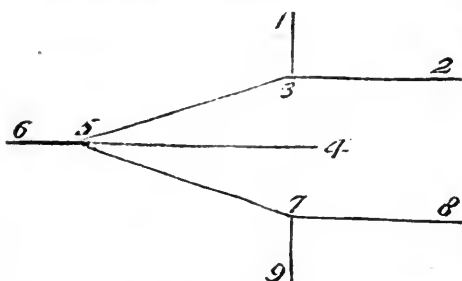
* Referring to a verdict recently obtained by Mr. R. against the Chesapeake and Delaware Canal Company.

On the Currents of the Ocean. By G. K. O. To the Editor of the Mechanics' Magazine, and Register of Inventions and Improvements.

SIR,—I have lately read the dissertation on

the Oceanic Currents, in your last Number, and am induced to think the author in error as to their cause. If, according to his hypothesis, the earth received a sudden impulse, causing it to revolve, (I suppose of course at the same rate it now does,) and leave the waters nearly stationary, they would have appeared to a spectator at the equator to move with the velocity of 1000 miles an hour. This would continually decrease, and at length become imperceptible, on account of friction against the bottom and adjacent particles. But the time that has elapsed since the earth received its first impulse has not been sufficient to produce this effect, or so far as we are acquainted with the subject, even a similar one. Undoubtedly the cause as well as the consequence is permanent and continued, and is, I conceive, easily assigned.

The torrid zone receives more heat from the sun than any like extent of the earth's surface; consequently, its air is heated more than any other—is of less specific gravity than the cooler air of the temperate zones, and of course rises to the higher parts of the atmosphere, being forced up by the air that comes in to supply its place. This would produce a direct motion from north to south towards the equator in the directions 1-3 and 9-7.



Now, the surface of the earth, at the latitude of 45 degrees, revolves about the rate of 700 miles an hour, and if the air of that region were suddenly transferred to the equator, it would apparently move from east to west at the rate of 300 miles an hour in the direction 4-5, but as the transfer is gradual, it would receive velocity from the earth in its passage over it, and therefore its apparent velocity at the equator would be comparatively small if contrasted with the difference of velocities at 45 and 0 degrees.

We have now the two motions 3-2 and 1-2, which, being compounded, will produce the single motion 3-5. Two streams of air from the north-east and south-east, represented by 3-5 and 7-5 meet at the point 5; their opposite forces, 1-3 and 9-7, being equal, will be destroyed, and the remaining forces 2-3 and 8-7 will continue in the direction 5-6.

This, then, is the reason why, near the equator, the wind blows from east to west, and north and south of it from north-east and south-east. The air is here, for simplicity, represented as moving in straight lines; but it really moves in curves, and the line of direct motion from east to west is a few degrees north of the equator.

If we suppose the waters of the torrid zone much exposed to the heat of the sun, aided by the dry winds from the land, evaporation will proceed rapidly. Of course, then, the waters at the equator would be relatively lower than those of the other parts of the earth, which would therefore flow toward the equator, and take a westerly course,

for the same reason that the air does, subject however to more modification, interruption, and counter currents, inasmuch as it meets with more impediments. I think the currents round the Capes and in the Indian Ocean are perfectly explicable on this hypothesis (theory?), and I might enter into detail if circumstances permitted.

Yours, &c. G. K. O.

April 17, 1834.

THE ENJOYMENT OF READING.—We said a word or two on this subject in our preceding volume; and on account of its great importance to every individual, we cannot help again advert to it. We recommend those who have not taken the *Penny Magazine* from its commencement, at least to purchase No. 95, for September 28, 1833. It is most gratifying to reflect that there is not a human being, endowed with health and the ordinary condition of the human faculties, that may not participate in what Sir John Herschel appears to consider the greatest of human pleasures. It is delightful to foresee that, when the whole of society shall be so far educated as to derive pleasure from reading, and when books are as common as bread and potatoes, the hardest-worked agricultural laborer or mechanic, when he goes home from his day's toil, may plunge at once into intense enjoyment by taking up a book. The most gratifying circumstance respecting this enjoyment is its universality, and its applicability to all countries, all future ages, and to every human being in tolerable health and above destitution. It is equally applicable to man, whether in prosperity or in adversity; whether in prison or free; and even, to a certain extent, whether in health or sickness. Another gratifying prospect anticipated from the result of universal reading is, universal improvement of worldly circumstances. Let any taste become general, and the regulations and habits of society will accommodate themselves to that taste. The hours of labor, at present, afford barely time for eating and sleeping; but when reading becomes a necessary of life to every, even the lowest, class of society, they will be reduced so as to afford time for that enjoyment also. Surely, if nothing else were to be gained by a system of national education, but the power of conferring so much happiness on millions, it

would deserve the patronage of every benevolent mind, and be worthy the adoption alike of governments professing to be paternal or to be representative. But the main object which we have now in view is, to impress Sir John Herschel's statement strongly on the mind of the young gardener, so as to encourage him, above all other earthly things, to cherish a taste for reading in himself, and in all those with whom he may have any thing to do. Another point to which we wish to direct attention is the necessity, when a national system of education is established, of adding to every school, not only a garden, a workshop for teaching the simpler operations of the mechanical arts, and a kitchen for teaching the girls cookery, but also a circulating library for the benefit of the whole parish. In furtherance of these objects, we cannot resist giving the following short extract from Sir John Herschel's address: "Of all the amusements which can possibly be imagined for a hard-working man, after his daily toil, or in its intervals, there is nothing like reading an entertaining book, supposing him to have a taste for it, and supposing him to have the book to read. It calls for no bodily exertion, of which he has had enough, or too much. It relieves his home of its dullness and sameness, which, in nine cases out of ten, is what drives him out to the alehouse, to his own ruin and his family's. It transports him into a livelier, and gayer, and more diversified and interesting scene; and, while he enjoys himself there, he may forget the evils of the present moment, fully as much as if he were ever so drunk, with the great advantage of finding himself the next day with his money in his pocket, or, at least, laid out in real necessities and comforts for himself and his family,—and without a headache. Nay, it accompanies him to his next day's work; and, if the book he has been reading be any thing above the very idlest and lightest, gives him something to think of besides the mere mechanical drudgery of his every-day occupation,—something he can enjoy while absent, and look forward with pleasure to." "If I were to pray for a taste which should stand me in stead under every variety of circumstances, and be a source of happiness and cheerfulness to me through life, and a shield against its ills, however things might go amiss, and the world frown upon me, it would be a taste for reading."—[*Penny Magazine*.]

METEOROLOGICAL RECORD, KEPT AT AVOYLE FERRY, RED RIVER, LOU.
For the month of March, 1834—(Lat. 31.10 N., Long. 91.59 W. nearly.)

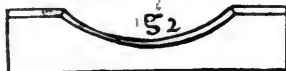
Date.	Thermometer.			Wind.	Weather, Remarks, &c.
	Morn'g.	Noon.	Night.		
1834.					
March 1	37	63	60	w—light	clear—light white frost—Red River rising, below high water 5 ft. 6 in.
" 2	45	58	51	N	"
" 3	41	57	51	N—light	"
" 4	36	74	58	"	cloudy—white frost—rain at night
" 5	54	66	64	calm	" morning—evening and night clear
" 6	60	73	70	s—light	" all day
" 7	68	75	74	s—high	" —at night heavy rain and thunder
" 8	60	71	55	calm	" —evening and night heavy and steady rain
" 9	43	48	46	N E	" " " " " light and drizzling "
" 10	46	48	49	N E light	" " " " " drizzling all day and night
" 11	50	56	55	calm	" " " " " "
" 12	54	63	62	"	" —heavy thunder and rain all day—night foggy
" 13	59	61	60	"	" —evening thick clouds, and the sun visible through them
" 14	59	61	67	"	" clear all day
" 15	54	73	68	"	cloudy "
" 16	58	74	71	s w	" —rain
" 17	64	67	65	calm	" —evening clear
" 18	64	74	70	"	" —and showers all day
" 19	64	72	71	s e—light	" clear all day
" 20	65	70	65	w	" " "
" 21	50	65	60	N	" " "
" 22	47	64	58	calm	" " "
" 23	52	67	66	s	cloudy all day—night clear
" 24	60	74	71	calm	" —rain and heavy thunder showers—night clear
" 25	69	80	72	s w	" —night wind severe, w—planted <i>Beda</i> grass and <i>Guina</i> grass seed
" 26	54	66	64	calm	" —planted second lot of Irish potatoes and sweet potatoes
" 27	61	66	68	"	" —field of corn, peas, beans, and sowed grass seeds—heavy
" 28	64	70	63	"	" —rain, and heavy thunder showers [rain and thunder
" 29	63	76	72	"	clear all day
" 30	57	73	71	"	" " "
" 31	64	79	73	s—high	cloudy morning—clear day

Red River rose this month 2 feet 9 inches—below high water, 2 feet 9 inches.

G. B. Palmer's Gold Washing Machine. By J. STICKNEY. To the Editor of the Mechanics' Magazine.

DEAR SIR,—Accompanying this rude sketch of a Gold-Washing Machine I also send you a few remarks, which, from various circumstances, will of necessity be still more crude and hasty.

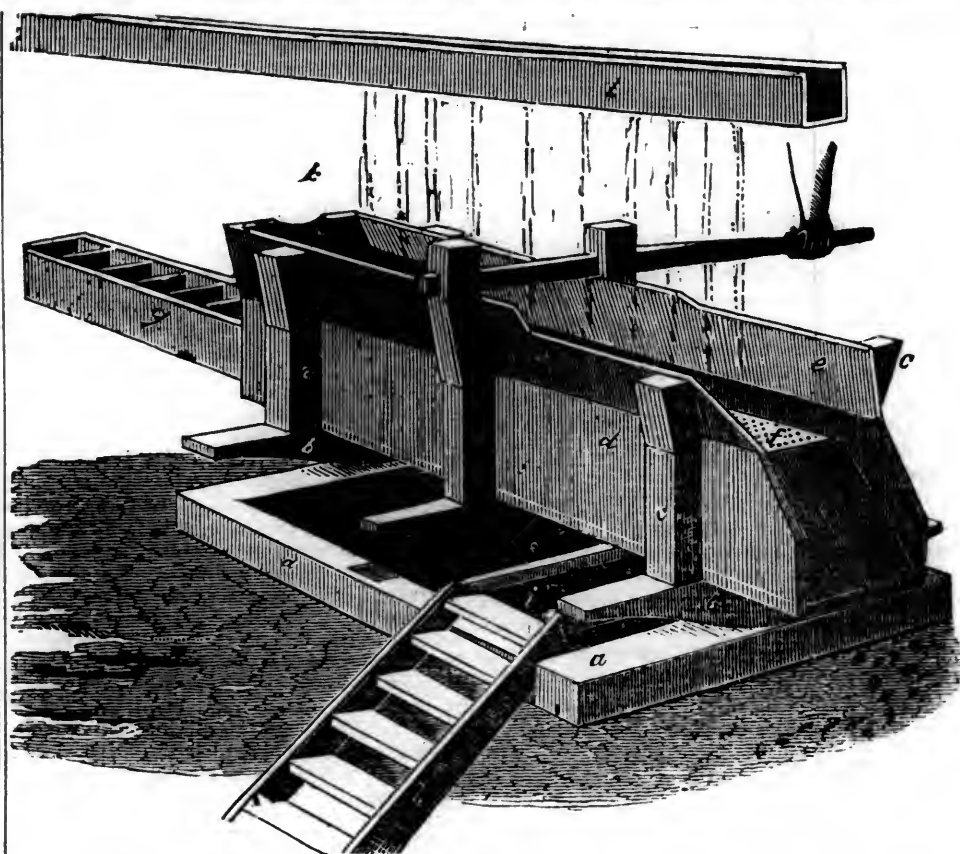
REFERENCES.—*a a*, parts of a horizontal frame, 5 feet long, 3 wide; *b b*, rockers supporting the trunk of the machine; *c c c*, posts inclosing the trunk; *d*, trunk in which the rippler is secured, 7 feet long; *e e*, sloping sides of the box; *f*, cast iron plates, 5 feet long, 15 inches wide; *g*, the rippler, partly drawn out; *h*, outside rippler, stationary; *i*, a box, conveying the water to the outside rippler; *k*, the head, or feeding place; *l*, water conductor. The rockers are shod, and stand on plates of iron; a bolt fixed in the sill passes into a hole in the centre of each, to keep them from slipping. The sill of the centre frame, (to which is fastened the handle,) continues beyond the post, and, when the machine is in operation, beats upon two irons on the lower frame, to give motion to its contents. When washing, the rippler is locked up in the body of the trunk, and not seen; the true form of its partitions is seen



at *g 2*. The machine is "fed" at *k*, and the stones, &c. discharged at the sloping end; the gold and sand having passed through the plate, *f*, into the rippler which contains mercury, if any gold escapes the first ripple it is supposed to be caught in the one outside.

The gold mines of this country may be divided into those of *vein*, *surface*, and *deposit*. The first have a great diversity of appearance; in some of them the gold is imbedded in pure white quartz rock, and often visible to the naked eye. Of this kind is at least one vein at Carroll county, Georgia. Others in white and red sand stone, (the King's Mountain mine possesses masses of pure white stone, which is so friable as to crumble to fine sand between the fingers;) some in sulphuret of iron, in different stages of decomposition, (of this kind is an extensive vein at Narcoochly Valley, in Georgia;) others in the oxides of iron, or ochres. Sometimes it appears in dark spongy masses, the gold tipping the edges, and points of the structure in such manner as to resemble the small flowers of lichens. In some mines a dark, porous, and vitreous substance is exhibited, impressing the idea that the mass had been suddenly cooled when in extreme fusion. In one specimen from South Carolina the gold is disseminated in small particles through a rock, resembling fine variegated marble; as it does not contain lime, I presume it a species of slate. Another, which I obtained at the celebrated Duncan vein, (No. 1052 of the Georgia Lottery,) has particles of rich gold embedded in strata of slate, or rather of slaty structure, unctuous, of pearly lustre, and somewhat resembling stratite.

These veins are of various widths, from a few inches to that of several feet, but I believe little is known as yet respecting their length or depth. They are usually inclined upon one side, or are said to dip, the angle of which varies from that of nearly a vertical position, to more than 45°.



In places where the soil has been washed from the sides of hills, these veins of quartz, of various sizes, are seen traversing the micaceous slate, or gneis, and, as it may be presumed that some of these small as well as large ones contain gold, it may not be unreasonable to account for the *surface* and *deposit* mines, by supposing it to be disintegrated from its natural bed by the effects of frosts, atmosphere, water, &c. Veins thus broken down, and the gold disengaged, will constitute what is called a *surface mine*; one of this kind before the door of a neighboring dwelling is now being operated upon, worth from two to three dollars per hand, per day, which has been trodden under foot for thirty years. From these *surface mines* the gold (being assisted by every shower that forms a rill) finds its way to the beds of the streams, and is deposited as soon as the gravity of each particle overcomes the force by which it is impelled forward; being heavier than other substances, and by the constant changing of the beds of the streams, and other causes, it finds the lowest situation in the deposit, that is, next to the slate, which arrests its downward progress. Next in specific gravity is the quartz and iron rocks, which are also found resting on the slate, and are covered by various strata of other soils, from the depth of from one to thirty feet; and as the constant deposition of gold may be supposed to be going on by fresh accumulations from the surface, and particles disengaged from fragments of rocks by attrition, in their way downward, and as the progress of these *particles* is in some degree impeded by the firmness of this quartz strata, we are enabled to account for their being diffused through this mass generally.

I should not thus gravely attempt to account for "*gold in deposit*," was it not that we have philosophers, who assert that it *grows*—that new creations of the precious metal are afforded "day by day;" and oth-

ers, that those streams *were its natal beds*, and it has remained here since the creation; while others say that an eruption of the mountains at some distant period had ejected forth a golden shower, of which we are now reaping the harvest.

The first object of the operator on a *deposit* mine is to ascertain its value, for which purpose he usually proceeds in the following manner: He finds the depth of the "grit," or quartz deposit, by forcing down a slender iron rod. If not too deep, he excavates the soil in pits or ditches. When reaching the grit he washes a small quantity, and proceeding through that strata to the slate, tries it again by washing, and if from these results in several places he forms a favorable opinion, he sets about preparing the mine by cutting ditches for the streams, and others for draining the mine, which sometimes are necessary to be twelve or fourteen feet deep, and of great length. His supply of water for washing must be brought in in small canals six or eight feet above the surface of the mine, and often times the fountain must be sought a mile or two from the place of operation. The next thing is to place his machine, or rockers, where they will be most convenient for the plan of his future operations; he then clears a pit ten feet wide, and from ten to one hundred and fifty yards in length. As soon, however, as a portion of the grit is laid bare, a number of the hands are employed in raising, and others in wheeling it in barrows to the machine, where one is employed to fill it, one to move it, one to cast away the cocks when washed, and perhaps another to keep the outside rippler clear from sand. The grit being placed in the machine, (which in some respects resembles a family cradle,) and agitated from side to side under the streams of falling water, washes the gold and sand through the cast iron plates into the inside rippler containing mercury, where, by

the strong affinity or attraction which exists between the mercury and the gold, the latter is secured, while the sand is washed away. When the day's work is finished the rippler is drawn out, the gold in amalgam washed and secured, and the mercury expelled by heat. It is then sent to the refiners, where all foreign substances (silver excepted) are destroyed by the different agents employed in this fluxes, and (if correctly refined) valued accordingly, the quantity of silver in different mines is supposed to vary from two to forty per cent.

Machines of various constructions have been used in collecting the gold, but the one here represented has mostly taken the place of all others among regular miners. It was invented and patented about three years since by Mr. G. B. Palmer, of Spartanburgh, South Carolina, whose experience in mining enabled him to embrace in this simple form every requisite principle for effectually collecting the fine as well as coarse particles of gold. His price for rights amounts to a mere compensation for his expense and labor in perfecting his improvement.

We fear that the richest mines in this vicinity are mostly wrought out, and that we shall soon begin to feel the effects of the "removal of the deposits."

Most respectfully, yours, &c.

J. STICKNEY.

AGRICULTURE, &c.

CULTIVATION OF BARLEY.—Although this grain is of very considerable importance, yet we are inclined to think that the apple, the grape, and other fruit, from which liquids are obtained, will prevent a great increase of barley culture. For most of the following information we are indebted to Goodsell's Genesee Farmer.

More than two-thirds of the barley raised in the United States is the produce of this state, and this is almost wholly grown in the northern and western parts. The quantity marketed at Albany and its neighborhood, in 1833, is stated at 450,000 bushels. This, estimated at seventy-five cents a bushel, makes an aggregate of \$337,500 dollars.

Barley, as a field crop, has been cultivated from time immemorial. It is not known of what country it is a native, nor at what time it was first cultivated. At this time it is much more extensively cultivated in England than it is in this country. Few crops require more care in the cultivation, or are more apt to disappoint the cultivator in all the good wheat growing districts in the United States, than barley.

There are six species of barley at present cultivated in England, viz.:

Spring or Summer Barley.—There are two varieties of this species, but the one commonly cultivated (*H. vulgare*) may be distinguished from the Siberian barley by the heads being much larger, and, as well as beards, arranged in double rows, whereas the other is single, which the heads appear flat. This is considered the best kind of barley for malting, as the husk is light.

Winter Barley.—There are three kinds of winter barley which are at present cultivated for profit, besides two or three species and varieties that are cultivated as matters of curiosity.

The common or long eared Barley (*H. distichon*) is perhaps cultivated more than both the other species. Both heads, and awns, or beards, of this kind, are much longer than those of other kinds of winter barley. The heads of this kind are flat.

Square Winter Barley.—The heads of this kind, though not as long as the foregoing, are much thicker and have the appearance of being square, the grains being arranged in four distinct rows. This is accounted a harder species than the long eared, and not as subject to be injured by the winter.

Big or Barley big.—This species has large square heads, with grains arranged in six rows, and is cultivated on account of its being earlier than the common or square barley. It is not valued so high for malting as either the other two varieties mentioned.

If the different kinds are mixed they will not command as good prices from the brewer, on account of requiring different lengths of time in malting. The loss in this way last year is stated at ten per cent. upon the whole product, or equal to 45,000 bushels.

Soil and Climate.—Barley succeeds best in a cool damp climate, and there upon a fine warm sandy loam; but where the climate is warm, and dry, as in most of New-York, a loose soil, rather moist than dry, produces the best crops.

The best crops of barley grown in the state of New-York are upon a high range of table land on the north side of the Mohawk river, near Fairfield. From the elevation of this range of land, it is too cool to produce either corn or wheat, unless when the seasons are usually favorable, but it produces barley in great perfection. It does better upon corn than wheat soils. It may be sown upon a clover ley, or after a hoed crop, which has been well manured; but recent manure should by no means be applied to the barley, as it induces a rank growth, and causes the grain to lodge. When the plants are three or four inches out of ground, the roller may be passed over the field with great advantage. By often burying the crown it causes the grain to tiller, or multiply its seed stalks, and causes a beneficial compactness to the soil. It should be sown upon the fresh ploughed soil, and well harrowed in. Grass seeds may be sown with this crop to advantage.

In preparing lands for winter barley, the course taken is the same as in preparing for wheat, and the sowing done in the same manner, but there should be twice as much seed sown upon an acre as of wheat.

The seed for light should come from strong land, otherwise it degenerates in bulk and fullness. A change of seed is more important in this than in most other grain. The best seed for sowing is that which is free from blackness at the tail, and is of a pale yellow color, intermixed with a bright whitish cast; and if the rind be a little shrivelled, it is so much the better, as it shows that it has sweated in the mow, and is a sure indication that its coat is thin.

Fresh stable manure should never be used upon land to be sown with barley, as it will generally be found to do more hurt than good. Lands for barley should always, where the soil will allow of it, be ploughed deep, and after seeding, the process should be finished with the roller. There is not a crop raised where the use of this implement is more important. By examining the plant, it will be seen at once that it is not well calculated to stand the drought, as the roots are small and do not penetrate deep, and it has a great proportion of broad, thin foliage.

Summer barley should be sown about the same time as oats, and lands capable of producing good crops of the one will be found suitable for the other.

From the great quantity of foliage produced by winter barley, when sown early in the fall, in countries where the snows lie deep and long, it is found advantageous to feed it with calves or sheep previous to the setting in of winter, to prevent it from moulding.

Harvest Management.—There is more care required in the management of this than any other crop raised upon a farm. If cut too soon, it will be found very difficult to separate the

awns, or beards, unless thrashed in a machine; if allowed to stand too long, the ears are apt to break off at the bend of the straw near the head. If cut green, and suffered to remain upon the ground, to render the awns brittle, through rain storms, many of the grains will vegetate, which renders them of little worth for malting. Where farmers are provided with thrashing machines, the better way is to allow barley to stand until fully ripe, then cut it with a scythe, and let it remain upon the ground a day or two, if the weather is favorable, then take it directly to the machine, and thrash and clean it.

The quantity of barley produced per acre is quite variable. We have sowed good lands, that did not produce more than twelve bushels; and we have seen upon lands that were no better in quality, nor better prepared, crops that would average fifty bushels, much depending upon climate for its perfection. In England the average produce is allowed to be about twenty-eight bushels per acre.

From the uncertainty of the crop, barley is cultivated but little for any other purpose but malting for beer, so that the market price will depend upon the distance at which the crop is raised from a brewing establishment.

In some parts of Europe barley is extensively used for making bread; but in this country, where, in most parts, a bushel of wheat may be raised as cheap as a bushel of barley, it is not likely to come into use as an article of food.

STRAW WEAVING.—We had the pleasure, a few days since, of witnessing the operation of weaving straw for the manufacture of bonnets, at the establishment in this town, under the direction of Mr. J. P. Golding. There are now employed in this establishment upwards of 100 females, all engaged in weaving the straw into plaits or webs of about two inches in width. The variety of patterns is large, many of them very beautiful. In some the common rye straw of this country is interwoven with the Tuscan straw. The web or warp into which the straw is woven is composed of silk doubled and twisted from the cocoons very fine, but yet sufficiently strong for the purpose. This silk is prepared, as we are informed by Mr. G., by a son of his, who is located in Mansfield, Conn. where for several years past a considerable quantity of silk has been produced. Mr. Golding was formerly a silk weaver in Manchester, England, and his family understood the culture of the worm, the manufacture and weaving of silk, and are said to be in the exclusive possession of this information in this country. Mr. Golding has already invented machinery and woven several patterns of silk vesting and webbing in this country, but at present this part of the business cannot be profitably carried on here. He intends, however, to prosecute the business, and has set out trees for that purpose at Dedham.

We have no doubt that the production and manufacture of silk will become a very important branch of American industry, as many millions of dollars are annually paid for the imported article. We have yet much to learn, but a few years will put the country in full possession of all the necessary information for carrying on successfully every branch of silk manufacture.

We notice by the papers that some silk handkerchiefs have been manufactured in Dayton, Ohio, under the superintendence of Daniel Roe, Esq. the produce of the native mulberry. Their color is the natural color of the silk and they appear to be a very durable article. [Bunker Hill Aurora.]

To preserve Cheese.—If you have a great quantity of cheeses in the house than is likely to be soon used, cover them carefully with paper, fastened on with flour paste, so as to exclude the air. In this way they may be kept from insects for years. They should be kept in a dry, cool place.

COLUMBIAN STRAW CUTTER.—Noah Davis, of York, Livingston county, has exhibited a machine in this village denominated the Columbian Straw Cutter, patented to Amos Russell and himself on the 19th of November last.

Several hundred people examined the principles of the machine, and saw it operate in cutting straw, hay, &c., and almost without a dissenting voice pronounced it the best machine for cutting fodder that they had ever seen.

That the public may have some idea of this machine, a partial description of it is given:

Three knives (more or less,) say twenty inches in length, are placed upon a cylinder diagonally, by means of screws—the cylinder is about 20 inches in length by 28 in diameter, which is placed on a frame in the manner usual for hanging a grindstone—on a bar of wood, across the rear of the frame, is placed a thin plate of steel, upon which hay, straw, stalks, or oats in the sheaf, are cut by the passing knives, which come in so perfect, though tight contact with the steel, as not to admit of the thinnest leaf of straw, though alone, to escape uncut. The straw, &c., is carried to the cutting point in the manner that wool is fed into a machine for carding.

The cut may be altered to any length required in three seconds of time, from one-fifth of an inch to an inch or more. A hopper is also placed upright over the summit where straw, &c. is cut, similar to that already described, but is not considered any better, except for cutting ears of corn to short pieces, say half an inch or an inch, which it will do square across the cob at the rate of about a bushel of ears in a minute.

And as people generally suppose this must be hard hand labor, it may be observed that as the cylinder is large, and covered with three inch heavy staves, it not only supercedes the necessity of a fly-wheel, but gives power at the point required, and the knives being placed spirally on the cylinder, and under quick motion, the corn may be cut as above stated by the power of two fingers. All fodder cut is carried into a box beneath.

The knives, by means of the screws which attach them to the cylinder, are set more or less close to the bed shire or steel, almost as easy as the length of the cut is regulated.

To shift from hand to any other power, nothing is necessary but to attach a band or belt to a pulley placed on the end of the shaft instead of a crank.

Any person wishing to take an interest in this improvement, may have a shop, town, county, or state right, on reasonable terms, by applying to Noah Davis, of York, or may have town or county rights by applying to Thomas Williams, of Waterloo, or Philander Denslow, or George W. Huntoon, of Syracuse, Onondago co., his agents.

The machines will be manufactured by Joseph Hall, in Rochester, of whom they may be had on short notice.

Printers who are in favor of agricultural improvements are invited to insert the above. [Genesee Farmer.]

SALSIFY OR VEGETABLE OYSTERS, *Tragopogon porrifolius*.—This plant, which is known by the several names of salsify, vegetable oyster, and goat's beard, is often confounded with that of the scorzonera hispanica, garden scorzonera or viper's grass.

The salsify is a deciduous, herbaceous, bien-

ennial plant, with a long, tapering, white root; sarsnip shaped, with a white milky juice, and mild sweetish flavor. It has long been cultivated in gardens, for the sake of the roots, which, when cooked, have much the flavor of oysters.

The leaves of the plant somewhat resemble those of the leek, being smooth, green, and pointed. The second year the seed stalk rises three or four feet high, producing flowers of a dull purple color, which are followed by seeds, surmounted by a crown of downy substance, somewhat resembling the common thistle.

Were the valuable properties of this plant more known, it would be more extensively cultivated in gardens, particularly in the inland parts of this country.

It is thought impossible, by many, that a plant should be cultivated which should bear any resemblance, in flavor, to oysters; but all who have tasted salsify, when properly cooked, must not only acknowledge that there is a resemblance, but that this root is a good substitute for the marine production.

The manner of cultivation is precisely the same as that of parsnips; and roots which are not wanted for fall and winter use, may be allowed to stand in the ground in the same manner for spring use.

They are cooked in all the different ways as oysters. When they are intended to be fried in butter, they should be first parboiled, the skin taken off and sliced; the same for stewing, or they may be mashed. They impart a fine flavor to the stuffing for fowls.

There is an annual plant,* which belongs to the same class with the salsify, and which very much resembles it, both in leaf and seed, the seeds of which are, sometimes, through design or mistake, sold for salsify seed. It is the *Geropogon glaber*, or old man's beard. It is not worth cultivating.

Scorzonera, or *Viper's Grass*, also belongs to the same class with salsify, but is a perennial plant, with a deciduous, herbaceous top, which grows to about the same height as salsify, but has yellow flowers, which are followed by seeds not unlike those of salsify. The root bears a resemblance also, but is not counted as profitable. The leaf of *Scorzonera* somewhat resembles that of the plantain.

TRANSPLANTING RUTA BAGA.—Mead Atwater, of Brighton, has called at the office, and communicated to us, verbally, his success in cultivating the Ruta-baga the past season.

Mr. Atwater informs us that he sowed the seed about the middle of June, on seed beds, and when the plants were a suitable size, transplanted them out at suitable distances. The plants were afterwards hoed, and kept clear from weeds. At the proper season for harvesting he went over the ground with a sharp garden hoe, and struck off the tops which he afterwards gathered up with a rake. He then with a dull hoe palled the turnips out of the ground. The produce he thought was at least one thousand bushels per acre, and the quality as fine or finer than those which had been allowed to stand where they were sowed.

Mr. Atwater expressed himself in favor of transplanting, instead of sowing the seed where they were to grow, for the following reasons: that it saved once hoeing, which he thought more labor than to transplant them. That the ground might be ploughed at the time of setting, and would continue in better condition for maturing the crop than when ploughed earlier in the season.—[Goodsell's Farmer.]

NEW MODE OF SELECTING SEED CORN.—Mr. Solomon Thayer, of New Braintree, Mass., has left in the office of N. E. Farmer, several ears of Indian corn, which are remarkable for a property in which common corn is often deficient. The small ends of the ear are filled completely out, quite to the extremity, with sound kernels of good size, instead of an inch or two, more or less, of small imperfect kernels, or barren cob, as is often the case, in the product of

our corn fields. This was effected by Mr. Thayer, by selecting for seed for several years in succession, kernels which grew at the tip of the ear; and as like not only produces its like but improves its likeness, these top-end kernels being planted, produced two or three more ears to a stalk, which were filled, and the ends rounded off with sound corn of larger size than top-end kernels usually are.

We doubt, however, whether these ears are as large as if the largest kernels had been planted. Some cultivators think they have derived advantage by selecting their seed corn exclusively from the largest end of the ear. They tell us that "the nearer the seed is taken from the butt-end the larger will be the ears." Perhaps Mr. Thayer might improve on his praiseworthy experiment by selecting seed corn for two or three years from the large end of his improved ears; and then plant a while from the middle. Dr. Deane, directed in shelling seed corn, to select about an inch from each end of the corn, planting the middle only. But experiments are of more weight than authority in the scale of improvement.—[N. E. Farmer.]

PLANTING CORN.—Although the following experiments are on a small scale, yet they are deserving the attention of the farmer. The article is from the Long-Island Star.

Having made some little experiment in planting corn, I have concluded to relate my doings, and give the result. Six years ago, I planted eight and a half square rods of corn, two feet in width one way, and one foot the other, and one grain in a hill. The result was, I had eleven bushels of ears, making at the rate of 207 bushels to the acre, which I conclude is nearly double that which it would have brought by being planted in the ordinary way. The land was not first rate, tolerably good, and a sprinkling of coarse dung ploughed in.

I last spring planted three-quarters of an acre, three feet three inches in width one way, and about two feet four inches the other way, and put three grains in a hill: there were on the ground about fifty young apple trees, which had been planted three years, and two large pear trees, and I planted four rows of potatoes and a patch of vines, and I conclude that fifteen square rods will not overrate the deduction which ought to be made—that leaves 165 square rods. The result was, I had 82 bushels of ears of corn, which is at the rate of about 125 bushels to the acre; if it had been planted in the common way, I think it would have fell short of producing 100 bushels to the acre.

And I planted half a square rod one and a half feet apart each way, one grain in a hill, seventy-two grains. After it was up, I sprinkled between three and four quarts of unleached ashes on it, having heard say that it was of great advantage to the crop to break off the suckers or scions, which I did to one-half of it twice or thrice. I thought that which I suckered did not look quite so healthy as the other; however, there was little difference. When I gathered, the result was this: I had from the part that was suckered forty-eight ears, weighing sixteen and three-quarters lbs., filling a half bushel, rounding it over; from the other part I had forty-four ears, weighing eighteen and three-quarters lbs. measure, about the same as above. Some days after, I shelled the whole together, and had exactly half a bushel—this is producing at the rate of 160 bushels of corn to the acre, or 320 bushels of ears; the last is as large an increase as ever I recollect hearing of. From these small experiments, I have ascertained to my satisfaction, that a piece of ground will produce the most corn by planting one grain in a hill; as to the width, I have not got exactly, but I venture to say it should not be more than two feet, nor less than one and a half feet apart. I should take one foot nine inches.

Of ploughing and harrowing corn, I am about to say a word in favor of the harrow, although I know that in these days it amounts

almost to heresy. In the first place, I allow that where people do but little work in the corn, they had better do it with the plough; but to put it in good order, I think it can be done better with both, than with either plough or harrow separately, for you may harrow corn before it will answer to plough; then every time after ploughing, let it lay a few days, and go through it once in a row with the harrow; it will then keep clean longer, and be in better order to plough again. In my opinion, people in general ought to plough as much as they do, and make use of the harrow some too, and their corn ground would be in better order than it commonly is.

STEAM-DIGGING MACHINE.—M. Wronski, a celebrated mathematician at Paris, has, according to the Paris papers, discovered a new system of applying steam to carriages, digging machines, hoes, picks, ploughs, &c. so superior to any thing hitherto known, that a French company has bought his patent for four millions of francs.—[Le Temps.]

PEAS.—Farmers of Great Britain have ascertained, by many years' experience, that no other fallow crops leave the ground in a situation so favorable for a crop of wheat, as leguminous vegetables. At the head of this class may be ranked the pea. "To fallow, and at the same time, to have a shading and ameliorating mild crop growing on the fallow," is the system pursued by the best farmers of that country.

Lime in the soil is considered indispensable to produce this pulse in perfection, and where it does not exist in sufficient quantity, the application of gypsum will be found very beneficial. Nearly all our western lands contain a portion of calcareous matter, which is evidenced by the abundant crops of wheat. As far as my experience goes, no other crop so effectually subdues and pulverizes a heavy clay soil, as peas. On such soil, fall ploughing is necessary. Early in the spring roll and harrow, then sow two and a half to three bushels of peas per acre, and cover with the cultivator. When the crop comes off, the ground will be found remarkably mellow, and once ploughing will put it in fine condition to receive wheat.

By this management, I have raised twenty bushels of peas per acre, and my wheat on the pea ground was the heaviest on my farm. In England it is not uncommon for a large farmer to have 50 acres of peas, and they find them the most valuable crop for several kinds of stock. Some farmers may say they cannot raise Indian corn in England, and are compelled to fatten their swine with peas. To such I would remark, that a bushel of peas is worth more than one of corn, to bring hogs forward early in the season, and is raised with half the labor. I begin to feed my hogs with peas as soon as they are too old for the table, and find that all is greedily devoured but the straw. I never had hogs to thrive so rapidly on any other kind of food. Corn is indispensable in the latter part of the season to give solidity to pork, but if we were to plant less corn, and sow more peas, we should be gainers by the change.

A celebrated writer on agriculture says, "A crop of peas is so far from exhausting the land, that it may be considered as an excellent and ameliorating manure." Another writer says, "Various crops pulverize the soil, and to a great extent prepare it for different crops. Peas, for instance, are peculiarly calculated for preparing the ground for wheat."

The bug (*Bruchus pisi*) punctures the pod when very young, and deposits an egg. Very few crops escape them, except such as are sowed after the 10th of 6th month (June.) It will therefore be best for every farmer to sow a part after that time for seed, or to keep a sufficient quantity over one year. The last method I have found effectual. If, however, the farmer cannot procure seed clear of bugs, let him heat water in a large kettle, and dip the

basket containing the seed into the water when in a boiling state; keep them in not more than one minute, then throw them on a floor and strew on plaster.

I have sowed the small yellow pea, and the marrowfat, but if I could obtain them in sufficient quantity, I should much prefer *Bishop's new early dwarf prolific pea*, which I have found in my garden to be the most prolific variety. It seldom attains a height of more than twelve to fourteen inches, and is of fine flavor. When in blossom they present a beautiful appearance.—[Genesee Farmer.]

IMPROVING SEEDS.—I heard him tell Col. Williams that day that he was born on a farm, and lived on one all his life, and that he was then, I think he said, near 80 years of age. I knew him about twenty years before his death, and knew him to be a skilful farmer, and a very industrious man. In his long life he tried a great many experiments in farming and gardening with success. He advanced some new ideas respecting seeds, &c. [See Dr. Darwin's *Phytologia*, Dublin edition, printed in the year 1800, page 410.]

"He believed that no kind of insect would degenerate the breeds of vegetables," &c. And further, "Mr. Cooper was led to his present practice, which he begun more than forty years ago, by observing that vegetables of all kinds were very subject to change with respect to the time of their coming to maturity, and other properties, but that the best seeds never failed to produce the best plants. Among a great number of experiments he particularly mentions the following:

"About the year 1746, his father procured seeds of the long watery squash, and though they have been used on the farm ever since that time without any change, they are at this time better than they were at first."

"His early peas he procured from London in the year 1756, and though they have been planted on the same place every season, they have been so far from degenerating, that they are preferable to what they were then. The seeds of asparagus he had from New-York, in 1752, and though they have been planted in the same manner, the plants are greatly improved."

P. S.—Joseph Cooper: As some persons may be sceptical, with respect to his seeds not only continuing their good qualities, but increasing in goodness, I will here relate what I saw him practice. He generally sowed every spring from about five to six acres of early peas, and in gathering his peas for sale, he always reserved a number of rows for seed, and he would not permit any one to touch these rows, and he made it a point to gather those first ripe on those rows for his seed peas. The consequence was, that he generally had the earliest peas in the market of Philadelphia, and mostly got for the first gathered a dollar and a half for a peck, and by the time they came down to two dollars a bushel, his were always disposed of. He never sowed more than one kind.—[Genesee Farmer.]

THE LOCUSTS.—It appears that the seventeen-year Locusts (*Vicinia septemdecim*) are to pay their periodical visit this year. It has been ascertained that the insect appears, periodically, once in seventeen years, and in the spring of the year. They were observed in this country at the stated intervals from 1749 to 1817. Apprehensions are expressed that they will commit great ravages, and it is asserted that more than once, when they

visited some parts of New England, they not only ate up all the grass in the fields, but actually attacked clothing and fences to appease their insatiable hunger. But the *Encyclopaedia Americana* informs us that they are in no way injurious to vegetation, except from the damage done by the female in depositing her eggs—while the insect is itself the favorite food of various animals, and in this way may be turned to good account. Hogs devour them eagerly, and some of the larger birds are fond of them. The Indians consider them a delicate food when fried. In New-Jersey they have been converted into soap.

In various parts of the world, from time immemorial, these insects have been used as food for human beings. For this purpose, in some countries, they are caught in nets, and when a sufficient number is procured, they are roasted over a slow fire, in an earthen vessel, till the wings and legs drop from them; when thus prepared they are said to taste like craw-fish. The locust constituted a common food among the Jews, and Moses (Levit. xi. v. 22) has specified the different kinds which they were permitted to eat.

It has been disputed, however, whether the food of John the Baptist, in the wilderness, was the insect locust, or a fruit of the same name.

TOBACCO FOR TICKS.—We should suppose the tobacco wash, in the following recommendation from the N. E. Farmer, should also be applied at the time of shearing:

Boil a small quantity of tobacco, perhaps what grows on one good thrifty stalk would be enough for half a dozen sheep, in so much water, as when it is sufficiently boiled, there shall be two or three gallons of the liquor; let it become sufficiently cool, then open the wool along the centre of the neck and back of the sheep, and with a bunch of tow or some other spongy substance put on the decoction until the skin becomes thoroughly moistened therewith, and in a short time the ticks will all be destroyed, and the sheep instead of pulling out and wasting their wool by fruitless exertions of self-defence, will become easy and contented, and suffer their fleece to remain to be taken off by the shears.

For many years I have taken this method with my sheep, just before the time of their lambing, and have always found it to have the desired effect. I very much dislike the foolish practices of smoking, chewing, and snuffing this poisonous weed, at least when no better reason can be given for so doing than fashion or the force of habit; yet I annually raise a few plants for the benefit of my sheep, and would recommend to every one who keeps these useful animals to do the same.

DALE'S HYBRID TURNIP.—Mr. Allnutt, sen., has a moderate breadth of that new and valuable field turnip, Dale's hybrid, the bulb of which is said to be as solid and nourishing as a Swedish turnip, and as tender as an early Dutch. It is also said to be not in the least degree injured by the frost, and it is thought that it will prove to be invaluable for field produce in wet soils. The seed of this variety is also for Mr. Ronalds; and, if a fourth part of what we heard of this turnip be true, it must be a prize of immense value to the farmer.—[London's Magazine.]

[The seeds of the above can be had of the seedsmen in New-York.]

TAR ON SHEEP.—If you are apprehensive lest foxes should take unwarrantable liberties with your lambs and geese, you will rub a little tar on their necks, and it is said neither foxes nor wolves will attack them, as those marauders cannot endure the odor of tar.]

NEW-YORK AMERICAN.

APRIL 26—MAY 2, 1834.

LITERARY NOTICES.
No. XXI.

Galena, Upper Mississippi, Feb. 1.

A furious squall of snow, which would have rendered it impossible to keep a given road in crossing the prairie, subsided before night fall, on the day that I left Boyd's Grove, bound for the Upper Mississippi; and as the calm clear sky of evening succeeded, our sleigh glided over the open plain at a rate which soon made the houses behind us disappear in the distance; while four fleet horses, with a good driver, and but one passenger, swiftly accomplished the short stage of 12 miles, and brought us to the room where we were to pass the night. The intervening prairie, for the first six miles, was high and level, with not a stick of timber—one broad snow covered plain, where you could see the dark figure of a wolf for miles off, as it stood in relief against the white unbroken surface. A prospect more bleak and lonely, when night is closing in, and you press toward some distant grove, whose tree tops cannot yet be discovered above the monotonous plains, is inconceivable. Presently, however, you come to a break in the prairie; a slight descent next shelters you somewhat from the wind, and now you can discover a wood, which hitherto had appeared many miles off—or, perhaps, was not perceptible at all—that has pushed a scattered clump of trees here and there, like an advanced guard under cover of the ravine. You come to the brink of another platform, and you are on the edge of a grove, while for 20 miles ahead the eye ranges over what looks like a shallow basin of immense extent, broken occasionally by dusky masses, which seem rather to repose upon than to spring out of its surface: such was the view in advance, from a point about six miles from Boyd's Grove. The elevation, from which we descended, was not more than 20 feet, and it commanded a prospect of as many miles. It was like looking from the edge of a snow covered desert upon a frozen lake, with its isles, headlands and scattered rocks, and its waters riveted as fast as they. The rosy rays of the setting sun still lingered over the scene, as on one they longed to set free from the icy chains which bound it, while the calm pale moon grew momentarily more bright, as if her cold beams borrowed lustre from the extent of pure white surface over which they shone.

A single room, miserably built of logs, the interstices of which were so unskillfully filled up with mud, that I could hear the night wind whistling thro' them as we drove up to the door—was to be our lodging for the night. A couple of rifles with a powder horn, and a pair of Indian blankets lay without, and two painted Potawatamies were crouched on the hearth, as I entered the cabin. One of them, a small but elegantly formed youth of twenty, spring at once to his feet, while the other, a dark ill-looking negro-faced fellow, retained his squatting posture. They were dressed in complete suits of leather, both having their ears bored in several places, with long drops of silver pendant in thick bunches therefrom, while broad plates suspended over their chests, with armlets of the same metal, made quite a rich display. Their dress was, however, the only point in which they resembled each other; and the acquiline nose, keen eyes, and beautifully arched brows of the one, contrasted as strongly with the heavy inexpressive look and thick lips of the other, as did the closely fitting hunting frock of the first, which a black belt, sown thick with studs of brass, secured to his erect form, with the loose shirt that crumpled around the crouching person of the other. A thin featured gentleman, with long sandy hair, flowing from under a cap of wolf-skin, and dressed in a bright green capote with an orange colored sash—sat smoking a pipe on the other side of the fire place, while one foot dangled from the bed on which he had placed himself, and another, rested on a Spanish saddle, whose holsters were bro't so near to the fire as it lay thus carelessly thrown in a corner, that the brazen butts of a pair of heavy pistols were continually exposed to view by the flickering light. A pale, sickly-looking woman, with an infant in her arms, and two small children clinging

around her lap, sat in the centre, and completed the group. Her husband, and another hanger-on of the establishment, had stepped out to look after our horses, as we drove up to the door. The apartment, which was not more than twenty-five feet square, was cumbered up with four beds, and when I thought how many there were to occupy them, and observed a thin cotton curtain flapping against a wide unglazed opening, which formed the only window of this forlorn chamber, I thought that the prospect of comfortable accommodation for the night was anything but promising. Presently, however, the landlord entered with an armful of bur-oak and split hickory, which crackled and sputtered at a rate that made the Indians withdraw from the ashes. The good woman placed her child in a sort of cradle, and bestirred herself with activity and good-humor in getting supper; while the frontiers-man, knocking the ashes from his tomahawk pipe, passed me a flask of Ohio whiskey, which, after my cold ride, had all the virtue of Monongahela. Some coarse fried pork with a bowl of stewed hominy, hot rolls, and wild honey, did not then come amiss, especially when backed by a cup of capital coffee from the lower country: though the right good-will with which we all bent to this important business of eating did not prevent me from noticing the Frenchman-like particularity with which the Indians eat from but one dish at a time, though tasting every thing upon the table.

The best looking of the two, though daubed with paint to a degree that made him look perfectly savage, was almost the only Indian I had found yet who could talk English at all; and he seemed both amused and interested while I read over to him a slight vocabulary of words in his own language, as I had taken down the terms occasionally in my pocket-book, and was evidently gratified when I added to their number from his lips. He spoke the language, indeed, with a clearness and distinctness of enunciation such as I have only heard before from a female tongue; and the words thus pronounced had a delicacy and music in their sound entirely wanting in the usual slovenly utterance of Indians. You would have been struck, too, in the midst of our philological task, to see the grim-looking savage bend over and rock the cradle, as the shivering infant would commence crying behind us. In this way the evening passed rapidly enough; and then the good dame, with her husband and children, taking one bed, the green rider and I took each another, while the stage driver and remaining white man shared the fourth together. The Indians brought in their guns and blankets from without, and making a mattress of my buffalo skin, they placed their feet to the fire, and after a chirping conversation of a few minutes beneath their woollen togery, sunk to slumber.

The moon was still shining brightly above, as I sallied out an hour before dawn to wash in the snow, and finish in the open air the toilet commenced in the crowded shanties. Our sleigh, a low clumsy pine box on a pair of ox runners, was soon after at the door, and covering up my extremities as well as I could in the wild-hay which filled the bottom, (for the morning was intensely cold,) I wound my fur robe around my head to keep my face from freezing, and soon found myself gliding at a prodigious rate over the smooth prairie. The sun was several hours high when we struck a fine grove of timber, through which the small but rapid river Huron takes its way, and thrashing through the wintry stream, we merely paused long enough at a shantee on the opposite side to adjust some of our harness which was broken while fording the torrent, and reached a comfortable log cabin, in which we breakfasted at noon. There was an Indian encampment within gun-shot of the house, and seeing a melancholy looking squaw with an infant in her arms, hanging about the farm house, I left my landlady turning some venison outlets and grilled grouse, to see how the aborigines fared in this cold weather. A pretty Indian girl of fourteen, driving a couple of half starved ponies, indicated the camp of her friends. They proved to be a very inferior band, having but two hunters, and those inefficient looking fellows to a score of women and children. Sheer necessity had compelled them to encamp near the settlement; and a more squalid, miserable looking set of creatures I never beheld. The chief of the party, contrary to the usual Indian custom, had let his beard grow till it stood out in small tufts from every part of his sinister-looking smoke-dried face; and the thong of leather which sustained his scalping knife, seemed to answer the double purpose of binding the fragments of his greasy and tattered capote to his body, and of keeping the loosely

hung component parts of the body itself together.—A bluff faced English-looking white youth of 18, with a shock head of black curly hair, and wearing a hunting frock of some coarse material striped like a bed-ticking, secured to his body with a red belt, from which a hatchet was suspended, was assisting him spanceling a refractory poney. The young gentleman, as I afterwards learnt, belonged to the tribe—some runaway apprentice, perhaps, who thought he was playing Rolla. The rest of the mongrel concourse dodged like beavers beneath the mats of their smoky wigwags as I approached their common fire, to warm myself.

Returning to the farm-house, I found a little girl playing on the floor with several strings of beads, which the squaw first mentioned had just parted with to purchase food for her starving infant. The family, however, though they suffered the child to retain the ornaments, supplied the poor woman with food and comforts to ten times their value. The Indian mother, I was told, though nearly fainting from exhaustion, asked for nothing except for her child, and seemed deeply affected when after, by signs, apprising the whites of her situation, she obtained the required sustenance.

Upon emerging from this grove and getting out once more on the prairie, I could distinguish a solitary horseman followed by his dog, coming towards us, at least a mile off; and remarking that as they approached us the distance between the man and his canine companion increased at a very unusual rate, I was induced to scan the appearance of the latter as he passed within rifle shot of our sleigh after his master was out of hail. It proved to be an enormous wolf; and we actually tracked the fellow for eighteen miles, to a thick brake on the banks of a frozen stream, from which he had first leaped into the traveller's tracks, and steadily followed on in his horse's steps to the point where he passed us. The cowardly rascal being hard pushed with hunger, though he could have no idea of attacking the traveller by himself, had probably just trudged along mile after mile in the hope of raising a *posse comitatus* of his long haired brethren along the road, or of availing himself after nightfall of some accident that might overtake the horseman, who was so unconscious of his volunteer escort. Had the man but turned his horse and run the wolf a hundred yards, he would have rid himself of a companion that circumstances might possibly have rendered inconvenient.

It was late in the afternoon when we reached the banks of Rock river, whose broad and limpid current was of course congealed by the rigors of winter. The enterprising and intelligent settler from the city of New York, who, though repeatedly driven off by the Indians, has been for fifteen years established at "Dixon's ferry," detained me some time at dinner in expatiating upon the healthfulness of the adjacent country, and the abundance of fish and game of all kinds which frequent the waters of the fine stream upon which he resides. The river, which is navigable for boats of fifty tons nearly a hundred miles above the Mississippi, flows through a gentle valley with the prairie sloping to its edge upon either side, except when a group of bold rocks forming a cove, whose entrance has a perfect gothic arch of some twenty feet high, rear their sudden pinnacles above the farther bank. The smoothness of the adjacent ground is broken here and there by an open grove, while an occasional thicket, with one or two rankly overgrown alluvial islands in the river, must constitute a beautiful landscape in summer. This spot was Gen. Atkinson's head quarters during the Black Hawk war, and may be considered about the centre of operations during the recent Indian difficulties. A sharp ride of twelve miles over the open prairie brought us after dark to Buffalo Grove, the scene of some of the most melancholy incidents that attended those commotions. A party of four or five mounted travellers, bound from Galena for the lower country, were obliged to pass the Grove on their route just after the difficulties with the Indians commenced. They had reached the edge of the Grove, when one of the number conceiving that it might harbor an ambush, suggested the expediency of deviating from the usual path, and taking a somewhat circuitous course. He was opposed, however, by his companions; and one of their number taunting him with an unnecessary regard to prudence, spurred his horse and advanced first into the fatal wood. His horse could have made but a few bounds—I have seen his grave just within the edge of the grove—when an Indian bullet brought him to the ground, and his companions wheeling on their track, for the present escaped further mischief. On arriving at Dixon's Ferry, it was proposed the next day to return and bury the poor fellow, who had thus

fallen a victim to his own rashness. Eight persons, among whom was Mr. Savary, the Indian agent for the hostile tribes, volunteered upon the kind office, which was performed without molestation, and the agent, with the greater part of those present, then kept on his way to the upper country; the rest, among whom was my informant, returning to their home on Rock river. A confused account is given of what followed, as four of Mr. Savary's party, including himself, were slain in another ambush, and those who escaped by the speed of their horses, had but little opportunity, after the first surprise, to observe how their companions met their fate. It is agreed, however, that the unfortunate agent, turning in his saddle after the first fire, was shot in the act of appealing to the Indians as their friend and "father"—the reply being a disclaimer of his official character, and the words "we have no longer any white father," accompanying the discharge of the piece whose bullet pierced his brain. The head of the ill-fated gentleman carried off by the Indians, is said to have been afterwards recognized and recovered from the savage band. The Indians fired the house of the settler (an old New Yorker) at Buffalo Grove, and the charred timbers and lonely doorposts contrasted strangely, as I viewed them in passing, by the morning sun, with the neat new log dwelling a few paces off, in which I had most comfortably spent the night before. But these traces of savage war soon, by their frequency, become familiar. The aspect of the country changes considerably soon after passing Rock River. The prairie is frequently broken by sudden ravines. The number of groves increases. The streams run more rapidly over their pebbly beds, and huge masses of crumbling rock rise like the ruined walls of old castles along the mimic vales through which they take their way. In those secluded dells a number of settlers had ventured to fix themselves along the Galena route; and though many have now returned to their precarious homes, the humble dwellings and various little improvements of others remain as they left them when fleeing with their families before the dreaded savage. With the appearance of one of these cottages I was struck particularly. The roots of a large tree, whose branches brushed a wall of rock opposite to it, had caused a sparkling brook to describe the form of a horse's shoe in winding through a small alluvial bottom, while a row of wild plum-trees across the little peninsula thus formed, divided it from the rest of the valley, and just left room enough for the cabin of the settler with a few acres for a garden around his door. A few acres more along the margin of the brook supplies another enclosure; and the fences and fixtures exhibited a degree of care and arrangement by no means common in this region. But the exiled owner had never returned to his tasteful though humble home. The open door swung loose upon a single hinge. The snow lay far within the threshold, and a solitary raven perched upon the roof, seemed to consider the abode of desolation so much his own that, heedless of a flock of his brothers which rose from some car-cion near, as we approached the place, he only moved sideways along the rafter and gave a solitary croak as we drove by.

Approaching Galena, the country becomes still more broken and rocky, until at last a few short hills, here called "knobs," indicated our approach to Fever River; while the river itself at once became visible when we had wound round the last of these, and got among the broken ravines that seam the declivity, sloping down for nearly a mile to its margin. Short sudden hills, the bluffs of the prairie beyond, partly wooded and partly faced with rock, formed the opposite shore, while the town of Galena lay scattered along their broken outline, as if some giant had chucked a handful of houses against the hill side, and the slimy mud (for which the streets of Galena are celebrated) had caused them to stick there. We crossed on the ice, and I am now once more in a frame house.

POEMS, BY CYNTHIA TAGGART, Providence, R. I.—CRANSTON & HAMMOND.—This is a remarkable volume. Many of our readers will, doubtless, remember an *Ode to the Poppy*, published some months ago in this paper, in introducing which, the fact was stated, that the writer was, and had for years, been the helpless tenant of a sick bed. We here have a collection of poems from the same pen, and written under the same circumstances of suffering and discouragement. Yet, the mind—the immortal mind—triumphs over the sorrows of poverty, the bitterness

of affliction, and the tortures of disease, and soars on Empyrean wings into the high regions of poetry. There is genius, grace, pathos, and, above and over all, a resigned and quiet spirit, and unwavering Christian hope, pervading this little and well printed volume, that must commend it alike to the acceptance of virtue, and the approbation of taste. A more melancholy story than that connected with the history of this young person, can hardly be imagined. The father, a revolutionary officer, feeble, broken in constitution, and poor, wore out the latter end of his days in anxious efforts to obtain the pension due to the services of his youth. Just as success crowned these efforts, he died. His wife—(we take all these particulars from an affecting letter of the Reverend B. C. Cutler, prefixed to the poems)—was a confirmed invalid, and could only, with difficulty, discharge the ordinary domestic duties. There were three daughters, of whom one was bereft of reason, and the other two were martyrs to disease, the one having been two years, the other seven years confined to her bed.

We will give Mr. Cutler's own words, in telling the rest:—

The father, the mother, and one of the daughters appeared cheerful and resigned; but the other daughter seemed greatly depressed. She had been now seven years on a bed of exquisite pain. Her hair had turned gray by the unmitigated anguish of her head. Sleep had long deserted her, and she seemed to have been in the act of martyrdom for years.—Confined for so long a time to her bed, incapable of occupation, or amusement, at times, even of devotion, she struggled hard to say "Thy will be done." She however appeared to confide in God, but was destitute of spiritual consolation.

In this state, and in this place, she composed, from time to time, the Poems which are about to be published. They are like the lamentations of Jeremiah, or, more truly, like the complainings of Job; and may serve to make both the prosperous and the afflicted more grateful, and submissive to the allotments of Divine Providence.

The Poems were composed and committed to memory, chiefly in the night; and were committed to writing by the father and others, at their leisure.

A little garden before her window, the sun which rose and set, the winds of heaven which shook her cottage, and the ocean, whose "billowy anthem" was ever chanting at the foot of the hill, afforded the only variety to her thoughts. From these and from her bodily sufferings she draws subjects and illustrations for her Muse. She remains to this day sunk on a bed of anguish, calm and patient.

It is hoped by the publication of these poems to add something to the narrow means of this afflicted, but unrepining household, and to pay at the same time a merited tribute to genius.

We annex some lines, which will bear out, we think, all we have said:—

THE VOICE OF THE WIND.—1829.

But list! O list! the mighty harp,
Devoid of frame or strings,
Touched by a hand omnipotent,
With tones celestial rings;
With awful notes now swelling high,
Bearing mysterious power,
Then sinking soft with gentle voice,
Breathing of mercy's dower.
O list again! the soothing sound
Of Sympathy is near;
Enchanting tones aerial
Burst on the captive ear.
Ah! yes, and now the pitying tears
Fast falling bathe the ground;
Weeping the woe, the grief, the fears
That wretchedness surround.
Then cease my soul, no more repine;
The healing mercy flows:
Blest sympathy, with voice benign,
Her cordial gifts bestows.

OBSERVATIONS ON THE EDUCATION OF THE DEAF AND DUMB: Re-printed from the *North American Review*. Boston, 1834. pp. 80.

A correspondent, who takes great interest in the subject treated in this pamphlet, asks a place, which we willingly give, for the following notice of it:

"It is a re-print of the article on Deaf and Dumb Instruction, in the April number of the *North American Review*, with the addition of about thirty pages,

which the limit assigned to matter in that periodical made it necessary for the author to suppress.

It is understood to be from the pen of Professor Barnard, of the New York Institution for the Deaf and Dumb. Those who read it will have a better recommendation in the article itself, than any which we should be able to give them: and if we abstain from expressing our high sense of its merit, to those who will not peruse it, it is only because we have not the space to prove our assertions. We may remark, however, that it is altogether superior to any thing on the subject which has hitherto appeared in the United States.

The thirty pages which now make their first appearance in this pamphlet, are of a character more particularly to interest the general reader. From them we make a few quotations. The first is respecting personal signs:

"Signs denoting persons are usually derived from trifling peculiarities of physical conformation, of manner or of dress, which arrest the attention of the deaf and dumb at first sight. These peculiarities may be barely transient, but the sign is retained after the circumstance in which it originated has passed away. The deaf and dumb are particularly expert in detecting distinctive circumstances which would escape ordinary observation. When President Monroe visited the Asylum at Hartford, he wore a cocked hat, of the old school; and it was by reference to this article of dress, that he was ever after designated among the pupils. The same sign has since become generalised; and it is now applied indiscriminately to all Presidents, whether their functions be political or otherwise. Dr. Spurzheim, on the occasion of a similar visit, in taking a survey of the pupils assembled for prayers, placed his hand for a moment over his eyes to screen them from the light. The imitation of this action afterwards constituted his distinctive sign."

The following facts with respect to the deaf, dumb, and blind girl, at the American Asylum, who attracted so much attention a few years since, may, perhaps, interest some of our readers:

"Julia Brace, at present in the Asylum at Hartford, was deprived at once of hearing and of sight, at the early age of four years. She bore her calamity, at first, with little resignation; but her disposition, at length, became remarkably serene. The accomplished pen of our American Hemans, Mrs. Sigourney, an early benefactress of this unfortunate female, has already given her story to the public; to the correctness of which we take pleasure in here according our testimony. We do this the rather, that since the publication of that article, many persons, induced by its statements to visit Julia, have found in her a less interesting object than they had anticipated. This poor girl is not now, in fact, what she was. It is painful to observe, that, as her monotonous years roll away, the same docility, the same uniform placidity of temper, the same willingness to meet the advances of strangers, and the same readiness to exhibit proofs of her manual dexterity, and of her wonderful sagacity in distinguishing individuals, and the articles belonging to them are not always apparent. But in Julia Brace, notwithstanding her absolute exclusion from society, the existence of the moral sense, is strikingly manifest. With her the right of property is sacred.—An article committed to her for examination or for keeping, she will deliver to no individual but the owner, to whom she will deliver it without hesitation, and with an appearance of satisfaction. Should the owner neglect to receive it, she will even force it upon him, and having satisfied herself that it is once in his hand, will immediately relinquish her hold. She selects her own articles of clothing from among those of all the female pupils, and never, in any instance, has been known to appropriate the property of another."

Although we are compelled with these two extracts to finish our notice of this article, we must not omit to mention that its general character is that of a labored disquisition, and that the anecdotes which we have quoted, and others similar to them, are introduced only by way of illustration. The author appears to understand his subject, and is intent on penetrating fundamental principles, instead of merely skimming the surface. The whole paper seems calculated to do much towards rescuing the subject of deaf and dumb instruction from the comparatively

low estimate formed of it by the public, and towards giving it a consideration equal to that with which the subject is viewed in France.

HARPER'S FAMILY LIBRARY—Vols. LXVI., LXVII., LXVIII., LXIX.—New-York, HARPER & BROTHERS.—It is a source of real gratification to us, as we are sure it must be to the friends of knowledge and good letters throughout our country, that amidst the interruptions and disasters which have more or less paralyzed all other trades, these enterprising publishers are enabled to continue their career of useful activity.

Of the four volumes before us, the first two are a continuation, or second-series, by ALLAN CUNNINGHAM, of the *Lives of Eminent Painters*; and those who read the first series with pleasure—as from the taste with which the general subject is handled, and the agreeable style of the writer must have been the universal result—will find the continuation not less attractive. From the life of Copley, our American artist, we make the following extract, both for the sake of the description given of the picture—one that the present relation of our Supreme Executive with the Senate of the United States renders, perhaps, somewhat admonitory—and for the very calculating and business-like letter of Earl Ferrers:

The mind of Copley teemed with large pictures: he had hardly failed in his Irish subject before he resolved to try an English one, viz. the Arrest of the Five Members of the Commons by Charles the First. Malone, an indefatigable friend, supplied the historical information, and gave a list of the chief men whose faces ought to be introduced. It was the good fortune of the eminent men of those days, both Cavaliers and Roundheads, that their portraits had chiefly been taken by the inimitable Vandyke: all that had to be done, therefore, was to collect these heads, and paint his picture from them. They were, it is true, scattered east, west, north, and south; but no sooner was Copley's undertaking publicly announced, than pictures came from all quarters; and it is a proof of his name and fame that such treasures were placed in his hands with the most unlimited confidence. The labor which this picture required must have been immense; besides the grouping, the proper distribution of parts, and the passion and varied feelings of the scene, he had some fifty-eight likenesses to make of a size corresponding with his design. The point of time chosen is when the King having demanded if Hampden, Pym, Hollis, Hazell, and Strode were present, Lenthall, the Speaker, replied,—"I have, Sir, neither eyes to see, nor tongue to speak, in this place, but as the House is pleased to direct me." The scene is one of deep interest, and the artist has handled it with considerable skill and knowledge. The head I like best is the dark and enthusiastic Sir Harry Vane: the Cromwell is comparatively a failure. Many have left their seats dismayed; while fear, and anger, and indignation have thrown the whole into natural groupings: the picture was much talked of when it appeared, and deserves to be remembered still.

There has always been a difficulty in disposing of historical pictures in this country; and no one was doomed to experience it more than Copley: no customer made his appearance for Charles and the impeached Members. I know not whether the following remarkable letter, from a wealthy peer, arose from his own inquiries, or from an offer made by the artist; the letter, however, is genuine, and proves that they err, who imagine that the spirit of bargaining is confined to mercantile men:—

"Lord Ferrers's compliments to Mr. Copley; he cannot form any judgment of the picture; but, as money is scarce, and any one may make eight per cent. of their money in the funds, and particularly in navy bills, and there is so much gaming, he hopes he'll excuse his valuing his picture in conformity to the times, and not think he depreciates in the least from Mr. Copley's just merit; but if he reckons fifty-seven figures, there are not above one-third that are capital, but are only heads or a little more; and therefore he thinks, according to the present times, if he gets nine hundred pounds for the picture with the frame, after the three other figures are put in, and it is completely finished, and he has the power of taking a copy, it is pretty near the value: that is what very few people can afford to give for a picture. However, if Mr. Copley would undertake to do a family piece for him with about six figures, about the size of the picture he has of Mr. Wright's, with frame and all, he would

agree to give him a thousand guineas for the two pictures. But he imagines the emperor or some of the royal family may give him more, perhaps a great deal more, which he wishes they may, and thinks he well deserves; but if he can't make a better bargain, Lord Ferrers will stand to what he says, and give him six months to consider of it, and will not take it amiss if he sells it for ever so little more than he has mentioned, as he has stretched to the utmost of his purse, though he does not think he has come near up to Mr. Copley's merit.

"Upper Seymour Street, 5th June, 1791."

The two other volumes present us with a *History of Arabia*, by ANDREW CRICHTON.

Considering how much of real and substantial knowledge, and how much of delightful romance we owe to Arabian learning and Arabian fancy, and how great the influence which was exercised even in western Europe by the warlike race that for a while held dominion from the Pillars of Hercules to the Wall of China, we are less conversant with the history of their country, than with the history of any other. Mr. Crichton in these two volumes, has condensed a vast mass of information, rectifying by consulting the records of modern travellers and investigators—especially among the latter the exact and indefatigable Niebuhr—many, erroneous crudities and prejudices.

We annex as a fair specimen of the work, a notice of the taste for, and rapid growth of, literature, science and the arts, under the Abbassides:

It was at a period when ignorance and barbarism overspread every part of the Western World, that literature and philosophy found an asylum in the schools of the Saracens. Unlike the Goths and Huns, they became the instructors and enlighteners of the countries they had conquered. Their stern fanaticism yielded to the mild influence of letters; and, by a singular anomaly in the history of nations, Europe became indebted to the implacable enemies of her religion and her liberties for her most valuable lessons in science and the arts. In the preceding chapters of this work we have beheld the disciples of Mohammed in the character of warriors and conquerors. Their success in arms had been enough to satiate even the most unmeasured ambition. But, great and splendid as were the events we have just detailed, we shall turn with pleasure from fields of blood, from scenes of misery and vice, to contemplate the more gentle and useful progress of the Arabs in the cultivation of learning. The first Mussulmans knew, or at least esteemed, no other book than the Koran. But this aversion to intellectual pursuits gradually relaxed, in proportion as their faith and their empire extended. The possession of those happy countries, so long the seats of ancient taste and splendor, naturally introduced among them a spirit of refinement; and here their career was as rapid and surprising as it had been in the field. The literature of Greece, such as it was in the days of Pericles, required the slow growth of nearly eight centuries of progressive cultivation. The same period elapsed between the foundation of Rome and the age of Augustus. In France, the reign of Louis XIV., the brilliant era of wit and genius, was 1200 years subsequent to that of Clovis. But among the Saracens, such was their enthusiasm for learning, that little more than a single century elapsed from the period of their deepest barbarism to the universal diffusion of science over the vast extent of their dominions. It was in the year 641 that Omar committed the Alexandrian library to the flames, and in 750 the house of Abbas, the munificent patrons of letters, mounted the throne.

Under the first of the Omniad caliphs, the genius of Greece had begun to obtain an influence over the Arabs. But it was not till the great and final division of the empire—till Bagdad arose, a fair and splendid city—that the golden age of Arabian literature commenced in the East, and the Muses were courted from their hallowed retreats beyond the Bosphorus, to expiate the guilt of conquest, and illustrate the fame of the Abbassides. Al-mansur, successful in his domestic wars, turned his thoughts to the acquisition of science. Accident brought him acquainted with a Greek physician, named George, who was invited to court to prescribe for the removal of a temporary indigestion. To him the Saracens were indebted for the introduction of medicine. The famous Haroun al Raschid has acquired a splendid name as the encourager

of letters. He was fond of poetry and music, and himself considerably skilled in these divine arts. Volumes have been written on the learning of the Moslem empire during this caliph's reign. Whenever he undertook a journey, or a pilgrimage, he carried with him a retinue of a hundred learned men. The Arabs were deeply indebted to him for their rapid progress in education, for he issued a law that a school should be attached to every mosque erected within his dominions. With a toleration superior to the fanaticism of his creed, he did not despise the knowledge which the believers of another faith possessed. The head of his schools, and the chief director of academical studies in his empire, was a Nestorian Christian of Damascus, of the name of John ibn Messue. His generous example was imitated by his successors; and in a short time the sciences that were cultivated in the capital were diffused to the distant extremities of the caliphate.

But the Augustus of Arabian literature was Al-mamoun, whose attention from his youth had been chiefly engrossed with books and study. Even in his father's lifetime, and during his journey to Khorasan, of which he was appointed governor, he had selected for his companions the most eminent scholars among the Greeks, Persians, and Chaldeans. His accession to the throne did not abate his ardor for knowledge. Bagdad became the resort of poets, philosophers and mathematicians, from every country and of every creed. His ambassadors and agents in Armenia, Syria and Egypt were ordered to collect the most important books that could be discovered. The literary relics of the conquered provinces, which his governors amassed with infinite care, were brought to the foot of the throne as the most precious tribute he could demand. Hundreds of camels might be seen entering Bagdad loaded with volumes of Greek, Hebrew and Persian literature: and such of them as were thought to be adapted to the purposes of instruction, were at the royal command translated by the most skilful interpreters into the Arabic language, that all classes might read and understand them. Masters, instructors, translators, and commentators formed the court of Bagdad, which appeared rather to be a learned academy than the capital of a luxurious and warlike government. Aware of the vast treasures that were deposited in the libraries of Constantinople, Al-mamoun, in concluding a treaty of peace with the Grecian Emperor, Michael III., stipulated, as one of the conditions, that a collection of rare and valuable authors should be delivered up to him. These were immediately subjected to the process of translation; but it must be recorded with regret, that, through an ill-judged partiality for his native tongue, he gave orders that after the Arabic versions were finished, the original manuscripts should be burned.

The Caliph Vathek not only admired and countenanced literature and the sciences, but was himself a proficient in some of them, especially poetry and music. He was particularly addicted to astrology; and having conferred with some of his learned fraternity in his last illness, they assured him, on consulting his horoscope, that his reign was yet to endure fifty years. His death in ten days falsified this prediction, and ruined the credit of Hassan ibn Sohal. Abu Masher, an eminent astrologer, flourished in the reign of Mostein; but his talents received sorry encouragement, for that prince ordered him to be severely whipped, because an event which he had foretold actually came to pass.

Long after the power of the Abbassides had dwindled into a mere pageant of state, they affected to patronize and cultivate learning. Many distinguished men in almost every science illustrated this period of Saracen history; but the capital of the muses in the East had seen innumerable rivals spring up in other parts of the empire. The last prince that shed a ray of departing glory on his race was the Caliph Mostanser, who adorned Bagdad by the celebrated college that bore his name. According to oriental historians, this edifice had no equal in the Moslem world, whether we consider the beauty and elegance of the building, the number of students it contained, or the splendid revenues assigned it by its founder. Each of the four chief sects of the Sonnees had its appointed professor, with a monthly salary and a maintenance from the royal exchequer. Every student had daily a very handsome allowance of provisions of all kinds. There were baths set apart for their use, and a physician employed to attend them at the caliph's expense.

STORIES OF POLAND; by ROBIN CARVER. Boston: CLAPP & BROADERS.—This is a well-timed and instructive little book, intended to interest children in the fate and history of unhappy Poland. The stories

are well told, and there are a great many pictures, moreover.

CELEBRATED SPEECHES OF CHATHAM, BURKE AND ERSKINE; to which is added the argument of Mr. Macintosh in the case of Peltier; selected by a member of the Philadelphia Bar: 1 vol. 8vo; *Philadelphia, KEY & BIDDLE.*—We are glad to see such models presented in so good a form to the youth of our country. We lack taste as orators: we are too redundant—too verbose; apt to overcharge, and above all, to spin out interminably our harangues. Where there is boundless wealth both of knowledge and fancy, as with Mr. Burke, one may endure,—for even then it is a penance,—a book under the name of a speech; but only think of Mr. Benton, of Missouri, inflicting such a punishment on the nation. The volume is well printed; and is, we are glad to learn, to be followed by another, giving speeches of Fox, Pitt, Sheridan, Canning, and Brougham.

NATIONAL CALENDAR AND ANNALS OF THE UNITED STATES, for 1834, by PETER FORCE: *Washington, FISHER THOMSON.*—To this book we have been indebted for much valuable information, for which erroneously we have given credit from time to time to the *Blue Book*, so often referred to in Congress, and which we confounded with this. Their contents are very similar; and to any one who would know the interior and whole detail of our Government—the number and duty of officers—amount of compensation—and everything that relates to the actual and active machinery of the system, this a most valuable manual—and we recommend it accordingly.

HELEN, A TALE, by MARIA EDGEWORTH; 2 vols.: *Philadelphia, CAREY LEA & BLANCHARD.*—After a long interval we have here a new work from the admirable pen of Miss Edgeworth. Time does not seem to have abated aught of its former spirit.—Helen will be read with avidity—and by those who meditate the moral, as well as enjoy the incidents of such a tale—with certain benefit. It is an illustration throughout of the value and indispensableness of truth, and of the dangers of any concealment of it. The three characters—of Miss Clarendon, who sometimes made truth repulsive—of Lady Cecilia, who could not understand that it was necessary always to adhere to it—and of Helen, who, wherever her own self or own interests were concerned, always told it—though in the affairs of her friend Cecilia, assenting to—not deceit—but concealment—are admirably wrought out—and combined as they are with a good general story of high life, and much—perhaps too much elaborately clever dialogue—constitutes altogether a charming work.

THE HARPERS, we should add, have also just issued this latest work of Miss Edgeworth—in one volume, constituting Vol. X.—of their handsome, uniform, and well executed stereotype edition of the *Tales and Novels of Miss Edgeworth.*

SUMMARY.

THE FINE ARTS.—In the hope that the sun of May will soon shine upon us, and tempt abroad the lovers of the beautiful in art, we commend to the notice of our readers the exhibition at the Academy of Arts in Barclay street, of *Cole's* picture of the *Angel appearing to the Shepherds*, and *Ball Hughes's* group of *Uncle Toby and Widow Wadman.*

The picture is a very striking one, and the subject, difficult as it is, is treated with great skill. In the midst of a fine landscape, constituting of itself an attractive painting, the shepherds are suddenly startled by the appearance of the heavenly messenger and the shining forth of the bright star indicating the spot to which they were directed. Prostrate on the earth, they listen to the glad tidings of a Saviour born unto them and all mankind, and their reverential awe is well contrasted by the unconscious and undisturbed serenity of the dumb flocks around. The star, by

a most happy license, is represented as darting forth its refulgent light in rays that form a cross, and the effect is greatly heightened by its reflection in a transparent sheet of water beneath. Among the minor accessories is that of a snow white lamb in the foreground typifying the spotless birth announced to the Shepherds. The coloring, design, and general effect of the picture strike us as admirable; and the only objection we have to make is one common to all others where spiritual and incorporeal beings are introduced and presented in the substantial form and lineaments of mortals. It shocks the natural sense to see such figures self-supported in air, and robed in drapery of earthly texture.

The group by *Ball Hughes*, which is in an adjoining apartment, presents Uncle Toby in the sentry box, invaded by the Widow Wadman, complaining of something in her eye, which she is showing to the simple minded and unsuspicious soldier, who looks into it with all his credulous soul—without, indeed, finding there aught that troubled her, but not without the risk of being thereby considerably troubled himself. The whole appearance of the Widow might, in truth, trouble a stoic. We could hardly imagine that so much expression could be thrown into so cold a material. The folds in the robe are almost incredibly natural; and the little foot that is carelessly dropped into view from beneath it, could not be improved. The figure of Uncle Toby strikes us as comparatively too large, and the limbs particularly as too robust for the body.

We wish our Broadway fashionables, of both sexes, would make the Academy a lounge. The position is central; the rooms are well ordered; and the attraction of these two Exhibitions sufficient to invite repeated visits—besides the chance of meeting there "all one's acquaintances."

LAKE ONTARIO.—The Steamboat United States, Capt. Van De Water, touched at the mouth of the Genesee River, on Wednesday last, with 1000 passengers!

GENESEE RIVER.—The Steamboat Genesee, Capt. Weed, has commenced her trips between Rochester and Genesee. She went from Genesee to Rochester in six hours.

The Sag Harbor Corroctor states, that a boat which left that place on Saturday for Three Mile Harbor, having on board John Perry, Collins Miller, Jonathan Miller—Stillman, all of Easthampton, has since been found at sea a wreck, and it is supposed those on board were drowned.

The Cherokee Phoenix of 29th March, is in mourning for the death of the honorable WILLIAM WIRT, whom it denominates "not only the legal and able councillor of the Cherokees, but likewise their most sincere and faithful friend."

APPOINTMENTS.—The Globe contains a long list of officers confirmed by the Senate. Most of them are reappointments connected with the Custom House, and the land offices. Among them we remark Aaron Ogden, as Assistant Collector at Jersey City, and in this State Thomas Loomis, Collector at Sackett's Harbor, Jacob Gould at Rochester, Seymour Sewell at Lewistown, Baron S. Doty at Ogdensburg, Jere Carrier at Capo Vincent, John P. Osborne at Sag Harbor, David B. McNeil at Pittsburg, George H. McWhorter at Oswego, and Sam Stewart at New York.

The United States Frigate Brandywine sailed yesterday for Norfolk.

OFFICERS.—David Deacon, Captain.—Lieutenants, William Inman, Henry Bruce, J. G. Van Brunt, Edward S. Johnson, John H. Smith, H. H. Hobbs.—A. A. Adey, Surgeon.—Samuel F. Hazard, Sailing Master.—J. R. Lambert, Chaplain.—A. G. Gambrell, Assistant Surgeon.—Passed Midshipmen, John Weems, William C. Spencer, E. M. Yard, Charles Green, Luther Stoddard, William B. Ludlow, J. S. Patterson, C. H. Piper, C. Valentine, L. W. Wilkins, Daniel McKay, C. R. P. Rodgers, Francis Winslow, J. S. Biddle, M. D. E. Watson, R. R. Nicholls, Jas. W. Reed, S. Pierce, Francis Loury, Joseph Norville.—Boys acting as Midshipmen, R. B. Biel, John Dennis, Howard Tillotson.—John Peira, Jr. Schoolmaster.—Charles Boardman Carpenter.—J. R. Childs, Sailmaker.—Daniel James Gunner.—D. McComb, Purser's Steward.—James C. Low, Master's Mate.—Thomas C. Ryall, Captain's Clerk.—Ship Brandywine, Jos. H. Terry, Purser.

The Opera at Philadelphia seems more attractive to the ladies than to the gentlemen: the latter of whom, according to the Philadelphia papers, not even music and beauty combined can draw to the theatre.

NEW BANKS.—Seven bills have passed both houses of the Legislature for the incorporation of Banks, and one increasing the capital stock of an existing bank, as follows:

	CAPITAL.
Commercial Bank, Buffalo	\$400,000
Sackett's Harbor Bank, Sackett's Harbor	200,000
Commercial Bank, New York	500,000
Orleans County Bank, Albion	200,000
Albany City Bank, Albany	500,000
Farmers' & Manufacturers' Bank, Po'keepsie	300,000
Highland Bank, Newburgh	200,000
Phoenix Bank, New York [increased]	1,000,000

—[Alb. Argus.] \$3,300,000

General E. Hawkins, of Union District, S. C., died very suddenly on the 16th inst.

[From the Journal of Commerce.]

PHOENIX BUILDINGS BURNED.—About 9 o'clock last evening, an alarm of fire was sounded, which was found to proceed from the large five story brick building S. E. corner of Wall and Water streets, known as the Phoenix Buildings. It is about 60 feet on Wall street, by say 50 on Water street. When we reached the spot, the 5th story was completely on fire, and the great height of the building rendered it impossible to reach it, except by the hydrant. The firemen, however, by going inside of the building, and upon the neighboring roofs, succeeded in saving the three lower stories, except that the third was somewhat injured. The 4th and 5th, with the roof, were totally destroyed except the walls. Great credit is due to the firemen for arresting the flames where they did.

The 5th story was occupied by Messrs. Bowne & Co. as a book bindery. Here the fire originated.

In the fourth story was the printing office of the Mercantile Advertiser, the materials of which, including a Napier press, were almost wholly destroyed. We are happy to state, however, that the proprietors (Butler & Co.) were insured, and that they have lost none of their books. A part of this story was occupied by Oakley & Co. for the storage of wool.

The third story was also occupied by Oakley & Co., who, we understand, were insured.

The 2nd story, which was not injured except by water, was occupied by George Barrell, Produce Broker; W. Caloon & Co, cotton brokers; and two offices were unoccupied.

The first story was occupied by Bowne & Co. (the same who owned the bindery) as a stationer's shop, Wm. N. Norris, copper smith; and J. Mathews, hide dealer. Bowne & Co's goods were principally removed and thus escaped being drenched with water. They were insured.

This building was owned by Mr. Weyman, senior.

The receipts of the Cooper Benefit at New Orleans amounted to about two thousand five hundred dollars

Awful Calamity.—We copy from the Kittanning (Armstrong county) Gazette and Columbian, the following account of a most distressing occurrence:

On the night of Friday, the 18th instant, the house and barn of Captain John C. Kissinger, of Toby township, in this county, were consumed by fire, and what is most shocking to relate, nine of his children perished in the flames! The parents were absent on a visit to Mrs. Kissinger's father's, a distance of about eight miles. Out of eleven children, two only are left—one an infant which the parents had with them, and the other a daughter eight years of age, who was away from home. The way the fire originated is not known, and it was not discovered till about 9 o'clock the following morning. One horse and a large quantity of grain were consumed; in short, nothing was left in or about the house or barn unconsumed.

A gentleman who had been present at the scene of the calamity, subsequently called upon us, from whom we learned a few additional particulars. The sufferers were from ninety years of age downwards. So far as could be observed, the bones were in the same relative position in which they slept, which leads to the belief that they were smothered in their beds by the smoke before the flames reached them. One only had gone to a different part of the house. Awful as was the agent of their death, it was probably attended with but little suffering. The unhappy parents were at first (and very prudently too) only informed of the destruction of their property. The father returned on Saturday, but the mother remained at her father's until the next morning, still ignorant of the extent of her loss. When she arrived, she surveyed for a moment the smoking ruins, and then asked for her children. Let the reader imagine, if he can, the effect of the shocking disclosure.

It is a remarkable circumstance, and one calculated to heighten, if possible, the distress of these parents, their oldest child was burnt to death some years since. A horse and a yoke of oxen were burnt. A dog that lay in the barn, was burnt, and his bones were found in the place he was accustomed to lie. Two large hogs were consumed in the pen, although the door was open.

On Sunday, the bones of the children were collected, deposited in a coffin, and buried, in presence of a large concourse of sympathizing friends and neighbors. An impressive discourse was delivered at the grave, by the Rev. Mr. McGarrugh.

The weather for the last two or three days has been as cold and boisterous as we usually experience in the early part of March. Ice was formed on Friday and Saturday nights, and we had snow squalls on these days and yesterday. It is feared that the early vegetation has sustained injury.

Yesterday morning a severe N. W. gale set in, and continued till evening. Some damage was done to the shipping in the North river. The ship Empress, lying at pier No. 4, broke her fasts and ran into the brig Marcellus, both of which were considerably damaged. Other vessels received slight injury. The tin roofs and gutters of the new stores, Nos. 56 and 57 Whitehall, were blown off.

A small wooden tenement, corner of Cherry and Oliver streets, was nearly destroyed by fire yesterday afternoon.—[Mercantile.]

UNITED STATES BANK.—The National Intelligencer of Saturday says,—

"Mr. Duncan, of Illinois, yesterday laid upon the table of the House of Representatives, in order that it might be printed, an amendment which he intends to move to the bill lately reported by the Committee of Ways and Means, for regulating the deposits of the public money in the State Banks, when that bill shall come up. That amendment proposes that the Charter of the present Bank of the United States shall be continued for ten years from the 4th day of March, 1836, provided that the United States shall surrender the whole of its stock, and the present stockholders shall surrender half of the stock in the Bank held by them respectively; the several States to have the right to subscribe, at par value, in proportion to their respective representation in the House of Representatives of the United States, for the twenty-one millions of dollars of stock so to be surrendered, or the citizens thereof, in the event of any State's declining to subscribe and pay in the amount of the quota on or before the 1st day of January, 1836. The amendment embraces several other new features; such as limiting the dividend on stock to seven per cent. per annum; the surplus, after the accumulation of a contingent fund of three millions, to be paid over into the Treasury of the United States; prohibiting the issue of any notes of a denomination less than ten dollars; requiring a bonus of \$200,000 per annum, to be appropriated to internal improvements, &c. &c. This being the first practical proposition in the House of Representatives contemplating, in any form, the extension of the charter of the present Bank of the United States, we have thought this brief note of it might be acceptable to our readers."

The occurrence of a fire in New-Orleans, on the 10th instant, has led to a disclosure of circumstances of a horriying character. The Courier of that day has the annexed particulars:

"A fire broke out this morning in the kitchen of Madame Lalaurie, corner of Royal and Bayou streets, which was soon wrapt in flames. It was known to some of the neighbors, that the upper part of this building was used as a prison, and that it was then tenanted by several unfortunate slaves loaded with chains. Information of this fact was communicated to Judge Canonge, who instantly waited on Mr. Lalaurie, and asked permission of that gentleman, in a polite manner, to have the slaves removed to a place of safety; when the latter, with much rudeness replied, that 'there were those who would be better employed if they would attend to their own affairs instead of officiously intermeddling with the concerns of other people.' The flames gaining rapidly on the building, orders were given to break open the doors, which being promptly obeyed, a most appalling sight was presented, in the shape of several wretched negroes emerging from the fire, their bodies covered with scars and loaded with chains! Amongst them was a female slave, upwards of 60 years of age, who could not move. Some young men carried her to the city guard house, where the others, six in number, were also conducted, to be 'protected from the cruelty of their owner. We saw one of these miserable beings. The sight was so horrible that we could scarcely look upon it. The most savage heart could not have witnessed the spectacle unmoved. He had a large hole in his head, his body from head to foot

was covered with scars and filled with worms!! The sight inspired us with so much horror, that even at the moment of writing this article, we shudder from its effects. Those who have seen the others represent them to be in a similar condition.

We forbear a further description of this revolting spectacle, as it can hardly be agreeable to the feelings of our readers. We hope the Grand Jury will take cognizance of this unparalleled outrage, and bring the perpetrators of it to the punishment they so richly deserve."

The Bee, of the 11th instant, says—"The populace have repaired to the house of this woman, and have demolished and destroyed everything upon which they could lay their hands. At the time of inditing this, the fury of the mob remained still unabated, and threatens the demolition of the entire edifice."

The New Orleans papers of a date subsequent to those which relate the revolting incidents in the above extract, inform us, that a day or two after the fire, and when all the property of the woman fiend whose unheard of cruelties are the subject of this extract, was replaced in her house, a large collection of persons assembled, and gutted it from top to bottom, demolishing every article of furniture, tearing up the floors even, and leaving nothing but the walls standing. Plate, jewelry, glass, piano's, &c., were tossed into the street and trampled under foot. One paper estimates the damage altogether, at \$40,000. Mob law is always bad law—yet in this case, human nature could not but revolt against the atrocities so providentially revealed.

John H. Eaton has been appointed by the President of the United States, with the advice and consent of the Senate, to be Governor of the Territory of Florida, to succeed Governor Duval, whose term of service has expired. The nomination, made to the Senate some days ago, was confirmed yesterday.—[National Intelligencer of Friday.]

UP A TREE.—The following letter from the Post Master of Columbia, S. C. accounts for the failure of two mails.

LOSS OF THE MAIL.

Post Office, Columbia, S. C. 14th April, 1834.

One of the Mails going North, got lost in the river between this and Camden, yesterday morning, and the other is now on a tree in the river and unapproachable. It is not known which Mail got lost; the drivers think it is the Great Mail which lodged on the tree: if they judge from its size, it is probable they are mistaken; for our Mail on Sunday was sent off in a very large Portmanteau. One of the negroes attending at the Ferry got drowned.

The Wateree river is very full, and we have had no Northern Mail since Friday night.

Respectfully,

B. F. RAWLS, Ass't P. M.

P. M. Augusta, Geo.

NEW ORLEANS, APRIL 15.—We understand that on Friday night last, a young man by the name of Kelly, in a fit of passion, cut the throat of his wife with a razor. Immediately after, believing her dead, he cut his own with the same instrument. The wife was not dead on Saturday morning last, and hopes were then entertained of her recovery. We have been unable to obtain any further particulars.

Shipwreck.—British bark Robert Russell, from N. Orleans for Liverpool, was lost on Sand Key, first March. Cargo will be saved—part of it had arrived at Nassau, N. P. on the 15th.

The Girard Bank.—The President of the Girard Bank has made an arrangement with the Secretary of the Treasury, by which that institution terminates its connexion with the Treasury. The deposits will be given up by the first of July.—[Philadelphia Intelligencer.]

The Arkansas Gazette of the 15th instant, furnishes information of the death of Lieut. Wm. Bradford, of the United States Dragoons, by the accidental discharge of one of his pistols whilst placing them in the holsters, preparatory to mounting his horse.—His remains were carried to and interred at Fort Gibson.

The Norfolk Beacon says—"The schooner Minerva, of Thomastown, Gray, while lying between the forts, was struck by lightning, on Saturday morning last, at about 5 o'clock. Both masts were struck at the same time, injuring them so much as to render them unfit for use—the lightning descended to the

deck, a part of which was ripped up—the crew escaped uninjured.

Mr. Isaac Edwards, of Penntownship, in the western section of Chester county, informs us that he disposed of 21 lbs. of Butter from four cows, in the space of eleven weeks, in the early part of last season; besides furnishing the ordinary supplies of a family of from four to seven persons.—[Westchester Village Record.]

RECIPE FOR SCARLET FEVER.—A very simple remedy, says a correspondent, for this dreadful disorder, is now using in this city with good effect. It is merely a mixture of Cayenne pepper, salt, and vinegar, used as a gargle.—[Commercial Advertiser.]

NEW YORK MARKET, APRIL 26.

Liquors.—From a cargo of Burgundy Gin there were sold on the wharf 60 pipes in lots, at 105 cents; from store it is sold at 106 cents. Bordeaux Brandy, Crown brand, at 115 cents. St. Croix Rum on the wharf at 93 cents. Whiskey is bid, at 24 cents, and in druggists' cases at 32 cents.

Provisions.—Beef and pork continued to go off freely, and at full prices. Orleans prime pork, reshipped, at \$9 55. Is butter more in doing; dairy we quote at 12 1/2 to 15 cents, which is rather a low price. The stock of cheese is low.

Wool.—Prices tend downward with but few sales.

CORN EXCHANGE.—Flour was heavy throughout. Common brands of Western closed at \$5 37, and fancy at \$5 50; some Utica city was sold at \$5 31; Troy and Albany sold at \$5 on some short account. 1700 bushels good Genesee wheat in store was sold at 108 3/4 cents a bushel; a cargo arrived from Virginia, but was not sold. Rye sold freely at 60 cents for northern. Northern corn at 60 a 62 cents.

BALTIMORE MARKET—April 25.

COFFEE.—There has been a fair demand on the part of the trade for Rio Coffee.

FLOUR.—Howard street Flour.—The demand for this description has been quite limited, and transactions from stores are consequently but few.

City Mills Flour.—We have no sales to report.

Susquehanna Flour.—The quality of this description is generally much approved this season, and the article has been in fair demand for export.

GRAIN.—Wheat.—The sales of Wheat since our last weekly report, have been at an advance of several cents per bushel.—Most of the City Mills are yet idle for the want of wheat.

Corn.—There was a full supply at the opening of the market on Monday, and prices receded a little. Sales of yellow were made at 55 cents, and of white at 55 1/2 cents.

Rye.—We have to note a decline in prices.

Oats.—Sales as in quality at 30 a 33 cents per bushel.

Shorts and Skiptuffs.—have advanced. We quote the former at 18 cts, and the latter at 32 a 33 cts per bushel.

Price of Produce in Alexandria, D. C. April 25.

FLOUR, per barrel,	\$4 37 1/2	a	\$0 00
WHEAT, per bushel,	0 80	a	0 90
CORN, white, wanted,	0 58	a	0 60
Do yellow, do	0 54	a	0 56
RYE,	0 60	a	0 62
OATS, from wagons, bushel,	0 40	a	0 41
Do from vessels, do	0 35	a	0 00
CORN MEAL, white, do	0 78	a	0 00
Do do yellow, do	0 65	a	0 00
CLOVERSEED, do	4 25	a	4 50
FLAXSEED, do	1 00	a	0 00
WHISKY, per gallon,	0 23	a	0 23
BACON, per cwt.	0 50	a	0 90
BUTTER, fresh, per lb.	0 20	a	0 25
Do firkin, do	0 12	a	0 15
LARD, do	0 07	a	0 08
PLASTER Paris, retail, ton,	5 00	a	0 00

FLOUR.—Yesterday the wagon price of Flour was \$4 37 1/2. We were not advised of any sales from stores; several lots of stored Flour were priced at \$4 37 1/2-12. The market is quiet.

Review of the New Orleans Market, abridged from Levy's Price Current of April 12.

Credit and confidence are much impaired; those who have heretofore been in the habit of making liberal advances, or giving extensive credits, have, from necessity, greatly curtailed them; their sales, and consequently their profits, falling far short of what, under other circumstances, they might reasonably have anticipated. Reflecting men hesitate about entering into contracts, when even the possibility of a doubt exists as to their having the ability to meet their engagements. Of the causes which produced this state of affairs, we have not space, neither is it our province, to speak; we merely notice the effects.

COTTON.—Arrived since the 4th instant: of Louisiana and Mississippi 8170 bales; Tennessee and North Alabama, 9526; Florida, 256—together, 17952 bales. The sales of the week amount to about 17,000 bales, of which we have been able to learn the particulars of the following, viz:—776 at 11 1/2, 975 at 10 1/2, 243 at 11, 500 at 11 1/2, 108 at 11 1/2, 300 at 11 1/2, 50 at 9 1/2, 94 at 11 1/2, 140 at 11, 120 at 12, 800 at 11 1/2, 300 at 12, 600 at 10 1/2, 70 at 10 1/2, 420 at 11 1/2, 233 at 10 1/2, 49 at 11 1/2, 70 at 11 1/2, 60 at 11 1/2—all Louisiana and Mississippi; 512 at 10 1/2, 2000 at 10, 10 1/2, 600 at 10, 1000 at 10 1/2, 100 at 11 1/2, 53 at 10 1/2, 400 at 10 1/2, 2150 at 11 1/2—all Tennessee and North Alabama; 50 bales Arkansas, at 10 1/2, and 300 Lake at 10 1/2 cents per lb. There has been a good feeling manifested in the market throughout the week, and nearly all descriptions have met with a brisk demand, at an advance of fully 4 cent, and in some instances, a shade higher, on the Liverpool classification. Mississippi Cotton, it is said, is becoming extremely scarce, and very little for sale now in market.

LIVERPOOL CLASSIFICATION.

Ordinary	9 1/2 a 9 3/4
Middling	10 a 10 1/2
Fair	11 1/2 a 12
Good fair	12 1/2 a 13
Good and fine	13 1/2 a 14

SUGAR.—We notice no change in the price of Sugar since our last report.

MOLASSES continues to arrive, but in small quantities, and must soon become scarce; the serous, as we before remarked, being nearly at a close, a portion of that now coming in is of inferior quality.

TOBACCO.—There still continues to be a brisk demand for Tobacco.

FLOUR.—Notwithstanding the depressed state of the market for this article, it still continues to arrive freely.

CORN.—The supply of Corn in market in the Ear is abundant, and of Shelled in Sacks fully equal to the demand. Arrived this week, 4015 bbls, 2834 sacks.

LEAD.—The price of Lead remains without change; at present there is nothing doing.

MACKEREL.—Our quotations remain the same as last week.

FURS AND PELTRES.—There has been a number of heavy arrivals lately, which knocked down the market, and last week they were extremely dull.

FAIRINGS.—The only alterations we have to notice are in the rates to Havre, three vessels having taken up at 138 for Cotton, per lb; and for Tobacco, per hhd to Cowes, 60 shillings is now taken. We have to remark they are dull.

NOW READY,

AN INTERESTING AND USEFUL MAP.

Upon which is delineated nearly all the Railroads now chartered in the U. States. It is designed to show the present contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It may be had either in sheets, price \$1 25, or put up in morocco for pocket maps, price \$1 50, or on rollers at \$2 25, in any quantity, by applying to the subscriber.

D. K. MINOR, 35 Wall street.
New-York, April 2, 1835.

RAILROAD TURNOUTS, REVOLVING PLATFORMS AND SIDELINGS.

The subscriber having been for some years engaged in constructing turnouts, and inserting the necessary switches and fixtures appertaining to the same, on the Baltimore and Ohio Railroad, and as those works on that road will be shortly completed, he is desirous of being employed by any Railroad Company requiring work of the above description.

He will either contract at a fixed price to execute the work, he providing all the necessary materials and fixtures, or otherwise, or he will engage himself at a stated salary.

In relation to his abilities and general character he begs to refer for any Company, disposed to engage him, to the Baltimore and Ohio Railroad Company.

Letters can be addressed to him at the Office of Construction Baltimore and Ohio Railroad, Baltimore.

a96 6t

REUBEN ALER.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, plus wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 40, page 77 of this Journal.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish trade and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORNBURN.

347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better success can be done in the execution.

* * Mr. Thornburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine. MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

New-York American, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of **Duffee, May & Co.** offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervie, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon dale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, }
January 29, 1835.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lanesburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lanesburgh. — August 15, 1833. A29tf RM&F

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in lengths of 14 to 16 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
300 do. 1 1/2 do. 1 do.	
40 do. 1 1/2 do. 1 do.	
800 do. 2 do. 1 do.	
800 do. 2 1/2 do. 1 do.	
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, 5, and 6 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates; in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 154 Water street, corner of Maiden Lane.

J31 6t

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principle of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1833.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off-rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. M. OLLI, Civil Engineer.

Germanstown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY B. CAMPBELL, Eng. Philad., Germantown and Norristown Railroad

m1 y

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bloecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J35 1f

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscriber at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTZ, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Hartz.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER.

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing & Hartz.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warmest encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

E. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m36

An act authorizing a loan for the benefit of the people of this State. Passed April 19, 1834.

The people of the state of New-York, represented in Senate and Assembly, do enact as follows:

§ 1. The commissioners hereinafter named are hereby authorized, if, in their opinion, the public interest shall require it, by an order in writing signed by a majority of them and filed in the office of the comptroller, from time to time, whenever they shall deem it expedient, to direct the comptroller to issue special certificates of stock, in such manner, for such amounts, and under such restrictions as are hereinafter provided, for an amount not exceeding in the whole six millions of dollars; for the redemption of which, and the punctual payment of the interest thereon, as herein provided, to the owners of such stock, the faith and credit of the people of this state are hereby pledged.

§ 2. Upon the filing of every such order, the comptroller shall issue certificates of stock to the amount required thereby, in such sum; and to such persons or bodies corporate as the said commissioners, or a majority of them, may direct, for the purpose of being loaned as hereinafter directed.

§ 3. The said commissioners are hereby authorized to loan so much of the said stock when so issued as aforesaid, or of the monies arising from the sale thereof, as in their opinion the public interest may require, to such of the incorporated banking institutions in the city of New York, as they shall deem proper, not exceeding in the whole four millions of dollars, and in such sums to each as they shall deem proper, not exceeding in amount to any one institution one half the capital stock of such institution, at a rate of interest not less than five per cent, payable quarterly, upon its par value; and they said commissioners before they shall make any such loan, shall examine particularly into the affairs of such bank. And the said commissioners may also at their discretion, take such security for the punctual payment of said interest, and the ultimate payment of said principal, as they shall deem proper and necessary to insure such payments at such times as may be agreed upon, not extending beyond the time when the principal of said stock shall be reimbursable; but no part of the loan made to any banking institution, shall be repaid to the State, before the expiration of the period at which the stock shall be redeemable, unless such repayment shall be made in the stock created under this act.

§ 4. The said commissioners shall prescribe the form in which the said certificates of stock shall be issued; and the said stock shall be transferable at the pleasure of the owner, in such manner as the said commissioners shall direct.

§ 5. The said stock shall bear an interest of five per centum per annum, payable quarterly yearly at the Manhattan Bank in the city of New York, and shall be reimbursable at such time or times within twelve years from the passage of this act, as the said commissioners shall designate.

§ 6. The said stock shall be converted into money, in such manner, and under such regulations, as the commissioners hereinafter mentioned shall direct; but the amount of any premium received on such stock upon converting the same as aforesaid, shall be paid into the treasury of this State for the benefit of the general fund.

§ 7. The said commissioners hereinafter named, are hereby authorized to convert into money, by disposing of the same by auction or otherwise, in their discretion, a further amount of stock authorized by the first and second sections of this act, not exceeding two millions of dollars, and to pay the said money into the treasury of this State, the premium thereon to belong to the general fund, and the capital to be loaned to the citizens of the different counties of this State, except the counties in the first senatorial district, in the manner and subject to the provisions hereinafter mentioned, to wit:

1. The amount to be loaned in each county shall be ascertained by an apportionment of the whole amount of two millions of dollars, among such counties according to the number of inhabitants in each, as ascertained by the census taken in the year one thousand eight hundred and thirty.

2. No loan shall be made to the citizens of any county until an application therefor shall have been made to said commissioners by the board of supervisors of such county.

3. The moneys to be loaned in each county shall be loaned by the "commissioners for loaning money" in such county, under the act of April 11, 1808; and where there shall be no such commissioners in any county, they may be appointed in the same manner, and shall hold their offices for the same term, and upon the same tenure as if appointed under said

act, and pursuant to the provisions of the revised statutes.

4. The commissioners of each county, before entering upon the duties of their office, under this act, shall take the oath of office as prescribed by the constitution of this State; and file in the office of the Comptroller a like bond as is provided for by the fourth section of the act last aforesaid, in addition to the bond required by that section in cases where that may now be required.

5. The principal moneys to be loaned under this act shall be payable at such time or times, within twelve years from the passage of this act, as the said commissioners mentioned in the eleventh section of this act, shall designate, and the interest thereon at the rate of six per centum per annum, shall be payable on the first Tuesday of May in each year; and the said commissioners for loaning money may retain out of the said interest, one-half of one per cent. for their compensation.

6. The said commissioners for loaning money shall keep separate books and accounts relating to the loan authorized by this act, distinct from their other loan office books and accounts, and in addition to the evidences of title required by said last mentioned act, it shall be the duty of the said commissioners to require of the borrower certificates from the proper officers, showing that there is no incumbrance upon the property proposed to be mortgaged on record in their offices.

7. Whenever any principal moneys loaned by said commissioners shall be paid in to them, it shall not be re-loaned, but shall be paid into the treasury of this State.

§ 8. The moneys to be realized from the stock authorized to be issued under the preceding section of this act, shall belong to the general fund of this State, and the interest upon said stock shall be paid out of the said general fund.

§ 9. Except as herein otherwise provided, all the provisions of the act aforesaid, entitled "An act authorizing a loan of monies to the people of this State," passed April 11, 1808; and also of the act to amend the same, passed March 29, 1809; and also the act passed April 21, 1825, entitled "An act to provide for the conveyance of land sold by a commissioner of loans under the act entitled 'An act authorizing a loan of monies to the citizens of this State,'" passed April 11, 1808; and also of the act, entitled "An act relative to the loans of 1786, 1792, and 1808, passed April 13, 1832," shall apply to the loans to be made under the seventh section of this act, in the same manner as if the moneys loaned constituted a part of the said loan of one thousand eight hundred and eight.

§ 10. Whenever upon the foreclosure and sale of any premises mortgaged to secure any loan made under the seventh section of this act, the said mortgaged premises shall not bring the amount due and to become due upon said mortgage with the costs of foreclosure and sale, the deficiency shall be reported by the commissioners making such sale, to the board of supervisors of the county, who shall at their next annual meeting, cause such deficiency and the interest thereon, to be raised as part of the contingent charges of such county, and paid over to the county treasurer whose duty it shall be to pay the same over to the said commissioners for loaning money.

§ 11. The commissioners of the canal fund, and the bank commissioner appointed by the Governor and Senate, shall be commissioners to carry this act into effect; but it shall not be lawful for them to require any issue of stock, as herein before provided, after the first day of February next.

§ 12. If the supervisors of any county in this State shall refuse or neglect, for three months after the passage of this act, to take said loan on the terms herein mentioned, the said commissioners may, in their discretion, loan the money appropriated to said county to any incorporated bank or banks in said county; and if there is no incorporated bank in said county, then the said commissioners may loan the amount apportioned to said county to any incorporated bank or banks in this State. Said loans mentioned in this section to be made upon the like terms and security as the loans mentioned in the third section.

§ 13. The clerk of the board of supervisors of the several counties in this State is hereby authorized to call a special meeting of the board of supervisors in their respective counties, on the application in writing of any three of the supervisors, giving at least six days notice to each supervisor of the time and place of meeting; and the said supervisors or a majority of them, when so met, shall have power to adjourn from time to time for the purpose of carrying into effect this act.

§ 14. This act shall take effect immediately on the passage thereof.

State of New-York, Secretary's Office.—This bill having been approved and signed by the Governor of the State, on the 19th day of April, 1834, I do hereby certify that the same became a law on that day.
JOHN A. DIX, Secretary.

NEW ORLEANS MARKET—April 15.

COTTON—The following were the sales we heard of yesterday, viz:—600 bales Mississippi at 11½; 300 bales Alabama and Mississippi at 10½; 1300 bales Mississippi and Louisiana at 13½; 40 bales Louisiana and Mississippi at 11½; 17 bales do at 12; and 17 do at 14 cts.

Flour, \$3 12½ a 3 25; **Pork**, mess, \$11; **prime**, \$9; **bulk** pork, 2½ a 3; **Bacon** 4½ and 5½; **Lard**, 5 5½ a 6½; **Whiskey**, 2½ a 2½; **Molasses**, 21 a 22; **Sugar**, 5 a 6½; **Corn**, 67½ per bushel—(Bulletin).

VOL. III. OF THE RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS is published once a week in quarto form, with 16 pages to each number, at \$3; or in semi-monthly form, of 32 pages, stitched in a cover of colored paper, at \$4 per annum, in advance. The first and second volumes of the Journal may be had in two parts to the year, either stitched in covers or bound in boards, at the subscription price, with price of binding, in one part, 50 cents, in two parts \$1 per volume. Those in covers may be sent by mail to any part of the country, the same as a magazine. Published at No. 35 Wall st., New-York, by D. K. MINOR, Editor and Proprietor.

THE MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS is now just commencing its second year. It will be continued in a manner altogether superior to that of the first year. It has drawn forth many valuable correspondents, in different parts of the country, with the assistance of whom, and those who may hereafter contribute to its columns, together with the ability of Mr. JOHN KNIGHT, formerly, and for several years, proprietor and publisher of the LONDON MECHANICS' MAGAZINE, who is engaged as Editor, the proprietor has no hesitation in saying that it will be found worthy of an extended circulation and a liberal support. The first year, or two first volumes, having been stereotyped, may now be had either in numbers, or bound in boards—either at wholesale or retail. Price \$1 50 per vol. in numbers, or \$1 75 in boards, or \$3 per annum. A liberal discount made in the trade. Published by the proprietor, D. K. MINOR, at No. 35 Wall st. N. Y.

THE NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE, has commenced the second volume of a new series. It is published once a month, in quarto form of 32 pages to each monthly number, at \$3 per annum in advance. The last volume may be had either stitched in a cover, so as to be sent by mail, or in boards. Price, stitched, \$3 25; in boards, \$3 50. Each subscriber who pays in advance, or previous to the first of April, free of postage or commission, will be entitled to eight additional pages to each monthly number, or 96 extra pages to the volume. Published at No. 35 Wall street, N. Y.
D. K. MINOR, Proprietor.
Jan. 22, 1834.

A QUARTERLY JOURNAL OF AGRICULTURE AND MECHANICS will hereafter be published at the same office. Each quarterly number will contain about 300 large octavo pages, embracing the most choice articles from the best agricultural and mechanical publications both in America and Europe. It will form 2 volumes to the year, of about 640 pages each, and will be put up like other quarterly publications, so as to be sent by mail. Price, \$5 per annum, in advance.

N. B. A small edition only will be published. Also, the PLOUGH-BOY, a cheap agricultural publication, of eight quarto pages, is issued once a week, at \$1 50 per annum, in advance. It contains much interesting reading upon agriculture, &c.

Also, the NEW-YORK AMERICAN, daily, tri-weekly, and semi-weekly.

✂ All Letters and Communications for the above publications, may be addressed, free of postage, to
D. K. MINOR.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

At the Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 4 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent), are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having counter-sunk heads suitable to the holes in iron rails, to any quantity and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory, for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

✂ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

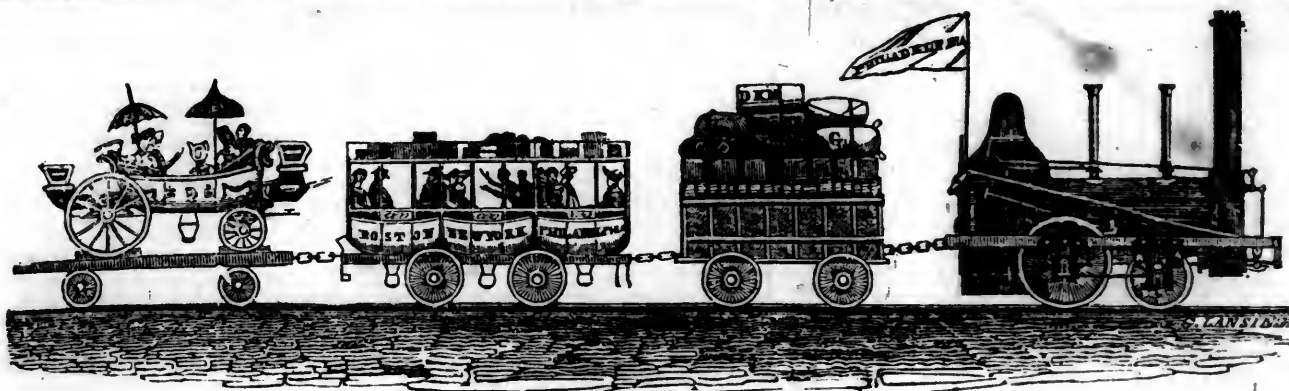
HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

✂ Spikes are kept for sale, at factory prices, by J. & J. Cowenend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.
J28 lam

H. BURDEN.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, MAY 10, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 10, 1834.

SURVEY OF THE NEW-YORK AND ERIE RAILROAD ROUTE.—We are gratified to announce that the Bill which we formerly noticed as being before the Legislature of this State, directing a complete survey at the public expense of the proposed Railway from this city to Lake Erie, through the southern tier of counties, has become a law.

This is a measure of great public importance, and of peculiar interest to this city and to the southern tier of counties: and we design to give it a more extended notice in a subsequent number.

SLOOP CANAL.—Our friends in Oswego are looking forward to a more ready communication between the Atlantic and our great inland seas. We publish to-day the report of a committee upon the project of a Sloop Canal from Lake Ontario to the Hudson.

A Railroad is in contemplation, and will, no doubt, soon be commenced, from Columbus to Augusta. This will so connect the latter place with Charleston, that the communication between Charleston and Columbus will be made in 26 hours—allowing 12 from Charleston to Augusta, and 14 from Augusta to Columbus. From Columbus to Pensacola, 20 hours is a liberal allowance of time. From Pensacola to some suitable point on Mobile Bay, the mail could be carried in 7 hours over land in stages, and thence to New-Orleans, a distance of 160

or 170 miles, in steamboats, it could be carried in 16 hours, making in all *two days and twenty-one hours* from Charleston to New-Orleans. To this add the time required by the steam-packets running between Charleston and New-York, (72 hours,) and the result shows that, with the aid of our Railroad, and that from Augusta to Columbus, to connect with the railroad already completed from Charleston to Augusta, the communication between New-York and New-Orleans would be made in *five days and twenty-one hours*.

To these facts, which ought to be impressed upon every mind, it is proper to add, that there is perhaps no country equal in extent in the Union, over which a railroad could be constructed at so small an expense as over the route from this place to Columbus. It is a level ridge throughout the whole distance, and the choicest timber for the construction of such a work is growing in the greatest abundance upon the very ground which the railroad would occupy.—[Pensacola Gazette.]

DELAWARE AND RARITAN CANAL.—On the 28th, two boats, loaded with coal, from Mauch Chunk, arrived at the Easter Basin in Trenton, via the Delaware Canal, Penn. They came up the river from Bristol, and entered our canal at Bordentown.

These are the first arrivals at Trenton from Mauch Chunk, by the canal. The feeder, we understand, is navigable to Lambertville for boats. The main Canal is also navigable for boats from Bordentown to Kingston; several with lumber have passed from Trenton to Princeton or Kingston this week, and a number have come down the feeder loaded with stone for the new Penitentiary.—[Trenton State Gazette.]

WISCONSIN PORTAGE CANAL.—By the following act of the Legislative Council of Michigan, it will be seen that a regular water communication is to be opened between Fox and Wisconsin rivers, or between Green Bay and the Mississippi at Prairie du Chien :

AN ACT TO INCORPORATE THE PORTAGE CANAL COMPANY.

SECTION I. *Be it enacted by the Legislative Council of the Territory of Michigan,* That such persons as may hereafter become stockholders therein, shall be, and they are hereby declared to be, a body corporate and politic, under the name and style of "the Portage Canal Company," and as such corporation they are hereby declared capable of suing and being sued, answering and being answered unto, impleading and being

impleaded, defending and being defended, in all courts and places whatsoever, and in all manner of actions, suits, complaints, matters, and causes whatsoever: And the said company shall have continued succession for the term of twenty-five years, and may have a common seal, and change the same at pleasure, and shall be in law capable of purchasing, holding, and conveying any estate, real or personal, for the use of said corporation.

SEC. II. The capital stock of said company shall be fifty thousand dollars, to consist of one thousand shares of fifty dollars each; and books to receive subscriptions towards constituting said stock may be opened by each of the following persons: Daniel Whitney, Charles R. Brush, Daniel Jackson, John P. Arndt, Henry G. Souard, Nathan Godell, and John Larre, who are hereby appointed the first directors, and are authorized to elect their president from their own number, and to conduct every operation of said company until the first Monday in September next; and the subscriptions aforesaid shall continue open until the whole number of shares are subscribed; and if the subscriptions to the said capital stock shall on the first Monday in September next exceed the amount authorized by this section, it shall be the duty of the directors to meet and apportion the said stock among the subscribers thereto, in such manner that no person may have less than five shares if he subscribe for so many.

SEC. III. Five dollars on each share shall be paid at the time of subscribing to the said directors, and the balance in such instalments and at such times as the directors for the time being may require: Provided, that no instalment shall exceed ten dollars on each share; and previous notice shall be given whenever the payment of any instalment is required, by advertisement in a newspaper, printed three successive weeks, in the Territory or State in which the said canal is situated. The shares of the capital stock shall be deemed personal estate, and transferable in such manner as shall be prescribed in the by-laws of said company.

SEC. IV. The said directors may commence and continue the operations of said company, as soon as they may think the stock subscribed sufficient therefor.

SEC. V. Whenever any stockholder shall fail to comply with any call or demand for the payment of any instalment, he or she shall forfeit his or her shares, and any previous payments made thereon; and it shall be lawful for the said company to make division of the surplus capital and net profits which shall accrue thereon from time to time, in such manner as the directors shall see fit, or to employ the same in the purchase of any stock of any company incorporated by the laws of the Territory, or in any other manner to dispose and use the same for the benefit of the stockholders therein: Provided, that nothing herein contained shall confer upon said company banking privileges.

SEC. VI. The said company shall within five years after the passage of this act construct and complete a canal to connect the waters of the Fox and Wisconsin rivers, at or near the place known as the "Wisconsin Portage," in the counties of Brown and Iowa, of sufficient depth and width to admit the passage of such craft as are usually employed in the carrying trade on the said rivers, and properly secured at the extremities by guard-locks, or such other means as may be requisite to prevent the flowing, by means of said canal, of either of said streams into the other: Provided, that nothing in this act contained shall be so construed as to give to said company any privilege which might tend to impair the facilities which at present exist for the passage of boats and property on the said portage, but the same shall remain in as simple a manner as if this act had not passed.

SEC. VII. The election of directors shall take place annually the first Monday in September, and public notice thereof shall be posted up in three public places, or published in a paper printed in the county of Brown, for three weeks previous to the time of holding any such election. At the time and place appointed in said notice, the stockholders present, either in person or by proxy, shall proceed to elect by ballot seven directors, who shall hold their offices for one year, and until others are elected in their places, and are qualified. The said directors shall immediately on their election, or within ten days thereafter, take an oath, or affirmation, for the faithful discharge of their duties, and shall, by a majority of vote, select one of their number to be president; and the said president and directors may meet from time to time, at such places as they may find expedient, and shall have power to conduct by a majority all the concerns of said company, to make such by-laws, rules, and regulations, not repugnant to the laws of the United States, or of this Territory, as they shall deem necessary for the well ordering of the affairs of the said corporation, and in case of vacancy by death, or resignation, or otherwise, in the office of director, the other directors in office may supply such vacancy by a majority of votes until the next annual election. The president and directors may appoint a president *pro tem.*, to preside at said meetings, and to do all other acts that the said president might or could do.

SEC. VIII. In case any election shall not be held at the time when the same ought to have been held, the directors in office shall appoint another day for holding the same, giving the like notice required of any annual election: Provided, the said directors in

office shall be incapable of transacting any other business except in regard to said election after the annual election day.

SEC. IX. Five directors shall be a quorum to transact the business of said company, and any acts of the majority so met shall be binding upon the company; and the said directors shall have power to appoint and remove at pleasure such sub-officers, agents, clerks, artists, and workmen, as shall be necessary for executing the business of said company.

SEC. X. The company shall have power to erect piers, wharves, warehouses, and other necessary buildings and improvements, in and about said canal for commercial purposes.

SEC. XI. Said company shall be compelled at all times to allow the passage of any boat or water craft through said canal, upon the demand of any person, on payment of such toll or duty as the directors of said company may prescribe: Provided, that the toll to be exacted for the passage thereof shall never exceed five cents per hundred for any property which may be transported thereon, or forty cents per ton burthen for any boat or other craft which shall be admitted through said canal: Provided further, that the tonnage of no boat or other craft, which shall be admitted through said canal, shall be estimated at less than three tons burthen; and said directors are hereby authorized so to estimate all boats or water craft of less than three tons burthen, and to charge toll accordingly; but if more than one boat of less than three tons burthen shall be ready to pass said lock at the same time, they shall be received until the lock is full, and no more toll than for three tons burthen shall be charged upon the whole, unless their tonnage shall actually exceed three tons.

SEC. XII. The privileges granted by this act shall be vested in said company for the term of twenty-five years: Provided, that the said canal shall be completed on or before the ninth day of March, which will be in the year eighteen hundred and thirty-nine.

SEC. XIII. Said company may purchase any land, or lands, of the owners thereof, through which said canal may pass, but no part of this act shall be so construed to give any right to said company to occupy the land of any individual or individuals without first obtaining their consent.

SEC. XIV. The property of every individual vested in the said corporate funds shall be liable to be taken in execution for the payment of his or her just debts, in such manner as is or may be prescribed by law: Provided, that all debts due to said company shall be first paid and discharged.

Approved March 7, 1834.

Territory of Michigan, ss.

This shall certify to all whom it may concern, that the foregoing is a true copy of the original act, entitled "An Act to incorporate the Portage Canal Company," now on file in the Office of the Secretary of Michigan Territory.

L. S.

In testimony whereof I have hereunto set my hand and affixed the Seal of the Territory, this 10th day of March, A. D. 1834.

STEVENS T. MASON,
Secretary of the Territory.

LEGISLATURE OF NEW YORK.

In Assembly, April 14, 1834.

Report of the Select Committee on the Petition of Inhabitants of the County of Oswego.

Mr. O. Robinson, from the select committee to whom was referred the petition of sundry inhabitants of the county of Oswego, praying for the passage of an act directing the exploration and survey of an improved navigation from Lake Ontario to the Hudson river, adapted to the tonnage of vessels navigating those waters, and proportioned to the capacity of the supply of water from the lakes, rivers, and streams which may be made tributary thereto, and for a plan and estimate of the cost of the same; and for a survey, plan, and estimate of an improved navigation of the same capacity of the Seneca river, to its communication with the Seneca and Cayuga lakes, and for a report thereof to the next Legislature,

REPORTED:

That the subject referred to the committee, in whatever light it may be viewed, may justly be considered of the first importance, both to the enterprise and interest of the State of New-York. The citizens of this State have witnessed with high satisfaction the commencement, completion, and successful operation of the Erie canal, which has more than answered the expectations of its ardent and patriotic projectors. The value of property has been multiplied many fold; the arm of industry has converted the almost interminable regions of the forest in the western part of the State into fertile fields, enriching alike the hardy cultivator and the great commercial emporium of the State; cities and villages have arisen as if by enchantment, where, but for the Erie canal, would now have been a wilderness. Great and important have been the results of these works of internal improvement, not only to this State, but to a portion of the territory bordering upon the basin of the great western lakes. Let it not be supposed that the resources of western New-York are exhausted, or that she has arrived at that point in commercial and agricultural enterprise beyond which she cannot and will not pass. The spirited and enterprising citizens of that section of the State are now calling the attention of the Legislature to the construction of a canal from Rochester, up the valley of the Genesee, to Olean on the Allegany, the distance of 96 miles. Another project of equal importance is now in contemplation to unite the fertile regions of the north with the valley of the Mohawk, by means of a canal from Rome to the high falls of the Black river. Complete the Chenango canal and the improvements already commenced, double the locks upon the Erie canal east of Syracuse, construct those canals in contemplation, and your committee confidently predict, that in ten years the Erie canal will not be adequate to the business of our own State, and the products of the west will be forced to find an outlet to the Atlantic through some other channel.

Three great objects were primarily contemplated in constructing the Erie canal: First, to furnish the citizens of this State with an easy and cheap conveyance of their surplus produce to market; second, to secure and preserve the trade of the west; third, revenue.

The first of these objects has been attained, and the attention of your committee has been principally directed to a consideration of the second. That to secure and preserve the trade of the west is an object worthy the continued exertions and resources of the "empire State," cannot and will not be denied; that it is so secured may well be doubted. The importance of the western trade will be seen by a view of the vast extent of country bordering upon and surrounding the western lakes, a region of country more fertile and productive than the sun in his course through heaven does not shine upon. If we glance an eye over the immense regions connected by the western lakes

and their tributary streams, if we regard the fertility of soil, the multiplicity of product, which characterize those regions, and if we combine these advantages afforded by nature with the moral energy of the free and active people who are spreading their increasing millions over its surface, what a vista through the darkness of time opens upon us! We see arts, science, industry and social happiness already increasing in those countries, beyond what the most inflated fancy would have dared to hope, thirty or forty years ago.

As yet the commercial and agricultural resources of the west are not developed. These twin sisters of the wealth of nations are yet in their infancy. Owing to the rapid increase of population in Ohio, and the wild and uncultivated state of a portion of her territory, the surplus productions of her farmers have until recently been consumed within her own territory. Michigan and Illinois, comparatively speaking, have furnished nothing for transportation; but when their exhaustless soil shall be cultivated and improved by the hardy and industrious yeomanry of the north and east, who are emigrating thither to a degree unprecedented in the annals of our country, their rich productions will be put afloat and will find a market upon the shores of the Atlantic, through such channel as presents safety, cheapness and speed, and to the most advantageous market. The citizens of the west have witnessed the commencement, progress, completion and effect of the splendid system of internal improvements in this State, and are nobly imitating the example with an enterprize and zeal worthy their character. Already are the head waters of the Mississippi connected at different places with the great chain of western lakes, by means of canals and railroads. The channels of communication now opened, and which will hereafter be opened between the lakes and the interior, will be thronged with vehicles of transportation, conveying the rich fruits of the labors of millions of free and happy people to flourishing cities and villages upon the shores of the lakes, whose population, wealth, and enterprize, will be equalled only by those upon the shores of the Atlantic.

The surplus productions of this extensive region will find their way to the Atlantic. Natural communications possess facilities and advantages which artificial never will and never can. Lake and river navigation is being understood. Steam power has changed every thing. Twenty-three by-gone years have witnessed improvements in commercial facilities in our own State which have claimed the admiration and imitation of the world.

The lethargy under which the people of Canada have slumbered for the last century has been thrown off, and they are now fully awake to the importance of internal improvements. They are beginning to appreciate the natural water communications with which nature has so bountifully supplied them. They have entered the lists and are nobly contending for a participation in, if not a monopoly of, the rich dowry of the western trade. Their enterprize has caused a communication to be opened around the Falls of Niagara, a distance of forty-one miles, by which vessels carrying 1,000 barrels of flour can go through without being lightened, at an expense of one cent per barrel, exclusive of tolls. The amount of business done upon this canal will be seen by reference to the fact, that 5,000 barrels of salt passed through during the last season, and had the requisite repairs been made, so as to have opened the canal with the commencement of lake navigation, the revenue would have amounted to more than 50,000 dollars.

The evil which the Canal Commissioners feared in 1812 now really exists. The produce designed for transportation upon the Upper Lakes is now let down to Lake Ontario by means of this canal with facility, and for a trifling expense. The prediction of the Canal

Commissioners, "that articles for exportation, when once afloat on Lake Ontario, would, generally speaking, go to Montreal, unless our British neighbors were blind to their own interests," is now fully verified. By a reference to the parliamentary proceedings of the Canadas during the last winter, it will appear obvious that they are not thus blind; that, on the contrary, they duly appreciate the importance of this trade, and that the greatest industry, activity, and talent, are employed in the attainment of further improvements on the most magnificent scale. Appropriations have already been made for the improvement of the St. Lawrence, by which it is intended to connect the Atlantic with the lakes by ship and steamboat navigation. Let them make the Welland canal and the St. Lawrence navigable, as they purpose to do, and which they will do, for steamboats, and Cleveland will be within a sixty hours' ride of Montreal. When these improvements are completed, vessels of 300 tons can load at Chicago, at Cleveland, at Detroit, at Oswego, and other ports on the lakes, and deliver their cargoes at foreign ports. When direct exportation has once succeeded, direct importation will follow as a matter of course. When the Welland canal shall be completed, and the St. Lawrence improved, as designed, goods may be delivered at Cleveland from London for less than one-half what it now costs by the way of New-York and the Erie canal. Make the Erie canal a public highway, and the Canadian route will be preferable by one-quarter in point of expense. The vast superiority in the great point of economy in transportation, effected upon natural water communication, admitting of navigation by large vessels or steamboats, above transportation upon canals and railroads, has been satisfactorily proved by experience on the Hudson, the lakes, and the great rivers of the west. Even at the present reduced rates of toll upon the Erie canal, river transportation has the advantage by more than 300 per cent. The charge upon the transportation of wheat, per bushel, from Troy to New-York, is three cents, while the same transportation for a like distance upon the canal cannot be effected for less than ten cents.

The importance of the western trade has aroused a spirit of enterprize and competition in sister States. To participate in this trade, rival canals and railroads have been constructed in Pennsylvania, Maryland and Virginia, and it cannot be denied that these are already diverting a part of that trade from its natural current towards the lakes and the Erie canal, and will no doubt continue to produce such diversion in a ratio regularly augmented in their progress to completion. It cannot be questioned that a great portion of the produce and merchandize going to and coming from the fertile countries at some distance south of the great chain of the lakes, and east and north of the tributary streams of the Mississippi, must find their way into Virginia, Maryland and Pennsylvania. To prevent this diversion, the tolls upon the Erie and Ohio canals have been very judiciously reduced during the present winter.

The State of Pennsylvania has already declared, through one of her Senators in Congress, (Mr. Wilkins,) during its present session, her determination "still to go on in the advancement of her great system of internal improvements. She would not stop short in her great works. No combination would have the power to arrest her progress, until she should have accomplished her ultimate object, of depriving the empire State of New-York of all the carrying trade of the west. To this great point Pennsylvania was rapidly advancing, and under the wise administration of her State Government, she would not stop short of its accomplishment. She was engaged in an honorable rivalry with the empire State of New-York for the rich dowry of the western trade, and she would not stop until she should

have obtained the treasure." These works, then, which have cost Pennsylvania such enormous amounts, will be sustained, should they pay nothing but the annual repairs required to keep them in order. But Pennsylvania has obstacles to surmount of no ordinary character, before she will witness the consummation of the objects declared by the honorable Senator. Nature has interposed an insurmountable barrier to the construction of canals from the navigable waters leading to her commercial emporium and the Ohio. That Pennsylvania does possess advantages over New-York cannot be concealed or denied. Their canal and railroads were in successful operation for the present season before the 20th of March last, while our canals must remain closed by the frigid laws of nature, on an average of seasons, until the middle of April. Goods were delivered at Pittsburgh on the 26th of March, in eleven days from Philadelphia, and before our canals are opened, will be delivered at the Sault St. Marie or Chicago. It is said too, that the Pennsylvania route possesses a decided advantage, in point of time and expense; that merchandize can be delivered in fourteen days at Cincinnati from Philadelphia, while from New-York, by the Erie and Ohio canals, it will require from twenty to twenty-five days, and frequently much longer; and that the expense of transportation from Philadelphia to Cincinnati, during the present season, will be \$1.80 per hundred, while from New-York to Portsmouth on the Ohio \$2.06.

That the trade of the west is of vast importance, and is becoming yearly more and more important to the commercial interests of this State, cannot admit of doubt; and that there is danger of its being diverted, or a portion of it at least, through other channels than the Erie canal, to the Atlantic, your committee think is equally apparent.

In the spirit of enterprize and rivalry with which our southern and northern neighbors are actuated, your committee see no cause for serious apprehension, jealousy, or alarm, because they believe it is within the power of this State to secure the trade of the west beyond the reach of competition or rivalry.

The remedy and only remedy which can be applied to secure to ourselves and posterity this rich inheritance of national wealth, is by opening a communication between the Hudson and lakes Ontario, Seneca, Cayuga and Onondaga, of sufficient magnitude to admit the passage of the smaller class of steamboats, and of the ordinary vessels which navigate those waters. The advantage to be derived from such a communication must be apparent to all. It will combine safety, cheapness and expedition, the three great considerations in commercial enterprize, and save the loss and expense attendant upon numerous transshipments.

That such a communication is entirely practicable, your committee entertain no doubt. Whether the object can be better accomplished by improving the Mohawk river, Fishcreek, and from thence into Onondaga lake and down the outlet to Three River point, and thence down the Oswego river to Lake Ontario; or by enlarging the Erie canal and the Onondaga lake side cut, and thence to Lake Ontario by the Onondaga lake and river, and the Oswego river, your committee are unable to form an opinion, not possessing the requisite information. Upon the practicability and necessity of carrying this project into execution, your committee have been referred to a communication from Benjamin Wright, Esq., late chief engineer of the New-York canals, addressed to Joseph Bloomfield, Esq., which is hereto attached, and to which they beg leave to refer, as a paper containing much valuable information.

As to the expense of opening such communication, your committee possess no correct information upon which to base an opinion.

Comparing, however, the estimates of Judge Wright in relation to the St. Lawrence canal, and estimates which have been made as to the expense of opening all the proposed channels of communication from Utica to Oneida lake, and from thence to Ontario, Onondaga, Cayuga and Seneca lakes, (which latter is estimated at less than \$900,000,) the cost will, when contrasted with the important results, be but trifling.

The amount of revenue to be derived from transportation is difficult to be imagined, and much more difficult to be ascertained. Judging, however, of the future from the past and the present, we may safely come to the conclusion, that ten years will not elapse, after the completion of the proposed project, before we witness the same busy scenes upon its waters that we do now upon the Erie canal. Calculation, like our advance in numbers, outruns fancy. "Things which twenty years ago a man would have been laughed at for believing, we now see. At that time, the most ardent mind, proceeding on established facts by the unerring rules of arithmetic, was obliged to drop the pen at results which imagination could not embrace."

The Erie canal is but a carrying place between the Hudson and the great lakes. It bears about the same proportion to the amount of business which is done between those waters now, as the Great Western turnpike did twenty years since. Proportionably to the wants of the country it affords about the same facilities.

Your committee here adopt with satisfaction, and in their opinion with particular propriety, the language of the Canal Commissioners, in their report before referred to. "The life of an individual is short. The time is not distant when those who make this report will have passed away. But no term is fixed to the existence of a State, and the first wish of a patriot's heart is, that his own may be immortal. But whatever limit may have been assigned to New-York by those eternal decrees which established the heavens and the earth, it is hardly to be expected that she will be blotted from the lists of political societies before the effects here stated shall have been sensibly felt. And even when, by the flow of that perpetual stream which bears all human institutions away, our constitution shall be dissolved and our laws be lost, still the descendants of our children's children shall remain. The same mountains will stand, the same rivers run, new moral combinations will be formed on the old physical foundations, and the extended line of remote posterity, after a lapse of two thousand years, and the ravage of repeated revolutions, when the record of history shall have been obliterated, and the tongue of tradition, the shadowy remembrance of ancient events into childish tales of miracle, this national work shall remain. It shall bear testimony to the genius, the learning, the industry and intelligence, of the present age."

It is unnecessary for your committee to dwell on the advantages which the commerce of the State must derive from opening a scene so vast to its incessant activity, and to the influence which must result from holding beyond the reach of rivalry and competition, a key to the commerce of our western world. They are known and will be duly appreciated by the intelligent people of this State.

Deeply impressed with the importance of the subject, your committee are of opinion that speedy measures ought to be adopted to carry into effect the prayer of the petitioners. In pursuance of these views and opinions, your committee have prepared a bill, which they now ask leave to introduce.

DOCUMENT.

Letter from Benjamin Wright, Esq.

New-York, April 1, 1834.

Dear Sir,—Your favor of 29th ult. is before me, and I will endeavor to give you all the in-

formation in my power touching the subject of your letter. The project which the Canadians have in hand to make a steamboat canal of 10 feet water, to pass all the rapids between Montreal and Ogdensburg, or Lake Ontario, is one which has a very important bearing, in its consequences, upon the people of the State of New-York, and the Erie canal tolls. It is certain to my mind, that with such a canal as I have projected along the St. Lawrence, and the Welland canal, in good order, that all the products of the soil, from all the Upper Lakes, can be carried to tide water *a great deal cheaper by this route than they can ever be done by the Erie canal*, or any other work.

The plan of the improvements as projected along the St. Lawrence, is to make short canals and locks around the rapids, leaving the steamboat to navigate the river and lakes in all the intermediate spaces. The whole length of all these canals, (although in seven or eight different pieces,) does not exceed 31 miles and about 175 feet of lockage. This can be executed for about three millions dollars, and completed in three years from the time it is commenced, if they choose to do so.

That the Welland canal can and will be put in good order, there is no doubt, as it appears by the measures adopted at the late session of their parliament, that they intend to make it a government work, and will no doubt do so next winter.

The question now arises, what shall be done by the state of New-York to retain the trade of the Upper Lakes to her great commercial port, under all these views of the matter? I see no better plan than your memorial, adopted by the people of Utica, suggests, viz.: by a large canal to the Oneida lake, or rather to a certain point on Fish creek, where 8 feet water can be at all times carried to the lake; thence through the lake, and down the outlet to Three Rivers, and then down the Oswego river. And I see by your letter, that your views extend to branching off up the Seneca river, to Cayuga lake: this would be a very good addition to the whole project.

You ask me to give my views of the expense of such a work from Utica to the Oneida lake, upon the plan you propose, of 60 feet canal width and 8 feet depth, with locks the size of the Welland canal, which is 110 feet by 22 in the chamber.

As I know the country well, from having surveyed it, I see no point of extra expense in the canal, except in passing the Rome summit, and the plan of getting over Oriskany creek, Sedaque; these latter, I do not think, would present any very formidable obstacles to good engineers; but I have not sufficiently digested a plan of the project that would enable me to even approximate the expense. I know that you must look for water either from Fish creek, to the Rome summit, or from Black river. The former would not be expensive, as I know, and have surveyed, a route where it may be brought easy and cheap.

This project would, if executed, enable vessels of 130 to 140* tons, to navigate on the large rivers and lakes with sails, and on the canals be towed by horses, or it would permit steamboats of certain construction, with wheel in stern, to pass through—such boats, from a model I have seen, would carry 100 tons of goods or produce.

The expense of such a project can only be known by a regular survey, and such survey ought to be made by an engineer who knows the formation of the whole country and can adapt his plan to a good and cheap work, and overcome the various difficulties best.

I have not said any thing about the competition which is to be looked for from Pennsylvania, if she goes on to form a connection between her canal at Pittsburgh with the Ohio canal at Akron. This latter place is about 40 miles

* Vessels of this tonnage measurement will carry 250 tons dead weight.—J. E. B.

from Cleveland, on Lake Erie, and we see already that Pennsylvania has been this year navigating her canals since about the 10th of March. The truth is, and we ought not to disguise it, that Pennsylvania can navigate three or four weeks earlier than we can, and even Canada can open her Welland canal nearly one month earlier than we can our Erie canal, and the St. Lawrence canal can be navigated earlier than our canals if they pay a little attention to management to clear the ice. That the project of making a canal of the size I have named from Utica to Oneida lake is *feasible at an expense not alarming, is certainly true*; indeed, with the exception of the difficulties at the summit and east of it, all the country is as favorable *as you can wish or desire*. That such canal will be able to transport much cheaper than the present canal, taking into consideration that such a large portion of distance between Oswego and Utica is natural waters, there can be no doubt; and that the time will soon arrive when we must expect competitors for that lake trade, is also certain; and in the race for this important object, it is of vital importance that we should have early and sound information on every point relating to this matter, so as to act promptly and definitively when we do act, cannot be doubted.

If such a project was well executed so far as from Oswego to Utica, there is no doubt its advantages would be such as to show the propriety of conveying it on to some proper point of the Hudson, and then we should see whether we cannot compete successfully with any of our neighbors, north or south of us. The prize contending for is a grand one, and well worthy of the exertions of the state of New-York.

Permit me to make one remark before I close as to the Oneida river, below Oneida lake. I have understood that some surveys have been made to estimate the expense of overcoming the three rapids in the 18 miles of this river between Oneida lake and Three River point. Let me say that great care is necessary, to prevent injury to the country, by dams, across this river, which I have heard is the plan proposed. There is a great extent of flat country along this river, and no dams ought to be made on any account. From a perfect knowledge of this river, and the country along it, I am decidedly of opinion that the improvements ought to be by short canals and locks. One at the outlet of the lake would be about one mile, one at Cockederooy 3 mile, and one at Oak Orchard, say one mile, all the other parts of the river are, or may easily be made, 8 feet water, and this would do no injury to the country.

I have suggested the above from my wish to see every improvement of this kind, when attempted, done right, and I know too well the evils to a country to have a pernicious plan of such works adopted.

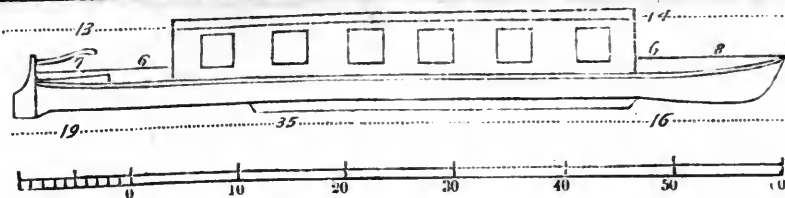
I am not perfectly satisfied with the size of the locks and canal as you proposed, I should prefer locks 24 and 26 feet wide and a canal not less than 75 to 80 feet on the surface. However, this is a future consideration, and when orders are given for the survey, the estimate can be made on as many different plans as shall be thought advisable.

With great respect and esteem, I am, dear sir, your obedient serv't,

BENJ. WRIGHT.

JOSEPH E. BLOOMFIELD, Esq.

THE RAILROAD.—We learn with pleasure that the Tusculum, Courtland and Decatur Railroad Company has agreed that their road may form a link in the grand chain of internal improvement, by which it is contemplated to unite the Atlantic Ocean with the Mississippi river, at some convenient point above New-Orleans.



The Paisley Canal Passage-Boats. By JAMES WHITELAW. [From the London Mechanics' Magazine.]

Sir,—As your correspondents have been requested to forward to you information respecting the light gig-shaped boats lately introduced upon canals, I send you the following account of the Paisley canal passage-boats, from which account I think it will be seen that the skiffing, for rising to the surface of the water principle, so much insisted on by Mr. Macneill, has little to do with their quick rate of sailing.

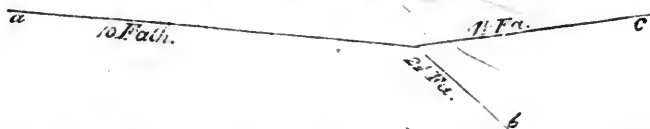
Description of one of the Boats.—The length is 70 feet, width 6 feet, and 1 foot 10 inches is the depth. With ninety passengers, which is as many as a boat can conveniently take, the draught of water is 19½ inches; when all the passengers are out the draught is only 5½ inches. The rudder is 2 feet long and 20 inches deep, and its bottom is in a line with the under side of the keel. The weight of the iron work is 17 cwt.; and the weight when the boat is finished is 33 cwt. The prefixed figure is a side view of one of the boats. The windows in front light the cabin, and those behind are for the steerage. The part at the bow marked 8 feet, is a deck for the passengers, and the part marked 6 feet, has seats round it. The 6 feet towards the stern is for the same purpose as the 6 feet in front, and the 7 feet is a deck on which the steersman stands; under each deck is a place for any light luggage. The keel is 35 feet long, the part in front (under the boat) marked 16 feet, and that behind, marked 19 feet, have no keel; this allows the boat to turn quicker. A line stretched from the highest point in the bow to the highest point in the stern, would rise about 6 inches above the lowest part of the gunnel. The depth of the keel is 5 inches; and this depth did not form part of

the measures given above, of the draught of water, and the depth of the boat. The plates are of 16th wire-gauge. The ribs are made of light gunnel-iron; and a rim of the same goes round the inside of the top edge of the boat, on which the wooden gunnel is fixed by means of square-headed screws. There are light ribs of wood laid inside of the boat, on which the flooring is nailed, and a broad stripe of wood runs between the seats and the windows, so high that the passengers may rest their backs upon it. The cotton oiled cloth, which covers the cabin and steerage, requires three very thin coats of boiled oil to make it water-tight, and it should be dried in the sun if possible: very light curved ribs, set about two feet apart, support the cloth overhead, and it is fixed to the frames of the windows, &c., at the sides of the boat. A boat of this kind can be finished in a most comfortable style for £130. The cost of the iron-work is £70, and £60 will pay the joiner and other work of the boat.

The hooks (there is one on each side), on which the towing-line is fixed, are fastened to the gunnel of the boat at about 15 feet from the bow; the rope is put on one of these, when the boat is not very much loaded; but when there are a great many passengers, the rope is fixed about 3 feet 6 inches nearer the bow; this helps the boat round the turns on the canal. The shape of the hook is as represented in the following sketch, to prevent the rope, any time it slacks, from falling off.



As the Paisley canal is a very winding one, the longest towing-line that can be used on it is as follows:



a, is the end connected to the boat; b, is fixed to the one horse, and c, to the other. If the rope were longer than this, it would draw the boat against the side, at a quick bend on the canal. The horse in front has blinders on it, and a boy rides on the one behind. The harness must be as light as possible. If the horses are run 12 miles a day, they keep in excellent order, but 16 miles per day is too much for them. The horses are changed every 4 miles. Half blood horses, or a breed between half blood and full blood, answer best.

The canal is 30 feet wide, except at the bridges, where it is only 11 feet, and there are two or three more contracted places on it, of considerable length. The average depth of the canal is 4 feet 6 inches. The sides of the canal are lined by a perpendicular wall, built of small stones, which goes 10 or 11 inches below the surface of the water, and as much above it. The distance from Glasgow to Paisley is 7½ miles by the canal, and the distance from Glasgow to Johnstone is more than 11 miles. The boats run the distance between Glasgow and Paisley in 50 minutes, and take in and put out a good many passengers at different places on the way; and the distance from Paisley to Johnstone is run over in a time proportionably short. The cabin fare is 9d., and the steerage fare is 6d., from Glasgow to Paisley. When passengers go from Glasgow to Johnstone, they

are charged 1s. in the cabin, and 9d. in the steerage.

The best speed for the Paisley canal boats is greater than 9 miles an hour; and this velocity occasions a very little and gradual swell, not more than 7 inches high on the canal; there is no wave whatever at or before the bow of the boat, and the water is lower than the surface of the canal just behind the bow; it then begins to rise, and the wave reaches its maximum elevation at about two-thirds of the length of the boat from its bow; at the stern the elevation of the wave is nothing, and any ripple that follows the boat is occasioned by the action of the rudder to turn the boat. At the best velocity the horses have not a heavy pull; but when the boat is drawn so slow as 6 or 7 miles an hour, the strain on the towing-line is very great, and waves rise in front of the boat more than 18 inches high, and wash over the banks of the canal. On account of the boat's being so light, it may be brought from its maximum speed to a state of rest without raising a wave in front; and for the same reason it may be brought from a state of rest to its greatest speed before a very high wave has time to rise. At the bridges the wave at the side of the boat is rather more than 9 inches high when the boat is going at its best velocity; and when two of the boats pass each other at a quick rate, the wave is not worse than this. When two boats

pass, the horses of one of them stop just before they come opposite the horses of the other boat, and a boatman takes the tow-line off its hook and holds it, in case it should come in contact with the bottom of the other boat, which is passing it at its full speed. As far as I know, no accident has happened since these boats have been put upon the canal, and the trade has increased very much.

When the speed of the boat is low, the waves rise and get a great way ahead of it; if the velocity is increased to a certain extent, the boat keeps up to the wave; and if it sail quicker still, the bow gets before the swell, which decreases in height as the velocity of the boat increases—in the highest velocities, at least, that I have seen the boat brought up to. From this it would appear that the wave has a determinate velocity, like the undulations that cause sound—at any rate, it has a maximum velocity: and if the whole cause of the formation of the wave continues when the boat goes quicker than its motion, the wave will fall behind. Now there is a vacuum formed towards the stern of every vessel when it is sailing; this, together with the height at which the wave stands above the level of the canal, and the motion of the wave in the direction of the boat, will cause it (the wave) to fall in towards the stern of the vessel, and act on its inclined sides, giving back a great part of the power spent in its formation, if the vessel is properly formed. The water sent towards the sides of the canal by the inclination of the bow, will be reflected from the perpendicular facing on the banks, and act in the same way. The lateral communication of motion among particles going in different directions, may have a tendency to keep down the swell. If this explanation is correct, the boats must have their dimensions and form corresponding to the width of the canal, and the velocity they are to sail at.

As the boat rises on the wave, its bow is up or down, according as the wave is fore or aft.

I am, Sir, yours, &c.

JAMES WHITELAW.

CANAL TOLLS.—Since the opening of the canals, the amount of tolls paid to the collector at Albany has averaged about fifteen hundred dollars per day, up to and including the 24th instant, and the receipts have been gradually increasing from day to day. On the 25th, the amount received was \$2,300, and probably about the same on Saturday, the 26th. The receipts at this place, thus far, although less than last year, are fully equal to the tolls for the corresponding period in 1832—notwithstanding the diminution of the receipts by a reduction in the rates of toll, since 1832, of about 35 per cent.

During the first week of navigation, there has been received for tolls at Geneva, the sum of \$3,159 44—and at Salina, the sum of \$6,583 70. These are the most conclusive indications that the real elements of our prosperity are unimpaired.

PRODUCE FROM COXSACKIE.—We are fearful we shall not have the pleasure of reporting so favorably of the present season.

Coxsackie Landing is one of the most flourishing villages on the Hudson. In addition to the sloops employed by the enterprising merchants of that place during the past year, 25 in number, two lines of tow-boats, two boats to each line, have been established there, and will be in operation early in the present season. The principal exports from that place are brick, lime, stone, wood, hay, &c. Some idea of its local trade may be formed from the fact that 15,000,000 brick, 17,000 casks lime, 473,430 feet flagging and paving stone, 5,600 tons hay, and 3,750 cords wood, were shipped during the last year.

Stuyvesant is another large and flourishing village, a few miles above Coxsackie, on the opposite side of the Hudson. The Stuyvesant and Coxsackie steamboat United States, with its barges, commenced its regular trips on the 12th inst.

NEW INVENTED STOMACH PUMP—Description of a New Form of the Stomach Pump.
By P. B. GODDARD, M. D., of Philadelphia.
[From the Journal of the Franklin Institute.]

This pump consists of two parts, one of which I shall call the valve box, the other is an ordinary syringe, of good construction, to which the valve box is screwed when in use.

The valve box is a cylinder of metal, containing ovoidal or egg-shaped cavities, equally distant from the centre of the cylinder; at this point a pipe enters, which, when screwed on to the syringe, opens a communication between its cavity and these two cavities in the valve box. Near each end of the cylinder a short and slightly conical tube projects laterally, to which a flexible tube is to be fastened, and which causes a communication between the flexible tube and the cavity in the valve box. Each of these cavities contains a bullet accurately turned, so as to fit the orifices of the tubes, entering into it, and acting as a valve. It will be seen by reference to the accompanying cut (which is a section of the valve box) that if the valve box be held vertically, and the syringe screwed on it, the bullet in the upper cavity will fall upon the orifice of communication between it and the body of the syringe, whilst the bullet in the lower cavity will, in like manner, lie upon the orifice of the tube leading externally. If the lower tube be now immersed in water, and the piston of the syringe be drawn out, it will be evident that the body of the syringe will be filled with water from the lower tube. If now the piston be pressed home, the water will pass out of the upper tube; the bullet in the lower cavity preventing its escape there, just as the bullet in the upper one prevented the entrance of air before. It will then always pump water, or any other fluid, from the lower tube to the upper.

If the position of the valve box be now reversed, and the end which was above be placed below, the bullets will fall by their own gravity into the opposite ends of the cavities, and the instrument will act as it did before, viz. pumping from the lower orifice to the upper, although the relative position of the tubes has been reversed.

To use this instrument, the valve box must be held in nearly a vertical direction. A long flexible tube being passed into the stomach, is attached to one of the short conical tubes, say the upper, and a short tube leading to a basin is then fastened to the lower one. The basin being filled with warm water, and the syringe put in action, the water will pass into the stomach and dilute the poison. When enough has passed in, the syringe is to be turned in the hand, so as to bring the tube down which was before above, without taking off the flexible tubes, or changing them in any way, and the syringe again put into action. The water will be pumped out of the stomach, bringing the poison along with it.

The following are the chief advantages of this instrument. It is perfectly simple in its construction, and not liable to get out of order.

The directions for its use are easily understood, and as easily remembered.

After the flexible tubes are once adjusted, no alteration is required until the operation is finished.

When the instrument is once put in action,

gallons of water may in a few minutes be passed through the stomach, thus washing away every trace of poison and saving many a valuable life.

Fig. 1, section of valve box—*a a*, cavities for the bullets—*b b*, bullet valves—*c c*, tubes, to which are attached the flexible pipes—*d*, female screw to attach it to the syringe

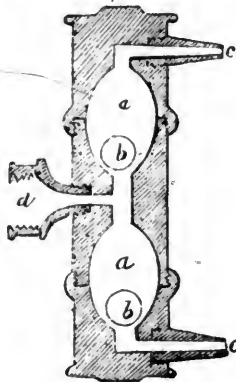
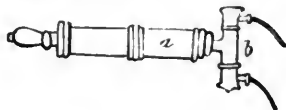


Fig. 2, the entire instrument—*a*, the syringe—*b*, the valve box.



Ericsson's Caloric Engine. By G. K. O.
To the Editor of the Mechanics' Magazine.

SIR,—After reading several times the description of Ericsson's Caloric Engine, contained in your February number, I am yet at a loss in regard to some things. Assuming, as the description does, that the air in the part of the engine represented black is under greater pressure than that in the white, but being of nearly the same temperature, it must be of greater density; for example, let the density of one be represented by 50, and that of the other by 100, that is, the quantity of air contained in any given portion of the black is twice that contained in a corresponding portion of the white part: suppose the temperature in the large cylinder is 480 degrees higher than that in the small one. Now, if 10 cubic feet of air of the density of 100 be admitted into that of 50, it will expand till it becomes of the same density as that into which it is admitted, and occupy nearly 20 cubic feet; and when reduced 480 degrees in temperature, will yet occupy 10 feet. While the large cylinder admits 10 feet of the density of 100, the small one takes out 5 feet of the density of 50, which, though expanded by the heat, would only fill 10 feet of the density of 50; but being admitted into the black part, where the pressure and density is 100, it will become of the same density, and, of course, occupy but 5 feet. If the case be as I have stated, the corresponding portions of the two bodies of air in the black and white parts will soon be brought to the same density by a few strokes of the engine, and (according to the description) the difference of density constitutes the motive power. Will you, or some of your correspondents, please explain this difficulty. Yours, &c. G. K. O.

DR. MAJENDIE'S OBSERVATIONS RESPECTING THE PULSE.—Majendie has given a scale of the pulse, which shows that the difference in

frequency between that of the infant and the aged is more than double. The scale is, at birth, 130 to 140 a minute; at one year, 120 to 130; at two years, 102 to 110; three years, 90 to 100; seven years, 85 to 90; fourteen years, 80 to 85; adult age, 75 to 80; first old age, 65 to 75; confirmed old age, 60 to 65.

THE NUMBER FIVE.—The Chinese have a great regard for this number. According to them there are five elements—water, fire, metals, wood, earth; five perpetual virtues—goodness, justice, honesty, science, and truth; five tastes—sourness, sweetness, bitterness, acidity, and salt; five colors—azure, yellow, flesh-color, white, and black; they say there are five viscera—the liver, the heart, the lungs, the kidneys, and the stomach. They count five organs of the senses—ears, eyes, mouth, nose, and eyebrows. A Chinese author has written a curious dialogue between these senses. The mouth complains that the nose is not only too near, but above her; the nose in reply defends its position, by stating that but for it the mouth would eat stinking meats. The nose in turn complains of being below the eyes; they reply that but for them men would often break their noses.—[Le Lanterne Magique.]

CURIOUS ASTRONOMICAL THEORY.—We state the following on the authority of M. Arago, an eminent French astronomer: If we place in a horizontal line the series of figures of which the law is evident—

0 3 6 12 24 48 96 192

(each double the preceding,) and afterwards add 4 to each, we shall have a series denoting the relative distances of the Planets from the Sun, thus—

4 7 10 16 28 52 100 196

Mercury. Venus. Earth. Mars. * Jupiter Saturn. Uranus.

If 10 represents the distance of the Earth, 4 will be that of Mercury, 7 Venus, 16 Mars, and 52, 100, and 196, the respective distances of Jupiter, Saturn, and Uranus. This law was known as far as 100, before the discovery of Uranus: and the distance being found to correspond, affords a very remarkable confirmation of its truth. But it will be observed there is a deficiency of one term between Mars and Jupiter. This led philosophers to suspect the existence of a planet at the distance required to fill up the vacancy; and in 1801, Piazzi, of Palermo, actually discovered one, whose orbit was between those of Mars and Jupiter, and nearly at the proportional distance of 28 from the Sun. This planet was named Ceres; and since that period three others have been found—Pallas, Juno, and Vesta—all of which have their orbits so near each other as to lead astronomers to believe that these are the fragments of a larger planet, which had been shattered into pieces by some internal explosion, or the shock of a comet.—[London paper.]

FAMILY ALBUM.—We were not long since informed of a practice observed in the family of an excellent widowed lady of this city, which must be of great utility to her children, and which we venture to recommend to the readers of our paper. A folio, if we mistake not, is provided as a place of deposit, into which each member of the family is required to put once a week a piece of written composition, upon any subject that may suggest itself to the mind of the writer. Saturday evening the budget is opened and each piece read, criticized, and amended, in the presence of the family. It is impossible to calculate the advantage to be derived from such a practice, by establishing in early life habits of investigation, and mental improvement. The mother who thus educates her children, may sanguinely anticipate a maturity of usefulness and respectability. Dreading profligacy and low vice can have little to tempt a mind thus early shielded by lessons of purity, domestic happiness, and pleasant fire side instruction. Give your children an early love for books, refine their taste by

works of art, set them an example of religious excellence, of correct manners, and endeavor to make the domestic hearth always attractive, and you bar up all the great avenues to immortality.—[Portland Courier.]

INGENIOUS CONTRIVANCE.—I wish, through the medium of the Centinel and Palladium, to notice a neat and economical improvement made by Mr. Currier, of this city, respecting bells for houses and hotels. Heretofore there have been separate bells for each apartment. These have been numbered to indicate the apartment where an attendant was wanted. In large establishments numerous bells are necessary, and these are costly, and sometimes not useful if the bell had ceased to sound before it was looked at. In the invention a single bell is sufficient for the largest hotel. The wire from each apartment, while it rings this common bell, communicates motion to a suspended ball over an appropriate number, and its long continued vibrations give, without fail, and without noise, the information that is desired. The expense is comparatively trifling.—[Boston Centinel.]

AGRICULTURE, &c.

SECURING A CROP OF FRUIT ON PEAR TREES.

—Take a pair of scissors (such as are used in thinning grapes), and go over the corymbs of flowers, or rather of flower-buds, as soon as they are sufficiently elongated to allow the points of the scissors to pass between them (that is, some days before the blossoms are expanded), and thin them; leaving only five

or six blossoms in each, according to the size of the corymb; always preferring to leave the flowers which have the stoutest stalks, and those which are nearest the centre. This operation has the effect of diverting the sap to the flowers which remain, and gives them sufficient strength to set from one to three fruits in each umbel; which will prove a sufficient crop, and well repay the labor bestowed. Another mode, less tedious than the above, is also practised here, with success, on young trees. It consists in deferring that part of the pruning of them which is termed shortening the young wood, until the blossoms are in about the same state as is described in the above directions for thinning, and then shortening them back to the required length. This also checks the progress of the sap, and enables the tree to set fruit very freely. I am aware that my plan is a tedious one, and one that is almost impracticable on a large scale; but it is decidedly an excellent plan for dwarf trees in gardens, whether they are cultivated in the *quenouille* mode, against walls, or as espaliers; as these trees come within the reach of the hand, of a pair of steps, or of a ladder. In the hope that these remarks may, through your indulgence, avail my fellow-laborers in horticulture, at the coming season, I am, sir, yours, &c.

BERNARD SAUNDERS.

Nursery, Island of Jersey, Dec. 6, 1833.

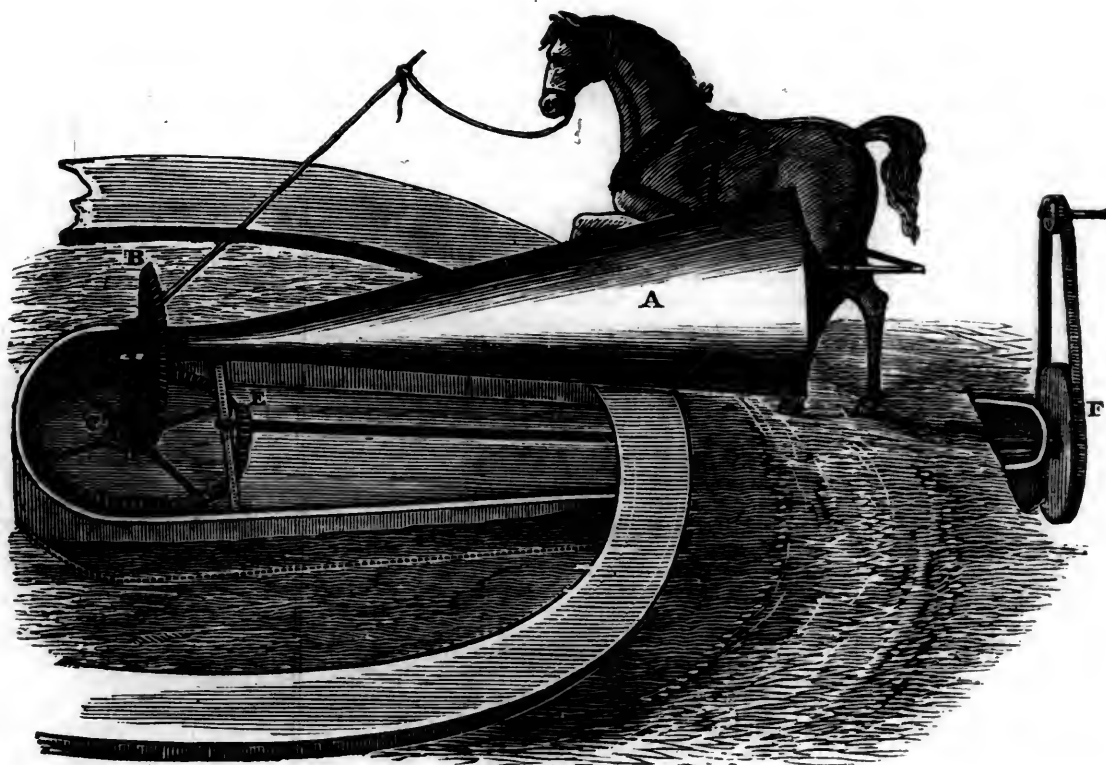
We recommend the above article to the particular attention of young gardeners. The system of disbudding advised in the preceding paper by Mr. Callow, and that of thinning out blossoms suggested in the above paper by Mr. Saunders, are applicable to all fruit trees, and,

if generally adopted, would insure important results. We know an instance of a large apple orchard, the property of a commercial gardener in Kent, in which a knife has never been used: every thing is effected by disbud-ding, and pinching out young wood with the finger and thumb. The proprietor is not a scientific gardener; and he adopted the above practice from no particular theory, but simply from his own observation and experience, to save labor, and to insure good crops of large fruit. We hope to see his orchard next summer, and to report on it.—[Loudon's Mag.]

UVEDALE'S ST. GERMAIN PEAR.—A fine specimen of this pear has been sent us by Dr. Hamilton of Plymouth: its dimensions are, "13½ inches for the transverse, and 16½ inches for the longitudinal diameter; and its weight is 1 lb. 11½ oz. The tree from which these pears were gathered has, in former years, produced fruit of a considerably larger size, and in much greater abundance, than in the present season, and five years since a pear was gathered from it which weighed above 2½ lbs. —William Hamilton. 15 Oxford Place, Plymouth, Nov. 14, 1833."

CARROTS FOR LIVE STOCK.—The Altringham carrot, grown in rows 18 inches apart, and the carrots at the same distance from each other in the rows, the roots attaining the thickness of a man's thigh, and the length of three feet, with a vigorously growing top, for feeding cows or other cattle.—[Loudon's Magazine.]

[The seeds of these carrots are for sale by H. Huxley & Co., 81 Barclay street.]



Description and Drawing of Beecher's Portable Horse Power. By the INVENTOR. [For the New-York Farmer and American Gardener's Magazine.]

This power is applicable to all purposes where speed is necessary, particularly to thrashing, grinding, turning, and sawing. Its superiority consists in the simplicity of the gear, only two wheels of 23 and 30 inches, with pinions of 9 and 6 inches, are necessary to get a speed of two to three hundred re-

volutions per minute. The power being obtained by a revolving lever on a smooth surface, it is not liable to break by sudden impetus, or stoppage. It requires no frame or building, but is simply fastened to the ground or floor. The lever may be increased in length without diminishing the speed. It may be removed and erected in three hours' time. It can be placed in a back yard or cellar, and it makes no jarring in the building.

REFERENCES.—A, revolving lever; B,

driving wheel; C, nine-inch pinions; E, line shaft; and F, band wheel.

This horse power may be seen in the yard of the Railroad House, 98 Barclay street, New-York. The right to territory may be obtained of the inventor at the above place. Machines of one, two, three, or four horse power furnished to order at 60, 75, 90, and 100 dollars.

A portable cider mill and press to be seen as above.

[To the author of the following Report, the result of five years' practical experience, the thanks of the Society and the honorary Silver Medal were voted by the Directors.]

Report on the Value of Bone-Manure, in comparison with ordinary Farm-Yard Manure.

By the Honorable Captain W. O'LEARY, Airlie Castle.

Mr. Watson, of Keilor, introduced the use of bone manure into Strathmore, having seen it used in England. I am not certain in what year he began to make experiments with it, or to employ it extensively, but I remember well that the great deficiency of farm-yard dung in 1827 (consequent on the almost total failure of the crop of the previous year) first induced me to try 4 acres of turnip without other manure, sown with 15 bushels of bone-dust per acre, which I obtained from Mr. Watson: it cost 3s. per bushel, or £2 5s. per acre. The crop of turnip on these four acres was at least equal to the rest raised with farm-yard manure; but as the whole of the turnips were pulled, and the land received some dung before the succeeding crop, much stress cannot be laid on the circumstance of the following white crop and grass being good.

Next year, 1828, encouraged by the former successful experiment, eight acres were sown with turnip, solely with bone-dust; the soil a light sandy loam; the subsoil gravel and sand, coming in some places nearly to the surface, which is very irregular, but in general has a south exposure. This field had been broken up with a crop of oats in 1827, after having been depastured six years, principally by sheep. The quantity of bone-dust given was 20 bushels per acre, and cost 2s. 6d. per bushel, or £2 10s. per acre. The turnip-crop was so heavy, that, notwithstanding the very light nature of the soil, it was judged advisable to pull one-third for the feeding cattle, two drills pulled, and four left to be eaten on the ground by sheep. The following year, 1829, these eight acres were sown with barley and grass-seeds, and the produce was 57 bolls 1 bushel, or 7 bolls 1 bushel nearly per acre, of grain, equal in quality to the best in the Dundee market, both in weight and color. Next year, a fair crop of hay for that description of land was cut, about 150 stones an acre; and though I am now convinced that the field should rather have been depastured the first year, yet the pasture was better than it had ever been known before for the two following seasons, 1831 and 1832. It is worthy of remark, as a proof of the efficacy of the bone-manure, that in a small angle of this field, in which I had permitted a cottager to plant potatoes, well dunged, and which, after their removal, was included in one of the flakings of the sheep, and had (one might have supposed) thereby had at least equal advantage with the adjacent bone-dust turnip-land, both the barley and grass crops were evidently inferior, and this continued to be observable until the field was again ploughed up. A very bulky crop of oats has been reaped this season, probably upwards of eight bolls per acre, but no part of it is yet thrashed.

Having detailed what may be considered a fair experiment during the whole rotation of the above eight acres, I may add, that turnip raised with bone manure, and fed off with sheep, has now become a regular part of the system on this farm; 15, 20, and, last year, 25 acres were fed off, and invariably with the same favorable results, with the prospect of being able to adopt a five-shift rotation, and to continue it without injury to the land. Every person in the least acquainted with the management of a farm, of which a considerable proportion consists of light, dry, sandy loam, at a distance from town-manure, must be aware of the importance of this, from knowing the expense at which such land was formerly kept in a fair state of cultivation; indeed, the prices of corn for some years past would not warrant the necessary outlay, and large tracts of land, capable of producing barley little inferior to that of Norfolk,

must speedily have been converted into sheep pasture, but for the introduction of bone-manure.

Note.—For the last four years, 25 bushels of bone-dust have been given to the acre; the price this year was 3s. per bushel, or £2 15s. per acre.

[The honorary Silver Medal having been offered as a premium for the best account of experiments made, to ascertain what advantage may be derived from plucking off the flowers of the Potato, it was adjudged to the author of the following Report.]

Report of an Experiment made at Aberdona, to ascertain the Benefit resulting from the Removal of Potato-Blossoms. BY JAMES MURRAY.

The experiment was made according to the plan laid down by the Highland Society in their list of premiums for 1833.

The quality of the soil was not the best adapted for a very successful potato crop, but as I did not think of making the experiment until after the ground had been sown, I had no alternative left me. At the same time, I believe that an experiment of this nature, although made upon a crop raised in soil not peculiarly well adapted for its culture, will be quite as satisfactory in determining the advantages or disadvantages of it, as one made upon a more congenial soil. The soil consisted throughout the two acres upon which the potatoes had been sown, of a shallow loam, upon a bed of what is generally called till. The field had been well drained, but like every other field of the same nature of soil, (unless where Mr. Smith of Deanstons' trenching plough may have been used,) continues in what may be called a cold, damp state, and therefore an enemy to the potato.

The variety of the potato sown was one which had been brought from Ireland some years ago by a gentleman of this neighborhood, and is called the red potato in this neighborhood.

I divided the whole field into parts of three drills each, and having explained what I wished to be done to a few children of from nine to twelve years old, previous to the appearance of any blossoms, they never allowed a day to elapse, without looking after their charge, and no sooner had a blossom begun to appear, (or in bud,) upon No. 1 of each part, than it was certain to be immediately plucked off. The other two drills of each part remained untouched until the blossoms upon No. 2 seemed to be fully expanded, when they were also plucked off, while No. 3 was allowed to ripen its fruit. By arranging the drills in this manner, I could depend on being more correct in having the soil of each of the drills of each part exactly similar than I could have been, had I divided the field in the manner proposed by the Society.

The preceding part of the experiment was (as it must appear to be) very simple indeed, and attended with no expense whatever, for there are always children in the neighborhood of a farm, who will do the work for a few pence a-day.

The most difficult part of the experiment to arrange was the taking up of the crop, so that there might be no interference between the different drills. To obtain this, I took three carts, one of which was appropriated entirely by No. 1 of each part, another by No. 2, and the remaining one by No. 3. In this manner I prevented the very slightest mingling of the potatoes.

The quantity of potatoes which each cart held, was exactly ascertained, and the management of this part of the experiment being given to one person, it was his business to mark down how many loads each cart took to the potato-pit.

After the whole crop had been taken off the field, and the overseer's note-book examined, the following was the result:

Drills, No. 1, being those from which the

blossoms were plucked in the bud, contained 30 bolls 2 bushels.

Drills, No. 2, being those from which the blossoms were plucked when in full flower, contained 27 bolls 3 bushels.

Drills, No. 3, being those upon which the fruit was allowed to ripen, contained 26 bolls.

The superiority, therefore, of No. 1 over No. 2, was 2 bolls 5 bushels; over No. 3, was 4 bolls 3 bushels; and of No. 2 over No. 3, was 1 boll 2 bushels.

From the above experiment it would appear, that the potato crop had been improved by having the blossoms plucked off, and that according to the period at which it had been done. At the same time, the difference is perhaps not much more than would be counter-balanced by the additional trouble given in taking up the crops; for, although regulated as well as possibly could be done, still it could not be taken up in nearly the time in which it would have been done, had the drills been resorted to indiscriminately.

The quality of the potato is remarkably good, it is of a mealy nature, and an uncommonly good keeper. We were using them last year here, in preference to early potatoes. Aberdona, Alloa, November, 1833.—[Transactions of the Highland Society of Scotland.]

TRANSPLANTING IMPLEMENTS.—Many farmers and gardeners prefer transplanting some field and garden crops, for various reasons, particularly on account of the greater certainty and yield of the crops. Turnips, which are so liable to be cut off by insects, and by turkeys, are, by transplanting, rendered as certain as most other field crops. In the New-England Farmer we find the subjoined notice of simple implements:

Several complicated transplanting instruments, consisting of several pieces, are described in the books, but I believe that one which I made and used last summer will be found to answer almost every purpose. It consists of a simple cylinder of tin plate, equal throughout, the top edge being turned over so as not to cut the hand. They may be made of any size, but the best for ordinary purposes are about 8 or 10 inches high, and 4 or 5 in diameter. It is placed over the young plant about to be removed, and pushed down a few inches into the soil, nearly or quite to the bottom of the roots; it is then taken up, bringing the earth and plant with it. Being then carried to the place where it is wished to set the plant, and the hole being previously made to receive it, it is set in the hole, and a few strokes from the digger on the outside loosens it, and leaves the plant erect in its place, with all the earth in a circular mass about it, when the transplanter is removed. The ease and neatness with which the operation is performed is very striking. A plant may be kept in the transplanter for several days uninjured, and carried to almost any distance. I have sent to Mr. Barrett three transplanters of different sizes, which will perhaps explain themselves better than my description.

WILLIAM OAKES.

Ipswich, April 8, 1834.

Since the above notice we have been introduced to another implement for the same purpose, invented by a Mr. Smith, and which is for sale at the Boston Agricultural Warehouse. This machine is so fitted with a moveable slanting side, that the communication between the plant and the earth in which it grew, except a portion of soil attached to the roots, is cut off at the bottom as well as the sides, by which means, on withdrawing the implement, the extraction of the plant, and a quantity of attached soil in which it grew, is rendered certain.

Locusts.—According to the prevailing notion, these insects are to return this season, being the 17th year since their former appearance.

Manufacture of Silk—Gay and Bottum's Silk Apparatus. By the EDITOR.

Among the pleasing objects to be seen in the picture of our country, which is to be drawn some ten or fifteen years hence, will be the creeping and voracious silk worm,—pleasing, because the emblem of so much prosperity, and the source of so much earthly happiness. It will, in the language of the eye, say that the stony fields and the river bottoms of industrious New-England are inclosed by the bright-leaved mulberry—that the blooming fair in the land of steady habits are plucking the leafy food, feeding myriads of nature's humble and hungry offspring, and unwinding the glossy fibre that is to clothe and bring food to thousands and thousands of worthy families—that emulous New-York and Pennsylvania, and the youthful and vigorous West, are adding the important labors of the silk-worm to their already numerous and augmented resources,—and that the generous and high-minded South, seeing that industry and enterprise avail more than murmurings in averting the evils of the tariff, are introducing this and other abundant sources of wealth, for which their climate, soil, and internal resources afford many facilities.

From all we have seen and learned, we cannot resist the conclusion that this country will rapidly progress in the manufacture of silk until its own wants are supplied, and perhaps until it finds itself in a condition to compete with other countries to supply the markets of the world. In the northern, middle, western, and southern States, extensive preparations are being made, not only for the growth of the mulberry, but for manufacturing the silk, particularly in some of the New-England States. Of this progress our future pages will give an account.

Messrs. Gay & Bottum, of Lisbon, Ct., recently exhibited in this city their apparatus for the manufacture of this article. It was kept in active operation, and consisted of a reel for winding the silk from the cocoon, a winding frame for winding it from the hanks on to spools, or bobbins, a twisting or throwsting machine for doubling and twisting it on to other bobbins, and two looms for weaving. The whole apparatus would occupy a space of twenty feet square, and was made principally of iron, and in the most durable and finished manner. We took down a few notes, which we lay before our readers in the order they were taken.

The reel, which is on the principle of that of G. B. Smith, of Baltimore, consists of a wooden frame, and wheels of polished iron and brass. It is a very compact and simple machine, doing the work in the most perfect manner. The price of it is fifty dollars; and Mr. Gay thinks the part on which the silk is wound should be made of metal, to preserve the fibres or threads of the same tension until they become dry. This makes the thread smooth, and less liable to be fritted in the wear. If made of wood, he says the moisture of the silk will cause that part in contact with it to swell and shrink, and thus injure the thread. We should suppose, however, that glass, or thin pieces of metal fastened on the wood, would answer every purpose, and enable him to manufacture them at near one third the price.

On the supposition that the apparatus is moved with water or horse power, for which it is designed, one female will reel one pound

of raw silk for weaving, and one and a half or two pounds for sewing. For a hand reel, two females are required to do this quantity. One bushel of cocoons will make one and a quarter pounds of merchantable raw silk, and two ounces of floss silk.

The diameter of the winding part of Mr. Gay's reel is not sufficiently large. The larger it is the faster can the silk be reeled. One of these reels will reel for a whole neighborhood, and enable silk growers to produce raw silk that will command from \$4 to \$5.50 per pound.

The silk is taken from the reel and put on the winding frame, which winds, twists, and, if necessary, doubles the thread at the same operation. One female, on the above supposition that the apparatus is moved by other power, will wind and double two pounds from thirty bobbins in a day. This is for warp—a greater quantity for filling.

The spools are taken from the winding frame and put on the twisting or throwsting machine. One female will attend 30 to 50 spindles, producing about one and a half pounds of weaving silk, and two for sewing. After this operation the silk is cleaned by boiling in soap suds about two hours—20 lbs. of soap to 100 lbs. of silk. It is now colored, which is done in New-England principally with vegetable substances, almost entirely of the growth of this country. The silk is superior to that of foreign countries, in the durability of both color and wear. An elderly lady of Lisbon, Ct. has a piece of American silk of lead color, which has been lying about the house for more than twenty years; it is still unfaded and unchanged.

The next operation is weaving on a hand loom. A weaver, often a female, will produce per day five to six yards of thick vesting, or gros de Naples. Of thinner silks, six to ten yards can be woven. The specimens that we saw were very thick and strong, and were worth three dollars per yard.

Although silk has been manufactured in this country for more than fifty years, yet Mr. Bottum, who has given his attention to it for thirty years, informs us that there are not cocoons raised in the country sufficient to keep three hand looms in operation. If more cocoons were raised, there would be a better market, although they now command from three to three and a half dollars per bushel, of good quality. A farmer can raise one bushel for two dollars, if he hires all the labor. An orchard will let out for half or more of the cocoons produced. A gentleman in Hartford lets out his orchard for two-thirds. One acre of the white mulberry will produce forty pounds of raw silk. Dr. Henry Holmes, of Hartford, says from fifty to a hundred pounds. Mr. Butler, of New-York, calculates the new Chinese mulberry, *Morus multicaulis*, will produce one hundred pounds. Mr. B. has 100,000 of these plants.

When the cocoons are first finished by the worms, they are put in shallow baskets, covered with paper, and dried in an oven moderately heated. When taken from the oven the baskets should remain covered until the cocoons become cool, and then they are spread to dry. If they are not immediately spun, they should be put in cotton bags, with a little tobacco sprinkled among them to keep out moths.

Cocoons before they are wound should be sorted into three qualities: poor, or first sort, for sewing silk, will command \$4 per

pound; next, of fair quality, worth \$4.50; best, worth \$5 to \$5.50, when wound.

American raw silk thus prepared is superior to that of foreign countries, and will command a better price. Mr. Bottum has for two years past bought all American raw silk he could obtain. But on account of the scarcity of the article, he has been obliged to depend principally on imported silk to keep his weaving in operation. He depends on the females of our own country for all the operations except that of weaving; and for this cotton weavers will supply every demand. Much loss and much discouragement have been met with, by depending on foreigners. Mr. B. has used raw silk from Bengal, Canton, and Italy, and he prefers American silk, at 10 per cent higher price. It is brighter, softer, and stronger, by 25 per cent. The Italian is next best for softness.

The whole apparatus exhibited by Messrs. Gay & Bottum is principally made of iron, finished in a superior style, and cost about \$1000. The greater part of it would last for a century. They will exhibit it in New-Haven, on the 15th of May, before the members of the Legislature of Connecticut. They intend also to exhibit it at the Fair of the American Institute in this city, in October next. As soon as it can conveniently be made, a reel will be exhibited at the Agricultural Warehouse, 81 Barclay street. The improvements in the machinery are the result of eighteen years of experiment and experience. Independent of the weaving part, or looms, two hands are required for the moving power. Horse or other power will be requisite in producing work in factories.

STRAWBERRIES IN FLORIDA.—Strawberries were in the market at Tallahassee, Florida, in the month of March. New potatoes had also made their appearance.

THE FRENCH TREATY.—Some grave questions seem likely to arise from the rejection by the French Chamber of Deputies, of the appropriation to carry into effect their treaty of indemnity with us. Under it, French wines have been admitted for more than two years, we believe, into our ports at a reduced duty. Some duties, overcharged, have been refunded, and the whole course of this country has been shaped on the presumption that the treaty was valid, and of mutual obligation. The perfect good faith, therefore, with which we have acted in the matter, may be advantageously contrasted with—to say the least of it—the carelessness and indifference of the French Government, as instanced by suffering, in the first place, the bill, drawn by the Treasury of the United States for the first instalment, to be protested—then by omitting to submit the treaty to the Chambers till a period so late, in the session previous to this, that no action could be had on it—and finally by failing, on the present occasion, to support this measure of obvious justice, and now of admitted obligation, with the same strength, which a few days before in carrying an odious law—that for suppressing associations—the Ministers exhibited. That law, in a house of 400, was carried by a ministerial vote of 246 to 154—whereas the ministerial vote for the treaty was only 168, a defection of seventy-eight members! The rejecting, or anti-ministerial vote, was 176. The whole number composing the Chamber of Deputies is 460, and yet on a question involving the mutual harmony and good understanding of two nations, 344 members only attended. This is a matter, which, under the circumstances, it will be difficult for the French ministry to explain satisfactorily.

NEW-YORK AMERICAN.

MAY 3—MAY 10, 1834.

LITERARY NOTICES.
No. XXII.*Prairie du Chien, Upper Mississippi, Feb.*

I had only been in Galena a few hours, when I learnt that a mail carrier was to start in the morning for Fort Crawford on the Upper Mississippi, and determined at once to accompany him, deferring an examination of the country around Galena till my return. It was about eleven o'clock of a fine, clear cold day, when my *compagnon de voyage*, a bluff-faced; curly-pated fellow in a green blanket coat, drove up to the door in a better sleigh than I had seen on any of the stage routes below, and wrapping myself up in a couple of buffalo robes and sundry blankets, I found myself, after ascending the rugged bluffs of Fever river, armed at all points to encounter the biting wind which swept the open plain beyond. And here I may remark, that although the cold winds in this prairie country have a power that I had no idea of till I experienced it, yet the people dress so much more rationally than they do at the North on the seaboard, that health and even comfort are but little invaded. I remember when first overtaken by the cold weather on the prairies, I was travelling with a simple furred wrapper as an overcoat and a pair of carpet socks over my boots; the last of which, from their clumsy and effeminate appearance, I long neglected to put on. But on arriving one night at a lonely shantee, I found an old Indian trader just disencumbering himself of his travelling gear, and the lesson has not been readily forgotten. His disrobing reminded me of the grave-digger in Hamlet with his sixteen jackets, (a stale joke by the by, which is now rarely practised upon the stage)—and a man at arms of the fifteenth century, with his armour of plate and triple coat of twisted mail, was not cased in better proof than was my Indian trader. Among the articles of dress that I recollect were a blanket coat over an ordinary surtout, a plaid cloak upon that, and a buffalo robe trumping the whole; while three pair of woolen socks, buckskin moccasins, and long boots of buffalo skin with the fur inside, assisted his leggings of green baize in keeping his extremities warm; and a huge hood and visor of fur set Jack Frost at defiance, should he assail from above. I do not by any means mention all these defences as constituting the ordinary apparel of the country; for every one on the frontiers dresses just as he pleases, and whether he has his blankets and skins made up into coats and boots, or wears them loose about his person, no one comments upon it. The utmost freedom of dress prevails, and you may see the same person three days in succession with a leather hunting shirt, a surtout of scarlet woolen, or a coat of superfine broadcloth, just from New York, all worn in any company, with the same air of independence; and, while several colors and textures frequently combine in the same dress, the result is of course an outrageous violation of taste in individual instances, but great picturesqueness of costume upon the whole. The very figure whose apparel is most obnoxious to the laws of good taste as last enacted by fashion, being often that, which, of all others, a painter would introduce into a landscape to relieve its colors, or copy for some romantic charm of its own.

The country through which we now rode, though only interspersed here and there with woodland, presented a very different appearance from the open prairie below. In the vicinity of Galena it was much broken by rocky ravines and deep gullies— which in the spring of the year must afford a ready passage for the water created by the melting of large bodies of snow—and far away toward the Mississippi the inequalities of the surface showed like a distant range of mountains, that on nearer approach resolved themselves into three or four distinct hills, which again on reaching their banks, proved to be only rocky mounds, of not more than 150 or 200 feet elevation—standing isolated on the vast plain like excrescences, thrown up by some eruption from its surface. Beyond these again, the country became beautifully undulating, and when the warm light of sun-set glanced along the tall yellow grass which raised its tapering spears above the snowy surface, and the purple light of evening deepened in the scattered groves that rested on its bosom—it required no exercise of fancy to conceive that these were sloping lands, and smooth meadows, and open parks, which the gathering shades of night were stealing from the eye. But at last, just where the landscape was becoming almost too broken to keep up these associations

of high cultivation, a distant light appeared glimmering at the bottom of a rocky valley, and slipping and floundering through the snow which partially smoothed the rugged descent, we entered a small hamlet of log huts, and drove up to the door of a frame building, which proved to be the public house of "Mineral Point."

A portly Tennessean of some six feet received us warmly at the door, and hurried me into a room where a large fire of bur oak, and a smoking supper of venison and hot corn cakes were alike welcomed. Half a dozen miners in leather shirts and belted coats of Kentucky jean were lounging about the establishment, while a tall backwoodsman in a fringed hunting frock, was stretched on several chairs, with a pipe in one hand, and the other resting on a Pelham savel, which, with a volume of Shakspeare, an old bible, and the "Western Songster," formed a pyramid beneath his brawny arm. "Whirling Thunder," the Winnebago Chief, had, as I was informed, just left the establishment, or our party would have been perfect. The old fellow, who, I presume, is superannuated, had been breathing revenge and slaughter against the Sacs and Foxes, who, he says, have killed a number of his tribe, and he avows a determination to come down upon the enemy with 700 warriors, though I believe it is well known that there are not at present 500 in his tribe, and they scattered far and wide on their hunting expeditions. As it was however, I found the company into which I was thrown, in more than one way agreeable. They were civil and intelligent; and when a sear was handed me by a well dressed gentleman engaged in the mines, who had set down to supper with us, I stretched my legs before the fire, and soon felt myself perfectly at home. The rumors of Indian wars, with the incidents in these already gone by being thoroughly discussed, seats of strength and activity were next introduced; whereat, a burly broad-shouldered fellow, with a head of hair like a boat's swab, jumped to his feet, and shaking the flaps of his rough kersey doublet like a pair of wings, he crowed and swore he could throw any man of his weight in the mines. "Why, Bill Armstrong," cried a little old man, who I was assured was 78 years of age, shaking the ashes from his pipe the while, "I could double up two such fellows as you in my time, and I think as it is (slowly rising and collaring the puissant Bill) I'll whip one of them now for a treat." They grappled at once, and Armstrong good naturedly allowing the old man to put him down, a laugh was raised at his expense. But Bill was too much a cock of the walk to mind it, and striding up to the bar, he called out, "Come here old fellow and take your treat—you're a steamboat—but who couldn't be beat by a fellow that had forty years the advantage of him."

The next day's sun found us, when a few hours high, in a country which, though not a house was to be seen for miles, I can only compare, with its intermingling of prairies and groves, rocky ravines and rapid brooks of sparkling water, to the appearance which the interior of the country along the Hudson would present, if the fences and farm houses were taken away. Its varied aspect was far more pleasing to my eye than the immense plains of table land below, where the sound of a waterfall is never to be heard, and a stone larger than a pebble is, (unless on the banks of the Illinois,) rarely met with. The soil, indeed, is not so rich, but the country is unquestionably more healthy; and though the climate is actually more severe in winter, yet the wind is so much broken by the numerous groves, and the general inequalities of the surface that one suffers much less from cold. A great error is committed by Government in keeping the land out of market, for the patches of woodland, though frequent, are not so dense as those below, and the number of smelting furnaces of lead ore, which are scattered over the whole country between Rock river and the Ouiskonsin, tends to diminish them so rapidly, that in a dozen years hence, wood enough will hardly be left for the ordinary purposes of the farmer. Whatever measures are adopted, however—and I believe there is a bill in relation to these lands, now pending in Congress—the pre-emption rights of the first settlers should be secured in the most liberal manner. Their sufferings from three Indian wars, and their endurance of every risk and privation, are almost incredible; and considering that it will take them some years now, to recover from the last affair of Black Hawk, I would have government give them several years credit; but the early sale of the lands, I believe to be indispensable to the future welfare of one of the finest regions in the world. The truth is, that no smelting should be done in the interior, but the mineral should be transported to points

where fuel is more abundant, and the timber now growing upon the spot left for the use of the farmers and the miners, to whom it is indispensable for the prosecution of their labors. Such will hardly be the case until a property in lands is established, and individuals be no longer permitted to sweep grove after grove from the soil, till the country begins to assimilate in some places to those leafless tracks in Illinois, which will probably remain unsettled prairie for a century to come.

I was particularly struck with the bold life which these miners have long led, the chief dangers of which, it is presumed, are now over—by observing a strong block house erected among a cluster of small shantees where two brothers lived with whom we stopped to take some refreshment at noon. They were miners and farmers together; and carrying on their business remote from any other house or settlement, they probably sent the mineral and vegetable productions of their favored soil to market at Galena in the same car. They had struck the vein of ore which they were working in badger hunting—the habits of that animal being of great assistance to the miner in exploring for mineral. I saw at the same place a fine dog terribly gored by a wild boar—the descendant of the domestic hog, which runs wild in this region, and sometimes makes a good hunt.

Our rout hither, which was by no means direct, carried us through a broken savage country, where a thousand clear streams seemed to have their birth among the rocks—singing away—though the earth was wrapped

"In safe-consoling winter's drizzled snow."

as if the leaves of June quivered over their chrysal currents. At one time these crisped fountains were the only objects that gave life to a burned forest through which we rode, where the tall branchless and charred trees stood motionless on the steep hill-side, or lay in wild disorder, as they had tumbled from the rocky heights, into a ravine below. Emerging from this desolate region, where the tracks of bears and other wild animals were to be seen on every side, we launched out on one of the loveliest prairies I ever beheld. It was about a mile wide, and not more than four or five in length, and smooth as a billiard table, with two small islets of wood in the centre. Our horses, which had seemed almost fagged out while slipping and stumbling among the rocks and fallen trees, in the timbered land—now pricked up their ears and snorted with animation, as they made our light sleigh skim over the smooth plain.

It was afternoon on the third day after leaving Galena, that on descending a steep bluff of about 150 feet, we came to a small tributary of the Ouiskonsin, winding through a narrow valley below. Following down the slender rill, whose banks exhibited no shubbery, save a few dwarf willows, we crossed a wooded bottom, where the long grass among the trees shot above the snow to the height of our horses shoulders, and reached at last the Ouiskonsin, where the stream might be about a quarter of a mile wide. After trying the ice in several places with long poles, we ventured at last to cross; and scaling a bold bluff at the opposite side, paused a moment at a stone house, owned by a Frenchman, to let our horses blow. A band of Winnebagos were standing at the door, and as they were all in mourning for some recently deceased relations, their broad blunt features, blackened as they were, made them look like Hottentots. A ride of six miles, through a high rolling prairie, interspersed with massive groves of oak, brought us at last in view of the bluffs of the upper Mississippi, rising in rocky masses to the height of 4 or 500 feet above the bed of that beautiful river, whose iron bound banks and gentle crystalline current, bear but little affinity to the marshy shores and turbid tide which are distinguished by the same name, after the Missouri gives a new character to its waters. Never shall I forget the first view of "The Father of Rivers," as a reach of several miles shut in, partly by its own bluffs, and partly by those of the Ouiskonsin, with its numerous islets, smiling in the light of the setting sun, looked like some comely lake of the West: girdled, apparently, by inaccessible cliffs on three sides, and keeping the edge of a broad meadow—which in its turn was bound and sheltered by lofty bluffs—on the fourth. That meadow lay now beneath me, and it was Prairie Du Chien. II.

SERMONS ON DUTIES BELONGING TO SOME OF THE CONDITIONS AND RELATIONS OF PRIVATE LIFE; by JOHN G. PALFREY, A. M., Professor of Biblical Literature in the University of Cambridge. 1 vol. 8vo. pp. 370. Boston: CHAS. BOWEN.—We like both the tone and the subjects of these sermons. They are

practical. They come home to the business and bosoms of all. They are catholic, too, in their sentiments, and embrace all: they are free from controversial points; and finally, they seek not to explain, what finite understandings can neither comprehend nor elucidate, but leave to faith what belongs exclusively to the domain of faith.

These Sermons treat of the duties and obligations of social life, and were delivered some years ago to the congregation in Brattle Square, of which the Rev. Professor was then the Pastor. They discuss the duties of the young and the old, of the rich and of the poor, of married life, and of the parental and filial relations. The style is clear, forcible, and polished, and the doctrines such as may be read without offence by all, and by many surely with profit. The book, too, is printed with the usual beauty and accuracy of the Boston press. We make an extract from Sermon X, on "the Duties of the Rich," as exhibiting fairly the manner of the writer:

It is well for us all, my friends to have cares.—There is no one indeed who has them not, if he is disposed to see them; but for any one who is not so disposed, it is happy if there are those which will force themselves upon his attention. For serious cares of any kind make the mind serious, which so far is a great good. Without them it becomes light and giddy. There are persons, who constitutionally seem almost incapable of being led, in the wantonness of their prosperity, to do or wish ill to any human being; whose feelings towards others appear all to be feelings of a superficial, indeed, but as far as it goes, a genuine kindness; but for whom we see, that the wish which a true friendship would dictate, would be that they should have some of those 'changes,' for want of which 'they fear not God.' They are the spoiled children of prosperity. There is nothing substantial in their character. There is nothing deep in any of their feelings. The business of their lives is a weak and capricious self-indulgence. The scriptures, which subject the human character to so rigid an analysis, are faithful in exposing this tendency. 'He gave them their request, and sent leanness into their souls.' What a just as well as strong picture this, of the condition, in which a luxuriance of outward blessings is contrasted with that dearth of all that is best in the mind and heart, with which we sometimes see it followed.—'The prosperity of fools shall destroy them.' How many the instances in which this sentence has been executed; in which minds not absolutely ill disposed, nor incapable under other circumstances of blessing and being blessed, have been intoxicated and made merely giddy and frivolous by too much good fortune, as we call it, and seduced away from every strenuous and honorable application of their powers.—'In my prosperity I said, I shall never be moved.' How natural a boast for a mind inflated by abundance, and by the deference which it brings, and by the habit of seeing its own will a law; yet a boast how presumptuous, an expectation how fallacious, a confidence how sadly ill-adapted to prepare for the changes which time may bring. The very waywardness and eccentric humors, which such a feeling generates, are the occasion of more wants than any prosperity can supply; and the affluent circumstances, which to others seem adequate to obviate every wish, are but experienced by the possessor to increase their number. The feeling is as much at war with the spirit of self discipline and improvement, as with that of content. 'Be not high-minded, but fear,' says the apostle, using the self same expression with that in our text, and conveying a lesson the most needful to be observed by all who are intent on growth in grace. But how little consistent with this humble and sanctifying spirit of self distrust is that vain elation of the mind which we are now considering. And what a stubborn and impracticable religious insensibility does it threaten to create. 'When thou shalt have eaten and be full, then beware lest thou forget the Lord.' This is an admonition, called for by well ascertained tendencies of human nature.—Jeshurun, when pampered, was restive and untractable; 'then he forsook God who made him, and lightly esteemed the rock of his salvation.' 'They were filled and their heart was exalted, therefore have they forgotten me.' This is the history of many an envied, but unhappy man's experience; and if it would be going too far to infer that this kind of prosperity is therefore not to be desired, we needs must own that it is not every mind which has the strength to bear it.

THE LIFE OF THOMAS EDDY—comprising an extensive correspondence—by SAMUEL L. KNAPP—1 vol. 8mo—pp 400—N. Y.—CONNOR & COOKE.

In a life, however long, devoted to acts of benevolence and to the improvement of the institutions of charity, of education, of punishment and of reform—there can hardly be found, or indeed expected, any of those stirring incidents which impart a zest to the biographies of men more ostensible on the stage of human affairs. It was therefore not without surprise that, on opening this volume, we found ourselves gradually carried on from page to page, till our interest became thoroughly excited in the modest records of this good man's life. The correspondence with Colquhoun, the famous police magistrate of London, and with other foreigners, well known in the annals of philanthropy, as well as with many distinguished men in our own country, gives both variety and interest to the narrative—which, as a whole, does credit to the taste and feeling of the author.

AIDS TO MENTAL DEVELOPMENT, or hints to parents with an address to Mothers, by a Lady of Philadelphia. 1 vol. 12mo. pp. 340. Philadelphia: Key & Riddle.—This is a reprint, with some modifications, to adapt it to our use, of an English book. The design is good, and we think generally well executed, though liable to the objection of making the children, who are interlocutors in the dialogue, talk too cleverly. This is of bad practical tendency, as discouraging many from persevering in the plans here recommended and illustrated, by ascertaining that their children fall so far short in the nature of their answers, and in quickness of comprehension, of those in the book.

The address to mothers, by the Philadelphia lady, embodies some excellent views on education, and on the importance especially of that education of which home is the only school.

THE CLASSICAL FAMILY LIBRARY, Vols. XI and XII. New York: HARPER & BROTHERS.—These two volumes in continuation of the Classical Library, furnish us with Virgil's Poems, the Eclogues translated by Wrangham, the Georgics by Sotheby, and the Æneid by Dryden. The dedication of Dryden's translation to Lord Normanby is also given, and it is, as is well known, an admirable critique on the Æneid.

Praise or extracts for such works as these would be misplaced.

AN ESSAY ON NEW TRIALS by DAVID GRAHAM Counsellor at law.—1 vol. 8mo—N. Y.—HALSTEAD & VOORHIES.

We can to-day only acknowledge the receipt of this well printed volume, treating a very important branch of law. We hope next Saturday to be able to speak of it, from careful examination.

CITY OF NEW YORK.—NEW YORK AND ITS VICINITY.—These are two very well executed little maps, colored, folded up and bound in morocco—so as to be conveniently put in the pocket and carried about.—The maps are executed by D. H. Burr, and are published by J. DIST RUN.

THE NATIONAL PORTRAIT GALLERY, Part XI., by JAS. HERRING, of New York, and JAS. B. LONGACRE, of Philadelphia; N. York, MONSON BANCROFT.—This number presents us with engravings and biographies of Col. AARON OGDEN of New Jersey, of JAMES FENIMORE COOPER, also a Jerseyman, as we find, though we had always before supposed him a native of this State, and of the Rev. TIMOTHY DWIGHT, of Connecticut. It is an excellent number, both in the execution of the engravings and the biographical sketches—the latter of which, though prone, as is the nature of such notices, especially when applied to living men, to exaggerated estimates of merit, are quite interesting.

COMPANION TO THE NEWSPAPER; London and New York, at WM. JACKSON'S, 71 Maiden Lane.—This is

a capital publication. It is a sort of catalogue raisonnée of the principal matters contained in a London weekly newspaper of great circulation and ability, the Spectator,—and furnishes in a quarto volume of some 220 pages, materials of information, convenient for consultation or history, of the greatest accessibility. Every public library at least, and private libraries of any extent, should take a copy of this publication, which is to be continued annually.

Among the items of great interest in this volume for 1833, are the history of, and discussions concerning, the East India charter, the Bank of England; reform in the law of real property, with a general retrospect of public events, &c.

AN ACCOUNT OF JANE C. RIDER, the Springfield Somnambulist, by L. W. BELDEN, M. D.—Springfield—G. & C. MERRIAM.—When we first heard the extraordinary stories concerning the subject of this memoir, we were certainly among the incredulous. We have now read with care and with interest, this account by Dr. Belden—the physician who saw her in her first paroxysm, and followed up the case till a cure was effected—and we can no longer refuse our faith to the truth of the facts related, nor our conviction that—however inexplicable and unexplained, as many of them still seem to us—there was neither imposture on the part of the girl, nor collusion on the part of those around her.

The great distinction in the case of this young person from other extraordinary cases of somnambulism on record, was an incredible power of vision; and, ingenious as we think Dr. Belden's attempt to explain this power, as the result of a diseased and thereby highly excited state of both the eye and brain, we are not satisfied with it. The idea that any conceivable increase of the sensibility of the retina, accompanied by any morbid change that can be imagined of the brain whereby its perceptive powers should be excited to the utmost, can explain the fact of this girl's reading in a darkened room through thick bandages wadded with cotton and placed over her eye lids—the names of strangers so faintly written in pencil, or in such small letters, as to be scarcely legible to persons with all their faculties awake—seems as contrary to the ordinary course of things—as the very fact, which it is meant to explain. We have nothing better, indeed, to offer in the way of solving the difficulty; and must, therefore, be content to believe—by reason of the unimpeachable evidence in the case—and to marvel.

LIFE OF MA-KA-TAI-ME-HE-KIA-KIAK, OR BLACK HAWK; with an Account of the Cause and General History of the late Indian War, dictated by himself. 1 vol. Boston: RUSSELL, OGDEN & METCALF.—This is the first specimen, we believe, known to our literature, of a savage's auto-biography. It was dictated by Black Hawk, after his tour in the United States, to Antoine Leclair, the United States Interpreter to the Sacs and Foxes, who vouches for the care and fidelity with which it is rendered into English. It is dedicated by Black Hawk in the Sac tongue, to General Atkinson, his conqueror. It refers the cause of the hostility of the Sacs against the Americans, to the fact of treaties surreptitiously made by them, with unauthorized agents of the Sac nation, which, when attempted to be carried into effect, were felt as grievous wrongs and outrages. We do not doubt if there were historians among the Indians, that such or similar would be the origin of most, if not of all, of what are called Indian wars, but which are, in fact, mere predatory excursions to seize by force, the lands we covet and do not own.

The following notice of some of the most interesting points in this history we take from the New England Magazine, for this month:

Behold Black Hawk, then a general, in the British service, and a more respectable one than Sir Hudson Lowe. Fire-arms, ammunition, tomahawks, and clothing, were distributed, and General Black Hawk

started on the next morning, with five hundred braves, to join the allied army, below Detroit.—There was, soon after, a fight, in which, says the general "the Americans fought well, and drove us with considerable loss. I was surprised at this, as I had been told that they would not fight." The same success followed the attack of a fort, and Black Hawk became tired of his new service,—"the success being so bad, and having got no plunder." He remarks, that "the Americans shot better than the British, but are not so well provided for." In fact, our friend Bull always fights best with a belly full; but a Yankee is more pugnacious when hungry. Having left the service, Black Hawk "humiliated himself before the Great Spirit, and returned thanks for preservation through the war." He was never ferocious, and he has recorded, that he often spared the unwarned and helpless. When on an excursion against the whites, to avenge the death of his adopted son, he spared those he came to kill.—"We had not proceeded far, before we met the man whom we supposed we had killed, as he was scalped, staggering like a drunkard, all covered with blood. This was the most terrible sight I had ever seen. I told my comrade to kill him, to put him out of misery,—I could not look at him. I heard a rustling in the bushes, and distinctly saw two little boys concealing themselves. I thought of my own children, and passed on without noticing them."

Black Hawk was ever a good dreamer. The Great Spirit, in a dream, gave him particular directions where to find a large snake, viz: down the bluff, at a creek, in the top of a hollow tree that had been cut down. The snake was to point out with his head, the direction of an enemy. These were two American officers.

At a conference with American agents at St. Louis, Black Hawk and other chiefs, replied to the Commissioners, that "what they had said was a lie," and he seems to have been surprised that such a form of speech should excite resentment. "Here," said he, "for the first time I touched goose-quill to paper, not knowing, however, that by that act I consented to give away my village." Jack Cade was similarly taken in. "Some say," said he, "that it is the bee that stings; but I say it is the bee's wax; for I did but seal a bit of paper, and have not been my own man since."

The loss of two children brought much sorrow upon Black Hawk. He built a secluded hut and reduced himself to poverty. He blacked his face for two years; drank water in the middle of the day, and ate a little boiled corn at sunset. This he did hoping the Great Spirit would take pity on him; and, said he, "I never take a drink of water from a spring without being mindful of his goodness."

But the treaty was to be executed, and the Indians were called upon to leave their village. As the chiefs did not admit that they had knowingly sold it, there was a difficulty in getting them away. Besides, said Black Hawk, "my reason teaches me that land cannot be sold: nothing can be sold but such things as can be carried away." He was the "Village Hampden," and resisted all encroachments on his field. He resolved not to quit, and the Prophet assured him that he would not be removed. General Gaines, however, defeated the prediction, and Black Hawk "touched the goose-quill" to another treaty, and crossed the Mississippi.

But Black Hawk and the Prophet were making ready for war, and the "White Beaver" (General Atkinson) received a message, "If you wish to fight us, you may come on." The events of the war have been detailed in the newspapers. Pressed on all sides, vanquished but not humiliated, he gave himself up to his enemy like Weathersford, Themistocles, and Napoleon. He was carried to Washington, and visited other cities. He was astonished at the good trail which he found for his carriage—meaning the Cumberland road: he saw many wigwams and villages, but could see nothing in the country to induce the people to live in it. The Railroad was yet more astonishing, though Black Hawk preferred to travel on horseback.

The Great Father at Washington he supposes has seen as many winters as himself. "His wigwam is well furnished with every thing good and pretty." At Washington, Black Hawk was well received by the people, and especially, as he says, by the squaws.

He was surprised at the size of Baltimore, and of the "big village where they make medals and money." A New York, to his utter astonishment, he saw a man ascend in a balloon till he was no longer visible: one of his young men asked if he was going to see the Great Spirit. "Every body," said he, "treated us with friendship. The squaws made us many handsome little presents. They were very kind, very good, and very pretty—for pale faces."

The publisher of the American edition of the "Foreign Quarterly" and "Westminster" Reviews, has given notice that the republication will be discontinued. The reasons assigned are the dissatisfaction produced throughout [the] Southern States at the course of the Westminster Review during the last three quarters of 1833, on the subject of domestic slavery in this country, and the general pressure of the times, which have produced a great falling off in the circulation.

The intelligent correspondent of the New York American, who is now travelling in the far West, continues his interesting letters. We renew the hope, expressed some time ago, that these letters may be collected and preserved in a volume. They furnish more fresh and graphic sketches of Western scenery, and better illustrations of Western manners, than we remember ever to have seen any where else.

We may now say, we believe, with some confidence, that the desire repeated in the above paragraph from the Alexandria Phoenix, and which we may add has been manifested in various quarters, for the publication in a book, of the letters from the West of our correspondent II, will be complied with.

They will, it is expected, when completed, constitute a handsome volume, comprising much information in detail, statistics, prices of land, produce, &c., which was not deemed as well suited to the columns of a newspaper.

We have several letters now on hand, which lose nothing of their interest or freshness as they increase in number.

FOREIGN INTELLIGENCE.

LATE FROM EUROPE.—The ship *Victoria*, from Liverpool, brings us London papers to the 3d ult. inclusive, and Liverpool papers of the 4th. The accounts are not particularly interesting, and therefore, as we are much pressed for room, we do not make many extracts. Sir Thomas Denman has been made a Peer.

FRANCE.—The Ministers have succeeded in carrying their law on the subject of associations, nearly in the state in which they first proposed it,—all the amendments at all calculated either to modify its oppressive character or even to limit its duration having been rejected by large majorities. At the final debate, which took place on the 25th ult., M. Page spoke strongly against the measure, and in the course of his speech made the following solemn protest against it:

"If (said the Hon. Deputy) a Frenchman, an honorable man, wishes to form a union to propagate, strengthen, or preserve Christianity—I am his man, in spite of your Ministers and your law."

"If a Frenchman, an honorable man, wishes to form a union, to extend charity and assistance to the poor and laboring classes, to the sick, or to the workmen out of employ—I am his man in spite of your Ministers and your law."

"If any Frenchman, an honorable man, wishes more extensively to diffuse acquired truth, sound doctrines, and the knowledge which appears for the morality of the future and the happiness of mankind—I am the man, in spite of your Ministers and your law."

"If any Frenchman, an honorable man, wishes to secure to his country the safeguard of electoral independence, and oppose those disgraceful elections, which deliver political venality up to Ministerial corruption—I will be with him, in spite of your Ministers and your law."

"The slave of all just laws, the enemy of all unjust laws, between the prosecutors and their victims I will not hesitate. I know no human power which can make me apostatize from God, humanity and France. I will disobey your law, to obey my conscience."

On the division, the numbers were for the bill, 246,—against it 154,—majority 92. Several of the societies in the provinces have already protested against the law, and announced their determination to disobey it. Some of the most distinguished members of the *Société des droits de l'homme* have deemed it expedient to quit Paris. The veteran patriot, Lafayette, has delivered the following written protest against the measure:

"The new and progressive attack on our July re-

volution has been so completely manifested on both sides in the debates that my forced absence from the Chamber is a subject of regret for myself alone. I could, nevertheless, have certified to the heirs of 89 and 1830 that, even under the ancient regime, such an interdiction, subject to the good pleasure of the police of Sartines and Lenoir, would have excited astonishment and indignation, even in the Saloons of Versailles. I now confine myself to adding my personal protest to the numerous votes of my honorable colleagues against this anti-social consequence of a system, the origin and tendency of which I pointed out long ago. Paris, 26th March, 1834.

(Signed)

"LAFAYETTE."

The *Tribune* has the following:—The *Union de Juillet* held a general meeting yesterday, under the presidency of General Lafayette, when they entered a protest against the Associations' Bill, and pledged themselves not to submit to it! Without making public things which concern the society alone, we say that more than one deputy was present at the meeting, and that M. Lafitte was not the least energetic in recommending resistance."

SPAIN.

BAYONNE, March 25.—Quesada has at last received instructions to commence operations, and this evening we learn that his division is already on its march, but the insurgents, as soon as they got intimation of it, immediately put themselves in motion, and are proceeding towards our frontiers. At Elisoondo the municipal authorities were seized with panic, as well as the workmen who were making uniforms for the Carlists, who all took flight towards Balcarlos, and spread alarm throughout the country. Numerous persons are emigrating from the country, and the place is full of persons who have fled thither, conceiving themselves in danger by the proclamation of Quesada.

The following is an extract of the *Bolatin de Comercio*, respecting the convocation of the Cortes, and which it states, is obtained from quarters which are usually well informed:—

There will be two Chambers, one styled 'Proceres del Reyno,' (Peers of the realm) and the other, 'Procuradores del Reyno' (Deputies of the kingdom).—The Chamber of Peers will be composed of the Archbishops and Grandees of Spain and Castile, Generals who have distinguished themselves, Magistrates, Landed Proprietors, Principals of Manufactories and Commercial Establishments, Directors of Public Instruction, and those who have rendered service to the country. The sittings will be public, and the dignity of the Peerage conferred for life. The Chamber of Deputies will be composed of persons freely elected, who have an income of 12,000 reals, and have attained the age of 30.

Government servants, lawyers, physicians, clerks of the supreme tribunal, and surgeons, may be elected Deputies, when possessing only half the above mentioned income.

Every elector must be possessed of an income of 6000 reals. The population of the places will be the basis on which the number of members to be returned will be decided, who will be elected for three years. The Cortes will vote the taxes. The King will have the power of convoking, provoking, and dissolving the Cortes; but he must convoke another for at least a year. At the death of the King the Cortes will assemble, that the heir to the throne may swear to protect the laws. The Cortes will also meet on any extraordinary occasion.

The Indicator of Bordeaux of the 27th inst. has the following of the 25th from Bayonne:—"The faction of Biscay is entirely dispersed, but the vexations of the inhuman Zabala are not at an end. It is said that Gen. Espartaco, in consequence of arrests made by Zabala at Legneito, has taken several of the Carlist inhabitants of the same town as hostages. In consequence of the entry of the insurgents in to Vitoria, the Queen's troops made 52 prisoners, including 7 officers, who were shot, as well as a man who fired at a conscript from his window, by order of Gen Ossa." It has the following from Madrid, dated the 19th inst:—"By a Royal decree, the Queen has named Patriarch of the Indies Don Manuel Frayle, Bishop of Sigüenza. By another decree Don Jose Maria Manesca has been named President of the Royal Court at Madrid. Don Pedro Volleli is named Corregidor of Madrid. Major-General Miguel Tacón has been appointed a Lt General, and Capt. General of the Isle of Cuba."

It is said the King of Holland has refused the pardon for which POLART prayed in his petition, or to grant any mitigation of the sentence pronounced on him for stealing the Princess of Orange's jewels.—[Times.]

By the packet ship United States, Capt. Hordredge, from Liverpool, we have Liverpool papers of the 8th, and London of the 7th April. It will be seen that a new French Ministry has been formed.

[From Bell's Weekly Messenger, April 6.]

The foreign intelligence of the week, so far as it relates to France, is not without interest. The American Indemnity Bill was rejected in the Chamber of Deputies on Wednesday by a majority of 176 to 168. Two of the Ministers, the Duke de Broglie and General Sebastiani, spoke at great length and with much vehemence in its support, and all the Ministers voted for it. But it was rejected by a majority of eight in a very full Chamber, much, very much, to their credit.

The Duke de Broglie and General Sebastiani immediately tendered their resignations. M. Guizot shortly after followed their example, and it was expected that M. Humann, the Minister of Finance, would also resign. The Cabinet is thus broken up. An attempt will be made to induce the Duke de Broglie to remain, but it is supposed that it will not be successful.

The consequences of the change of ministry in France at the present moment, says an able contemporary, may be of the utmost importance. It will be clearly impossible to carry the associations' law into effect by a divided and feeble administration, in the present temper of France, especially on the eve of a general election. Who are to be the successors of the resigned ministers is not yet fixed.

[From the London Times, of 7th April.]

We have waited with some anxiety, or at least with much interest, to learn the new cast of the French Ministry, the completion of which appears in the *Moniteur* of Saturday.

It was scarcely possible to conceive that the Duke de Broglie could resume his portfolio; after his resignation of office had been recorded in the *Moniteur*, and in the face of a vote of the Chamber of Deputies, which, though perhaps now repented of, could not be reversed. But it is not easy to imagine how he alone should have been expected to resign, since the treaty which he defended so ably in the Chamber was made in the time of his predecessor, and must have had the sanction of the whole of his colleagues, as well as his own. However that may be, his place is not yet adequately filled, and cannot perhaps be so worthily occupied by any French candidate for the Foreign office.

If, however, the French public has to regret the change in the Foreign Department, which has deprived them of the zeal and talents of de Broglie, some of the other appointments in the new Cabinet will appear still more objectionable. If there be one man in France more unpopular than the late Minister of Justice, Barthe, it is M. Persil, who is nominated his successor. The continued assaults of the latter upon the press, and the desire which he has shown to alter the constitution of juries, will make his appointment appear the result of a contempt for public opinion, rather than of a compliance with the dictates of a moderate policy. The transference of M. Thiers from the Board of Trade to the Ministry of the Interior is an event of no consequence; but surely M. D'Argout must have thought himself the victim of an intrigue in being obliged to exchange the honors and emoluments of the Minister for the place of the President to a banking establishment.

We quote the abstract of the new appointments from the *Moniteur*, premising that the modifications of the Cabinet are said by the French journals of Saturday not to have been completed till Friday evening. The official journal promulgates Royal ordinances, by which M. Persil, Deputy, Procureur-General of the Royal Court, is appointed Keeper of the Seals, and Minister of Justice and of Worship, in the room of M. Barthe, who is created a Peer of France, and made First President of the Court of Accounts, in the room of M. Barbe Marbois, who resigns, but who is invested with the dignity of Honorary First President of the Court of Accounts.

M. Thiers, Deputy, Minister of Commerce and Public Works, is appointed Minister of the Interior in the room of Count D'Argout, who is made Governor of the Bank of France in the place of the Duke de Gaete.

M. Duchatel, Deputy, is nominated Minister of Commerce in the room of M. Thiers.

The separation of the attributions of the Ministers of the Interior and of Commerce will be hereafter determined by a special ordinance.

Vice-Admiral Count de Rigny, Deputy, and Minister of the Marine and Colonies, is appointed Min-

ister of Foreign Affairs in the room of the Duke de Broglie.

Vice-Admiral Baron Roussin, Ambassador at Constantinople, is named Minister of the Marine in the room of Admiral de Rigny, who, however, will continue to exercise the functions of his late office till the arrival of Admiral Roussin.

M. Martin du Nord, Deputy, and Advocate General of the Court of Cassation, is appointed Procureur General of the Royal Court in the room of M. Persil.

It will be seen, therefore, that the Ministers who retain their previous offices are Marshal Soult, President of the Council and Minister of War; M. Humann, Minister of Finance; and M. Guizot, Minister of Public Instruction.

"The Sultan has," says the London Spectator of 29th March, "replied to Lord Ponsonby's interrogations respecting his famous treaty with Russia, in the most firm and haughty tone. He has made up his mind to keep his engagements with the Czar, in spite of the hatred which his subjects bear to the Russian alliance. The *Times* correspondent at the Porte says—

"The Russian fleet, with 25,000 men on board, is waiting at Sebastopol for sailing orders: considerable bodies of troops are advancing in the direction of the Danube; and by a late ukase, the 60,000 men raised in Moldavia and Wallachia have, though Turkish subjects, been incorporated in the Russian army."

"Excepting Lord Palmerston, no one, we imagine, places any confidence in the pacific professions of Russia. These warlike preparations give the lie to all such palaver."

A letter from Constantinople, dated the 4th ult., the statements in which, if founded in truth, seem greatly exaggerated, has the following: "It is certain that the steam packet which recently conveyed Halil Pacha to the Dardanelles had a detachment of artillerymen on board; it is also certain that the fleet and Turkish army are recruiting with extraordinary activity, and that Russia has just levied troops in Moldavia and Wallachia. By what right? All that we know is, that the Russian fleet stationed in the port Sebastopol is ready to set sail, at the first signal, for Constantinople; that Nicholas has sent to Achmet Pacha 1,000,000 of ducats, proceeding from the debt of Turkey to Russia; that he has granted the Sultan eight years to pay off his debt; that a serious revolt, the instigators of which are unknown, had broken out in Bagdad, and in Kurdistan, and that the Porte has been obliged to send an imposing force there; that Constantinople is in a deplorable condition; that its trade has never been so slack; that nothing but a miracle can save the Ottoman Empire, and unfortunately the times for miracles are past."

The Augsburg Gazette of the 1st inst. has the following, of the 26th ult., from Vienna:—"It is thought that the Congress will hold a grand sitting this week, which will be attended by M. Ancillon. Resolutions will then be agreed to, sufficient of themselves to contradict the injurious reports sent abroad by the French journals relative to the intentions of the Germanic Governments, and to the debates of the Congress."

The Madrid Gazette of March 27, announces that a Plymouth vessel, called the *Express Packet*, laden with 2,500 muskets, 200 barrels of cartridges, 180 barrels of gunpowder, and other warlike stores for Don Carlos, has been captured in Vigo Bay by the Government Guardacosta brig the *Argus*. The same Gazette contains two decrees, signed on the 26th, at Aranjuez, one of which orders the seizure of the temporal property of all the ecclesiastics who have quitted, or may quit, their churches to join the rebels; and the other commands the suppression of all convents the members of which shall have mixed themselves up with the plots of the Carlists, either by joining the insurgents, concealing ammunition or warlike stores, or assembling clandestine Juntas.

PORTUGAL, OPORTO, MARCH 24, four o'clock p.m.—The governor of the city has just received a despatch of four lines from Admiral Napier, who says—"This morning I took Camina by surprise, and Viana will be shortly in our possession." The Admiral landed there with about 500 men, brought from Lisbon in the steamers *George the Fourth* and *Lord of the Isles* and mastered the place (where the feeling is strongly in favor of the constitutional cause) without opposition.—[*Times*.]

Before the arrival of M. de Sarmiento it was resolved, as I advised you at the time, to pass the Portuguese frontier in considerable force, for the purpose of

protecting the frontier provinces from the menaces of Don Carlos and his ally of the House of Braganza.—Instead of a mere inroad however, in quest of a fugitive pretender, the troops of the Queen of Spain, whether with or without a formal declaration of war, will assume an attitude directly hostile to one branch of the House of Braganza, and will act of course in perfect accordance with the views of the other. This was one of the leading objects of the mission of M. de Sarmiento to Madrid, and it will not be completed to the satisfaction of men of liberal principles in either of the two kingdoms, until the whole peninsula is united in action, as it is already in interest, by the conclusion and ratification of a treaty of alliance offensive and defensive.

NAPLES, March 15.—The union of Prince Leopold, Viceroy of Sicily, and second brother of the King, with the Princess Mary, daughter of the King of the French, is no longer a matter of doubt: the marriage is to be celebrated in the course of this spring. Much hope is placed in the alliance, the young Princess having been educated under the immediate eye of Madame Adelaide, whose cultivated understanding and richly endowed mind are well known. In Palermo, which is to be the residence of the Royal pair, the news has created the liveliest sensation, the young Princess having been born there. It is said that the Queen of the French will accompany her daughter here; at a later period the Dukes of Orleans and Nemours will also pay us a visit. This has given rise to a report that our Sovereign had changed his opinion relative to his sister, the Queen Regent of Spain. Interesting discoveries have been made at Torre del Annunziato; it is not yet known whether the temple being now cleared there, forms part of a grand Roman villa, or whether it be the commencement of a third buried city, like Herculaneum and Pompeii. Communication is now opened with Greece. Vesuvius is sending forth slight eruptions. The *Gazette* quotes the funds at Vienna, on the 22d inst.—Metallics, Five per cents., 98 1-16; Ditto, Four per cents., 88 7-16; Bank Actions, 1,248.—[Augsburg Gazette.]

The Frankfort Gazette of the 29th ult. announces the death of the reigning Duke of Anhalt Bernburg, father of the Princess Frederick of Prussia.

Recent accounts from Napoli di Romania announce the death of the Greek Captain Colocotroni, in the prison in which he had been confined several months, or having taken part with several other Chiefs in a conspiracy against the Government.

CASPER HAUSER—whose mysterious story and recent death by violence, caused so much interest, would appear by the annexed paragraph, to have entailed destruction too upon his friend, patron, and biographer, the Jurist *Fuerbach*.

According to the Hanoverian paper, the celebrated German Jurist, Fuerbach, who died lately at Frankfort, during a journey undertaken for the benefit of his health, is now generally believed to have been poisoned. He was a kind patron of the unfortunate Casper Hauser, and the most zealous in his endeavor to discover the murderers of that mysterious youth.—[German Paper.]

COAL vs. GOLD.—In a work lately published by a Spaniard, there is a comparison between the produce of the gold and silver mines in America and the coal mines in England, from which it appears that the gross value of the annual produce of the coal mines, which is 18,000,000 tons, amounts to 450,000,000 francs, including the wages and other charges; whilst the produce of the gold and silver mines, including the same charges, is only 220,500,000 francs; showing a balance in favor of the coal mines of England, over the gold and silver mines of the New World, of no less a sum than 227,500,000 francs.

The Prince of Orange, if we are to credit the private correspondence of the *Times*, is still suspected of having made away with his wife's jewels, notwithstanding the man named Polari has confessed that he was the thief. It is said that Polari, who might have escaped by taking advantage of a technical blunder in the proceedings against him, appeared eager to be convicted; and now it is supposed he will be pardoned.

SUMMARY.

The Georgetown Union, of the 23d inst., says—"We are informed all the Pee Dee country is under water, and the injury to the rice field banks must, in consequence, be very serious. The tides for several days past, were higher than we recollect, without the agency of a heavy gale."

CURIOUS PHENOMENON.—The Montreal Herald of 28th, states that—

"On Saturday morning, a very singular phenomenon was observable from the river bank in front of our city. Those who are blessed with a very strong sight perceived, as they supposed, an immense number of small birds in the air, but at such a height as to render even birds, in that situation, a curiosity.—We happened to be passing, and in vain strained our eyes to discover the objects which others were contemplating with so much eagerness—by the help of a glass, however, we at last perceived what was to all appearance an immense flock of small birds.—These objects passed away in millions before the current of the light wind then blowing, but many descended lower than the rest, until easily discernable by the naked eye. At length they approached the earth, and proved to be maple leaves of an unusually large size. Many of them were picked up by the citizens, and we have kept one. Whence they came, or how they got there, are questions which furnish a wide field for conjecture. One *shrewd* fellow observed, "that this must be the fall of the year in the moon, and that they certainly came from thence."

[From the Baltimore American of Saturday.]

Great Aeronautic Expedition.—The circumstances attending the second splendid balloon ascension of Mr. MILLS, on Thursday afternoon, render it one of the most lengthened and interesting aeronautic expeditions ever made. We mentioned in yesterday's paper the particulars of his departure from Fairmount, and the apparent course he had taken: and are now enabled to supply some very interesting details of his long and rapid flight through the upper regions. His first course, after ascending, was about south east, but in a short time a counter current of air wafted him in an opposite or westerly direction, immediately over the city. His flight westward was only as far as a point above the long bridge over the Patapsco, when he encountered an adverse current, which carried him back again in an easterly course.

During all this time Mr. Mills continued to rise, by occasionally throwing out ballast. His compass now proved of no service to him, from the constant rotary motion which the balloon assumed, first swinging round in one direction and then revolving in a contrary one. The course of the balloon was eastwardly. At forty minutes after five, Mr. M. encountered a violent snow storm, with the thermometer down to 34 deg. Besides being obliged to endure its peltings he was subjected to a thorough drenching from the melted snow, which thawed as it fell on the balloon, and ran down from its neck to the car immediately under it. At the same time, also, a body of clouds passed beneath him, and he lost sight of the earth altogether. The storm, however, soon passed off, and, except the drenching, left him unharmed.

At six o'clock he had attained his greatest elevation, which according to his estimate and the indications of the barometer, was upwards of *two miles*!—The thermometer was now down to 33 deg., or only one degree above freezing point. Mr. M. all the while was going eastwardly, passing over the light house at North Point, and across the expanse of the Chesapeake Bay towards Kent County, on the Eastern Shore. He had now had recourse to his valves, and was gradually descending. After having passed into Kent County about half a mile, he made preparations to land, and had descended within about five hundred feet of the earth, when the balloon was taken by a sudden and violent gust or current of wind from the east. This was at 35 minutes after six. In an instant after the wind struck the balloon, it was driven with the swiftness of an arrow, and in the short space of seventeen minutes, he was carried back to North Point, a distance of *fourteen miles* across the Chesapeake Bay!

Now as heretofore, Mr. M. preserved an undaunted coolness and self possession, and as he was careering across the waters with the fleetness of the wind itself, he discharged gas enough to bring him within two hundred feet of the surface. As the anchors struck the water they rebounded with a force that gave him a pretty distinct notion of the rate at which he was travelling. As soon as he came over the land at North Point, the wind greatly abated, and at ten minutes before seven he effected a safe landing on the farm of Mr. Lynde Goodwin, from whom and his family he received every assistance in securing his balloon and apparatus in perfect order.

Thus terminated this most extraordinary aerial voyage, prosecuted for three hours, to the distance of about fifty miles, and for the greater part at an elevation of one to two and a quarter miles. After this feat, Mr. Mills,—who, it should be borne in mind, is a young Mechanic of Baltimore—self taught, and

dependent alone on his own unaided efforts,—may fairly take rank with the most successful aeronauts of the age.

The following table shows the observations made by Mr. Mills on the barometer and thermometer, at various periods during his voyage. He left Fairmount at ten minutes before four o'clock, P. M.

TABLE OF OBSERVATION.

Time.	Barometer.	Thermometer.
k. min.	in. 10th.	deg.
3 57	20 6	63
4 15	25 8	59
4 25	24 2	54
4 40	24 1	51
4 55	23 9	43
5 10	23 4	41
5 25	23 0	46
5 40	22 9	34
5 55	22 8	34
6	22 7	33
6 15	53 0	36
6 20	23 4	41
6 25	24 2	58
6 35	27 0	58

Appointments by the Governor, by and with the advice and consent of the Senate, May 3.

New York.—Stephen Allen, Benj. M. Brown, Saul Alley, Charles Dusenbury and William W. Fox, for Water Commissioners for supplying the city of New York with pure and wholesome water.

NAVAL EXAMINATION.—The Board for the examination of Midshipmen whose warrants bear date prior to 1829, will convene at Baltimore on the first Monday of May next. Commodore Jacob Jones will be the President of the Board.

AMERICAN LYCEUM.—The Fourth Annual Meeting of the Society opened yesterday morning in the United States District Court Room, east end of the New City Hall, or Old Alma House.

President Duer presided, and Wm. B. Kinney officiated as Secretary.

Forty-two Delegates were reported from different Lyceums and kindred associations in different States; among others we heard the names of Judge Clayton of Georgia, Hon. Wm. B. Calhoun and A. H. Everett of Massachusetts, Dr. Weeks, President of the New Jersey State Lyceum, &c. Among the invited guests are Don Tomas Gener, the President of the Cortes of Spain, the Marquis Aycnena, and other foreigners of distinction.

The morning sessions will commence at 9, and the afternoon at 4. The following subjects will be particularly discussed:

1. The propriety of establishing central schools for the education of teachers.
2. The applicability of the monitorial system to schools generally.
3. Corporal punishments.
4. The means of introducing the elements of natural history into common education.
5. The propriety of teaching the ancient languages in common schools.

Interesting reports and essays may be expected on various subjects.—[Daily Advertiser.]

The following useful Table of Bank Notes received in deposit at our Banks, was politely presented to us yesterday by the receiving Teller of the Phoenix Bank.—[Gazette.]

Farmers' Bank, Troy,
Bank of Troy, do
New York State Bank, Albany,
Canal Bank, do
Mechanics' and Farmers' Bank, do
Saratoga County Bank,
Ulster County Bank,
Bank of Newburgh,
Catskill Bank, Catskill,
Farmers' Bank, do
Westchester County Bank,
Hudson River Bank,
Dutchess County Bank,
Bank of Poughkeepsie.

And \$100 bills only of Troy City Bank.

100's of Merchants' & Mechanics' Bank, Troy.
100's and 50's of Con'l Bank, Albany.
100's and 50's of Lansingburg Bank.
10's and upwards of Sussex Bank, Commercial Bank of Amboy, and Farmers' and Merchants' Bank of Middle Point.
5's and upwards of State Bank, Elizabeth town; State Bank, New Brunswick; State Bank, Newark; State Bank, Morris; Mechanics' Bank, Newark; Newark Banking Insurance Co.; Farmers' Bank, Rahway; Orange Bank, county of Essex; Norwich Bank.

All denominations received in deposit by the several Banks of this City.

Splendid Fire Engines.—We do not believe there is in the world a more magnificent thing of the sort, than the new Engine belonging to the Columbian Company, and which that spirited association have been exhibiting to their fellow citizens at the Engine House in the rear of St. Paul's Church, at the corner of Vesey and Church streets. The frame of this elegant machine is of very superior construction, and the ornamental appointments are of the costliest and most tasteful description, as well indeed they may be, since some of our most meritorious artists have been employed in the work. The carving, which is the work of Watkins & Barry, Chatham square, is done in mahogany, but so beautiful is the gilding and bronzing, (by Riley Beardman, 249 William st.) that it would be taken at once for solid metal. The plating is superb, and is by George Rudd, 549 Broadway; the casting by Wallace & Bunce, of Spruce street. The painting is by Weir, and of course is excellent, as well in design as in execution. The back is painted by John Quidor, 46 Canal street, and deserves great praise. The motto of the company—"Actuated by benevolence, impelled by emulation"—is not only beautifully engraved, but is much truer to the intent and nearer to the actual character of our gallant fire companies than most mottos are. The back scene, representing the parting of Otwa and Azula, from the curse of Talhoosin, is uncommonly fine. In short, the whole work reflects the highest credit, as well to the various artists who have been employed in its construction and decoration, as to the deserving Company of enterprising young men to whom it belongs.

By the by, the whole existence of such a body as our firemen—volunteers as they are altogether in arduous, fatiguing, and often perilous duties, seems to us, in a degree, characteristic and peculiar.

In London, the firemen receive regular pay, and are a body apart. In Paris, they are a military corps—*Sapeurs et Pompiers*. In our American cities they are young men of all pursuits, who spend time, labor, and money—much money sometimes, as the decorations of the engine above described will prove—for the general good without any compensation to be named: for the exemption from jury duty and a portion of taxes is nothing in comparison with their sacrifices. Yet there is among these volunteers much skill, and probably more emulation, than in the paid servants or soldiers of other countries.

The Lost Mail.—A letter from the Post Office at Columbia, to the Post Master in this city, dated the 18th, says, "I have been informed that it was the Great Mail which was lost in the river on Sunday last. They have succeeded in getting the way mail out of the river."

THE LOST MAIL FOUND.

Post Office, Camden, April, 21st, 1834.

Mr. MICHOU:—Sir:—The large Augusta Mail bag from this Office, that was lost in the river on Sunday the 13th, was found by a negro, nine miles below the Ferry, lodged in a raft, and brought to this Office last evening. It is in a very wet, bad state. Your letters, with the Way-bill dated 12th, were all safe, and I think all the rest will be safe. I am drying and putting them up in as good a state as I can, before I forward them. Yours, &c.

T. THORNTON, P. M.

Shipwreck.—The Boston Transcript says—"We have seen a letter from Captain Isaac Percival, of the schr. General Jackson, from this port, on a sealing voyage, dated at the Isle of France, in December last. He states that after leaving St. Salvador (no date given) he proceeded to the Island of St. Paul's, where he found twenty-one poor unfortunate beings, the only survivors of ninety-one men, women and children—crew and passengers of the English ship Lady Monro, cast away there. They had been shipwrecked ten days, but the bodies of the dead remained unburied. After performing the unpleasant task of committing the putrid bodies to the earth, he embarked with the survivors, on board his vessel, and carried them in safety to Port Louis, in the Isle of France. The Lady Monro was commanded by Capt. John Aiken. She sailed from Calcutta on the 27th June, and was wrecked on the night of the 11th October."

We have been informed that a young man, son of Mr. Brass, near Kingston, was attacked and devoured by wolves last week in the woods 14 miles from this place. The young man was connected with some Indians in the vicinity, and had been missing two or three days; search was made and part of his skull, and some other bones were found. Our information

is positive, or else we should be inclined to doubt the report. The wolves are very numerous in the woods this season.—[Kingston (U. C.) Herald.]

STEAMBOAT DISASTER.—A letter to the Postmaster of New York, from Columbus, Geo., announces that the mail boat "Star of the West," plying between New Orleans and Mobile, burst her boiler on the 18th ult.,—killed two persons and injured others—all in confusion, and no mail from New Orleans, says a bill from the Mobile Post Office.

ANOTHER.—The St. Louis Republican of 17th ult., says—"By an arrival from the Upper Mississippi, we learn that the Steamboat *St. Louis*, bound to Galena, has burst her boiler, by which 12 or 14 persons were killed."

The accident happened in attempting to pass the Des Moines Rapids. The stern of the boat struck upon a rock and careened her over—the water in the boilers of course running to the lower side. In this situation the boat remained for twenty minutes or half an hour, when she righted, and the sudden return of the water into the boiler produced an instantaneous explosion. The names of the sufferers are—Perkins, the Engineer, killed; Miss More, blown overboard and lost; Mrs. Moore and son, dangerously scalded, and three other children killed; Mrs. Lockett, from Mill Creek, Illinois, badly scalded; Isaac Mars, dying when the account left; three Germans dangerously scalded, and three other persons slightly injured. The *St. Louis* was chartered for the trip from New Orleans to Galena.

There seems to be a considerable excitement among the lawyers, and in the newspapers of Cincinnati, on the subject of a Clerk to the Court. The grounds of the original dissections are not stated, but we notice among the prominent facts, stated in large capitals, the certificate of one of the Judges that an offer of *one thousand dollars* had been made to him for his influence in obtaining the office for the successful applicant. It must be a snug birth, and as the judge did not take the money, there is a handsome sum saved in the outfit.

THE EARTHQUAKE IN PASTO.
[From the *Journal of Commerce*.]
PROVINCE OF PASTO, 5th FEBRUARY, 1834.
To the Honorable the Secretary of State for Home and Foreign Affairs.

SIR—In my communication of the 29th of January, No. 5, I promised, through the medium of your Excellency, to detail to the Supreme Government, the remarkable events occasioned by the Earthquake of the 20th of the same month; and I take the present occasion of fulfilling my promise with reference to whatever information I have received from the Political Chiefs of Pasto and Tuquerres, touching this subject, in compliance with my directions to them.

The Executive ordered a survey to be made of all the buildings which remained standing in the former city; and the result has been, that the ward of Francisco, is ascertained to have suffered least, since the greatest part of the houses in that district, although injured, may be nevertheless inhabited, because they are not bulged out, but the rest of the edifices in the city, which remain not destroyed, would be pulled down to their foundations, from their utter insecurity and their danger to the public; also the number of the dead hitherto found is 51, and of the mutilated 50.

The Temples and Cloisters of Monjas, of Merced, of San Augustin, of San Francisco, and Santa Domingo, must be raised anew from their foundations, as also the churches of San Sebastian and Santiago, the Public Bakery and Town gate.

To restore the cathedral to its former condition will be attended with the least expense of any of the churches; because the steeple and Frontispiece have alone fallen, and the fissures in the main walls are but trifling.

The villages in the neighbourhood of the city of Pasto, namely, Laguna, Mocondino, Buesaquillo, Pejundino, Puerres, Canchalla, Tamondino, Tongovito, Gualmatan, Pandiaco and Tescual, have all lost their churches, and the two first named towns lost some of their thatched houses and five of their inhabitants.

The parishes of Malatuy, Yacuanquer, Tambo, Buiaico, Funes, and their neighbouring parishes, have likewise had their churches destroyed, their Plantations and tiled houses; but that lamentable loss of life has not been incurred there, which befel Pasto and the parish of Sibundoy, whither I have sent two Commissioners to examine whether the origin of the

Earthquake may be traced to one of its mountains or lakes.

The Commissioners report, that at the right of a large Lake in the District of Sibandoy, a small rising ground is observed, which has vomited from its bosom large pieces of rock, and that huge and profound caverns are in the neighborhood surrounding the Desert called Bordoncillo; that almost the half of this Desert has been precipitated into the bowels of the Earth and the other part raised as it were above the surface, till it had formed a mountain of similar origin, situate between Sibundoy and Aguatico, which in its formation overspread a great deal of the original soil. The Commissioners further state, that this mountain has, from the successive convulsions of the earth, mouldered away, covering the high roads, and causing the formation of immense marshes in the neighborhood; that portions of the earth, precipitated occasionally from its tops, fell into the bed of the river Balsayaco, and obstructed its course, the sudden and impetuous overflow of which destroyed the lands and houses of the people of Santiago, forcing its waters even as far as Putumayo, being increased by nearly ninety tributary streams; and they state that the church and ten houses have been reduced to ruins, and the remainder of the inhabitants have fled into a high mountain, with all the images which they were able to save from the wreck. Almost the whole of this Canton is overspread with large abysses, principally in the parish of Yacuanquer, where its numerous eruptions have fortunately not disturbed the course of the river Guitara.

The Churches of the Parishes Zuassuyes and Ipiales of the District of Tuquerres have been likewise overthrown; and there considerable chasms in the territory of Guachucal, but Divine Providence has graciously been pleased to preserve its inhabitants from other evils.

Motions of the earth are even still felt there, and its frightful growlings terrify us every instant, and the one as well as the other, are felt to proceed from that part of Mocoa, whence they seem to originate; but up to this moment I have had no account of that unfortunate people. The heat of the sun has been excessive and destructive of the crops, but it has moderated since morning, and rained heavily last night, which affords us much consolation, as it prognosticates approaching winter.

Hoping your Excellency will be pleased to communicate the above to the proper authority, may God preserve your Excellency many years.

THOMAS ESPANA.

CIRCULAR.
Colombia, State of New Granada, Home and Foreign Office, Bogota,
February 11, 1834.

TO HIS EXCELLENCY
The Governor of the Province of ———.

On the 20th of January last, at seven o'clock, in the morning, the City of Pasto had been converted into ruins in an instant, by a violent earthquake, followed up by continual motions of the earth, and occasional severe shocks, which were felt even to the eve of the 22nd at the moment of the departure of the last post. More than fifty dead bodies, and as many others in an expiring state have been already extracted in the rubbish on the remote outskirts of the city; and a nameless multitude of victims are altogether buried beneath the wreck. The infection of the air and the absolute state of destitution, being without clothes or food, to which those are reduced, who have survived this lamentable catastrophe, in a season of extraordinary heat by day, and most rigorous frosts by night, give menacing forebodings of an approaching plague. The desolating effects of the season, itself scorching up the crops or nipping them in their bud, threaten the surrounding country with a future famine. Similar scenes of misery and of death, have been exhibited amongst all the neighboring villages, and must also have taken place in the other towns of the Province, situated to the South, and which are of most importance, because the movement of the Earth has taken its origin and direction, from the Volcanoes of the Province of Imbabura in the State of the Equator, and it is known likewise that this Earthquake has destroyed the City of Almaguer, which is in the meridian of the City of Popayan.

To events of such dismal and affecting nature, neither the Government nor the inhabitants of New Granada can be insensible or indifferent.

The President has given for transmission by the Post which departs to-morrow morning, three thousand dollars, to relieve the first necessities of the loyal and industrious PASTUSIANS. But this scanty supply being disproportionate to the pressing wants of the survivors, I am directed hereby to request

your Excellency will solicit other greater and suitable contributions from the patriotism and philanthropy of the inhabitants of your Province, who, I am persuaded, will not be deaf to the cries of afflicted humanity. In the following parts of the Province of Popayan, a subscription has been collected for the sufferers, to which almost all have contributed with a prompt and generous liberality: and Pasto will quickly re-ascend from its ruins, if all the other districts of the Republic but imitate this laudable example, in fulfilling a solemn and sacred duty. * * *
LINO DE PONSE.

A GOOD STORY.—"One seldom hears a good story now-a-days: the following is not bad. A year or two ago there came to the Lion, at ———, a pleasant-looking, bustling, great-coated, commercial-traveller sort of a body. 'Well, landlord, what have you got, rump steak, eh? oyster sauce, eh? bottle of sherry, good, eh? send 'em up.' Dinner was served, the wine despatched, and a glass of brandy and water comfortably settled the dinner.

'Waiter,' said the traveller, coolly and dispassionately wiping his mouth with a napkin, 'Waiter I am awkwardly situated.'

'Sir?' said the waiter, 'expecting a love-letter.'

'I cannot pay you.'

'Sorry for that, sir; I must call master.'—(Enter landlord.)

'My good sir, you see this is rather awkward—good dinner! capital! famous wine! glorious grog!—but no cash.'

The landlord looked black.

'Pay next time—often come this road—done nothing to-day—good house yours—a great deal in the bill way.'

The landlord looked blue.

'No difference to you, of course?—pleasant house here—plenty of business—happy to take your order—long credit—good bill.'

'There is my bill, sir—prompt payment—I pay as I go.'

'Ah, but I must go without paying. Let us see—bill 17s. 6d. let us have a pint of sherry together—make it up a pound—that will square it.'

'Sir, I say you are a swindler, sir!—I will have my money.'

'Sir, I tell you I will call and pay you in three weeks from this time exactly, for I shall have to pass this road again.'

'None of that, sir—it won't do with me—pay my money, or I'll kick you out.'

The stranger remonstrated—the landlord kicked him out.

'You will repent of this,' said the stranger.

The landlord *did* repent it. Three weeks after that day, punctual to his word the stranger re-entered the Lion Inn—the landlord looked very foolish—the stranger smiled, and held out his hand—'I've come to pay you my score, as I promised.'

The landlord made a thousand apologies for his rudeness—'So many swindlers about, there's no knowing whom to trust. Hoped the gentleman would pardon him. 'Never mind, landlord; but come, let's have some dinner together—let us be friends. What have you got, eh?—a couple of boiled fowls, eh?—nice little ham of your own curing? good!—greens from your own garden? famous!—bottle of sherry and two bottles of port—waiter, that is excellent.'

Dinner passed over—the landlord hobbled and nobbed with the stranger—they passed a pleasant afternoon. The landlord retired to attend to his avocations—the stranger finished his 'comforter' of brandy and water, and addressed the waiter—

'Waiter, what is to pay?'

'Two pounds ten shillings and threepence, sir, including the former account.'

'And half a crown for yourself?'

'Makes two pounds twelve shillings and ninepence, sir,' replied the waiter, rubbing his hands.

'Say two pounds thirteen shillings,' said the stranger, with a benevolent smile, 'and call in your master.'

(Enter landlord, smiling and hospitable.)—'Sorry you are going so soon, sir.'

'The stranger merely said, with a fierce look, 'I owed you seventeen and sixpence, three weeks ago, and you kicked me out of your house for it.'

The landlord began to apologize.

'No words, sir; I owed you seventeen and sixpence, and you kicked me out of your house for it. I told you you would be sorry for it. I now owe you two pounds thirteen shillings, (and quietly turning aside his coat-tail,) you must pay yourself by a check on the same bank; for I have no money now.—[Bell's Weekly Mess.]

Cholera in the West.—The New Orleans Bee, of the 24th ult. says: "The Cholera had broken out on board the steamer Philadelphia—She landed a detachment of U. S. troops at Montgomery's Point on Sunday morning, the commanding officer of which, stated to our informant that six of his corps had been attacked with the disease, one of whom had died; two others were supposed to be dangerous—There had been a few cases among the passengers of the boat, one of whom had died.—[Charleston Patriot.]

In our paper of yesterday morning, we stated that the "Etna" of H. B. Majesty's navy, had impressed two men from the American ship "Rosanna," of Boston, commanded by Capt. George H. Jennings, while lying in port Praya, St. Jago, although no other sailors could be obtained in that port. It may not therefore be amiss to state, that by a letter dated 17th Feb. ult. we learn that Capt. J. protested against him in the usual form: upon this the 1st lieutenant of the "Etna" challenged him to fight. On the American captain's offering the terms on which he would accept the challenge, namely, to fight across a table with pistols, the British officer declined.

The commander of the "Rosanna" was presented with a handsome silver set by his passengers, while lying in the said port, in testimony of their approval of his conduct during the voyage from Havana.—[Daily Adv.]

Texas.—This country is likely to be convulsed in civil war, in consequence of the imprisonment of Col. Austin, founder of Austin's colony. The Colonel is accused by the Mexican government of having excited the colony to insurrection, and driving away the Mexican troops. The Colonel is now undergoing his trial in the city of Mexico, and fears are entertained for his life. Should he be executed, his death will be revenged, and a civil war must be the result.—[N. O. Mer. Adv.]

List of Subscribers to the Railroad Journal who have paid in advance to Jan. 1, 1835.
—continued from April 19, 1834.

T. H. Rochester, Rochester, N. Y.
E. & J. A. Sehr, Philadelphia, Pa.
B. Woodward, Abbeville, Ohio
C. J. Blauvelt, Blauveltville, N. Y.
Jas. McCawley, Marksville, La.
P. G. Voorhies, Marksville, La.
J. W. Lincoln, Worcester, Mass.
A. B. Linton, Athens, Geo.
John Randall, Jr., Ithaca, N. Y.
G. T. Bedell, Philadelphia, Pa.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rupe, having removed their establishment to Hudson under the name of **Duffee, May & Co.** offer to supply Rupe of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rupe, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon dale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New York, {
January 29, 1835. }

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch, Flat Bars in length of 14 to 16 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.

200 do. 1 1/2 do. 1/2 do.
40 do. 1 1/2 do. 1/2 do.
300 do. 2 do. 1/2 do.
800 do. 2 1/2 do. 1/2 do.
soon expected.

350 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, and 5 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON,
9 South Front street, Philadelphia.

TO IRON MANUFACTURERS AND OWNERS OF IRON ORE BEDS.

JOSEPH GOULDING, of Keeseville, Essex county, N. Y., has invented and patented a **Magnetic Separating Machine**, for separating Iron Ore from the extraneous matter usually found in connection with it; and he begs leave to recommend it to the especial notice of owners of Ore Beds as possessing qualities of great importance, as by the use of it many ore beds can be made very valuable, it being applicable in all cases when the Ore is magnetic.

The quality of the iron made is much improved by the process of separation, indeed good iron can, after separation, be made iron ore which would without it be considered not worth working. There is also found to be a great saving in the transportation of ore, and in time and fuel required to work the same into iron.

Mechanics can be furnished at short notice which will separate from half a ton to twenty tons each in twenty-four hours. J. Goulding also manufactures to order, **Cylindrical Forge and Blast Furnace Bellows**, of the most improved construction, and which are successfully used in nearly all the Forges and Furnaces in Clinton and all the adjoining counties.
January 30th, 1834.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772 of this Journal.

RAILROAD TURNOUTS, REVOLVING PLATFORMS AND SIDELINGS.

The subscriber having been for some years engaged in constructing turnouts, and inserting the necessary switches and fixtures appertaining to the same, on the Baltimore and Ohio Railroad, and as those works on that road will be shortly completed, he is desirous of being employed by any Railroad Company requiring work of the above description.

He will either contract at a fixed price to execute the work, he providing all the necessary materials and fixtures, or otherwise, or he will engage himself at a stated salary.

In relation to his abilities and general character he begs to refer to any Company, disposed to engage him, to the Baltimore and Ohio Railroad Company.

Letters can be addressed to him at the Office of Construction Baltimore and Ohio Railroad, Baltimore.

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REUBEN ALER.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maldenlane.

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ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germanstown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,

German and Norrist. Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads

No. 264 Elizabeth street, near Bleecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

J 5 1f

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

JS ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent T. Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833

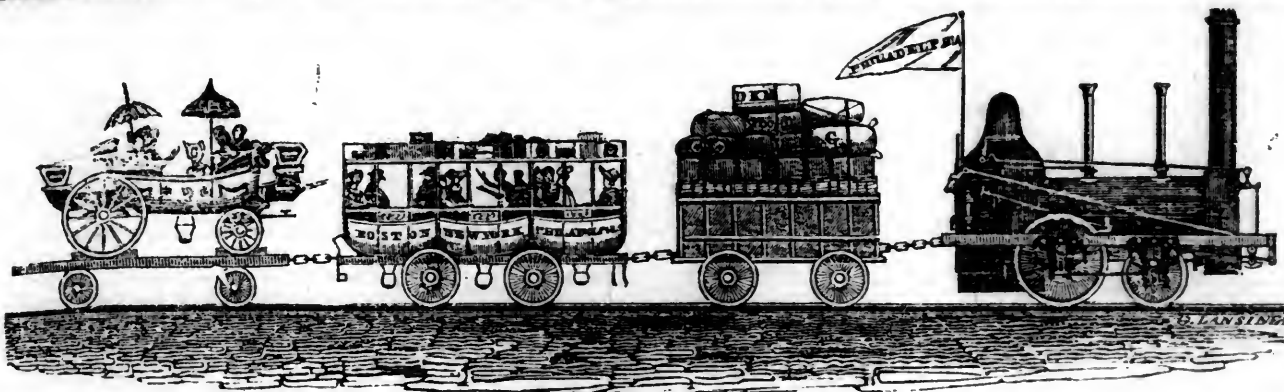
To Messrs Ewin & Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, MAY 17, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 17, 1834.

NEW-YORK AND ERIE RAILROAD.—We stated in our last that an appropriation had been made for a complete survey of this great work. We have since been informed, that the appropriation is only \$15,000, a sum much less than will be required to make a thorough survey. It is, however, sufficient to make a beginning, and we have no doubt but that an equal amount, or nearly so, will be subscribed by the owners of real estate in this city and along the line of the road.

An early survey of this route is highly important, and an early commencement of the work of equal importance to this city, quite as much so, indeed, as to the country through which it will pass; as Pennsylvania is pushing her works up to the State line, in order to intercept the trade of the southern counties; and she will not be disappointed either, unless New-York throws aside her sectional policy, and deals equally liberal with all parts of the State as she has with the northern section, and opens another outlet to her own markets, for the produce of her own soil. The southern tier of counties, or some parts of them, can obtain, (and have done it this season,) their supply of merchandise from New-York, or Philadelphia, through the Pennsylvania canals, several weeks before the ERIE CANAL was navigable. New-York can only counteract this by opening a more ready—an earlier communication, and this may be done by a railroad.

We shall give in our next a communication

landed to us, which has been before published in a different form, containing some very good reasons why the State should not only survey the route, but also contribute largely to its construction after it is surveyed.

Railroad from Tuscaloosa to Tuscumbia. To the Editor of the American Railroad Journal and Advocate of Internal Improvements.

North Port, Ala., April 25, 1834.

SIR,—Sometime in the fall of 1832, No. 36 of the Railroad Journal came into my hands. I am not absolutely certain that it is still published in New-York, though I am informed that it is. My object in writing at this time is, to request you to send me a Number of the Journal, if it is still published. On the receipt of it I will transmit to you the subscription price of one copy for one year, and perhaps more. The reason for my wishing to subscribe for the Railroad Journal is, that through the medium of it, to give publicity to the designs and wishes of so many of the people of this State who are anxious for a railroad between Tuscaloosa to Tuscumbia, a distance of about 100 miles, or a little over. It is not my intention to dilate on this subject at this time. It is sufficient, for the present, to mention, briefly, that in the event of the existence of this road, 100,000 bales of cotton, now raised in Tennessee valley, could get to market in going one-third the distance that it is now carried. The goods taken in exchange would return on the same road. There would then be a direct communication, by means of the Tennessee river, which runs nearly north from Tuscumbia into the Ohio, from Cincinnati and the immense country of the West, to Mobile, consequently, all the rope, bagging, twine, flour, bacon, potatoes, whiskey, and a variety of other articles, that now go the long route to New-Orleans, Mobile, and thence up our rivers, would come down the railroad to Tuscaloosa, and through the middle of Alabama to Mobile. The goods taken in exchange would return back on the road. Flour, bacon, and potatoes, on account of the delay in going to New-Orleans, and the hot weather, are frequently spoiled before arriving here. The great north and south travel is another important consideration; and also that the country through which this road would pass abounds in stone coal. Tuscaloosa is at the head of navigation, on the Black Warrior river. North Port is opposite the town of Tuscaloosa, on the other side of the river, and ships between 3 and 4000 bales of cotton annually.

Very respectfully, C. S.

A railroad from the Tuscumbia and Decatur Railroad to Tuscaloosa will add greatly to

the facilities and conveniences of business men in the interior of Alabama. We consider the projectors of the Tuscumbia, Courtland, and Decatur Railroad among the true benefactors of the State. *That road, short as it is, will become the centre of action.* It will, within a few years, be continued to the Atlantic on the east, the Mississippi on the west, the gulf of Mexico on the south, and the Ohio on the north; and will be intersected by numerous other shorter railroads from all the principal towns in their vicinity.

Newly Invented Railways. Communicated by the INVENTOR. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

DEAR SIR,—I have now finished planting trees, for the present season at least, and snatch the first moment's time to fulfil the promise I have made you respecting my newly invented railways. I now give you a description, though an imperfect one, of this notable contrivance.

The supports of the railways are constructed out of common dock logs, which, in the first instance, are to be subjected to the operation of being well charred. Their butt ends are then to be inserted in the ground three or four feet deep, and surrounded by ruple stones well rammed in. The height of these supports will depend upon circumstances, from one hundred feet high down to not less than ten.

In order to give to these supports a due degree of stiffness and strength, I propose making the ways double, which will afford sufficient room to give them these properties. The spaces longitudinally between these supports, according to circumstances, may be occasionally extended to 500 feet, perhaps to a thousand. Whenever the extension is considerable, a sufficient number of lighter supports may be used. These may probably be made to give the necessary support without being inserted in the ground.

I shall now proceed to describe the mode of constructing the rails. In the first place, round iron, from a quarter to a half an inch in thickness, must be stretched across from pillar to pillar. These iron rods must be placed immediately under the rails—three to each rail. On these the rails are formed of common plank, extending the whole length, placed one on the top of the other, breaking joints. The whole number of the plank thus layed will depend on circumstances, perhaps 8 or 10 may prove sufficient. A proper cement must be used between each layer of the plank, to connect the whole into one solid mass. When the rails are thus formed,

a shoeing of some species of hard wood must be laid on, for the wheels to run on. These wheels must be tired with hard wood instead of iron. It is contemplated that, thus elevated above the dust and mud of common roads, they will last a long time.

The expense of a rail constructed as above would be small indeed when compared with the railroads now in use. It probably would not cost one-fourth of the latter, where iron is universally in use. But, independently of the difference of expense in the construction, as well as in the reparation of such a road, the advantages to be derived from its use are numerous and important. Its elevation not only protects it from dust, &c., but places it out of the reach of all interruptions, and permits also the passage across its path below of all sorts of other carriages in all directions. The farmer, instead of his usual dread of a railroad across his premises, will, on the contrary, court the approach of such a railroad as above described, as a great convenience in his various transportations, without incommoding him in any way. Whilst the railroad is passing over his head, he pursues his different agricultural avocations on the surface of the ground uninterrupted. The room the supports occupy is too trivial to be noticed; but another most important circumstance is, that it completely does away with all necessity of embankments and deep cuttings, leaving the ordinary surface of the ground free and clear; and, should the undulating project prove really advantageous, it would enjoy all the benefits arising from that source, exempted from all extra expense.

But there is one source of improvement which had nearly escaped my memory. The forward wheels, perhaps all the wheels, should have attached to each of them a wheel of a foot or 18 inches diameter, revolving horizontally, so placed that its periphery shall approach the inner side of the rails within half an inch, when the carriage is passing through the middle of the road, so as to prevent much deviation the reform whenever the wheels come in contact with either side of the rails. The mode now in use of preventing the carriage wheels from running off the ways is clumsy, and attended with much friction, so as to occasion considerable wear and tear. In order to prevent the carriage wheels from slipping on the ways, the periphery thereof should be covered with Indian rubber or leather made perfectly water tight.

Your obedient servant, J. S.
Hoboken, May 10, 1834.

The following Report of the Engineer to the President and Directors of the Tuscumbia, Courtland and Decatur Railroad Company will be found highly cheering to the friends of railroads, especially to those who look forward to the construction of a railroad from New-York through the Atlantic States to the Mississippi.

We also publish to-day two letters from gentlemen, one in Tennessee, and the other in Alabama, by which it will be seen that the Southern States are even taking the lead of the North.

Report of the Engineer to the President and Directors of the Tuscumbia, Courtland and Decatur Railroad Company.

Engineer's Office, Tuscumbia, March 4, 1834.

GENTLEMEN,—In presenting my second annual report, I have pleasure in stating that the different parts of the work have been steadily progressing; although not with that celerity and dispatch that was anticipated in our last annual exposition. The causes that have retarded the progress of the work are divers: the principal, however, may be attributed to the fact of the whole line being in the hands of one company of contractors.

Competition, it is acknowledged, in almost every pursuit, gives life to business, and had the work been let in smaller contracts, there is

reason to believe the whole would have been accomplished in due time.

LOCATION OF THE ROUTE.

At the date of the last annual report, it will be recollected, the location had then been established to a point on the East branch of Big Nance Creek, near Courtland. Since that time, and indeed quite lately, the line has been located to the termination on the Tennessee river, at the town of Decatur. The total length of the railroad, between its terminations on the Tennessee river, is 45.214 miles, viz.:

The Tuscumbia railway, extending from the depot on the Tennessee river to Maine street in Tuscumbia	2.100
1st division of the Tuscumbia, Courtland and Decatur railroad, from Main street in Tuscumbia to the West bank of Town Creek	14.784
2d division, from point last named to the East boundary of the town of Courtland	8.850
3d division, from Courtland to the termination at Decatur	19.480

Total in length, 45.214

The field work having only just been completed, no maps or profiles of the line can, at this time, be furnished; but these, as also the estimates upon the final location, will be made out and reported as soon as practicable.

I will merely remark that the limits and restrictions as to grade and curvature, which have heretofore been adopted, have been strictly obtained, viz.: 25 feet per mile as the maximum inclination, and 1,512 as the minimum radius of curvature.

There has been no curve laid on the first 13 miles of the road above Courtland on a less radius than 3,793 feet. One straight line has been obtained of a little over 4 miles, and another of $3\frac{1}{2}$ miles in length. The route, as now located, is the same in almost every particular described as letter A in my report upon the experimental surveys, above Courtland, submitted to your Board, 9th December last, a copy of which is herewith submitted, marked No. 1, for reference.

The general result of the estimates, as presented in the said report, will not, I apprehend, be materially changed upon the final estimates. The line, through the town of Courtland, has been located somewhat differently from what was anticipated when the report above referred to was presented. In order to comply with an arrangement made and agreed to by your Board, with the citizens of Courtland, it was found necessary to change the location as formerly made from station No. 296, being half a mile West of Big Nance, by curving to the right, and after crossing the public road, taking a direction for the street, through the centre of the public square in town, crossing the creek above the present bridge, at right angles with the stream. The principal disadvantage in this location is a high embankment, which has to be made immediately East of the creek. But it was deemed preferable to encounter this than the extra length of bridge that would have been required on the other route. The bridge will have one of its abutments on solid rock foundation and will be only a little over 100 feet long. The curves are also more agreeable, not being so sharp. Upon the other route, crossing below the road bridge, the bridge must have been 180 feet long, and located diagonally upon the stream.

An inclined plane is to be located in the town of Decatur, to overcome the difference of level between high water in the Tennessee river and the elevation of the Railroad. The grade of the road where the inclined plane commences is 25.41 feet above high water. The length of the inclined plane will be 330 feet, and its inclination 1 in 13.5, or say 4 degrees and 15 minutes.

This plane is designed to be worked by stationary horse power; the mode and manner of which will be best explained by reference to a

drawing heretofore furnished, relating to the depot and other buildings to be erected at Decatur.

THE GRADUATION.

At the date of the last annual report there had been $6\frac{1}{2}$ miles of the road graded above Tuscumbia. At this time the graduation may be said to be completed to station No. 178, on the second division, a distance of 19 $\frac{1}{2}$ miles, and about a mile more is graded a short distance West from Courtland; making say 20 $\frac{1}{2}$ miles of graduation accomplished. Deduct $6\frac{1}{2}$ and it leaves 12 $\frac{1}{2}$ miles done during the present year. It is to be remarked that much the heaviest portion of the whole line, in proportion to distance, has been finished. Contracts for the graduation of the whole line from Courtland to Decatur, except the first 3 miles above Courtland, were entered into, as your Board will remember, on the 16th day of January last, divided as follows, viz.: H. W. Rhodes, to extend 5 miles west from Decatur; Wm. Ellett, 1 mile west from Dr. Rhodes; Amos Kemble, the next 2 miles; A. & J. B. Hill, the next 4 miles; and Messrs. Combs and Dobbin, the next 4 miles. The first 8 miles extending from Decatur towards Courtland are taken at the estimate that shall be put upon the work by the engineer. The remainder, or the next 8 miles, at 11 cents per cubic yard, for excavation and embankment; and the grubbing, chopping and masonry, at the estimates to be fixed by the engineer. I am happy to state that three of the principal contractors commenced immediately after their engagement, with the company, and are progressing handsomely with their work. The grading from Big Nance to the Public Square in Courtland, was undertaken by Mr. Pearsoll, who has also commenced operations. The whole of the graduation is promised [by the contracts] to be accomplished by the 1st day of July next.

CONSTRUCTION.

Of this branch of the work there had only been one $\frac{1}{4}$ mile completed at the date of the last annual report, upon 2 $\frac{1}{2}$ miles the sleepers and strings had been laid, and upon a little over 2 miles, the sleepers only had been laid down.

At this time the construction may be said to be entirely completed to Town Creek, a distance of 14 $\frac{1}{2}$ miles above Tuscumbia, deducting $\frac{1}{4}$ mile, and it leaves 14 $\frac{1}{2}$ miles which have been finished during the past year. There remains now a distance of about 8 $\frac{1}{2}$ miles to be done to reach the town of Courtland, which it is expected will certainly be completed by the 1st day of July next. Contracts for the construction of the road above Courtland were also entered into, as your Board are aware—at Courtland, on the 16th of January last, viz.: with Dr. H. W. Rhodes, 5 miles, extending west from Decatur, the same ground of which he has the grading; Wm. Ellett, one mile, next to Dr. R.; Mr. Kemble, two next miles; Messrs. Pope & Thompson, four miles next to Mr. Kemble, and two miles extending from Big Nance Creek, eastwardly; Messrs. Combs and Dobbin have undertaken the next four miles, of which they have the grading; and Mr. S. Stevens has the balance, being about two miles.

The whole line is taken at the uniform price of \$2 13 $\frac{1}{2}$ per rod run, for the complete construction of the road, including the filling in of the horse-path of earth, and the covering of the ends of the sleepers.

Contracts for a sufficiency of timber of all kinds have also been entered into. Cedar sleepers at 30 cents per sleeper, and cedar strings at \$5 per 100 ft., oak at \$4 50; all to be delivered upon the line, at the proper points, by the 1st June next. The complete construction of the road is promised in the contracts by the 1st day of October next.

There has been delivered and received upon the line of railroad [including all above Tuscumbia] as appears from the inspector's reports, 28,235 cedar sleepers, 233 mulberry ditto, 56,410 feet cedar string pieces, 116,414 feet oak ditto, 12,632 feet poplar ditto, 11,880 feet mixed parcels oak and poplar.

There has been imported from Liverpool, and landed at the company's depot, 18,898 bars of railroad iron, weighing 929,562 pounds, being about a sufficiency to make 26½ miles of single track of railroad. There has also been received in all, from the Troy iron and nail factory, New-York, 37,696 lbs. of spikes and joint plates; castings for four complete turnouts have been obtained from Nappier's works in Tennessee.

An order for the necessary quantity of iron, spikes, and end plates, which will be required for the completion of the railroad, was made out and forwarded in December last.

DEPOTS, &c.

The depot and inclined plane at the termination of the Tusculumbia railway was nearly completed at the date of the last annual report, and was soon after finished, but it was feared that a want of sufficient room would be felt when the business season should arrive. With a view of obviating any difficulties on this head, several plans for the enlargement of the warehouse were suggested and discussed, and finally it was concluded to build storage rooms for cotton alone, immediately below the warehouse; and accordingly a building of frame, underpinned with rock, has been erected, 60 by 60 feet, and although measures were taken in due time, as was supposed, for the accomplishment of this business, I am sorry to say, the said building is not even now entirely completed, and, as must readily be seen, much inconvenience, and even actual damage, has been sustained in consequence thereof.

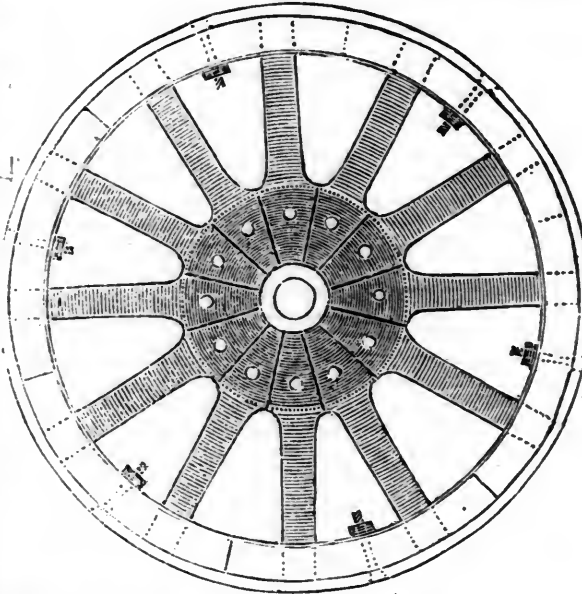
It is also true, that had the said building been entirely completed, there would still have been a deficiency in room for the storage of cotton, as well as for goods, even the present year, limited as the business of the road is, compared with what it must be another year, or when the road shall have been completed to Decatur. In view, therefore, of the entire accomplishment of the road, during the present year, and in order to meet the immense business that must offer itself to the company the next season, and with a determination to give satisfaction to the patrons of the road, it has been determined by a committee appointed by your Board, that a considerable enlargement of the depot is indispensable, and that the engineer furnish plans and specifications, and advertise for proposals for the building of the same. Accordingly, an advertisement has been made, soliciting proposals until the 24th of the present month, for the building of a permanent wharf, 250 feet long, upon which will be erected a frame warehouse, of the same length, by 60 feet in width, also the extension of the present depot 75 feet at the east end, and the full width of the said house. Those buildings being erected, it is believed business will be done with economy and credit to the company, and entire satisfaction to the community. The sheds in the town of Tusculumbia remain as they were this time last year. The company has lately purchased three lots of half an acre each, contiguous to the railroad, and very near the business part of the town; which lots are designed to be occupied by the warehouse, sheds and offices, that will be needed in the plan.

[To be continued.]

FORCE OF TRACTION.—Experiments, in every ly show, that the force of traction is uniform-case, nearly in an exact proportion to the strength and hardness of a road. The following are the results: On a well made pavement, the power required to draw a waggon is 33 lbs.; on a road made with six inches of broken stone of great hardness, laid on a foundation of large stones, set in the form of a pavement, is 46 lbs.; on a road made with a thick coating of broken stone, laid on earth, the power required is 65 lbs.; and on a road made with a thick coating of gravel, laid on earth, the power required is 147 lbs. Thus it appears that the results of actual experiments fully correspond with those deduced from the laws of science."—[Parnell's Treatise on Roads.]

HANCOCK'S WEDGE WHEELS.

Fig. 1.



Hancock's Wedge Wheels. [From the London Mechanics' Magazine.]

SIR,—I forward you a sketch and description of the wedge wheels which I have adopted for my steam carriages, having found those of other constructions insufficient for the purpose. Being desirous of employing vertical wheels, and knowing that those on the common plan could not stand in this position, I determined on trying a pair constructed in the manner I am about to describe, and which description I am induced to send you, from a belief they may be found useful generally, and more particularly to those who are engaged in similar pursuits with myself.

Fig. 1 is a front view of a wheel, with the front bindplate removed, to show the meeting of the wedged spokes, which are of straight grained, well seasoned ash, tenoned into the felloes as in common wheels, but the nave ends are very accurately fitted to each other in radial joints, butting against the iron box of the axle, and forming around it, to the circumference of the bind-plate (shown by a dotted circle), a solid connection of timber.

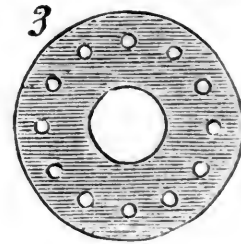
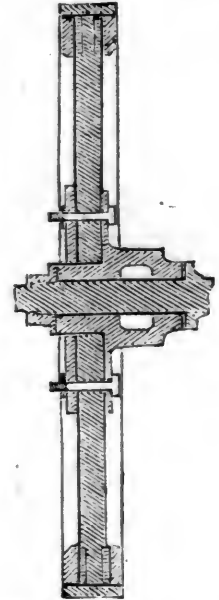
Fig. 2 is a horizontal central section of the above. The tire is secured by a bolt and nut, or rivets, through each felloe; the heads being countersunk, so as to stand flush with the outside of the tire. The box, which contains a reservoir for oil, is formed with its flange in one casting, the outside diameter of the flange being the same as that of the front bind-plate, which is like a large wrought iron washer, and shown detached at fig. 3.

Screw bolts pass through the back flange, spokes, and front bindplate, the nuts turning against the face of which brace all together as one solid nave. There is one of these bolts to each spoke, as shown in figs. 1 and 3.

The spokes throughout are of a parallel thickness, as shown in fig. 2, the edges being slightly rounded off.

I have not entered into the details of the substance of metal and wood, as this must necessarily depend upon the size of the wheel, as well as the work it is required to perform. Having worked many such wheels on my carriages, I can say, from experience,

Fig. 2.



that they are all that can be required in a wheel; they combine permanent strength with comparative lightness, and are by no means expensive in their first cost.

I am, sir, yours, &c.

WALTER HANCOCK.

Stratford, Essex, January, 1834.

P. S.—The Infant has a set of dished wheels on this principle, now in good condition, after having performed work which would have worn out two or three sets of wheels of the common construction.

Specification of a Patent for Furnaces for Generating Heat by Friction, and applying the same to economical purposes. Granted to JOHN W. COCHRAN, Lowell, Middlesex county, Massachusetts, November 19, 1834.

To all whom it may concern, be it known, that I, John W. Cochran, of Lowell, in the county of Middlesex, and state of Massachusetts, have invented a *Friction Furnace* for generating heat without the consumption of fuel, and applying the same to economical purposes; and I do hereby declare that the following is a full and exact description of my said invention.

Although the fact that heat may be generated by friction is one of universal notoriety, it does not appear that the idea of applying this heat to economical purposes has ever been practically acted upon; I, however, have ascertained by satisfactory experiments that it may be done to great advantage. The most convenient way of effecting the object is to prepare two metallic disks, or cylinders, say of cast iron, in the form of common mill stones, and to cause one of them to revolve against the other, under considerable pressure, which pressure may be given by the weight of one of the disks, or by that of a vessel containing water, or other fluid, to be heated, the bottom of which may take the place of one of the disks; or by weighted levers, or in any other way of producing pressure which may be preferred. When I make two

disks of this description to rub against each other, I form one or both of them somewhat hollow towards the centre, on the touching sides, as a bearing on that part would tend to diminish the friction towards the periphery, where the motion is the most rapid.

There are many ways in which I contemplate the application of this principle, as, for example, I intend sometimes to cause two disks, such as I have described, to revolve one against the other, by power derived from a water wheel, or from any other convenient source, and to enclose them within a drum, or chamber, into which a current of cold air shall be admitted, and whence it shall be conducted by suitable tubes, after it has been heated by being brought in contact with the disks; thus using it to warm the apartments of any building, or for other purposes. Where steam is preferred, I intend sometimes to allow water to fall in a small stream upon the heated disks, and to conduct it thence through tubes to wherever it may be required. Where steam is to be generated to drive machinery, the bottom of the boiler may be made of suitable form, and to bear upon a disk revolving below it; or the bottom may be perforated, to allow the shaft of a disk revolving in the inside thereof to pass through, and to be turned by any suitable apparatus, by power derived from the steam generated by the heat from the friction, or from any other source.

These various modes will sufficiently illustrate the principle upon which I depend for rendering the heat which was latent, sensible, and active; but I do not intend by this enumeration to restrict or confine myself to the form of apparatus herein described, or to the objects to which it may be applied, but to vary the same in any manner which I may find most convenient and efficient.

It may at first appear that the powerful friction necessary to engender sufficient heat to be usefully employed as a substitute for that extricated in the combustion of fuel, will produce a rapid wearing out and destruction of the rubbing apparatus; I, however, have ascertained, satisfactorily, that when the metals become heated, there is a degree of repulsion produced between them which admits of but little abrasion of their substance.

What I claim as my invention, and for which I ask a patent, is the application of the heat generated by the friction of pieces of metal against each other, to the purpose of heating air, generating steam, and, in fine, to all the economical purposes to which such heat is applicable, proceeding, in its production, upon the principles herein before set forth. JOHN W. COCHRAN.

Railroad from Memphis to Bolivar.—Extract of a letter, dated Memphis, Tenn., April 22, 1834, addressed to the Editor of the Railroad Journal, &c.

"SIR,—I am now engaged in the preliminary survey of a railroad from Memphis, through Summerville, to Bolivar. It is intended to connect this with Jackson, and thence to Columbia, and thence probably to Nashville. Probably, in a few years, Nashville will be connected to Louisville on the Ohio River. Casting your eye on a map of Tennessee and Kentucky, you will see the extent of such a railroad. We strongly anticipate a connection with Charleston via Tusculum. Numbers in this place wish to take your Journal. I hope to send you something more substantial than words when next I write.

"Very respectfully,

"JOHN THOMPSON."

The writer of the above has our best wishes for his success, as well in his survey as in obtaining subscribers to the Journal.

THE IRON STEAMBOAT ALBURLIA.—This vessel is now in the river Niger, with the Quorra steamboat, and seems to have been the favorite of the two vessels since they departed on

their interesting expedition. The advantages of iron vessels in warm climates are ably pointed out in a short extract we gave in our last number from Chambers' Journal; and these advantages seem in no wise exaggerated in the instance of the Alburlia, according to reports received from those embarked in her. This vessel was built by Mr. Laird, of Liverpool, for the purpose of navigating the shoal water of the river, and we understand that he has since constructed another for the interior navigation of Ireland. We have no doubt that these vessels, from their vast superiority over those of wood, and their durable quality, will speedily be numerous employed.—[Nautical Magazine.]

NEITHER LIGHTING NOR HEATING BY GAS OF MODERN ORIGIN.—In several situations removed from any volcanic action, so far as is visible on the surface, natural jets of inflammable gases are seen to issue, affording decisive evidence of chemical changes that are taking place at various depths beneath. Of these, some have served the purpose of the priest to delude mankind, while part of the others have been more usefully employed.

Carburetted hydrogen gas is well known to be the "fire-damp" of the coal districts, and to issue from the coal strata; collecting in the ill-ventilated galleries of collieries, and, when sufficiently mixed with atmospheric air, exploding with great violence when approached incautiously with an unprotected flame, spreading mourning and misery among the families of the miners. If the genius of Davy had merely produced his safety lamp, it would alone have united him to the applause and thanks of mankind.

As carburetted hydrogen is so freely liberated in coal mines, it would be expected that it should occasionally be detected on the surface, and accordingly it has been so discovered.* Inflammable gas also occurs in other situations, where there is no reason to suspect the presence of coal strata. Of this the well-known jets of gas in the limestone and serpentine district of the Pietra Mala, between Bologna and Florence, afford an example.

Captain Beaufort describes an ignited jet of inflammable gas, named the Yanar, near Deliktash, on the coast of Karamania, which perhaps once figured in some religious rites. He states that, "in the inner corner of a ruined building, the wall is undermined so as to leave an aperture of about three feet in diameter, and shaped like the mouth of an oven; from hence the flame issues, giving out an intense heat, yet producing no smoke on the wall." Though the wall was scarcely discolored, small lumps of caked soot were formed in the neck of the opening. The hill is composed of crumbly serpentine and loose blocks of limestone. A short distance down the hill there is another aperture, which, from its appearance, seems once to have given out a similar discharge of gas. The Yanar is supposed to be very ancient, and is possibly the jet described by Pliny.

Colonel Rooke informed Captain Beaufort, that high upon the western mountain at Samos there was an intermittent flame of the same kind; and Major Rennel stated, that a natural jet of inflammable gas, inclosed in a temple at Chittagong, in Bengal, is made use of by the priests, who even cooked with it.

According to M. Hubert, gaseous exhalations are employed at Thsee-Lieon-Tsing, in China, to distil saline water, obtained from wells in the neighborhood. Bamboo pipes carry the gas from the spring to the place where it is to be consumed. These tubes are terminated by a tube of pipe clay, to prevent their being burnt. A single well (of gas) heats more than three hundred kettles. The fire thus produced is ex-

* From Mr. De la Beche's Geological Manual (third edition, considerably enlarged in 1833), one of the most instructive and entertaining works which the new and important science of geology has yet produced.—Ed. M. M.

It appears very remarkable, that in the coal districts of the British isles, where such a large amount of carburetted hydrogen is annually produced, means have not been adopted for making an economical use of this gas, both as it respects light and heat.

ceedingly brisk, and the caldrons are rendered useless in a few months. Other bamboos conduct the gas intended for lighting the streets and great rooms or kitchens.

M. Klaproth notices other jets of inflammable gas in China; one, now extinguished, is stated to have burnt from the second to the thirteenth century of our era.

It also appears that M. Rørders, inspector of the salt mines of Gottesgabe, at Remo, in the country of Tecklenburg, has for two or three years used an inflammable gas, which issues from these mines not only as a light, but for all the purposes of cookery. He obtains it from the pits that have been abandoned, and conveys it by pipes to his house. From one pit alone a continuous stream of this gas has issued for sixty years. It is supposed to consist of carburetted hydrogen and olefiant gas.

Inflammable gases are also found to proceed from ground charged with petroleum and naphtha. The inhabitants of Baku, a port on the Caspian Sea, are supplied with no other fuel than that derived from the petroleum and naphtha, with which the earth in the neighborhood is strongly impregnated. About ten miles to the north-east of this town there are many old temples of Guebres, in each of which there is a jet of inflammable gas rising from apertures in the earth. The flame is pale and clear, and smells strongly of sulphur. Another and a larger jet issues from the side of a hill. If, in the circumference of two miles, holes be made in the earth, gas immediately issues, and inflames when a torch is applied. The inhabitants place hollow canes into the ground, to convey the gas upwards, when it is employed for the purposes of cookery, as well as for light.

REMARKS ON THE GYPSIES.—There are few questions in the history of the human species more curious than that of the origin and characters of these singular people. A race of men which presents the most extraordinary phenomenon in social life, has existed nearly four centuries in Europe; and yet remains but imperfectly known. Neither time, climate, politics, nor example, have produced any change in their institutions, their manners, their language, or their religious ideas. The Israelites are the only people, who have preserved, like them, their primitive character in foreign lands.*

Different writers have assigned to these people a very different origin—one traces them from the eastern part of Tunis—another from Zanguebar—one from Mount Caucasus—one considers them as German Jews—and others bring them from Egypt, Colchos, the Ukraine, &c.

We know of but three writers who have placed this question in a true point of view. The two first whose opinions are admitted by the learned generally, are Grellman and David Richardson, who consider India as the cradle of Tzengoris or Gypsies; Abbe Dubois places them among the Kouravers of

* Names by which they are known in the different countries in which they reside.—The Arabs and Moors call them Harami, (robbers); the Hungarians Cingany, and Pharaoh Nepek (people of Pharaoh); the latter name is also given them in Transylvania; the English have adopted the name of Gypsies, an alteration of the word Egyptians; the Scotch, that of Caird; the Spanish call them Gitanos; the Portuguese, Ciganos; the Dutch, Heidenen, (idolators); the Russians, Tzengani; the Italians, Zingari; the Swedes, Spakaring; the Danish and Norwegians, Tatars; the Wallachians, Bessarabians, Moldavians, Servians and Slavonians, Cigani; the Germans, Zigeuner; in France they at first received the name of Egyptians and more recently that of Bohemians, because the earliest of the tribe came into France from Bohemia. Historians of the middle ages designate them by the name of Azinghans, the modern Greeks under that of Atinghans; in Adzerbaidjan, they are called Hindou Karuch, (black Hindoos); in Peraia, Louri; the Bucharians and inhabitants of Turkistan, call them Tziaghi, which appears to be the root of Telingeni, the term given by the Turks to this wandering race. I have been acquainted in Europe with three of their Rabers of chiefs, who assure me they call themselves Roumna Chal.—These two words belong to the Mahratta language and signify men who wander in the plains. I consider Tzengarie as their primitive name, and which is still preserved in their mother country.

Mohissoun, while others trace them to the country of the Mahrattas as their original position where, indeed, they are still found united in tribes.

The Primitive tribes of the Tzengaris is a subdivision of the different tribes of Parias or men out of caste. The origin of Parias is very ancient. This sub-caste is formed by the union of individuals driven from different castes for offences committed against the religion and laws, and includes a great number of tribes, among whom may be reckoned Vallouvers the Chakalis, the Mouchiers, &c., and lastly the Tzengaris, the primitive tribe of our Bohemians and Egyptians, or the Zingari of the nations, which term still resembles the original name.

The tribe of Tzengaris, called also Vangaris on the coast of Concan and of Malabar, is nomadic. They are often met in whole bands near the ancient and magnificent city of Visapour, and in the vicinity of Bangalore and Mahicour, which is called Mysore, from a habit of disfiguring eastern names. They are in general a dark complexion, which justifies the Persian appellation of Black Hindoos. Their religion, institutions, manners, and language differ from those of other tribes of Hindoos. During a war they are addicted to pillage, carry provision for the armies, and fill them with spies and dancers. During peace they make coarse stuffs, and deal in rice, butter, salt and opium, &c. Their women are as handsome and agreeable as the generality of Hindoos, but are very lascivious. They often carry off young girls whom they sell to natives and Europeans. They are accused of immolating human victims to their demons and eating human flesh. They every where follow the trade of errand runners and procurers. The women are fortune-tellers, a business which they practice by striking on a drum in order to invoke the demon; then pronouncing with the air of a sybil, and with rare volubility, a string of mystical words, and after having gazed at the sky and examined the lineaments of the hand of the person who consults them, they gravely predict the good or evil which is to be his destiny. The women also practise tattooing, and the figures of stars, flowers, animals, &c. which they imprint upon the skin by puncturation and vegetable juices, are ineffaceable. They live in families, and it is not rare to see father and daughter, and uncle and niece, brother and sister, living like beasts together. They are suspicious, liars, gamblers, drunkards, cowards, poltroons, and altogether illiterate; they despise religion, and have no other creed than the fear of evil genii and of fatality. They originated in the province of Mahratt, among the eastern Ghauts.

The celebrated Cherif Eddin assures us that Timur sullied his conquests by the massacre of 100,000 prisoners, Persians, and Hindoos. The Monguls spread such terror in all parts of India, that great numbers abandoned that unhappy country. The Hindoos of the three first castes, indeed, remained firm to their country;—their religion made it a duty;—but no place could retain the Soudras and Parias. They are such vagabonds that travelers have met with them in Abyssinia, in Arabia, at Tzonakem in the Persian Gulf, at Penang, at Singapore, at Malacca, at Manilla, at Celebes, at Anyer, and even in China.

It is not natural to believe that the Tzengaris, who are so accustomed to a camp life, and excluded from Hindoo communion, should practise, or feign to practise, religion which offered them so many advantages, that they should act as spies and purveyors to the Mongul armies, and that a portion of them should accompany Timur in his long traverse through Kandahar, Persia, and Burkahra; and after passing through the Caucasian regions, and leaving behind them a train of detached families, they should have come to a stand, some in Russia, others in Asia Minor; that a second column should have passed from Kandahar into Mekran and Irak Arabia; and a third stayed into Syria, Palestine, and Arabia Petrea, and should have reached Egypt by the Isthmus of Suez, and thence should have passed into Mauritania.

It is not improbable that those rude travelers landed from the Black Sea and Asia Minor in Europe, by the intervention of the Turks during their wars with the Greek empire; and it is equally probable that the first of them who came to Europe, sojourned in European Turkey, as Aventine informs us, and proceeded thence to Wallachia and Moldavia. In 1714, they were found in Hungary, and at the conclusion of that year they were seen in Germany and Bohemia; the next year in Switzerland, and in 1422 in Italy. Pasquier carries their origin in France to 1417, and says that they styled themselves Christians from Lower Egypt, expelled thence by the Saracens, but that in reality they came from Bohemia. From

France they passed into Spain and Portugal, and afterwards under Henry VIII. into England. Their hordes commonly consist of two or three hundred persons of both sexes.

Although it is difficult to explain how they acquired the name of Gypsies or Egyptians, it is certain they neither have an Egyptian origin, nor came from Egypt to Europe, as Crantz and Munster have proved.

Countries in which the Tzengaris or Gypsies are now found.—These people constitute part of the population of all the countries of Europe and of a large portion of Asia. In Africa they are found only in Egypt, Nubia, Abyssinia, Soudan and Barbary.—They have never appeared in America.

They are most numerous in Spain, Ireland, Turkey and Hungary, but especially in Transylvania, Moldavia, Wallachia, Slavonia, Courland, Lithuania, and the Caucasian provinces.

In England they are still pretty numerous, but are found only in distant places, seldom coming into the towns excepting in small companies of two or three persons. In Germany, Sweden, and Denmark, they have become rare, as also in Switzerland and the Low Countries. In Italy their numbers are diminished. In Spain it is said that there are fifty or sixty thousand of them, and in Hungary, according to the best information, about fifty thousand. In Transylvania, they are most numerous, for in a population of 1,720,000 souls, there are reckoned 104,000 Tzengaris. We do not exaggerate in estimating the Tzengarian or Gypsy population of Europe at nearly a million: in Africa, at 400,000; in India, at 1,500,000; and about 2,000,000 in all the rest of Asia, for except in Asiatic Russia, China, Siam, Annam and Japan, they are every where to be found. Hence we may deem the total population of these people to be five millions.

We have thus a considerable portion of the human race thrown, as it were, beyond the common rights of nations; so many men wandering about without any claims which can attach them to the soil, encamping in places remote from civilization, living by theft and deception, and every where diffused, notwithstanding the persecution and contempt which are heaped upon them,—G. Louis Domy De Rienzt.

From a Life of Sir John Moore, by his brother recently published in London, the following extract, descriptive of the close of the battle of Corunna, and the death of Moore, is made:

"Moore then turned to where the 50th regiment, commanded by Majors Charles Napier and Stanhope, was warmly engaged. They leaped over an enclosure, and charged the enemy, Moore exclaiming, 'Well done, the fiftieth! well done, my majors!' The French were driven out of the village of Elvina with great slaughter; but Major Stanhope was killed, and Major Napier, advancing too far, was wounded and made prisoner. The contiguous regiment was the 42d, to whom Moore called loudly, 'Highlanders! remember Egypt!' They heard his voice, and rushed forward, bearing down every thing before them, until stopped by a wall, over which they poured their shot. He accompanied them in this charge, and told the soldiers he was well pleased with their conduct. Then he sent Captain Hardinge to order up the guards to the left of the Highlanders. This order was misunderstood by the captain of the Highland light company, whose ammunition, from being early engaged, was expended. He conceived that the guards were to relieve his men, and was withdrawing them, when the general, apprized of the mistake, rectified it, by saying, 'My brave 42d, join your comrades; ammunition is coming, and you still have your bayonets!' They instantly obeyed. The French having brought up reserves, the battle raged fiercely—fire flashing amidst the smoke, and shot flying from the adverse guns; when Hardinge rode up and reported that the guards were coming quickly. As he spoke, Sir John Moore was struck to the ground by a cannon-ball, which lacerated his left shoulder and chest. He had half-raised himself, when Hardinge, having dismounted, caught his hand, and the general grasped his strongly, and gazed with anxiety at the Highlanders, who were fighting courageously; and when Hardinge said, 'they are advancing,' his countenance lightened. Colonel Graham now came up, and imagined, from the composure of the general's features, that he had only fallen accidentally, until he saw blood swelling from his wound. Shocked at the sight, he rode off for surgeons. Hardinge tried in vain to stop the effusion of blood with his sash; then, by the help of some Highlanders and guardsmen, he placed the general upon a blanket.—

In lifting him, his sword became entangled, and Hardinge endeavoured to unbuckle the belt to take it off, when he said with soldierly feelings, 'It is as well as it is: I had rather it should go out of the field with me.' His serenity was so striking, that Hardinge began to hope the wound was not mortal; he expressed this opinion, and said, that he trusted the surgeons would confirm it, and that he would still be spared to them. Sir John turned his head, and cast his eyes steadily on the wounded part, and then replied, 'No, Hardinge; I feel that to be impossible. You need not go with me; report to General Hope that I am wounded and carried to the rear.' He was then raised from the ground by a Highland sergeant and three soldiers, and slowly conveyed towards Corunna.

The soldiers had not carried Sir John Moore far, when two surgeons came running to his aid. They had been employed in dressing the shattered arm of Sir David Baird, who, hearing of the disaster which had occurred to the commander, generously ordered them to desist, and hasten to give him help. But Moore, who was bleeding fast, said to them, 'You can be of no service to me: go to the wounded soldiers, to whom you may be useful;' and he ordered the bearers to move on. But as they proceeded, he repeatedly made them turn round to view the battle, and to listen to the firing; the sound of which, becoming gradually fainter, indicated that the French were retreating. Before he reached Corunna it was almost dark, and Col. Anderson met him; who, seeing his general borne from the field of battle for the third and last time, and steeped in blood, became speechless with anguish. Moore pressed his hand, and said in a low tone, 'Anderson, do not leave me. As he was carried into the house, his faithful servant, Francois, came out, and stood aghast with horror; but his master, to console him, said, smiling, 'My friend, this is nothing.' He was then placed on a mattress on the floor, and supported by Anderson, who had saved his life at St. Lucia; and some of the gentlemen of his staff came into the room by turns. He asked each, as they entered, if the French were beaten, and was answered affirmatively. They stood around; the pain of his wound became excessive, and deadly paleness overspread his fine features; yet, with unshaken fortitude, he said, at intervals, 'Anderson, you know that I have always wished to die this way.—I hope the people of England will be satisfied! I hope my country will do me justice! Anderson, you will see my friends as soon as you can. Tell them—every thing.—Say to my mother—' Here his voice faltered; he became excessively agitated, and not being able to proceed, changed the subject. 'Hope!—Hope! I have much to say to him—but cannot get it out. Are colonel Graham and all my aides-de-camp safe?' (At this question, Anderson, who knew the warm regard of the general towards the officers of his staff, made a private sign not to mention that Captain Burrard was mortally wounded.) He then continued, 'I have made my will, and have remembered my servants. Colborne has my will, and all my papers. As he spoke these words, Major Colborne, his military secretary, entered the room. He addressed him with his wonted kindness; then, turning to Anderson, said, 'Remember you go to Willoughby Gordon, and tell him it is my request, and that I expect he will give a lieutenant-colonelcy to Major Colborne;—he has been long with me—and I know him to be most worthy of it.' He then asked the major, who had come last from the field, 'Have the French been beaten?' He assured him they had on every point. 'It's a great satisfaction,' he said, 'for me to know that we have beat the French. Is Paget in the room?' On being told he was not, he resumed, 'Remember me to him; he is a fine fellow.' Though visibly sinking, he then said, 'I feel myself so strong, I fear I shall be long dying. It's great uneasiness—it's great, great pain!—Every thing Francois says is right—I have great confidence in him.' He thanked the surgeons for their attendance. Then seeing Captains Percy and Stanhope, two of his aides-de-camp, enter, he spoke to them kindly, and repeated to them the question, 'If all his aides-de-camp were safe;' and was pleased on being told they were. After a pause, Stanhope caught his eye, and said to him, 'Stanhope! remember me to your sister.' He then became silent. Death, undreaded, approached; and the spirit departed, leaving the bleeding body an oblation offered up to his country."

TO TAKE OUT INK FROM MAHOGANY.—Wet a piece of blotting paper, rolled into a ball, and rub the places where the ink was with a dry cloth.

[From the Mechanics' Magazine.]

NEW ERA OF STEAM POWER.—Mr. BURDEN is progressing rapidly in the construction of his boat; it will be in operation on or before the first of June, and we have no doubt will realize the most sanguine expectations of the inventor—if inventor we dare call him, for, as will be perceived from the annexed communications, there are several who set up a previous claim. But, as a contemporary well observes,—“Other men broke stones before MACADAM, but HE broke them to such effect as to be justly deemed an inventor. Other men, in like manner, may have observed the extreme buoyancy of the barrel before Mr. Burden; but the successful application of these principles we do think should entitle Mr. Burden to the title of inventor.”

We have received the following from Mr. HARRIS, in reply to ARCHIMEDES, published in our last number.

NORFOLK, Va., April 12, 1834.

SIR,—I have read with no little amusement, in your last number, a communication relative to my Twin Boat, by a writer who signs himself Archimedes. As he manifests a very laudable desire to prevent people from being “imposed upon by plausible appearances,” I have been induced to present for his consideration, through the medium of your valuable journal, some few facts and views which I have no doubt will disperse from his mind the mists of error by which he now appears to be so completely and unconsciously enveloped, and enable him hereafter to direct with the confidence of truth the patronage of “persons possessing both the means and disposition” to patronise valuable improvements. As in my letter, published in your last number, I have publicly condemned Mr. Burden's boat, I deem it proper to state here that I did not intend that letter for the public. Had that been my purpose I should have made no particular allusion to Mr. Burden's boat, but should have left the public to make their own comparisons. I would not be understood as condemning that letter on account of such particular allusion, (for the publication of Mr. B.'s invention made it a fair subject of public discussion, however rigid,) but merely as intimating that, having no wish to make strictures publicly on any man's concerns, and especially to commence a discussion, I should have been for that reason unwilling to have singled out Mr. Burden's invention, as if for the purpose, it would seem, of inviting controversy. My agent, to whom, and for whom alone, I intended that letter, not knowing my sentiments on this subject, judged that, as an advertisement of my invention, that letter would serve a good purpose, and on that account, and not with a view to the injury of Mr. Burden, published it, being perfectly justified in the act by the general principle, that whoever voluntarily introduces his opinions, conduct, or concerns, to public notice, renders them ipso facto justly amenable to public discussion, and in that sense public property, respecting which any man possesses the indubitable right of expressing his opinions, temperately, whether adverse or otherwise. As that letter is published, and as the remarks of Archimedes call for a reply, I am now, of course, compelled to sustain, as well as I may, by all fair means, my unfavorable opinions of Mr. Burden's invention, which I shall do, entertaining not the least personal hostility against that gentleman, with whom, in fact, I am unacquainted and whom I never saw. If Mr. Burden's plan of constructing twin boats is superior to any yet discovered, Archimedes may rest assured that a comparison of it with mine will redound to the advantage only of Mr. B.

Archimedes denies to me the merit of invention, because it appears that a Mr. Simon Fairman, in 1817, at Middletown, in Connecticut,

made a very “wonderful discovery” of what was, all persons must allow, according to Archimedes' statement, a “wonderful” boat indeed. This boat of Mr. Fairman's, only 35 feet long, was, it appears, sufficiently buoyant to carry men enough to propel it at the rate of considerably more than five miles per hour, carrying also the weight of passengers, their baggage, &c.

Now, sir, this boat could not have been “in all respects precisely” like mine, for had it been constructed on my plan it would not have been sufficiently buoyant to have carried all the weight above mentioned, and have ventured in to the sound, because its length (35 feet) would have of necessity rendered its other dimensions altogether too contracted for that purpose. What is called a six knot sailing breeze would have raised a sea sufficient to have subjected the passengers and workmen to a rather disagreeable and continued cold bath of several inches on deck; and as for cabins, not one fourth of a moderate number of passengers could have stowed themselves in the narrow and shallow holds of so small a twin boat as one built on my plan, only 35 feet long, must of necessity have been. Why, sir, a boy of eight years only could not have sat upright in one of them. But I do not by any means rest on this difference in proportions as a proof that my invention is one sui generis and not identical with Mr. Fairman's boat. That difference, although in itself strong, is comparatively my weakest point, and on that account I present it first. Had I, after splitting, as it were, a single boat apart, left the inner, or, as A. terms them, “approximate” sides, perpendicular, I should have arrived but half way to the completion of my invention. I found by inclining those sides at a very considerable angle towards each other, either in a right lined or curvilinear angle, that many various and important advantages were thereby attained, without losing the advantages resulting from the longitudinal parallelism of those sides. This inclination destroyed their vertical parallelism to each other, and thereby rendered the boat essentially different in form as well as in properties from Mr. Fairman's or any other kind of boat.

In my published letter I did not even mention the curvilinear inclination, for wishing to illustrate my plans by figures, I perceived that no figure which I could draw would be likely to convey a correct idea of that peculiar form, but, on the other hand, would rather be apt to create the impression that I had resorted to something like the five mile “swell” of which Archimedes speaks. That my agent might obtain a full and clear understanding of my invention, I went regularly to work and first built on paper a single boat, of such dimensions, he it observed, that she would be rendered by them, as a single boat, entirely useless. I then proceeded to divide her, and by the division made the straight inner sides perpendicular. Before altering this perpendicularity, I proved her to be superior to Mr. Burden's boat, on account of the straightness of the inner sides being “a principal point of superiority.” In this particular, a half stage only to the completion of my invention, it appears that Mr. F. had preceded me, though it would seem in so inefficient and imperfect a manner as to cause him to condemn it and resort to curved inner sides. It appears that he preceded Mr. Burden in building twin boats, and therefore, on that ground, (namely, their being twins,) may as well dispute the merit of invention with Mr. B. as with me. These (Mr. F.'s) inner sides, by being ultimately curved, exactly resembled Mr. Burden's, but even in their original perpendicular-

* Strictly they are not approximate, for the two sides of either one of the twins being nearer to each other than the inner side of one twin is to that of the other, are, of course, what would come under the term “approximate,” from the very derivation and meaning of that word. I grant that the reader of A.'s remarks would know by the term “approximate” that he means the inner sides, because he speaks of their peculiar characteristics, straightness and parallelism; still, the term used as A. would is not correct.

ity they were essentially different from my inclined sides, both in form and properties. It will not do for Archimedes, or any one else, to say that Fairman's boat was composed of *timbers and plank*, and therefore not similar to Burden's, which is composed of *staves*. The materials have nothing to do with the question, but the form only. I may with as much propriety build a commonly modelled boat of tin, and then get out a patent to prevent people from building such modelled boats from wood. If Mr. Burden chooses to build vessels from coopers' ware, and get out a patent for a new application of staves, why, let him do so; but he certainly cannot prevent men from using the common materials of vessels in constructing long, narrow, shallow, twin boats, having curved inner sides. I claim to have invented the right lined and curvilinear inclined inner sides as an “important and original improvement” on the straight parallel inner sides, which latter resemble mine only in their straightness and parallelism to each other.

After having proved in my published letter the superiority of the perpendicular, straight, parallel inner sides over Mr. Burden's curved inner sides, I then brought forward the inclination, which, I take pleasure in informing Archimedes, is a great distinctive and original merit of my invention. If Archimedes desires it, I can send him a copy of my specifications, in which I distinctly state that, “as an original and important improvement, the horizontally straight perpendicular inner side of each twin can be inclined at any desired angle;” and then proceed to lay down the various advantages obtained by this inclination, from which he can perceive that I do not consider the straight perpendicular sides as any thing very superior, though he can perceive from my published letter, and I now repeat, that I think them far superior to Mr. Burden's curved inner sides. Did I suppose you would allow room enough in this number of your journal for the subsequent matter of this communication and for the advantages, and their reasons, resulting from the inclined under sides, I would give them now. However, if A. desires it, he shall have them in a future number.

I would inform Archimedes, as a further distinguishing mark of originality, that in proportion as my crescent-shaped keels rise from a horizontal line they have a certain lateral inclination, such inclination being proportioned to the inclination of the inner sides; by which contrivance no curve is created on, but perfect parallelism of the inner sides is preserved. This lateral inclination of the keels, as they rise fore and aft towards each extremity, would cause a person, not critically viewing the matter, to suppose that the space between the twins at the centre would be greater, or wider, than that at either extremity; but an ocular examination of a model, (which my agent will with pleasure exhibit,) need only be made to prove that the parallelism of the inner sides could not otherwise be preserved, and that the space referred to is not wider than that at either extremity. Were the keels horizontal, or level, then not they, but the stem and stern posts only should be laterally inclined. Properly speaking, my boat has no stem and stern posts, for the pieces of timber which in common vessels would form those parts, are in my invention nothing more than a continuation and portions of my curved and laterally inclined keels. I have now, Mr. Editor, I think, fairly and clearly proved that my invention is a different thing altogether from Mr. Fairman's; and any man who, after reading the foregoing matter, would say that it is not different, and at the same time assert that Mr. Burden's invention is different from Mr. F.'s “swell” boat, would not excite the least surprise in my mind, if he should forthwith seriously set about proving that the moon is made of green cheese. But I have not done with Mr. Fairman's boat: I must sail a few miles further in her, and fully test her qualities.

* The very words of my specification.

It plainly appears, from the astounding "swell" mentioned by A., that there must have been some radical malconformation in Mr. F.'s boat not made public, perhaps unknown, by A.; for were it otherwise, Mr. F. never would have applied an obstruction to speed, and a cause of dead or back water, for the purpose of *diminishing* back-water. I say obstruction, for no man will have the hardihood to assert, that two boards set on edge, perpendicularly, in the water, whose ends at each extremity are at equal distances apart, but whose centres are sprung or bent in towards each other, can be moved in the direction of their length with a facility equal to that of the same boards when perfectly parallel from end to end. Yet a man who asserts that the "swell" increased the speed of Mr. F.'s boat, makes a much more unreasonable assertion.

Archimedes must not misunderstand me. I do not mean that he asserts what he does not believe, but I mean to say that the increase of speed could not have been the result of this swell, but of some other cause not observed, or not now recollected by Mr. F. Another glaring absurdity is involved in the assertion that Mr. F.'s swell increased the speed of his boat. Any person in the least acquainted with the subject must be aware that, of two boats having equal draft of water, the one which is *wider* will not under the same power move so fast as the other and narrower boat. Now, sir, Mr. F., besides partially choking up the straight passage between his twins, adds to their width by applying his swell, and yet, through his friend A., tells us that in consequence thereof his boat moved faster!! I do not call in question Mr. Fairman's veracity, or impute to him a designed omission of any particular necessary to be known in arriving at a correct understanding of his invention; but I must be allowed to suggest, whether he has, after the lapse of seventeen years, called to mind *all* the particulars of an experiment, which, it appears, after all, resulted in proving his invention to be useless. His friend A. evidently believes, and endeavors to prove, that it was a failure, for he says it was "previously like" mine, (but "I wish to inform him that he is completely mistaken, and he could not be more so;") and the whole drift and scope of his argument goes to prove (in his estimation) that my invention will not succeed.

If he thinks it is so manifest a failure, I think he pays, by arguing on it, no great compliment to the northern capitalists, a body of men of whose intelligence and general information I have always entertained so high an estimate as to suppose that no addition could be made to their ideas by the slight amount of argument which A. has deemed sufficient to expose the futility of my plans.

Some of the facts stated (no doubt sincerely) by Archimedes, are in direct opposition to previous and subsequent experience: the cause of back-water, the result of the "swell," and the comparative resistance experienced by the inner and exterior curves, being instances.

If *all* the particulars of Mr. Fairman's experiment have been recollected and told us, and if there has been no mistake, then, sir, I stand prepared to prove, that a hollow tin cylinder, perfectly open at both ends, will move on end horizontally through the water with more difficulty than a common tin tunnel in the same position, whose mouth or larger orifice shall be the forward end, and in diameter equal to that of the cylinder.

The fact is, that enough, fully enough, has been stated by Archimedes, to prove that Mr. Fairman's useless invention was nothing more than a division into two parts of a single boat of the usual model and proportions. Archimedes does not tell us how fast Mr. F.'s boat moved before the application of the wonderful swell, although he says the average gain resulting from the swell was *five* miles per hour; but, allowing, for arguments sake, that this swell was no obstruction, still no man in his senses can believe that the gain was ten

per cent. on the original speed. Allow this gain, however, and by calculation we find her improved speed was just 55 miles per hour!! As a low rate of increase produces such astounding results, we will endeavor to get this famous boat out of difficulty by supposing the gain to have been equal to the incredible quantity of 50 per cent. and we then find that her ultimate speed must have been 15 miles per hour!

This will never do: we will therefore make one more effort to bring her within reasonable bounds, as to actual speed, by going out of all reasonable bounds in assigning her increase of speed, from the application of this unmanageable swell, to have been 100! per cent.; yet, allowing the increase to have been this, I may safely say, physically impossible quantity, and we then find that Mr. F.'s boat moved at the rate of 10 miles per hour, a velocity equal, if not superior, to the rates of any steamboat of that day, and which should therefore have been immediately instrumental in covering our waters with Fairman's *swell* boats, worked by men or horses. What the Connecticut people could have been about, when they permitted such an invention to slip through their fingers and be carried to Demerara, I cannot conceive, for it certainly must have been amongst Connecticut vessels a *swell* dandy of the first order. At all events, Archimedes, who alludes to my prudence respecting my heirs, must allow that Mr. F. did not manifest the usual prudence of the sharp-witted New-Englanders, when he sold so *valuable* a boat for the pittance \$300, and took no further steps for the benefit therefrom of himself and heirs. Archimedes has put his friend between the horns of a most provoking dilemma. Should he state the gain resulting from the "swell" to have been within any reasonable bounds, say 5 to 10 per cent., he virtually asserts that the improved speed of the boat was 55 to 105 miles per hour!! If, while advancing through the air at such a rate, he should be able to catch his breath and tell us that this astonishing speed is imaginary, and the result only of stubborn, unbending arithmetic, and that the actual velocity of the boat was only 8 or 10 miles per hour, he thereby makes the incredible statement, that this magic swell conferred a gain of 100 to 166 per cent.!! Why, sir, had I been the proprietor of that "wonderful" boat, I should have gone on *swelling* her at so swelling a rate, that in my exultation, not recollecting the well known catastrophe of the frog *aping* the ox, I should have probably paid so little attention to her powers of endurance as to have absolutely caused her explosion into thin air. With respect to the back-water mentioned by A., I will inform him that it could not by any means have been created by the straight *unobstructing* sides. Does not A. know that back-water is caused by *obstructions*? If he needs explanation, I beg to refer him to "OBSERVATIONS ON THE PREVAILING CURRENTS OF THE OCEAN," as published in your last number, and he will there find the subject handled in a masterly manner, and I trust to his satisfaction. The hollow in the water which he alludes to, with the evident intent that the reader should consider it as a result of the straight sides, was caused by the action of the wheel, and was by no means an evidence of back-water. He ought to know that all paddle wheels, revolving in the water, create waves, and of necessity hollows, and that hollows resulting from such a cause are no evidence of back-water. He, or rather Mr. F., saw the hollow; and A., without further ceremony, assumes it to have been back-water.

I have now done, Mr. Editor, with Fairman's famous swell boat, unless, indeed, some one of the water gods should buoy her up to the surface, and by putting her in my way render it necessary for me to run her down again.

I have, sir, more than once in my life, had occasion to observe how very easily a false issue can be made up on any subject, and the weaker side of an argument be thereby made to appear the strongest. This remark is called

forth by the "best way to decide the point" of strength between Mr. B.'s and my inventions, as suggested by Archimedes. I will grant, to his utmost desire, that arches are stronger than angles, and that a barrel will resist external pressure longer, and of a greater amount, than a box would, made of the same kind and quantity of materials. Granting all this, I still assert, with perfect confidence of its truth, that my twin boat, (that is, the *whole* fabric,) can be constructed vastly stronger than Mr. Burden's, and would in consequence be enabled to endure firmly and uninjured the severity of a gale at sea, which would be sufficient to rend Mr. B.'s twins asunder, and scatter them and their superincumbent cabins and fixtures on the surface of the waters. I said a false issue can be easily made up, not meaning that Archimedes would designedly do so. He, I have no doubt, is fully persuaded in his own mind, that the barrel and box test decides the question, and is not aware that when he proposed that test he was making up a false issue. The question is not whether *one* barrel thrown into the water is enabled by its circular or arch-like form to endure greater pressure therefrom than *one* box, but whether two barrels can by any possibility be *connected* externally in a manner better to resist the violent tendency of the waves to separate them than two boxes: said boxes, please to observe, having the advantage of stout internal frames, upon which the exterior planks are secured, and the connecting pieces or timbers of which boxes are not secured upon those planks, but inserted through them into the boxes, and forming part and parcel of those frames. Were my twins formed merely of the exterior planking, having no keels and timbers, or internal frames, I would by no means assert that *one* of them would be in itself stronger than one of Mr. Burden's, and better able to resist the compressive power of water. But whoever heard of any the least detriment happening to vessels as now usually constructed with keels, and timbers, from compression of the water. Why, sir, this unalterable property of water is a source of safety to vessels properly put together, for were it suddenly to be annihilated, and its other properties still exist, every freighted ship on the ocean would be so much ruptured by the expansive weight of her cargo as to soon go to the bottom. Whether *one* of Mr. Burden's twins is or is not able to resist the compressive power of water better than one of mine is a question in which no one can take any interest, until the heretofore immutable laws of nature become so altered that the power in question shall be able to crush together the two sides of vessels as now usually built. When that period arrives I think it will be time to discuss the question, and I am strongly of opinion, that I should find ample ground upon which to uphold the keel and timbers, (that is, the *back-bone* and *ribs*;) the knees, braces, and planks, against mere planks alone, whether those solitary planks are put together arch-like or otherwise.

If Mr. Burden pierces his twins, (thereby, observe, injuring the arch principle of his invention,) and introduces therein frames similar in any respect to keels and timbers, or to any thing else, into which he would secure his connecting timbers, he does just what I do, and therefore cannot connect his twins by that means stronger together than I do mine. But, as I am informed, and agreeable to the published description of his boat, he does not introduce frame work within his twins for the purpose of securing them together, and therefore must connect them by external fastenings, that is, fastenings secured to the *exterior* of the twins. When practical, scientific ship-builders pronounce such a mode of fastening twins together to be superior to mine, I shall then begin to think I am in error, but the opinion of Archimedes is not a lever of sufficient power to disturb my confidence on that point in the least.

Before I let the barrel of Archimedes off, I

feel bound to give it a few more buffets, which its arch-like structure may perhaps enable it to withstand.

Arches, we all know, when sustaining a very severe pressure, especially if it comes against them with a sudden and forcible momentum, are intended to receive that pressure spread equally over all parts, or else it might, by being concentrated at one or two points, be sufficient to break an arch which it could not even shake were it to bear equally on all points. Recollecting this, we will take Mr. Burden's and my inventions to sea, in a heavy gale, and in endeavoring to escape its fury we both unconsciously steer towards a hard sand bank, upon the ridge of which our boats strike for some time before we can force them over. The sides of this ridge being known to be quite shelving and steep, we thereby ascertain that at every blow or descent in the trough of the sea, a surface of twelve square feet only of the bottoms of our boats is brought in contact with it. Now, sir, here is violent and sudden pressure concentrated to a point with a vengeance, and I think, if you were on board my boat, that you would congratulate yourself that you had gotten a firm stout frame and planking outside of that between yourself and the ridge, instead of the bare staves of Mr. Burden's boat. I doubt not that you could tell without hesitation which boat would be soonest broken through. "So much" for the comparative strength of the two inventions. Archimedes asserts, that by making the inner sides straight I only remove the angle of resistance to the exterior side. I beg you to observe, that he here calls the curve of the inner sides, that is, the "swell," an angle of resistance, and yet, by applying this resistance, Mr. F. increased the speed of his boat!

I agree with A. that I remove an angle of resistance; but is he not aware that I diminish the degree of resistance by that removal? The last paragraph but one before the postscript of my published letter I should think ought to have suggested to him the reason why I diminish the resistance. His not perceiving it satisfies me, that, like his great namesake, he knows better how to set about destroying vessels than how they act upon, or are effected by, the water.

But to the point: we will suppose that the water impinges upon the two bows of a vessel sailing at a certain known rate, with a constant force of 1000 lbs., which force, setting aside the inertia resulting from the gravity of the vessel, is the only opposition to her keeping pace with the wind.

Of course, two such vessels, not at all connected, would be impinged upon, sailing at the same rate, with a total force of 2000 lbs. Connect those vessels, so as with them to form a common twin boat, and then, sir, although the two exterior bows would be resisted only by the original force of 1000 lbs. the two inner ones would immediately experience a greater opposition, which would be in proportion to the proximity of those inner bows to each other, as well as proportionate to other particulars, such as moving power, angle of the bows, &c. Why? Because the exterior bows could, as when the boats were unconnected, easily dissipate and disperse the impinging water in the shape of a swell, or wave; that would be left behind rolling along on either side; but the two inner bows would, as to this dispersion, act in opposition, and would thereby immediately accumulate a head of water, which they would have to force along before them constantly, and make it keep pace with them at any rate of speed, because more water would make its entrance in any one moment of time between those inner bows than could in the same space of time pass out from between them at the point where they converge towards each other. It must be admitted, of course, that, as connected twins, these two vessels would experience more opposition to their motion than 2000 lbs., the amount experienced when single. By removing the inner bows, or

angles, and placing them wholly on the outside, I should have to work against the original amount of resistance 2000 lbs. only.

Mr. Burden's inner as well as exterior bows, or angles of resistance, are so very acute, as to the careless spectator thereof might appear too trifling to create much opposition; but, let that spectator reflect on the degree of opposition which must inevitably result from the motion of a volume of water 21 or 22 feet wide, with a velocity of 12 or 15 miles per hour, through a passage not over 150 feet long, and whose width decreases gradually to its outlet, until it is there only 16 feet.

If dead water, as sailors term it, or back-water, according to Archimedes, would not be created thereby, both at the head and stern, I must confess that I am at sea on this matter without rudder or compass. That a twin boat built on my plan would be superior to one on Mr. Burden's, in point of draft, was, I think, clearly proved in my first letter, and therefore needs no further argument. Archimedes does not deny it. After having read the foregoing matter, Archimedes must in candor allow—

1st, That I am the inventor of the boat described as mine;

2d, That it is different from Mr. Friman's;

3d, That it is superior to Mr. Burden's, in the matter of its parts being strongly connected together;

4th, That it has less draft than his; and

5th, That the straight passage in the centre of Mr. Fairman's boat, as originally planned, or of mine according to its unchanged plan, is an advantage over Mr. Burden's boat.

That this communication will operate "for A.'s future benefit, and the benefit of others," is my sincere wish and its object.

Before concluding, I deem it necessary to state, that my letter, as published in the Evening Star, from which I suppose you copied it, was printed very imperfectly; several omissions of single words, and, in one instance, of a whole line, having been made, by which the true meaning in some parts is almost wholly obscured. When I learned that it was to be republished by you, I forthwith sent out directions for it to be corrected, but they arrived too late. I am, sir, very respectfully, your obedient servant,

CHARLES HARRIS.

Harris' Steamboat. By A KNICKERBOCKER. To the Editor of the Mechanics' Magazine, and Register of Inventions and Improvements.

Sir,—In your last number I saw a description of a twin-boat patented by Mr. Charles Harris, which he appears to value very highly, and thinks that his boat will supersede that of Mr. Burden.

There were also some remarks from "Archimedes," respecting the above invention, and stating that a Mr. Fairman, of Middletown, Ct., had constructed a similar boat in 1817.

I wish to inform Mr. Harris, (as it may probably save him or his friends considerable expense,)—also Archimedes,—that during the late war, Robert Fulton built for the United States' Government the steam-frigate "Fulton the First," and that she was "split into equal parts longitudinally, from stem to stern, down through the keel, and the two halves placed a distance from each other in parallel lines, and joined above water by timbers and decks in the most substantial manner." Previous to or about the same time, I saw a boat built on a similar plan, called the "Happy Couple." Not answering the expectations of the projector, the Couple were cut asunder, the beams shortened, and the two halves fastened together by the keels, stems, &c., and thus made a single boat. She was then used as a sail-boat. I have sailed in her often. Her projector, Mr. I. J., now resides in this city. A KNICKERBOCKER.

New-York, April 7, 1834.

The following communication, disputing the claim of Mr. Burden to be considered as an in-

ventor, appeared in the Quebec Gazette of 2d April, 1834.

To the Editor: Sir,—It is generally the case that those who bring into practical operation any invention in the arts,—if that operation be attended with great public advantages,—the enterprising individual who has been the means of securing them receives the merit of the invention.

The steamboat first practically introduced on the Hudson, by Fulton, had many years before been put in operation near Glasgow, and then Fulton, a native mechanic, assisted the real inventor, and brought with him to America the labor, genius, and experience of his master.

What is now called *Burden's boat* is not new. A boat exactly of a similar construction as to form, and differing in no wise except in the hull, which in the latter is on the principle of a common barrel, has been publicly moving across the Frith of Tay, at Dundee, in Scotland. A simple description given in the London Penny Magazine, for July last, will convince every one that Mr. Burden's invention is, so far as we know, limited to a mere barrel build, (and even this may not be his own, as Annesley's ships, built in Quebec, were at least nearly similar,) which affords lightness and buoyancy, but which is attended with great danger on the boat's striking.

"The common road from Edinburgh to Dundee runs in nearly a straight line from Pettycur through the county of Fife, and across the Frith of Tay, which at Dundee is about two miles in breadth. There is, on this passage, an excellent steamboat of a peculiar construction, the paddles being placed in the middle, as if there were two boats joined, and the form being such that it moves equally well with either end foremost."—[From the Penny Magazine, Monthly Supplement for July, 1833, page 293.]

O. Q.

AGRICULTURE, &c.

Planting Embankments of Railroads with Mulberry for Silk Establishments. By E. SAXES. [For the New-York Farmer.]

MR. FLEET,—I have at different times noticed railroads, especially the Schenectady railroad, much injured where the embankments have been made, by frost and rain, by the earth slipping in large bodies after the winter season. This I think might be greatly obviated by planting the embankments with some hardy plant, that would root into and connect the soil together on the outer surface, so far as the frost generally enters. The white mulberry, or the Chinese *Morus multicaulis*, is perhaps deserving a trial for this purpose. The plant is hardy, and grows on a sandy soil, which is generally to be found on railroads. It roots deep, and is very fibrous, which would net the soil together, as it were. There is also another consideration which might be taken into the account, viz., the formation of a silk establishment, which under such auspices might be carried on advantageously and extensively. I hope this will bear the consideration of some abler pen. Many hundred thousand trees may be planted in this way on an extensive railroad. The trees might be planted a yard apart each way, and headed down every spring to 18 inches, by which young wood would be obtained, and the plants would be very convenient to pick the leaves. This method would give almost any required quantity of leaves to carry on an extensive establishment. The leaves could easily be conveyed to some central place by the cars for the worms, and the silk when manufactured might also be conveyed in the same

manner to a market, or to places of conveyance thither.

In conclusion, I have some reason to believe, were this method to be adopted, that the appearance of the embankments would present a very interesting scene to the traveller, and the surrounding country. Comfort would also be something in favor, as the dust that often annoys the traveller would be allayed by this planting, and, I trust, were it once adopted, it would become general in most parts where railroads are formed.

Much more might be said on the subject, which I leave for a more able pen.

With respect, &c.

EDWARD SAYRES.

Hyde Park.

Laying out and Management of Gardens. By WM. SCOTT. [For the New-York Farmer and American Gardener's Magazine.]

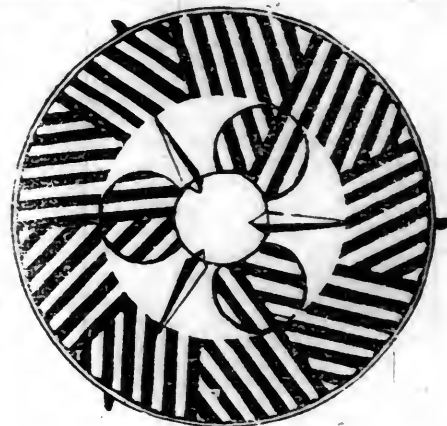
MR. EDITOR,—This being the season of the year when almost every one is in some way delighted and interested in gardening, I take the liberty to submit a few hints, which I hope may not be unacceptable to your readers. The importance and utility of gardening require no advocacy; all being agreed that its departments are fraught with lessons of interest to every man. The floral department in particular yields the most economical, healthful, and delightful pleasures that can be procured. The culinary department cannot, it is well known, be dispensed with by those who have regard to the delights of a wholesome table. By an outlay, not to be mentioned with hundreds of other daily and yearly expenses of every man, who has any property, a table may be supplied the whole year round with the choicest kinds of vegetables. The fruit garden is not to be overlooked, although this is a land where it grows by the highways and byways. No fruit is so grateful as that plucked by one's own hand and produced by one's own culture. There is nothing more enchanting than the boughs of faithful trees bending with the weight of their luscious load.

I shall point out a few rules by which the most useful productions of the garden may be more easily obtained than is generally imagined. As the season is too far advanced for either pruning or planting fruit trees to any extent, I will merely observe that they should never be planted too deep nor too close. New planted trees should be kept from drought by laying some litter or inverted turf over their roots. Almost all vegetables intended for a full crop should be put in the ground in this month or early in May. It is, however, never too late in the season to lay out flower or fancy gardens, with the exception of transplanting shrubbery, which, indeed, can be done if in pots or boxes, or if they can be raised without disturbing the roots or the soil about them. A garden may be laid out and furnished in the heat of summer, so as to look as well as if it had been done earlier in the spring. The first season it seldom meets the proprietor's wishes, let it be done at what time it may; therefore, he has through the course of the summer the advantage of getting his work done at a time when other gardening operations are not crowding on the gardener's time. He will also have an opportunity by the succeeding fall or spring to make his selection of plants. All things considered, I prefer summer for laying out new pleasure grounds, or making improvements on old ones. When commencing, the

first thing to be done is to fix on the levels of the ground. Having accomplished this, and regard having been had to the appearance of the figures from the most prominent station, drawings of the whole plan should be taken, and an accurate measurement of each figure made on geometrical principles. Accuracy in this part of the business is of first importance, because a small mistake at one place from which measurements are frequently taken, great blunders may occur. Having ascertained how the ground holds out, you must next proceed to make up the edge with boxwood, &c. This is done by making them very firm by trampling, beating, and smoothing them off to the proper levels, and cutting it cleanly out for receiving the box. This should never be omitted to be done first, for otherwise it is impossible to be so neatly finished. The plantation of shrubs next follow, which should be done with the greatest care, making large pits, spreading the roots horizontally out at their own level, and watering immediately after. The whole arrangement would be too tedious to describe in this article. No person can arrange them properly unless he be fully acquainted with the habits of all of them. Generally, however, the free growers should be put in the most exposed situation on poorest soil, and the tender and more shy in the most sheltered places and best soil, keeping the largest always at the greatest distance, and filling up the spaces amongst them with herbaceous plants in the same manner. The laying down of grass plats is so simple that I would not mention it but for the great improvement that could be made on those of this city. The want of neatness and order greatly detract from the pleasure these portions of ornamental grounds should afford. Nothing looks better than a fine smooth lawn or grass plat. To obtain this, the place intended for it may be made up of any coarse stuff to within six inches of the top. Then lay on that thickness of good earth, but no ways enriched. Tread it and beat it as firm as possible when in a dry friable state, and when perfectly even either turf or sow it. Some people contend that it is owing to the climate that the grass cannot be made as fine here as in England; but the writer has only to refer to several places in this city under a proper management, to prove the contrary. The difference is owing almost entirely to the laying down and keeping. Yours, respectfully,

WM. SCOTT.

REMARKS.—If florists and nurserymen were more in the habit of keeping perennial flowering plants, grape vines, and dwarf fruit trees, in pots and boxes, it would be very convenient for those living in cities and towns to lay out and ornament their yards and lawns in the summer. Merchants and traders in cities have more leisure from the beginning of June to the end of August, than either in the spring or fall. From the fact that neither they nor their families find it convenient to have yards laid out in April and May, it is omitted altogether. We presume one reason why English grass plats and lawns retain a more fresh and lively green than they do in this country, is that they have a greater variety of natural grasses. At the seed store in Barclay street may be obtained upwards of twenty kinds of English grasses, in small or large quantities. Also, a mixture of the kinds suitable for grass plats, put up in small packages.



GREAT IMPROVEMENT IN MILL STONES.—

The accompanying drawing represents an improvement in mill stones, which, from the following certificates, would seem to be of very great importance. It consists principally in letting in the air, as is denoted in the drawing, on the flour while grinding, and in expediting the operation. The patentee, James Preslow, and the original purchaser, George B. Jeffery, reside at Auburn.

Auburn, March 18, 1833.

We, the subscribers, having examined the plan for which James Preslow has obtained a patent for the discovery of an improvement of preparing mill stones to expedite the grinding of grain, and also seen an experiment of the grinding of grain at the mills of Carhart and Polhemus, in the village of Auburn, with mill stones prepared and dressed according to the improvement for which said patent is obtained, do hereby certify that we were present at said mills, and saw fifteen and a half bushels of wheat ground with one run of stones in a superior manner, for flour, within the space of one hour.

AMBROSE COCK,
I. S. MILLER,
E. MILLER.

Manlius, May 18, 1833

We, the subscribers, having had our plaster mill stones dressed by Mr. James Preslow, according to his method of dressing, and from the experiment do believe it to be the greatest improvement that has ever been offered to the public, feel bound to say in this certificate, that by the experiment tried, our mill ground twice the quantity in the same given time, and equally fine. And we believe that in dressing plaster mill stones according to said Preslow's method, that the quantity can be quite or nearly doubled, we therefore cordially recommend it to the patronage of the public.

JACOB R. DE PREY,
JAMES I. D'ELERY.

Milford, June 4, 1833.

Fifty-two bushels and a half in four hours and forty-nine minutes, the flour very good. We have no hesitation in recommending the improvement, from our own experiment as well as from the science and respectability of the gentlemen engaged in the improvement.

DISBOROUGH & LUDLOW.

Auburn, April 1, 1833.

We certify that the patent of James Preslow, for an improvement on mill stones, for facilitating the grinding of grain, &c., has been in operation in our mill at Auburn for several months, which we consider a valuable improvement; it more than doubles the grinding, grinds much cooler, and separates the flour altogether better in the bolts, and greatly improves the quality.

CARHART & POLHEMUS.

Application may be made to Mrs. White, corner of Beekman and Pearl streets, New-York.

Manufacture of Madder. By S. W. ABBOTT.
[For the New-York Farmer and American
Gardener's Magazine.]

Philadelphia, April 19, 1834.

MR. EDITOR,—Dear Sir: From the interest you feel in the dissemination of knowledge in promoting the culture of profitable productions, which our country so eminently calls for, I have taken the liberty to ask your advice with regard to the cultivation of an article of much importance in commerce. I allude to Madder. Your means of possessing information are no doubt such that will be of importance. The mode of cultivation I can gather from the Encyclopedia, but it does not go into the details necessary in preparing for the merchant or the manufacturer. The soil of most parts of our State, and particularly of the State of New-York, must be admirably adapted to its culture. If you can give me any light on the subject, it will afford me pleasure to reciprocate the kindness. Yours, very respectfully,

S. W. ABBOTT, 127 Market street.

REMARKS.—In the Encyclopedia of Agriculture, we find the following paragraph:

"Madder is sometimes cultivated, but only on land of the best quality, and with plenty of manure. At the end of April or May, according as the young plants are large enough to be transplanted, the land must be ploughed in beds of two feet and two feet and a half wide; the beds are then to be harrowed and raked, and the young suckers of the roots or plants are to be put down in rows, at intervals of a foot or a foot and a half, and at six or eight inches distance in the row.

"During the entire summer the land should be frequently stirred, and kept free from weeds. In the month of November, when the leaves are faded, the plants are covered with two inches of earth by a plough, having the point of the coulter a little raised or rounded, so as not to injure the young plants.

"In the following spring, when the young shoots are four or five inches long, they are gathered or torn off, and planted in new beds, in the same manner as has been pointed out above; and then in the month of September or October, after the faded leaves have been removed, the old roots are taken up.

"The madder thus taken up should be deposited under cover, to protect it from the rain; and after ten or twelve days, placed in an oven moderately heated. When dried sufficiently, it is gently beaten with a flail, to get rid of any clay that may adhere to the plants; and by means of a small windmill, is ground and sifted, to separate it from any remaining earth or dirt. It is then replaced in the oven for a short time, and when taken out is spread upon a hair-cloth to cool; after which it is ground and cleaned once more. It is then carried to a bruising-mill, and reduced to a fine powder, and is packed in casks or barrels for market."

Madder commands in the New-York market from 10 to 16 cents per pound, in its dried and sifted state. It is almost entirely imported from Holland. It is raised in some parts of Connecticut, but in quantities so small, that the dealers in the article, in this city, are scarcely aware of the fact. We shall endeavor to obtain particulars from the growers in that section. We would thank any of our readers to furnish us with further information.

WONDERS IN NATURAL HISTORY.—They last week, as the newspapers record, murdered a venerable ram at Eaton Hall (well may it be called, who, if he had been suffered to live to his birth-day, which he was preparing to keep next month, would have been twenty-three years old. He was born without ears, though he lived so many. The inhabitants of Derby are said to be in great distress at having their ram beat by a Chester 23 yearling.

NEW-YORK AMERICAN.

MAY 10—16, 1834.

LITERARY NOTICES.

No. XXIII.

Prairie du Chien, Upper Miss. Feb. 1834.

The shadows of its western bluffs had deepened far over the broad surface of the ice-bound Mississippi, though a flood of yellow light still bathed the gray walls of Fort Crawford, as its long low barracks lay in the form of an isolated square on the level meadow beneath us; while further to the north, a number of dingy wooden buildings, which showed like a fishing-hamlet on the immediate bank of the river, were momentarily growing more indistinct in the advancing twilight as we approached their purlieus, and drove up to a tavern about half a mile from the garrison.

It was within pistol-shot of the river, a comfortable looking frame building with a stockade fence around it, made with picket some ten or fifteen feet high; a voyageur or two, with a few half breed looking "gumbo" French loitering about the door, and a tall Menominee Indian, with a tuft of drooping feathers on his crown, standing with folded arms apart from the rest.

A portly good-looking German, who had formerly been a non-commissioned officer in the Infantry, proved to be the landlord, and bowed me, like a master of his business, into a room heated to suffocation by a large Canadian stove, placing at the same time a strip of neatly written paper in my hands. Imagine my surprise when I discovered it to be a play-bill! 'The public' were respectfully informed, that the sterling English comedy of 'Who wants a Guinea,' with Fielding's after-piece of 'Don Quixotte in England,' with songs, recitations, &c. would be presented that evening, by the soldiers of the First Regiment at Fort Armstrong. Nothing could be more apropos. I had just ascertained that on account of the present deep snows, with the prospect of an early thaw, it would be almost impossible to get up to the Falls of St. Anthony, whither my ambition led me, at this season; and having now no further plans to arrange during the evening, and being wholly unprovided with letters to the officers of the garrison, I was really rejoiced at such an opportunity of entering its walls incognito.

The sleigh in which I had come here carried me in a few minutes within the sallyport, and handing the ticket, with which my host had provided me, to a soldier who stood as door-keeper, I entered a large barrack room, fitted up very neatly as a theatre by the soldiers themselves; the scenery, quite cleverly done, being all painted by them, and the lights ingeniously placed in bayonets, prettily arranged, a contrivance suggested by their own taste. The seats, rising like the pit of a theatre, were so adjusted as to separate the audience into three divisions, the officers, with their families, furnished one, the soldiers another, and gumbo Indians, and a negro servant or two making up the motley third. A superb-looking squaw of the Fox tribe attracted my attention as I entered the room, and prevented me from advancing beyond the worshipful part of the assemblage last mentioned, as she sat between two pretty but plainly dressed Menominee girls, in a more rich and beautiful costume than I ever saw at a fancy ball. The curtain rose while I was studying her noble features and tasteful finery, and contrasting the striking and somewhat voluptuous character of both, with the simple attire and less mature charms of the two nut-brown beauties beside her. Every eye was then directed to the stage, and I remained standing against the door-post till the act was concluded: and then, just as I was wishing for some one to whom to express my surprise at the degree of skill and judgment with which the soldiers played, considering they were but amateurs, an officer made his way up to me, and very politely insisted upon my taking his seat in the more favored part of the house. The ordinary interchange of commonplaces between gentlemen who are strangers to each other ensued, and then, without his knowing my name or the slightest circumstance in relation to me, an invitation to take up my quarters in the garrison followed. I declined the invitation, but we exchanged cards; and I had hardly got through breakfast in the morning, when my new and gentle-

manlike acquaintance, accompanied by Colonel T., commanding officer, and a young subaltern, called to repeat the invitation of the evening before, bringing a soldier, with a sled to transport my baggage, and a led horse to carry myself over to the garrison. It would have been absurd to meet such cordial and unfeigned proffers of hospitality with further ceremony; and an hour after found me with a handsomely furnished room of my own, a fine saddle horse placed at my disposal, and a servant always in attendance, sitting down to the mess with as fine a set of young fellows as I ever met with. I have been particular in describing my initiation into this agreeable and accomplished circle, merely to give you some idea of the gentlemanlike courtesy and frank hospitality, which distinguish the officers of the army, wherever I have been fortunate enough to meet with them.

I have now been here nearly two weeks. The weather has been mild and beautiful, and my time, in such congenial society, passes delightfully—so much so indeed, that when I wake each morn at reveille, it is with a kind of sad feeling I remember that the twenty-four hours just past, brings me nearer to the time when I must start again on my solitary tour, through regions where fortune can hardly throw me a second time among such companions. The scenery around *Prairie du Chien* would please you much. The snow has now entirely left the bosom of the prairie, though it still hangs like flakes of morning mist around the rocky brows of the adjacent bluffs. The singular landscape created by these bold heights, has been called monotonous; but I do not find it so. Not a day, not an hour passes, but they present some new appearance. Each shifting cloud brings out some new angle of the gigantic blocks; and, whether the rosy tints of dawn warm their steep sullen brows, or the glare of noon settles on their round summits, and tries to pierce the deep ravines which block them out from each other, or sunset, with its mellow hues, lingers among the long grass which points their "umbered face," when they first swell from the plain, to me they are always lovely, grand and peculiar. I ascended one of these, accompanied by an officer on horseback the other day, by winding up a ravine in the rear, which brought us on a round, bold grassy height, about 400 feet above the prairie; to which the bluff descended by two sheer precipices of rock, of about a hundred feet each, with alternate slopes of soil, covered with long yellow grass,—the whole having the appearance of some vast fortification—an enormous bastion thrown up in huge layers of earth and stone. On the very summit was one of those ancient fortifications, the mysterious mementos of an unknown race, whose gigantic and enduring works are scattered over thousands of leagues of this Continent, to puzzle the curious and set at nought the surmises of the antiquarian. I trod each winding of the turf-covered rampart, and counted what appeared to be the embrasures for artillery, as my military friend commented upon the position, and described a number of similar remains which he had examined in different parts of the Western country, while we laughed together over the self-satisfying explanations of those closet theorists, who would attribute the fortified appearances of this tall elevation, and the enormous mounds in the vicinity of St. Louis, with the sunken remains on the alluvial bottoms of Illinois, the perfect forms which give its name to Circleville in Ohio, and the deep entrenchments which channel the rocky hills of eastern Kentucky, alike to the action of water: suppositions upon a par for ingenuity with those which account for the existence of the prairies by the sudden withdrawal of the same element from what was formerly the beds of a chain of vast inland lakes; the same prairies, in every instance that I have yet seen, except the single one of *Prairie du Chien*, being high table land, some sixty or a hundred feet above the streams and groves which occasionally chequer them. I forget whether I have before mentioned that the Indian name for prairie (scutay) which means also fire, would explain their origin to any one whose own dullness prevented him from observing how the action of that element extends these grassy domains every season in one direction, while it leaves them to shoot up into a luxuriant growth of young forest in another.

But turn with me to yonder view of the Mississippi, where a hundred wooded islets of every possible form repose upon the glistening ice that silvers its broad bosom. How grandly does the bold promontory of 'Pike's Hill,' interlocked as it seems with the gray crags of the Ouiskonein, shut in the lordly stream on the south; and there, where the blue water has broken its white fetters, and those diminutive figures are leaping from one ice cake to another, as they sparkle in the sun along the smooth eastern

shore, how beautifully the fall brown grass bends over the pebbly margin! You may look now, though it is two miles off, into the very centre of Fort Armstrong, where the gleam of arms flashing over the sanded parade, tells of troops in motion, though the sound of their drums can hardly reach your ears. What a point would this be from which to view the meeting of hostile forces! The armies of Europe might manoeuvre on the smooth prairie below, and not a guide could indicate a position without its being manifest to your eye long before a battalion could attain it.

There are a great many high bred dogs kept at this place, and shooting and hunting of all kinds of course form one of the chief amusements of the officers of the post. Indeed if an enumeration of the setters, greyhounds, and Newfoundlanders, which are severally kept for grouse, wolves and ducks were made, without counting the curs and Indian dogs kept by the gumbos and Indians around, the place, as I have heard it observed, might rather be called prairie *des chiens*, than left as at present in the singular number. A very successful experiment has been made here in crossing the greyhound and Newfoundland, the offspring, I am told, being highly sagacious, and a match for a full grown bear. If the race be continued, they ought to be dubbed Elkhounds, from their adaptability to the pursuit of that fine game, which abounds over the river. I was on a wolf-hunt by moonlight several hours before dawn a few mornings since; and though we were not fortunate enough to start any game, I for my own part had a very good chase.—Among the other dogs of the pack was a greyhound of the wolf species, a breed which Sir Walter Scott says is so rare in the British dominions that I had no idea that there was one of the blood on our continent. This long haired rascal I mistook, by the doubtful light of the moon, for a real wolf; and my horse, the hero of a hundred wolf hunts, seemed to share the blunder. I came upon the dog suddenly in some long grass, and spurring my horse upon him, he made at once for the bluff on the further side of the plain, thinking doubtless, from the eager bounds of my horse, that there was game in view. Convinced of my good fortune from the course he took, I shouted to my companions, while the rest of the pack broke out into full cry, and away we went together. We ran more than a mile before the sagacious brute I rode seemed to discover the blunder, and checked his gait. The officers, after enjoying a tolerable laugh at my expense, relieved my chagrin by mentioning that the same dog had repeatedly come near being shot by some of the oldest hunters of the country, who, in broad day, had, as they expressed it, "mistrusted him for some wild varmint."

I have amused myself somewhat here in studying the Indian languages, though I cannot say with much industry; the amount of my exertions consisting in learning some eight or ten phrases in the morning, and then strolling off to repeat them in the afternoon at the straggling lodges which may be found within a mile of the garrison. To one of these, where an old Sauk squaw was making a pair of embroidered mochasons for me, I went last night several hours after nightfall. The wigwam was formed of mats of woven rushes, subtended around a frame work of osiers in the form of a hemisphere, with an opening at the top to let out the smoke. Approaching this primitive abode, I heard the shrill voice of the hag within in what sounded like high altercation with some one who answered in a different language from herself; and, raising the dirty blankets which formed a door, while I crawled on all fours within the low threshold, I found that the lady of the castle was only gambling amicably with an old Menominee Indian, who sat cross-legged on a mat opposite to her. A finger ring belonging to the squaw lay upon the mat between them, and they were trying which of the two could throw the scalping knife of the Indian most often within the golden circle, a score being in the meantime kept by each on the edge of the mat, where sundry marks, made with a dead coal, supplied the place of the ordinary pearl counters used by card players. Having always despised gambling as one of the most effeminate and mean sources of excitement—the fitting employment of hands that were never made to handle arms or curb a charger—the refuge of those emaciated minds that smoulder over the kindling page of the poet and historian, or stagnate in listlessness amid the thousand spirit-stirring encounters of the breathing world around them—I had neither English nor Indian phraseology to participate in their comments upon the varying chances of the game. The squaw briefly answered my inquiries about the mochasons, while I raked the embers of her fire together and dried my boots by its cheerful blaze; and then, while she tossed the long elf locks from her high cheek bones and the upper

part of her loosely arrayed person swept the ground while bending low to view the mark of the knife which gleamed aloft in her shrivelled hand, I glanced from her weird features and squat form to the calm, but piercing ken, and still erect figure, of her savage companion, and raising the blanket, left them once more alone together.

Let me conclude this letter by furnishing you with an Indian serenade. It is written in a sort of Lingua Franca, or mongrel tongue, made up of words taken alike from the Menominee and Ojibwa or Chipewey, and possibly other languages, much used on the frontier. From the manner in which it was taken down, I do not hold myself answerable for its correctness; but, uncouth and jaw-breaking as the words may look upon paper, they really sound musical from the silver tongue of an Indian girl.

INDIAN SERENADE.

Onaiweh! Paikesal meteequen, quonadhj cusk-nord musco-taiwenin.

Awake! flower of the forest; beautiful bird of the Prairie.

Onaiweh! Onaiweh! kesh-shoshe moscaisheon.

Awake! awake! thou with the eyes of the fawn.

Taupai kaisainopemaynn, wannenauk azhenah paikesal-kew taupai cotatin sizew.

When you look at me I am happy, like the flowers when they feel the dew.

Nodin k-okeneta walkon azhenah menouq paik saiwon okenega kezhecut—walkon azhenah menouqen pahwepenuk-kazho nahgoosing.

The breath of thy mouth is as sweet as the fragrance of flowers in the morning—sweet as their fragrance at evening in the moon of the fading leaf.

Nekagewahnahahsee neshainonen ahchewauke, azhenah mokkeetchevun kezhis ahchew an wahsekoksekanzho?

Does not the blood of my veins spring towards thee like the bubbling springs to the sun in the moon of the bright nights?—(April.)

Neneetah nuggahno taupai keeshiah payshon azhenah okenega meteequen wenenenah nodin onihaiminkazho.

My heart sings to thee when thou art near like the dancing branches to the wind in the moon of strawberries. (June.)

Taupai niscadizze saugitewun, neneetah mucuddauwah azhenah wahbiskali sebewun taupai nahcut endush wajnje ishpeming.

When thou art not pleased, my beloved, my heart is darkened like the shining river, when shadows fall from the clouds above.

Ketiayahnim geozhetone menanedum, nemeetah sunnuggezewi azhenah kezhis geozhetone azhenah azuawahishoneah tegowagaine kisenah nodin wajnenetahishawajink.

Thy smiles cause my troubled heart to be brightened as the sun makes to look like gold the ripples, which the cold wind has created.

Neshwena, behludummo, keshainon neneetah pokkawmenin.

Myself! behold me! blood of my beating heart.

Ah ke tahyahnim, neepsh tahyahnim, ishpeming tahyahnim—kooshah neneah—Neneah kauk-kesdon mekunush tahyahnim mokshet taupai kaukeshiah—Onaiweh! Onaiweh! neneah saugitewun!

The earth smiles—the waters smile—the heavens smile, but I lose the way of smiling when thou art not near—awake! awake! my beloved.

Have you no poetical friend who will throw this designedly literal but very bald English translation into a happier dress?—*Adios.* H.

THE PILGRIMS OF THE RHINE, by the author of Pelham. 1 vol. New York: HARPER & BROTHERS.—Published originally in England, with all the splendor of an annual—adorned with most exquisite engravings of the Rhine scenery—we can hardly conceive of a book more calculated to win its way among the imaginative than this. Even in the ordinary and unadorned form in which it is presented to the American reader, there is that in its free and fervid fancy and discursive topics, which imparts to it a wonderful charm. But we are talking, we dare say, about a book which already the greater portion of our readers have devoured, but which we have only just now found time to look into. We will therefore only add a few detached passages—meaning hereafter to present many more.

Behold, throughout the universe, all things at war with one another, the lion with the lamb, the serpent with the bird; and even the gentlest bird itself, with the moth of the air, or the worm of the humble earth. What then to men, and to the spirits transcending men, is so lovely and so sacred as a being that harmeth none, and what so beautiful as Innocence? what so mournful as its timely tomb? and shall not that tomb be sacred? Shall it not be our peculiar care? May we not mourn over it as at the passing away of some fair miracle in nature; too tender to endure, too rare to be forgotten?

The prose of the heart enlightens, touches, rouses far more than poetry. Your most philosophical poets would be commonplace if turned into prose.—Childe Harold, seemingly so profound, owes its profundity to its style, in reality it contains nothing that is new, except the mechanism of its diction. Verse cannot contain the refining subtle thoughts which a great prose writer embodies; the rhyme eternally cripples it; it properly deals with the common prob-

lems of human nature which are now hackneyed, and not with the nice and philosophizing corollaries which may be drawn from them. Thus, though it would seem a paradox, commonplace is more the element of poetry than of prose. And sensible of this, even Schiller wrote the deepest of modern tragedies, his Fiesco, in prose.

It is perhaps for others, rather than ourselves, that the fond heart requires an Hereafter. The tranquil rest, the shadow and the silence, the mere pause of the wheel of life, have no terror for the wise, who know the due value of the world—

"After the billows of a stormy sea,
Sweet is at last the haven of repose!"

But not so when that stillness is to divide us eternally from others; when those who have loved with all the passion, the devotion, the watchful sanctity of the weak human heart; are to exist to us no more. When after long years of desolation and widowhood on earth, there is to be no hope of re-union in that In-*visible* beyond the stars; when the torch not of life only, but of love, is to be quenched in the Dark Fountain; and the grave that we should fain hope, is the great restorer of broken ties, is but the dumb seal of hopeless—utter—inexorable separation! And it is this thought—this sentiment, which makes religion out of wo, and teacheth belief to the mourning heart, that in the gladness of united affections felt not the necessity of a heaven. To how many is the death of the beloved the parent of faith!

Life has always action; it is our own fault if it ever be dull; youth has its enterprise, manhood its schemes, and even if infirmity creeps upon age, the mind, the mind still triumphs over the mortal clay, and in the quiet hermitage, among books, and from thoughts, keeps the great wheel within everlastingly in motion. No, the better class of spirits have always an antidote to the insipidity of a common career; they have ever energy at will.

For action is that Lethe in which we alone forget our former dreams; and the mind that, too stern to wrestle with its emotions, seeks to conquer regret, must leave itself no leisure to look behind. Who knows what benefits to the world may have sprung from the sorrows of the benefactor? As the harvest that gladdens mankind in suns of autumn, was called forth by the rains of spring, so the griefs of youth may make the fame of maturity.

There was a certain vastness of mind, in the adoption of utter solitude in which the first enthusiasts of our religion indulged. The remote desert, the solitary rock, the rude dwelling hollowed from the cave, the eternal commune with their own hearts, with nature, and their dreams of God, all made a picture of severe and preterhuman grandeur. Say what we will of the necessity and charm of social life, there is a greatness about man when he dispenses with mankind.

There is something in travel which constantly even amid the most retired spots, impresses us with the exuberance of life. We come to these quiet nooks, and find a race whose existence we never dreamed of. In their humble path they know the same passions and tread the same career as ourselves. The mountains shut them out from the great world, but their village is a world in itself. And they know and need no more of the turbulent scenes of remote cities, than our own planet recks of the inhabitants of the distant stars.

SUMMARY.

The following persons are elected Directors of the New York Athenaeum for the ensuing year:

James Kent, John McVickar, James Renwick, Isaac S. Hone, John A. Stevens, Samuel Ward, Benjamin W. Rogers, Francis Olmsted, James Heard, John Delafield, Stephen C. Williams, Gulian C. Verplanck, William Beach Lawrence, Peter Schermerhorn, J. Augustino Smith, Edward W. Laight, Joseph Kernochan.

[From the Tuscaloosa (Alab.) Intelligencer.]

CHURCH AND TABLE.—We cannot let a good domestic joke pass, even if it should be at the expense of our own town. It is known to all who have visited Tuscaloosa that the place is famous for bells.—There are five taverns, each of which is supplied with a clamorous bell, to invite its guests at the proper time to the table. There are also three churches that have very large bells. A reverend divine, speaking of the taverns, observed on a late occasion, that there was a more fine ringing of bells, and less good eating, in this place, than in any place where he was acquainted. Yes, said a tavernkeeper, who stood by, and it is just so with the churches; there is more ring of bells for church, and less good preaching, than in any place I ever lived.

We do not ourselves acknowledge the justice of

either remark; except as to the finging of bells.—That we have rather an over-supply, especially on Sunday morning, cannot be denied.

THE SALMY MONTH OF MAY.—For the last week the weather has been cold and gusty. On Tuesday night ice was formed in the vicinity of the city, and last night a violent and cold storm of rain, was succeeded by a slight fall of snow—and this morning at sunrise there was in the upper parts of the city ice of the thickness of a dollar.

The poets who have celebrated the charms of May lived in a different climate.

ONE DAY LATER intelligence from England has reached us, by the ship Nimrod, from Liverpool, but nothing of interest is added to former accounts.—Spain is said to have decided on an armed movement in favor of Donna Maria, but nothing decisive is given. No change in markets.

Col. Tawson, whom, to name is to praise, has been confirmed by the Senate as Paymaster General.

R. W. WIEA, of this city, whose taste and skill as an artist are only surpassed by the excellence of his character, and his fine social qualities, has in like manner been confirmed by the Senate, as Professor of Drawing at Westpoint, in the place of C. R. Leslie, resigned.

THE NEW YORK INFANT SCHOOL SOCIETY.—This Society met in Chatham street Chapel, on Saturday at 11 o'clock, an immense multitude attending. The scholars of three District Schools were present, averaging generally from four to seven years of age, and some less than four. The meeting was opened by the singing of a hymn by the different scholars, which was followed by prayer, when the Seventh Annual Report of the Society was read, which spoke of encouraging prospects, and of considerable increase in numbers of the scholars. From this it appeared that the number of scholars in the Infant Schools of this Society are 460, and in all other Societies in the city, including this, 2,880, besides which there are 17 primary schools, with 1700 children, and a number of private Infant Schools, not associated with this or any other Society. The examination of the pupils in spelling, reading, singing, and in catechism, or Scripture facts, then proceeded, and gave evidence of the astonishing amount of knowledge they had acquired, for Infants of their age. A few then recited and went through a number of elliptical lessons on the oriental plan; then they sung several hymns, and afterwards followed the benediction.—[Daily Adv.]

[From the Jacksonville (Ill.) Patriot, April 26th.]

THE GALE.—On Monday night last, (21st,) at 12 o'clock, this town was visited by a violent tempest, which for a few seconds seemed to threaten the demolition of every building within its range. Happily, no personal injury was sustained, but the damage to individuals, in the destruction of property, was considerable.

The Market House, on the Public Square, entirely demolished.

The new Brick Jail, attic story, do. do.

A new two story frame, near the Tan Yard, do. do.

A one story brick Blacksmith's shop, occupied by Mr. Philips, do. do.

A new two story frame building belonging to Wm. Hunter, opposite the jail, was moved between one and two feet from its foundation, with loss of chimney.

The large stable, belonging to Col. Miller, unroofed and otherwise injured.

The chimneys of Dr. Gillett's house blown down, together with the roof of his stable.

The roof of Widow Barton's Kitchen, blown off.

The workshop of Theodore Barton, demolished.

The roof of Widow Johnson's house, injured, with loss of chimney.

Chimneys attached to the houses of Messrs. Rockwell, Brockenbrough, Scruggs and a few others, blown down.

The Tinner's Shop of Mr. Catlin, considerably injured.

The brick wall of a new house, belonging to Mr. Seymour, demolished.

The attic story of a new frame, belonging to Mr. Allen, together with the chimney, blown down.

In addition to the above, many stables were unroofed, and considerable damage was done to out-houses, window sashes, &c. &c.

The house of Mr. Coddington was struck with lightning, during the storm, but no material damage was done.

We are happy to hear that but little injury was sustained in the country.

It appeared almost impossible to trace the course of the wind, the morning after the disaster, on account of the opposite directions in which the fragments were deposited. For instance, one half the roof of a stable near the centre of the town was carried several feet in a northwest direction, while the other half was carried in a northeast direction. We are inclined to think that in addition to the gale, there was a whirlwind, which, owing to the strong current of wind passing through so narrow a space was probably formed in the valley between the high land on College Hill and the Diamond Grove.—Meeting with no great obstruction until it reached about the centre of the town, it apparently met the strong current of the gale, from the S. S. E. and there in the destruction of the Market House and other substantial buildings, may be seen the last struggles of this tremendous storm.

[From the New Bedford Mercury.]

The following extract from a table in Brown's Sylva Americana, will be found valuable to housekeepers, in aiding them to form an estimate of the comparative value of the different kinds of fire-wood.

The table at large shows the weight of a cord of different woods, seasoned; the quantity of charcoal each will make, and other valuable information, founded on experiments. It assumes as a standard the shell-bark hickory, of which none is offered in our market. The most valuable which is common in this region is the White Oak, and assuming this to be worth six dollars per cord, we find the price affixed in the table to be the value of each.

	Lbs. in a cord.	Comp. value.
1 Shellbark Hickory,	4469	100 \$7 40
2 Pignut Hickory, or common Walnut,	4241	95 7 63
3 White Oak,	3321	81 5 00
4 White Ash,	3450	77 5 70
5 Swamp Whortleberry,	3361	73 5 40
6 Scrub Oak,	3339	73 5 40
7 Appletree,	3115	70 5 18
8 Red Oak,	3254	69 5 11
9 Black Oak,	3102	66 4 89
10 White Beech,	3236	65 4 81
11 Black Birch,	3115	63 4 67
12 Yellow Oak,	2919	60 4 44
13 White Elm,	2592	58 4 29
14 Maple,	2668	54 4 00
15 Buttonwood,	2391	52 3 85
16 Spanish Oak,	2449	42 3 85
17 White Birch,	2369	48 3 56
18 Pitch Pine,	1994	43 3 18
19 White Pine,	1868	42 3 11
20 Lombardy Poplar,	1774	40 2 96

So much for the purchaser—and now a word to the seller.

It is estimated that a cord of wood contains when green 1543 lbs. of water; so that a farmer who brings into market a cord of green wood, has no less load for his team, than another who should put on the top of his cord of dry White Oak, three quarters of a cord of seasoned pine, or one hoghead and two barrels of water; either of which would seem like overburdening his poor beasts.

[From Williams' New Register.]

AUCTION DUTIES.—The total amount of sales by auction, in this State, (nearly all in this city,) in the year ending Sept. 30, 1833, was \$34,392,320 35.—The auction duty paid to the State in the same year, was \$238,719 45, of which sum, \$236,924, was paid by auctioneers of this city, as follows, (omitting the odd cents,) viz:

David Austen	\$32,924	John Pearson	80
Lindley M. Hoffman	34,183	Allen Smith	61
Henry L. Patterson	24,587	L. Power	51
Thos. W. Pearsall	17,010	Thos. P. Bowne	46
Edwd. G. Thompson	15,799	Jas. C. Smith	42
Wm. Tinsion	15,654	Wm. J. Brown	37
R. R. McInturn	8,992	A. L. Fontaine	33
Rich'd Lawrence	8,751	Wm. McLaughlin	27
Jos. W. Cortles	8,643	Jacob Van Winkle	23
A. W. Blocker	7,932	John Fellows	23
Samuel Phillips	6,353	S. Selas	22
Wm. Girard	5,354	Thos. Bell	21
Henry Hone	4,541	Thos. Asten	19
Dan'l Sparks	2,299	Geo. S. Mann	18
G. M'Kay Morrell	1,784	J. P. Deltierich	16
J. J. Bedlent	1,137	S. M. Isaacs	15
A. B. Nones	760	A. Sergeant	14
Wm. McDonald	596	Jos. Damon	13
A. Levy	463	J. Langdon	7
Wm. D. McCarty	313	A. A. Waterhouse	3
Wm. G. Bull	115	Rich'd Crawford	2
Jesus Cady	124	Gilbert Lewis	1
Cornelius Agnew	121	J. T. Doughty	1
S. P. Ingraham	91	Jas. Gourlay, 21 cents	
Total amount, \$236,924.			

Captain Hodge, arrived at New Bedford, informing that there was an insurrection at Callao; and bombarding from Bonavisto, Callao, and Lima—caused, it was supposed, by the then President.

GREAT DIVIDEND.—The American Insurance Company have this day declared a dividend of Twelve per cent. out of the profits of the last six months, payable on the 1st June.

[From the Mercantile Advertiser.]

SPONTANEOUS COMBUSTION.—It is not generally known that oil in cotton, wool, or linen, may produce spontaneous combustion, and that very destructive fires have had this origin. A number of such instances are well known to the Insurance Companies. It is important that the community should be better apprised of the danger, that they may guard against it. We are informed that an extensive importing house in this city recently had a quantity of sheet iron cleaned of rust by rubbing it with pieces of linen cloth dipped in oil. After the work was done the pieces were thrown together in a corner. The next day they were accidentally discovered to be on fire, and just in time to prevent the communication to articles near by. Had the combustion taken place at night, it is probable that the whole building, and a very valuable stock of merchandize, would have been enveloped in flames, and perhaps entirely destroyed.

CONVENTION OF INDEMNITY WITH FRANCE.—We copy from the National Gazette, of yesterday, two interesting articles respecting this Convention, of which the effect has been—suspended only we hope—by the refusal of the Chamber of Deputies to vote the money for satisfying the American claims

[From the National Gazette.]

Extract of a Letter from General Lafayette to his correspondent in this city, dated April 2.

"It is with the deepest affliction and with the liveliest displeasure that I write to you, and to you alone, on the subject of what happened yesterday; the American treaty was rejected by a majority of a few votes. M. de Broglie very honorably sent in his resignation this morning; General Sebastiani, the author of the treaty, has done the same. You will be as I have been, surprized to see that several members of the *cote grache* have sided against the treaty. I am still sick, but with a fair way of recovery, provided I do not commit any imprudence; that danger, however, would not have prevented me, as you may well suppose, from appearing in the house; but my friends used so much argument to dissuade me from going, that I, at last, was obliged to yield. It is best, perhaps, that I should repress the expression of my feelings upon this subject; I shall therefore speak of my sentiments for you, &c."

DEBATE ON THE AMERICAN TREATY.

(Translated from a Paris newspaper.)

Mr. George Lafayette rose to speak on a personal subject. (Attention.) I have been, said the honorable member, so clearly designated by the member who spoke last, that I think myself entitled to request of the Chamber a moment's attention. I do not rise to defend the Commission, of which I had the honor to be a member, from the charge of being under any influence whatever, while deliberating on the important subject committed to it; but I wish to state a matter of fact, on which I find there is some misapprehension. My father was not a member of that Commission; I, alone, was one of the Commissioners. Surely, I did not pretend to exercise there any personal influence; but the strength of my conviction was not sufficient to induce the majority to agree in opinion with me, and I remained in the minority, though strongly convinced that there was more due to the United States, than the majority were willing to grant.

Mr. Jay, the reporter of the Committee, then rose, and in support of the Bill of Appropriation, he read a letter, addressed to him by General Lafayette, (detained at home by sickness,) in order to prove the good faith of the United States. The letter is in these words:

"While I regret that I cannot take part in the debate respecting the American Treaty, the almost unanimous report of the Committee, and the more profound knowledge acquired during this year respecting this great interest, in which justice, policy, commerce, and the freedom of the seas are involved, render it useless for me to repeat the observations, which I made at the last session, but there are facts, which I might have attested as a witness, and which

I now submit to my honorable colleague, the reporter of the Committee.

"1. I know that the date of the repeal of the Berlin and Milan decrees, is anterior to the seizures and destructions for which an indemnity is claimed. I was myself the bearer of a message on the subject.

"2. Although the United States are the only power that remained unconnected with the coalitions against France, an offer was made to them by the allies, then all powerful, to join their claims to those which they preferred, and the payment of which they obtained. That offer was worthily declined by Mr. Crawford, the American Minister at Paris. He declared that the United States, far from making common cause with the enemies of France, would wait until their accounts could be settled as between friends.

"3. I saw Mr. Barlow set off for Wilna in the full conviction, from the correspondence of the Imperial Cabinet, that the American claims should obtain a favorable decision; and at the moment of our Revolution of July, Mr. Rives thought himself sure of terminating his negotiation, even with the Ministry of the Restoration; which, nevertheless, felt no obligation to the United States, for having remained the friends of France, while France was in friendship with her enemies.

"4. Among the classes of claims admitted in the Report, I do not perceive the *Antwerp Seizures*; although my memory was perfectly clear on the subject, I had recourse to the recollections of the Duke of Bassano, whose contemporaneous authority, in his situation at that time, is superior to any distant and posthumous assertion. I am then able to say, that no confiscation was decreed, and that the sale of the property had no other object than to prevent its deterioration; that there was a disposition to admit the justice of a claim, supported by the act of the government itself, which, in short, considered the merchandize deposited in the *caisse d'amortissement*, as *American property*, which makes an additional sum of more than two millions, without reckoning the *Maria* and her cargo, involved in the same measure.

"It is from these positive data, and others of the same kind, founded on the fact of monies, which, in my opinion, unjustly, but nevertheless, have entered into the public treasury, that even after allowing for the French claims, I had in my conscience, as an honest arbitrator, estimated the American claims at the sum of thirty millions, and this amount is not so unjustifiable as some have thought proper to say, while I yield all the honor due to the administration which has reduced the treaty to narrower limits."

[From the *Quebec Mercury*.]

THE BIRTH PLACE OF CHRISTOPHER COLUMBUS.

SR.—To a native of this Continent, to which, however, by a strange injustice, posterity has not given his name, the birth-place of Columbus must always be an object of interest. A house is still shown in the village of Cogoletto, near Genoa, as that in which he was born. At the door of the building is a stone, on which the following inscription in Italian has been inscribed since 1650. It bears the name of a Priest of the same family. The two other inscriptions in Latin have been recently added. Like the birth place of our own Shakespeare, at Stratford-on-Avon, that of Columbus is visited by all curious travellers. Some time ago, a party made a pilgrimage to the spot, and entered the house in silence with their heads uncovered, regarding the birth-place of the great discoverer of the New World, as one of the most interesting sites of their route. I subjoin the inscriptions, and have attempted an imitation.—It will be perceived that in the Italian, there is a play upon the meaning of Colombo, which would be ineffective in the translation.

ELOGIUM.

Di Cristoforo Colombo, scopritore dell' America l'anno 1492—scrissi nella casa di sua nascita, nel paese di Cogoletto, outside di Giuggiole:

I.
Con generoso ardir dall' arca all' onde
Ubbidente il vol Colombo prende.
Corre, s'aggira, tennen' scopre, e fronde
D'olive, in segno, al gran Nido u rende.
L'imita in ciò Colombo, ne s'acconde,
E da sua patria il mar solcando fende;
Terrenno al fin scoprendo diede fondo,
Offrendo all'Isipauon nuovo Monco.

112 Dicembre, 1650.

PAETE ANTONIO COLOMBO.

II.

Hospes siste gradum; Fuit hic Clux prima Colombo,
Orbe viro majori, Hen! alimale arcta Domus;

III.

Unus erat Mundus; Duo sunt, sit ISTE; fuerunt.

1826.

The above imitated:

IN PRAISE

Of Christopher Columbus, discoverer of America in the year

1492—written in the house of his birth, in the country of Cogoletto, in the district of Giuggiole.

I.
Swift from the Ark, above the watery waste,
The Dove, obedient, flies with generous haste;
Still oars & speeds, nor pauses in her flight
Until the long sought land relieves her sight—
Thence as a token of the welcome strand,
An olive branch she bears to Noah's hand!
Like her Columbus scorns inglorious ease,
Far from his country ploughs the maiden seas—
Nor cast he anchor, nor a sail was furled,
Until to Spain he gave another world!

II.
Stay, traveller, stay! before these narrow walls
Awhile thy weary pilgrimage restrain—
Here first Columbus breathed the vital air:
This roof held one—the world could not contain!

III.
The world was one—Columbus said, they're two—
He found a world, and made the saying true:

I am, Sir, &c.,

J. C. F.

QUEBEC, APRIL 12, 1834.

"Gather them to their graves again,
And solemnly and softly lay
Beneath the verdure of the plain
The warriors' scattered bones away."

Among the disclosures made the past week in excavating the vault for the new Presbyterian Church on the site of the ancient burial ground in this city, was a coffin supposed to contain the remains of the gallant Major Holmes. This brave officer, it will be recollected, was killed in the assault on Fort Mackinac in 1814, while forming his men for a charge under the very batteries which the British had erected, and which, despite his fall, were carried at the point of the bayonet. His body, together with that of Captain Van Horn, who was mortally wounded at the same time, was the next morning obtained under a flag of truce, and despatched down the Lake for interment. Van Horn is said to have been buried at Fort Gratiot, while the body of Major Holmes in a coffin heavily loaded with balls for the purpose of sinking it, should accident induce the necessity of its being thrown overboard, was conveyed hither.—These facts were communicated by an old resident of the place, who imagined he identified the body from the circumstance that a quantity of cannon shot together with a military stock were found in the coffin.

There were other evidences appealing loudly to the sympathies of both young and old, and which vividly recalled to the youthful bystanders the tales of bolder horrors and the perils of the frontier so often listened to with shuddering as they sat on the knees of their fathers. The chests containing the bones of a part of the chivalrous but unfortunate Kentucky corps so barbarously butchered at the River Raisin, were likewise exposed. Many of these skulls exhibited appalling marks of the atrocities of savage warfare, being both perforated with bullets, cleft with the broadsword, and hacked with the tomahawk. The fate of this detachment which embodied within it the young volunteers from Lexington, composed of the flower of that city, under the command of Capt. Hart, created an excitement, which, rife as was that epoch with scenes of horror, has scarcely been equalled by any event in the bloody annals of the past. A few bodies only were rescued by friendly interposition from the mingled heaps of the wounded, the dying and the dead, which, notwithstanding the capitulation, were first wantonly riddled with balls and mangled by the knives of the Indians and afterwards burnt in heaps in their cantonments. These few were sometime after raised from their secret graves, and brought to Detroit, where they were again interred with the respect due to the brave but ill-fated soldier; and an appropriate tribute to the honored dead was paid them in the eloquent and pathetic address pronounced on the occasion. Their remains have now been removed to the upper cemetery of this city.—[Detroit Courier.]

[From "Tutti Frutti" of Prince Puckler Muskau.]

A REMARKABLE CHARACTER.—It is by no means necessary to travel far in order to meet with something remarkable. During a visit which I lately made to Leipzig (says the Prince) for the purpose of seeing my much-esteemed friend the Prussian General Baumgartner, I met at his table a highly interesting person, whom I beg leave to introduce to the acquaintance of my readers.

He was no other than the French captain of the guards, Dr. Emir, Chan Alcibiades de Tavernier, grandson of the celebrated traveller of that name, and himself even a greater traveller than his renowned ancestor.

Having been restored to health from severe wounds which he had received in the great battle of Leipzig, M. de Tavernier resolved to renounce the military career, and, in pursuance of a long cherished incli-

nation, to devote himself to the study of medicine and surgery.

Having completed his studies, he commenced his extensive travels in Africa and Asia, especially through Egypt, Abyssinia, Syria, Arabia, Persia, the ancient empire of the Great Mogul, Armenia, and by far the most remarkable portion in the vast and almost entirely unknown regions of Central Asia, as far as the wall of China. Thence he traversed Chinese Tartary to Kiachta, and at last returned, by way of the new Russian military road through Siberia, to Europe, where he had the misfortune to suffer shipwreck as it were in sight of port. On approaching the gate of Bucharest, where he at present resides, he was attacked by a band of robbers, who carried off the greater part of his effects, collections, and papers. With his son, a boy of ten years of age, who fired a gun from the carriage at the leader of the band, and killed him, he was left almost lifeless on the spot; he was wounded in ten different places, and recovered slowly and with great difficulty.

The singular details of these travels, which often seem to border upon the marvellous, surpass in variety the most interesting romance, while they promise the most valuable acquisitions to science. At one time we see the hero, like Marco Polo, the favorite and minister of a mighty Tartar prince, and raised by him to a princely dignity; at another, devoted to a romantic passion for the pride of the harem of his new master, encountering the greatest dangers, and obtaining ultimate success; here commanding armies and giving battles; there, again, appearing as the leader of savage hordes, among which he discovered the aboriginal breed of the horse of Central Asia, which is said to excel all the Arabian races; and, again, inventing a new conductor, which seems destined to supersede that of Franklin.

As we hope soon to be favoured with a more detailed account of this distinguished traveller from his own pen, we shall content ourselves (and this chiefly for the purpose of drawing the attention of the public to the work itself) with adding merely a few general particulars respecting Dr. Tavernier.

The principal object that induced him to visit the same quarter of the globe which had illustrated the life of his grandfather, was to form, by accurate personal observation, a fixed system on the nature of the plague and similar disorders. According to the opinion of Dr. Tavernier, if we rightly comprehend it, the ground of the form which it assumes may be considered as lying more in the juices of the body itself than as originating in contagion, which is rather only the occasional cause of the *manifestation* of the disease; "for," he says, "I have more than once seen contagion produce, in the same forms of disease, here the yellow fever, there the plague, and there the cholera, merely according to the difference of the *individual dispositions*. For this reason I even then called that singular scourge *le fleau tricephal*; when I, at the same time, discovered in the mountains of Mongolia, which no European had ever before visited, the secret that snow and ice are the real specifics against every form of this disease; and I there delivered entire hordes from it, merely by leading them from the plain into the middle icy regions.

"Surrounded by those sublime scenes of nature, proud and happy at one of the most salutary discoveries for the welfare of the human race, I wrote in my memorandum book the lines which my friends have placed under my portrait, lithographed at Leipzig:

Aux montagnes de la Mongolie,
Je vis, dans vos frimas, l'ame du feu vital,
Et lui fis foudroyer le fleau tricephal . . .
Bel ama bienfaisante et penible carriere,
Put desormais briller d'une douce lumiere."

It was principally among these mountains, and on the eastern bank of Lake Aral, that the doctor convinced himself that ice is the true antidote against contagion of every kind; and he has since applied it in innumerable cases, not only in the above mentioned disorders, but also in epilepsy, typhus malignant, bilious and nervous fevers, say, even in hydrophobia.

He affirms, it was owing to this system alone that the Vienna physicians lately succeeded in saving the young King of Hungary, as he himself had opportunities, while the cholera raged in Vienna and other cities, to convince the most incredulous of the surprising and happy effects of his mode of treatment. He therefore complains bitterly, that so many who have stolen his system, without fully comprehending it, have taken good care not to acknowledge the source to which alone they are indebted for it. This, however, he does not regard; as his object was far less personal renown and advantage, than the welfare of his fellow-creatures, to promote which he devoted his whole life, and had encountered, not without honor, so many dangers.

EXTRAORDINARY AND DESTRUCTIVE TORNADO IN VIRGINIA.—The Petersburg Intelligencer, of Thursday last, gives the following description of a tornado and its effects, that occurred the Monday previous.

The most terrific tornado ever witnessed in this part of Virginia, occurred on Monday last. The destruction of human life and property of every kind is truly appalling. It would be impossible to give more than a faint outline of its desolating fury. The scene is represented by those who had an opportunity of witnessing it, as one of surpassing and inexpressible grandeur and sublimity. Every thing, within its range, was laid prostrate; the largest trees were torn up by the roots and carried a considerable distance; dwelling and out houses were levelled with the earth, and their fragments scattered in every direction.—The day had been cloudy, with occasional showers. About 3 o'clock the clouds assumed a black and lowering aspect: in a few minutes after, the whirlwind commenced its ravages. A correspondent who witnessed its violence, says, "it was in the form of an inverted cone, and every cloud near seemed to rush into the vortex. As it approached, you might see the limbs of the forests careering through the darkened air. Its duration, at any point, was not more than one or two minutes." Its general course was from West to East; its width varied from two hundred yards to half a mile; and, from what we have already heard of its destructive march, its extent could not have been less than seventy miles. The following details will, we fear, present but a very imperfect sketch of its devastations.

A gentleman writes us that the tornado "appears to have commenced in the county of Lunenburg, near Hungry Town, where almost all the heavy timber was torn up by the roots, and where it proved very fatal. Near this place, it seems that the poor (who lived in log houses) were the principal sufferers, several negroes and children being killed. Hence it passed by Nottoway Courthouse, where the storm instead of abating increased—the public road being rendered utterly impassable. From Nottoway Courthouse, or near that place, the wind passing in a North-east direction, reached the plantation of Mr. R. Fitzgerald, where great injury was done, but no lives lost. Near his residence was that of Mr. John Fitz, who suffered immensely, having one negro killed, another's arm broke, and various others injured. Hence it pursued the same course to the house of Mr. Justice, where great injury was likewise sustained, several persons severely injured, and the life of one despaired of. The next death was that of Mr. Joshua Hawks, an honest, upright citizen, who was literally crushed, his wife at the same time receiving injury so severe, as to leave but little hopes of recovery.

The next place from whence we have any authentic particulars, is Curtis's (formerly Reese's) on Cox Road, where the storm appears to have been equally destructive. Mr. Curtis writes us "that every house on Mr. Herbert Reese's plantation, except his dwelling house, was blown to atoms; Mr. Frank Reese, the Overseer, and 3 negroes, lost their lives; several other negroes badly crippled; his wagon, which was nearly new, was hurled to atoms, even the wheels broken in fragments, and the hubs blown two or three hundred yards. Mrs. Jincy Crowder had every house on her farm (dwelling house and all) torn to pieces. Old farmer Reams lost every house except his dwelling house. No lives at either of the two last named places. I understand from a gentleman traveller that it passed on in the neighborhood of Col. Jeter's. Several lives lost in that neighborhood. I also hear that it has done considerable damage in the neighborhood of Thos. Jordan's, with the loss of lives, &c. It appears that it passed from west to east near on the north side and nearly parallel with Cox Road."

We have no certain accounts of the ravages of the tornado after it passed the neighborhood of Curtis's, until it reached the plantation of Mr. Wm. E. Boisseau, about four miles from town. The scene at this place baffles every attempt at description.—Here its desolating fury spared nothing. The dwelling house, kitchen, barn, &c. were entirely demolished, and their timbers, plank, &c. separated into fragments and scattered over the farm in every direction. Nothing is left to mark the site of the dwelling house but a small portion of the brick foundation. The family escaped from the house, and attempted to take refuge in the garden, but were overtaken by the whirlwind, and knocked down by the flying wreck of their former dwelling. Mr. B's brother, a fine youth of about 14 years of age, was killed; and Mr. B., his wife, and four other inmates of his family, were wounded, though not dangerously. In the negro quarters the injury was equally

severe—one woman was killed, and six or eight others were wounded, one very dangerously. The loss sustained by Mr. B. is very great. The persons who have subsequently visited the place describe it as though the 'genius of destruction' had made it his temporary abode.

From Mr. Boisseau's it passed along near the Southern boundary line of this town, without doing much injury until it reached the plantation of Mr. Augustine Burge in Prince George. A friend has given us the following account of its devastations in that direction: "At Mr. Augustine Burge's it blew down his stable, and almost all his negro houses; fortunately no person was killed, but several were slightly hurt. At Hall's Field, the plantation of Mr. Wm. Baird, every house was blown down except the dwelling, a two storied house near it, a kitchen or two, and the machine house. The Wagoner, John, a faithful servant, was killed in the woods by the falling of a tree; the two horses in the wagon were likewise killed. At Hickory Hill, the residence of Mr. Wm. Shands, jr. a cotton gin, a stable and kitchen were blown down. There were two negro men in the kitchen, both of whom were badly hurt; one of them was carried with the wreck of the house at least fifty yards. So tremendous was the storm, that, from Walnut Hill, Mr. J. V. Wilcox's country residence, to Preston, the residence of Mrs. Ann Thweatt, you have a vista scarcely interrupted by a solitary tree, a distance of four or five miles.—The forests, too, through which the tornado passed, were wooded with as majestic a growth as can be found probably in Virginia."

At Preston, the residence of Mrs. Ann H. Thweatt, there is not a house except the dwelling and one small out house left standing. One negro was killed and ten or twelve wounded. A gentleman who has seen the effects of the storm on this plantation says, that it presents the appearance of having been visited by a heavy freshet.

We have no further particulars of its progress to the East, but we learn that it crossed the James river, between Tarbay and Coggins' Point.

STATE OF SPAIN.

[From the London Courier, of 2d April.]

The state of Spain is anomalous; no less so, because of the anomalies of the Spanish character; (and these, Heaven knows, are strong enough,) but also, because of the peculiar circumstances which have led that country into an unintended, and, therefore, imperfect revolution.

The French *Juste Milieu* stands upon a large base, whether a solid one or not, is a question which time only can solve. But, whether it be called the monopoly of a too restricted, and nearly oligarchical constituency, or the legitimate influence of the most wealthy and intelligent part of the French nation, it is equally certain that the Government, which is nevertheless representative of a party, rests upon the majority of the electors and National Guards, and, with few exceptions, upon the monied interest. Now, is that the case in Spain? Is there in that country anything settled, whereon a Government of the *Juste Milieu* can be founded? We think not.

We must not dissemble one thing. The Crown in Spain is in abeyance. It was one of the best sayings of Napoleon, that "*thrones were but a few boards and a piece of velvet*," and now, the Spanish crown is a mere empty bauble.

The title of the young Queen to the throne is a dubious one. True it is, that by the ancient laws of Spain, the rights of the females to the succession were acknowledged; and it is equally true that the Cortes of 1789, petitioned that the Salic law, introduced into Spain by Philip the Fifth, should be repudiated. But then, on the other hand, the acts of the Cortes of Philip the Fifth, in favor of that Salic law, was a valid one, and published as such, whilst the act of 1789, lately alluded to, though, it is said, agreed to by the King, had not been published, and can hardly be considered as a law.

It is no less certain that the Cortes of 1810 declared in favor of the female succession, but their decision is of no value in the eyes of Ferdinand's widow and daughter, by whom that famous and patriotic assembly is still viewed, at least officially, as no better than a revolutionary and illegal power.

Even the meeting of the mock Deputies of the Spanish nation in 1833, though intended to sanction the title of the young Princess, had a tendency to render it still more dubious than it was before. By precluding the discussion of it, the Spanish Government seemed to fear that the decision might, nay probably would, be unfavorable to its own views, and by a curious infelicity that ludicrous assembly met, we may say, to enter a silent protest against

the act, the sanctioning of which was the ostensible object of its convocation.

The consequence of such an accumulation of blunders and follies, which might have been anticipated, are most unfortunate. By a large party of the Spanish nation, Don Carlos is considered to be the legitimate King of Spain. And we are not rash in saying that among the supporters of the young Queen, a large portion care but little about her title, and look upon her as a rallying word—a motto or a banner under which the battle of the good old cause of the Constitution against the ancient despotism is to be fought over again.

But if the title of the young Queen of Spain is liable to objection, the situation of her mother, the present Regent, to whose lot it had fallen to enforce and support the rights of the Royal infant, is eminently calculated to embarrass and endanger the cause of female succession. Regencies, particularly under a despotic form of government, are proverbially weak and unsettled. The government of a female and a foreigner seldom commands respect or popularity.—There is besides in Spain a prejudice against Italian Princesses. The effects of all this are already felt. There are ugly reports abroad which we do not believe, on the principle of our laws, which forbid us to look upon an individual as guilty until after conviction, founded upon convincing evidence. Yet, admitting those loud whispers to be foul calumnies, they are not the less likely to be attended with injurious consequences. The reported levities of Marie Antoinette, whether the reports were totally false or only exaggerated, had a very important share in her own misfortunes and those of her husband and family. The present regent of Spain has done little to enlist in her favor the feelings of any party in Spain. The Queen Regent should be like Caesar's wife; for, to be suspected, is, in her case, as far as that can influence the public mind, for all practical purposes, tantamount to being guilty.

Don Carlos is differently situated. Of talent and energy he has been found hitherto sadly deficient, and yet his popularity among the Spaniards is even unto this moment unimpaired. He is still supposed to be a man of strong principle and sound public and private morality. He undoubtedly possesses many, and is held to possess all the qualities that best suit the ruler of a grave and religious people. Unlike his departed brother, his sincerity never was nor is doubted. Those virtues which he may want, he receives credit for, and upon that credit he can largely draw upon the resources and zeal of an enthusiastically devoted population. During the Peninsular war the bright halo which enrouned the distant Ferdinand, made him appear in the eyes of his subjects as a being invested with more than earthly perfection. His inglorious captivity within the walls of Valencia was mainly serviceable to the triumph of Spanish Independence. In that respect Don Carlos has now succeeded his brother, and is in full possession of the benefits of a succession of which no law can deprive him.

When we take all those things into consideration we shall see that the Pretender to the Spanish throne, has some chance of success. We know that such is the view entertained, by those—good judges, too—who were heretofore inclined to think otherwise.—One European Government, which has hitherto shown great zeal for the cause of the young Queen, betrays present symptoms of a contrary tendency, be it owing to want of faith in her power, or to dislike of a cause which must become connected with that of political liberty. The announced dispersion of the French army stationed on the Spanish frontier is truly a most unaccountable measure, unless it be meant to assist the Spanish Carlists, since the reasons which led to the assembling of that body are still subsisting, as the rebellion in the Spanish provinces is far from being subdued.

We are far, however, from despairing of success to the cause of the Queen. She has some favorable circumstances on her side, which only the folly or guilt of an imbecile or designing administration can render unavailing. It is no mean advantage to be in possession of the actual powers of the Government, particularly when we consider that the Constitutionalists of 1820, notwithstanding a strong opposition both at home and abroad, were enabled to keep their ground, till the insurgent Royalists brought in an overwhelming French force on their own side.

The Queen Regent can now depend on a larger party than the old Constitutionalists were able to command, provided she knew the way to form and consolidate it. In the list of her supporters we find the names of Quesada, Llauder, and Morillo—that is to say, a leader of the Royalist Army of the Faith, a moderate though still a steadfast Royalist, and a deserter from the Constitutional cause, in addition to

all the staunch and unfortunate defenders of the fallen Cortes. These men, heretofore, and perhaps even now, disagreeing in principle, are yet bound together by the strong tie of common interest. There is no salvation for them except in the triumph of the Queen's cause, and that cause cannot be saved except by its being identified with that of free institutions.

A further and strong chance in favor of the Queen may be found in the conduct of her adversaries.—Had they left the Constitutionalists alone, perhaps the Regent could not at present rely upon their support, which indeed she never did nor does now deserve. But the blind fury and party zeal of the Carlists made it a necessity for the intended victims of a forthcoming and clearly denounced persecution, to arm themselves in their own and the Queen's defence.

The Regent of Spain and her ostensible and real advisers must be blinded indeed if they do not perceive their true situation, or if they neglect to improve those chances of success which they still have on their own side.

The path they have to follow lies clear before them; there is no mistaking it; and let it be kept in mind that no other path is safe.

They must arm the Constitutionalists, and they must assemble the Cortes.

These are no metaphysical principles—no delusive theories—but, on the contrary, practical questions, which involve security for life, for limb, and property.

It is a mere absurdity to talk about the qualifications for the national militia. Those men ought to be armed who are willing and ready to fight, and are likely to fight well.

Nor is the meeting of the Cortes a question of a less practical character. A bill of exclusion against the President and his offspring must needs be the first act of the Legislature. This is no time for idling and procrastinating, and closing the eyes to dangers that look upon you full in the face. Something more than the repeal of the Salic law and an insurance for two lives, is required by those men whose lives are threatened by an exasperated party. The doctrine of the sovereignty of the people may be disliked by many of the Queen's supporters, but they all must know what fate awaits them should the death of two infants place the legitimate power in the hands of Don Carlos.

The necessary consequences of such measures as are here urged may well be anticipated. They will be no less than the establishment in Spain of a representative government, whereby the liberties of the Spaniards, and the interests of the ruling party among them, may be secured and consolidated.

It is both to the enthusiasm for liberty, and the sense of security, that the Queen Regent of Spain must, and can only be, indebted for success. To the enthusiasm and rightly understood interests of her adversaries she must oppose the influence of equally solid and energetic principles. She has to appeal at once to the noblest, and the most vulgar passions—to call to her aid the patriotic zeal of the truly liberal, and the vigorous efforts of selfish interests threatened in their tenderest points. Let her appeal quickly to the devotedness of the patriot, and the common sense of the people, or she will perish, and leave behind her a name significant of folly, feebleness, and guilt, which will excite, perhaps, more than any name in history, indignation and contempt.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of *Duffee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbonate, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833.

NOTICE TO MANUFACTURERS.
SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty six nails, and about forty lod nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833.

STEPHENSON.

Builder of a superior style of Passenger Cars for Railroad.
No. 204 Elizabeth street, near Blecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

RAILROAD CAR WHEELS, BOXES AND
AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT
MANUFACTORY.

EWING & HEARTY, at the sign of the Quadrant, No. 33 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Hartly.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing & Hartly.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 40, page 792 of this Journal.

RAILROAD TURNOUTS, REVOLVING
PLATFORMS AND SIDELINGS.

The subscriber having been for some years engaged in constructing turnouts, and inserting the necessary switches and fixtures appertaining to the same, on the Baltimore and Ohio Railroad, and as those works on that road will be shortly completed, he is desirous of being employed by any Railroad Company requiring work of the above description.

He will either contract at a fixed price to execute the work, he providing all the necessary materials and fixtures, or otherwise,—or he will engage himself at a stated salary.

In relation to his abilities and general character he begs to refer to any Company, disposed to engage him, to the Baltimore and Ohio Railroad Company.

Letters can be addressed to him at the Office of Construction Baltimore and Ohio Railroad, Baltimore.

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REUBEN ALER.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with classes made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

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ENGINEERING AND SURVEYING
INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1833.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. M. GILL, Civil Engineer.

German town, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others of that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germantown, and Norristown, Railroad

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"LAZY SAM."

The following story will not be worth the less for being true. A Kentucky horse drover being in South Carolina with a drove, happened to take it to the neighbourhood of Gen. H——, whose character for jockeying and maneuvering in trade is much more celebrated than his feats in arms. The Kentuckian having perfect acquaintance with his character, went to see him to sell him some horses, or to swap—or to run a race, as the fates and destinies might order and decree.

He was one of our careless unconcerned knock down and drag out looking sort of fellows: who would assume just as much simplicity of countenance and address, as circumstances might require. He had the appearance of being about twenty-two or twenty-three years of age, as usual was dressed in blue mixed jeans, to hide dirt, and wore a drab colored hat for the same reason.

'General,' said he, 'I am just from old Kentuck with some powerful nice horses, and may be you want some. Daddy told me if I came in your parts to call on you, and he reckoned may be you would buy a pair of matches, or help me out in tradin, for he said you had a power of money, and understood tradin to a scribe. Here's a letter from him,' handing one. 'And besides I've as nice a pair of matches, as you could shake a stick at; and as tight a nag for a quarter, Daddy says, as any in the parts: but he says I must run no races, caze mought lose, and we want all the money we can scrape to pay for land. But I reckon he'd suit you to a fraction, caze you are a sportin character, mought win a powerful chance of money on him.'

While he was thus introducing himself and telling his business, the General opened the letter which read as follows:

'Dear General—I take this opportunity to write to you by my Job, who is taken the first drove he ever driv, and I want you to roll a log a leetle for him, if so be it suits you. Job's spry enough at home, but hasn't cut his eye teeth yet, and you'll lend him a hand, I'll due as much for any of your boys if you've got any, whenever they come to these parts tradin or any thing else. So no more at present, but remain your affectionet friend till death.'

PETER TOMPKINS.'

The hero of horse races, cotton bags and sugar hogsheads, thought that he perceived a neat speculation, and acted accordingly. Mr. Job Tompkins was received with much courtesy; his man and boy entertained with the best in the larder, whilst the five and twenty horses were not neglected. It is true the General had not the slightest recollection of his friend and correspondent, Peter Tompkins. He might have once known him, or not. It was the same thing. Here was Job, a raw Kentucky stripping, with twenty-five fine horses, as easily squeezed as a ripe lemon. It was not in his nature to forbear.

In the meantime Mr. Job Tompkins made himself quite free and easy, and swaggered about the costly furnished apartment as if he had been in a log cabin. He viewed the silver plate on the sideboard with much apparent astonishment, and a pair of silver snuffers, especially, excited his curiosity.

'Lord General! at them thar candle snuffers made out of the pure stuff? I never see'd any afore but in ones, and mamma uses her sheers. And all them ar things on thar ar big chist (the sideboard) is the r'al Spanish castina! I heard talk of this afore, but never seed it. Now if I was to tell this in our settlement, may be they wou'dn't thop straddle of me, and ride over me rough shod, for a liar. But they say you're a powerful sight the richest man in the South States, aint you?'

To all which the General returned suitable answers; and Mr. Job and he were hand in glove, for the time being. Each man resolutely bent to make a successful lodgment in his neighbor's pocket with the view of clearing it out, a Herculean labor to be sure;—when Job heard in the next room the sound of music. Several Kentucky reels were played, anon the sweet breathings of a melodious voice sung Sweet—sweet home.'

'May I be ———d' said Job, 'if that dont beat Bob Walker, and he's a patch above common. But that aint none of your music boxes I know; it cant be. Is it?'

'My daughter is playing on the piano,' said the General, 'we will walk in the room and hear her.'—Here were blandishments to strike Job dumb, and entrance all his senses.

"The man who has no music in his soul,
And is not moved with concord of sweet sounds
Is fit for treason, stratagems and spoils."

Job thought a man might love music and spoils also.

He felt a liking for both. Therefore he applied the music in his own way most rapturously.

Said Job, 'Lay I never pull another trigger, if she's not a priming above any thing I heard talk about. Why she's chartered! She's a r'al one, I assure you. Why its enough to make a fellow swim that cant; and if it was'nt for all thees fine kiverlids over the track, (the carpet) and I had a partner to my mind, I'd go my drove to nothing or less, I can shake the sticks off of any boy you can produce.'

The General now thought the Kentuckian ripe enough. To aid in which he had been well plied with choice liquor as he denominated the Brandy and Madeira.

The horses were brought out and examined, and praised, and cheapened, and faults found with all.

They could agree upon nothing.

'Well, where is your quarter horse?' asked the General. 'Oh, ho! I sort o' tho't what you were after,' answered Job, 'for you hardly looked at them thar matches, and these fine geldings.' So you must be after the quarter nag. Jim fetch up Lazy Sam, will you! Now General I'll tell you, honor bright, he's never been lick't in a quarter spurt, but once; by Joe Miller's sorrel mare, which runs like a streak of lightning. She's a r'al screamer. Daddy swept for him last fall after she tanned him out. If I knowed her I'd give you her marks, so as you mightn't be tuct in. For I heard Joe was bringing her to the South to win the expenses. But here's the horse any how, and I assure you he's not slow.'

Now be it remembered that honest Job was not ignorant, that General H—— was at that time the owner of this identical mare, and for reasons best known to himself he wished to make a race between her and Lazy Sam.

The General examined Lazy Sam with the eye of a Jockey.

'Pish,' said he very contemptuously, 'why this thing cannot run; why it's as flab-sided as a sheep, and as heavy shouldered as a hog, and cut hammed besides: I would not give a good mule for three of it. Why did you not bring a lot of mules to market? I would have bought some at a fair price. Your horses do not suit me. Pray what do you ask for this thing which you call a running nag? It may do to plough a season or two. Does it work?'

Unlike the Job of ancient days, Job Tompkins suffered his anger to rise and master him. At least he made the General think so. To use his own words, he convorted. He screamed out.

'Hello! Mister, I wonder you're so mighty wise considering you know so little. Why you make me feel all over in spots, to listen at you. I reckon may be you've got a quarter nag yourself: aint you?'

'I have a plough nag here' said the General very coolly, 'that I am sure can run away from that thing of yours.'

'Thing?' holloed Job, 'why you make me feel all sort of wofly, and I've a good mind to go my whole lot again any thing you can parade in the whole South.'

'I would not spoil a good mind then,' quoth the General. 'But I suppose you are afraid to run, as your father has forbid it.'

'I dont care a solitary flint what Daddy says when my Irish is up,' exclaimed Job indignantly. 'Bring out your nag and let's see it.'

The General gave the order; and as Job expected, the sorrel mare, (once Joe Miller's) was brought forward.

While Job examined her, his adversary endeavored all he could to fret him by disparaging his horse; and Job appeared to be worked up to fever heat.

To cut short the story, the drove was staked against twenty-five hundred dollars in a check upon the C— Bank. And the company adjourned to the General's track, to see the race. On the way Job stopped short, and facing the General, asked very earnestly,

'Now you're sure this aint Joe Miller's Nag? My mind sort o' misgives me, eaze from what I've heard they sort o' favor like.'

'D—n you Joe Miller and his nag also,' replied the General, 'the mare is mine I tell you.'

This appeared to be satisfactory.

I have given you the General's description of Job's running horse—done to fret him. It was by no means a correct one. Lazy Sam was a well made poney of the Printer stock, but was of a mild, sleepy, sluggish disposition, until his mettle was roused.—He generally went with his eyes half shut, and his head drooping at an angle of forty-five degrees.—

When the General viewed him he was in this condition.

The horses were in the General's stable and the check for two thousand five hundred dollars in the hands of a gentleman present. The General had no doubt about keeping all Job's fine horses and sending him home on his ten tees. Job thought differently. Lazy Sam was led along by Job's boy, as sleepy as usual. The preliminaries were adjusted, and riders mounted. As Job threw Jim on Lazy Sam, he sprang all fours off the ground; and his dull sleepy look, was changed into a wild, almost devilish expression.

He looked as Job did when he 'convorted.'

The General lost his usual mahogany color, and looked pale; but he said nothing.

Lazy Sam won the race by thirty feet.

Job was suddenly cool as a cucumber. And as he put the twenty-five hundred dollar check in his greasy pocket book which he did very deliberately, he looked round cunningly.

'I sort o' think that's first rate and a half,' said Job, 'and a little past common. Why Gin'ral, Sam's laid you as cold as a wedge.' He turned round suddenly to his rider, 'Jim' said he, here's five dollars, why it all goes in a man's life time. But the General looks as if he'd been squeezed through the leetle end of nothin, or less.'

TO IRON MANUFACTURERS AND OWNERS OF IRON ORE BEDS.

JOSEPH GOULDING, of Knoxville, Knox county, N. Y., has invented and patented a *Magnetic Separating Machine*, for separating Iron Ore from the extraneous matter usually found in connection with it; and he begs leave to recommend it to the especial notice of owners of Ore Beds as possessing qualities of great importance, as by the use of it many ore beds can be made very valuable, it being applicable in all cases when the Ore is magnetic.

The quality of the iron made is much improved by the process of separation, indeed good iron can, after separation, be made from ore which would without it be considered not worth working. There is also found to be a great saving in the transportation of ore, and in time and fuel required to work the same into iron.

Mechanics can be furnished at short notice which will separate from half a ton to twenty tons each in twenty-four hours.

J. Goulding also manufactures to order, *Cylindrical Forges* and *Blast Furnace Bellows*, of the most improved construction, and which are successfully used in nearly all the Forges and Furnaces in Clinton and all the adjoining counties.

January 20th, 1834.

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RAILWAY IRON.

	Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in length from 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit
200	do. 1 1/2 do.	
40	do. 1 1/2 do.	
800	do. 2 do.	
500	do. 2 1/2 do.	
	soon expected.	

250 dn. of Edge Rails of 35 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rings of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

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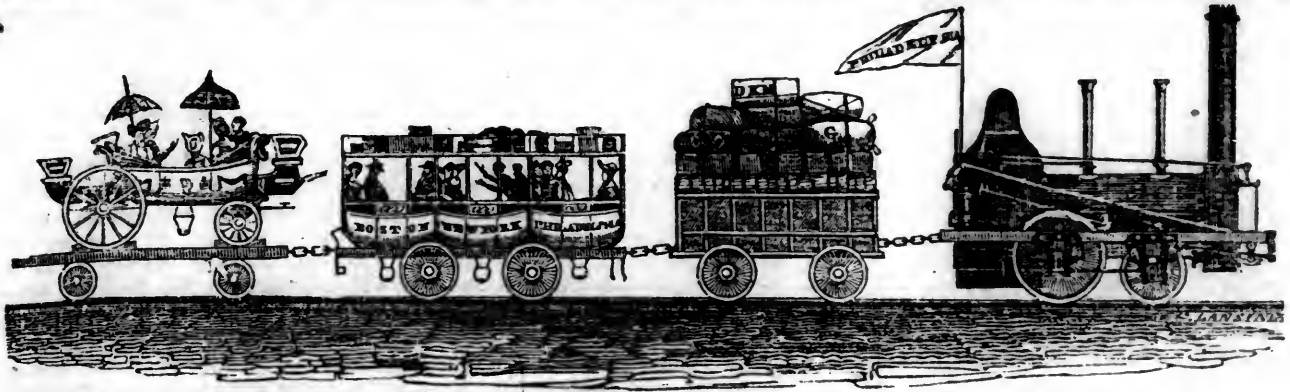
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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 13 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, MAY 24, 1834.

[VOLUME III.—No. 20.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 24, 1834.

NEW-YORK AND ERIE RAILROAD.—We understand that JUDGE WRIGHT has been employed, and left this city on the 22d, with two parties for Deepark Gap, to commence the preliminary survey of the route for this road. The survey now to be made is not of course to locate, but merely to ascertain the practicability of the route.

We promised in our last to give in the present number some good reasons why the state should aid in the construction of a railroad through the southern tier of counties, but are obliged to omit them until our next.

We acknowledge the receipt of the first annual report to the stockholders of the S. Carolina Railroad and Canal Company, since the completion of the work. From the report we learn that the business of the road has been regularly increasing since the opening of the road, from about \$600 to \$3,400 per week. This increase has been effected, too, without the aid of the cotton crop, of which only about 4,000 bales have been transported on the railroad.

The earnings of the road have been, from 1st January to 1st May, \$39,518.31.

It should be borne in mind, at the same time, that there has not been at any time, not even now, although great efforts have been made to obtain, a sufficient number of cars, both passenger and freight, of which 8 to 10 per week are added, to meet the demand. Two new locomotives are expected daily from Europe, and two others in this country are in a state of forwardness, which, when in use, will give them twelve or fourteen engines, twenty-four pas-

senger, and one hundred and fifty freight cars, all of which will probably find constant employment through the business season. It is, indeed, gratifying to witness the success of this road. It will give an impetus to the prosperity, not only of South Carolina, but of the whole South. Alabama is already pushing her railroads in a direction to join South Carolina; and Tennessee, also, as will be seen in this number of the Journal, is following closely upon her heels, so that the time is not distant—not five years—when the Charleston railroad will be extended to the Mississippi, and not only to the Mississippi, but also to the Ohio, and to the navigable waters emptying into the Gulf of Mexico, thus opening an easy, cheap, and rapid communication to the ocean for the products of the most fertile country in the world.

We have not, to-day, room for extracts from this report, and shall therefore refer to it again.

We have also to acknowledge the receipt of another report, the report of J. Edgar Thompson, Esq., Engineer of the Oxford railroad in Pennsylvania—another link in the grand Atlantic line. The Oxford railroad is only nineteen and two-fifths miles in length, commencing at the Columbia Railroad, forty-five and a half miles from Philadelphia, and terminating at the Maryland line. By the completion of this road, Pennsylvania will have performed her part towards the accomplishment of the grandest scheme of internal improvement ever contemplated in this or any other country. She will have forged another link of a chain which, when completed, will tend more to the permanence of the Union than all the plans of all the politicians of the age. We must lay this, also, on the table until another week.

TENNESSEE RAILROADS.—We are indebted to Col. PETITVAL, formerly of the Charleston, S. C. Railroad, but at present of Tennessee, for the following communication, relative to the works in contemplation in that State, and also for his reports upon two routes, one from Jackson to the Mississippi, and the other from Columbia, through Mount Pleasant, to the Tennessee river, which will be found in the present number of the Journal.

We are the more indebted to Col. Petitval for these reports, as they are, we think, the first which have come to hand from Tennessee since the establishment of the Journal; they are not, we trust, the last from the same quarter, as no State in the Union will be more benefited by the introduction of railroads than Tennessee.

Nashville, May 2, 1834.

To the Editor of the Railroad Journal.

DEAR SIR,—A constant employment during all the winter in reconnoitering different routes for railroads in the western part of the State of Tennessee, prevented me from giving you any account of the situation of the internal improvements in that State. The companies being now organized, the officers elected, and the stock subscribed, I take the advantage of my first leisure hour to send you my two reports to the stockholders of the Jackson and Columbia Companies.

In January last, stock to the amount of \$500,000 was subscribed for a line of railroad to the Mississippi river, and in March a like subscription was made for another line, in the same direction, from Columbia, Maury county to the Tennessee river; and as, by the charter of the Jackson Company, they have a right to extend their road in the western districts, increasing the stock to the amount of one million of dollars, the two roads will be soon connected by an intermediate line.

I examined all the country, and furnished the companies with estimates of the probable cost of the work, and it is on account of those reports that the stock has been so liberally subscribed. In Jackson the commissioners were obliged to strike out \$430,000, the amount subscribed over the capital of the Company, thereby reducing the subscription of the largest stockholders to 159 shares each.

East Tennessee has had a charter for a railroad since 1831, and is now making preparation to join the west in improving the internal communication of the State; and I can assure you that within 6 or 7 years an uninterrupted communication will be opened between New-York and New-Orleans, either by the Valley of the Clinch, through Abingdon, Virginia, joining the Petersburg railroad; or through the Valley of the French Broad, by Asheville, North Carolina, joining Athens, Georgia, or Hainburgh, South Carolina, by which the mail will be carried over the route in 5 or 6 days.

A railroad through the centre of the State of Tennessee will be of inestimable advantage, not only to that State, but to the whole Union, as it will be the great rendezvous of all the emigrants to the Valley of the Mississippi, affording a speedy and easy transportation; opening the markets of the north-east and south-west for the products of her rich soil and mild climate, so well calculated for wheat, hemp, tobacco, and cotton; and also for her inexhaustible quarries of marble, beds of coal, veins of ore of every metal, found amongst her beautiful and picturesque mountains.

I am sincerely yours, &c.

J. B. PETITVAL, Civil Engineer.

On the Color of the Air and of Deep Waters, and on some other Analogous Fugitive Colors. By COUNT XAVIER DE MAISTRE. Translated from the Bib. Univ. by Prof. J. Griscom. [From the American Journal of Science and Arts.]

The blue color of the sky is accounted for, by supposing that the sun's light, reflected by the surface of the earth, is not entirely transmitted by the atmosphere and lost in space, but that the molecules of air reflect and disperse the blue ray. Why this ray is reflected in preference to the indigo and violet, which are more refrangible, and appear to be more easily reflected, is a circumstance not accounted for.

The same blue reflection is observed in deep sea water, and in lakes, and rivers, when they are limpid.

The same singular phenomenon is also witnessed in various substances of different natures, which have no apparent analogy: thus, opaline substances are blue by reflection; the noble opal, (independently of the partial rays which give so high a value to this stone, and which are attributed to natural fissures,*) reflects a general blue color, which is also observed in some other siliceous stones, and which is still more obvious in opaline glass. A weak solution of soap is slightly blue; the jelly of ichthyocolla is more so, and an infusion of the bark of the large chesnut tree, (*maronnier*), which is perfectly opaline, still more. Newton speaks of a wood which he calls nephritic, the infusion of which is opaline. In the Sicilian sea, at the mouth of the Giaretta, (the ancient Simethus,) specimens of amber are found which are in great request on account of their highly opaline properties.

A blue reflection is also observed in certain bodies which are opaque-white when reduced to plates thin enough to transmit light. A familiar example occurs in the skin covering the veins, which transmits a blue, although neither the skin nor the blood is of that color.

The mixture of white with black and with transparent colors gives in painting numerous examples of opaline blue.

This blue color is the only one which can be explained on the theory of thin plates, by supposing that the particles of opaline bodies have just the dimensions requisite to reflect the blue ray. This explanation derives some probability from observing that the color transmitted by these bodies is the complementary yellow of the reflected blue. This theory, however, presents great difficulties, and it is not intended absolutely to admit it in this essay.

The analogy between the colors of opaline substances and those observed in the air and waters, will become obvious by an examination of their action on reflected and transmitted light, proving that the phenomena are owing to the same cause.

Opaline glass is produced by mingling in the common metal of white glass a portion of calcined bones, which gives a blue shade without much impairing the transparency. The bone powder appears to be in a state of extreme division, or a kind of demi-solution, which does not disperse the transmitted light.

The color of the light transmitted by opaline bodies varies according to the volume of the mass; it is yellow if the body is thin, and becomes successively orange and red in

proportion to the increase of thickness. The analogy of the air with opaline substances is not only manifest in the blue reflection, but also in its action on transmitted light, which becomes successively yellow, orange, and red, according to the volume of air and the kind of aqueous vapors with which it is impregnated. When the sun is high, and his light crosses only the purest and thinnest portions of the atmosphere to reach the clouds, they are white, with a slight tinge of yellow; they become sometimes yellow and orange as the sun declines; and at length red and purple when his light grazes the earth, and is transmitted by the densest portion of the air, and loaded with the vapors of the evening.

But it often happens that the colors do not appear, and that the sun sets without producing them. It is not, therefore, to the purity of the air alone that we must attribute the opaline property of the atmosphere, but to the mixture of air and vapor mingled in a special manner, and producing an effect similar to bone dust in opaline glass; neither is it the quantity of water in the air which occasions the colors, for when the weather is very damp it is more transparent than during a time of drought. Distant mountains are seen more distinctly, a well known prognostic of rain; the sun then sets without producing colors, it looks white through the fog and damp vapors of the morning, but when the clouds are colored red by the setting sun, the phenomenon is generally deemed the signal of fine weather, because these colors are a proof of the dryness of the air when these contain only the peculiar diffused vapors which give it its opaline quality. In this state of things the disc of the sun appears like a red fiery globe divested of rays.

The blueness of the sky, therefore, varies according to the kind of vapor which is spread through the air; and what renders it unquestionable that its blue color is caused by these vapors is, that it appears black when seen from the highest points of the globe, above which there is not sufficient vapor to reflect the blue color.

Limpid waters, when they have sufficient depth, reflect like air a blue color from below; it is of a deeper shade, because it is not mixed with white light; very often it is not perceived at all; the reflection from the surface, on which the sky and surrounding objects are painted as in a mirror, often occasions the disappearance of the internal reflection, or forms with it complex shades.

We have seen that the property which air possesses of producing colors is derived from the presence of watery vapor; analogy leads us to presume that this property in water arises from a mixture of air which it always contains to a greater or less amount.

Although the blue color of water is often masked by numerous causes, it is sometimes exhibited in all its intensity; a fine example of it is witnessed in looking at the Rhone from the bridge at Geneva. The river seems to flow from an ultramarine* source. The spectator is in the most favorable situation for observing the internal reflection disengaged, as much as possible under an open sky, from the reflection at the surface.

Agitation of the surface has a great effect on the color. A tranquil sea sometimes reflects the warm color of the horizon, re-

presenting all the tints of a luminous sky so exactly, that the sky and sea appear to be blended with each other; but if a gentle breeze ruffles the surface, the brilliant tints vanish, and the blue from the interior immediately predominates.

Such is also the cause which enables one to distinguish the course of the Rhone far into the waters of the Leman: the progressive motion of the river in the motionless water of the lake produces an agitation which diminishes the brilliant reflection of the sky and renders the color of the water more sensible.

The green tint which the sea often assumes may seem to throw some doubt on this property of reflecting the blue ray, regarded as inherent in the nature of water; but this green color is observable only when the depth of the sea is insufficient, that is, when the bottom may reflect the transmitted light.

In looking at the sea from an elevation of about fifty toises, on the shore of the island of Capri, I observed spots which were of the finest green, much more luminous than the dark blue sea with which they were surrounded. To ascertain the cause, I took a boat and proceeded to the place. The spots then were no longer perceptible, but I soon re-discovered them, and found that the color was occasioned by white rocks, which were easily distinguished, notwithstanding their great depth, from the dark sandy bottom in which they reposed. These rocks, viewed in a vertical direction, were of a lighter green than when seen from the height, but I could not doubt that they were the cause of the phenomenon.

To settle the point by direct experiment, I prepared a square sheet of tinned iron, fourteen inches long, painted it white on one side, suspended it horizontally to a cord, and sunk it in a deep place, where the water under the boat was blue, without any mixture of green, watching the effect under the shade of an umbrella which was held over my head. At the depth of twenty-five feet it acquired a very sensible green tinge, and this color became more and more intense to the depth of forty feet, when it was of a beautiful green, inclining to yellow; at sixty feet the color was the same, but of a darker shade, and the square figure of the plate was no longer distinguishable; until at eighty feet there was apparent only an uncertain glimmering of green, which soon disappeared.

We thus perceive that the light of the sun transmitted through water, and reflected from a white surface, produces green. The cause may be readily conceived by admitting in deep waters the same opaline property which we recognize in air. The light, after penetrating a mass of one hundred feet of water, to reach the plate and return to the surface, ought to be yellow, like that which would be transmitted by an opaline fluid; this color reflected by the plate, mixed with the blue which reaches the eye from all quarters, produces the green. If the bottom of the sea were white, like ceruse, the waters near the shore would present the same green tint which the plate produced at different depths; but the bottom is generally of a dark grey, which reflects less light, and therefore yields only a dark and uncertain green: hence the green color of the sea, as witnessed near the shore, is owing to the reflection of light from its bottom. To leave no room for doubt in this matter, I took a

* This was the opinion of the celebrated Haüy.

* Having the blue color of the ultramarine paint.

boat and pushed out from the shore, under a clear July sun, at eleven in the morning, to examine the changes which might be perceptible in the color of the water viewed on the side of the boat opposite to the sun.

At fifty toises from the shore the water was decidedly green, the shade of which remained during fifteen minutes; it then became a bluish green, and, in advancing, the blue continued to increase, and at length to predominate, and in an hour's time the water under the boat was a pure blue without a mixture of green.

In returning to the shore I was attentive to the re-appearance of the green, and as soon as I found it clearly marked I sounded and found the depth one hundred and fifty feet; thus the light which renders the sea of a green color passes through three hundred feet of water. But in that part of the gulf another cause contributed to the green color, viz. the impurity of the water as it exists to the extent of some miles from the shore. The bay of Naples receives no river that can give motion to the waters charged with all the filth of that populous city. On the shore of the islands of Capri the water is perfectly blue at eighty feet, while near Naples it requires one hundred and fifty feet, a difference which must be ascribed to the impurity of the water in the bay.

If the bottom be of a black, or very dark color, the water may be blue at a much less depth than eighty feet. Besides, if an obstacle intercept the direct rays of the sun, so as to throw a shade over the bottom, while the water itself is illuminated, the latter will be blue, because no longer colored by yellow rays from the bottom; this effect may take place near shore in deep waters, by projecting cliffs or high shores.

It is thus ascertained, that when the sun's light transmitted through water is not lost in its depth, but is partially reflected by the bottom, the water is of a green color.

This effect may arise in deep water from beds of submarine plants, or by myriads of microscopic mollusca, which, covering a vast extent of sea, may act upon the light, or even exist in mass sufficient to produce a permanent color.*

The colors transmitted by deep waters cannot be directly observed like those of air, which are visible among the clouds; observations agree on this point. The learned Halley, in descending in a diving bell, observed that a ray of light, which reached him through a small opening closed by glass, gave to the upper part of his hand a rose color. Had his hand been white, instead of being itself more or less red, the experiment would have been more conclusive. The depth to which he descended was probably not more than thirty or forty feet, at which the transmitted light could not differ much from yellow, which, mixed with shades of white, and with the natural color of his hand, would produce a rosy tint. He observed that the under part of his hand was green, which must have been occasioned by reflection from the bottom.

The bluish green color of crevices in the glaciers is occasioned in the same manner as that of water near shore; if the mass of ice was as great and as homogeneous as

that of the sea, the interior of the crevices would be blue; but the ice contains air bubbles, particles of snow, and fissures which reflect the transmitted light, throwing it from one face to another of the crevice until it finds an escape. These opaque substances in the glacier produce the same effect as a white surface in the depths of the sea.

There is on the shore of Capri a grotto, which nature seems to have constructed to exhibit in all its beauty the green color of the sea, and which on this account is called the *azure grotto*; it is situated under a cliff on the north side of the island. As it could not be entered by a common boat, it remained unknown until 1826, when two Prussian artists, Kopitch, and Frisi, swam into it, and made it known. Their account excited public curiosity, and boats of convenient size were made, which now serve to introduce amateurs. Its entrance is triangular, having a base of four feet five inches wide and about the same height. The summit is rounded, and having but little thickness the entrance is easily effected by stooping, when the traveller finds himself in a spacious grotto, the sides and roof of which are remarkably regular. Its extent from the front to the rear, which is the only landing place, is one hundred and twenty-five feet, and it measures one hundred and forty-five feet in a transverse direction. The depth of the water at the entrance is sixty-seven feet, in the middle of the grotto sixty-two feet, and at the landing place fifty-eight feet. The rock is limestone, of a clear grey fracture, and there are no indications of stratification.

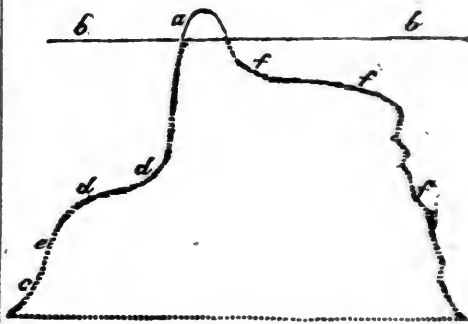
On entering, every thing appears dark except the water, which is luminous, and of a splendid blue, contrasting with the general obscurity. In advancing from the entrance, the ends of the white oars shine in the water with a splendid blue light, which disappears as soon as they are raised: this is the most singular phenomenon of the *azure grotto*, for people are puzzled to conceive why objects are so vividly luminous in the water, and no longer so when above the surface. In dipping the hand or a cloth into the water, one would think it a blue dye; the whole immersed part is luminous and colored, while the parts without are dark and uncolored.

At the bottom of the grotto there is a small space on a level with the water, where debarkation is effected, and which is the only spot which leads to any suspicion of the work of human hands in the grotto. It is a kind of bench in the rock, about three feet high, on which several persons may conveniently place themselves and examine at leisure the phenomenon of the *azure grotto*. The light, which comes in at the small opening, produces a train of white light, like the reflection of the moon from the water when rising, and which extends half way over the sheet. The rest of the surface is blue, even to the feet of the observer. This color gradually diminishes to the right, where the walls of the grotto are farther from the entrance. The train of white light illuminates also the vault, and exhibits it in its natural color, but when the entrance is closed by a boat, or more perfectly by a dark cloth, the vault itself becomes blue, reminding one of the effect of burning spirits of wine in a dark chamber. There is, then, no light but that which proceeds from the water. The experiment of the cloth ought to be made by

all who wish to enjoy the spectacle in its full beauty.

If, when the observer is seated on the bench, a boat passes in front, it forms no reflection nor shade in the water. If the eyes are then covered with the hands, so as to hide the boat and the water, the former appears suspended in the air like a dark silhouette crossing the sky. This spectacle is so striking when first observed, that one cannot avoid some apprehension on account of those who furnish the occasion of it. In passing to the dark side mentioned on the right, the water is no longer blue, but remarkably transparent. The rock below is so illuminated as to show its fissures at a considerable depth, while above the water it is very obscure. The water line is clearly marked, and has a yellowish tint. The depth seems to increase the longer it is observed, and at length the bottom is seen, although forty feet below. The white plate which I let down was very distinguishable on the darker sand. Its color, instead of being green, as when tried in the sun, was slightly yellow.

The feeble yellow light which illuminates the submarine walls in this part of the grotto, proceeds by reflection from the bottom, and from the walls opposite, which receive the exterior light; this light, which has traversed a great mass of water, should be yellow, like that transmitted by opaline fluids, and thus the opaline quality of the sea affords a satisfactory explanation of the principal phenomena of the grotto. I have endeavored to give an idea of this construction by means of the subjoined figure, which represents the exterior rock or shell of the grotto, as it exists both in the sea and above the surface.



The little entrance is shown at *a*, above the level of the sea, represented by the line *b b*. The eastern side of this entrance extends almost perpendicularly to the depth of thirty or forty feet, when it appears to be cut horizontally at *d d*, and suspended on the dark blue water of the sea; *d e c* is the supposed continuation of the eastern side of the entrance, to the bottom, which, as we have seen, is sixty-seven feet deep. The western side of the entrance, *f f f*, forms an angle at ten or twelve feet below the surface, and is prolonged horizontally from twenty to twenty-five feet, and then descends obliquely, probably to the bottom of the sea, where it cannot be seen beyond thirty or forty feet.

This construction gives an immense opening for the light to enter the grotto through the water, even when the little opening above the surface is closed, and it thus occasions over a great mass of water, that dispersion of the blue ray which always takes place in deep and limpid waters, and which is manifested in greater splendor in the *azure grotto*

* The theory of the author derives confirmation from the beautifully green appearance of large fish as they turn upon their backs in rising towards the surface, and sporting round a ship, during her passage through a dark blue sea.—[Trans.]

n consequence of its being mingled with no other light. (To be continued.)

Report to the Commissioners of the Columbia Railroad, in the State of Tennessee, on the practicability of the project, with the probable cost of Construction. By JOHN B. PETITVAL, Civil Engineer. [Communicated for the Railroad Journal, &c.]

COLUMBIA, March, 1834.

To Samuel H. Williams, John Miller, Edmund W. Dale, P. R. Booker, John Brown, Alexander Brown, H. Langtry, and Francis S. Walker, Esquires, Commissioners of the Columbia and Tennessee Railroad:

Gentlemen,—In conformity with your instructions of the 19th of February last, directing me to make the preliminary surveys, exploration, and reconnoitering, in regard to the practicability of constructing a railroad from the town of Columbia, passing by the village of Mount Pleasant, to a point on Tennessee river, between a landing place, five miles above Carrolls ville, and the mouth of Tom's Creek, also the probable cost of construction, I have the honor to report, that,

Leaving the village of Mount Pleasant in a south-west direction, and following the Valley of the Bigby Creek, by Mrs. Nightingall's Hollow, and avoiding the head waters of Swan Creek, the line of railroad will arrive to the culminating point of the hills of the Big Buffalo, crossing only Saw creek, in a distance of about 13 miles.

The spinning factory built in the hollow is the only material obstruction; but in bargaining for the place, the company will have the advantage of a good water-power for a saw-mill.

Four streams will be successively crossed at right angles, viz.: the Big Buffalo, the Little Buffalo, the Forty-eight, and Green river, in a distance of 26 miles.

Bending the course more to the south, for to take advantage of the valley of Green river, near Waynesboro', the line has to pass afterward over a very hilly country; but the valley of Eagle Creek will be followed for some time, and, by a gentle undulating ground, the road will reach a landing-place on Tennessee river, between Ellis' Ferry and Roche's Farm, where a good spot will be selected in a distance of about 15 miles from Waynesboro'.

The estimate for that southern route will be as follows:

5 miles at \$5,000	-	-	\$25,000
The Factory	-	-	4,500
1 mile at \$7,000	-	-	7,000
2 " 5,000	-	-	10,000
3 " 4,000	-	-	12,000
2 " 5,000	-	-	10,000
Crossing the Buffalo river	-	-	1,000
2 miles at \$6,000	-	-	12,000
15 " 5,000	-	-	75,000
9 " 6,000	-	-	54,000
1 " 5,000	-	-	5,000
4 " 10,000	-	-	40,000
4 " 4,000	-	-	16,000
6 " 5,000	-	-	30,000

54	\$301,500
Contingent expenses at 5 per cent.	\$15,075
Whole amount of construction for the Southern Line	\$316,575

For the iron plates at the same price as for the Charleston and Hamburg Railroad, 17 tons per mile, at \$45, \$765
1,000 lbs. 5-in. spikes at 9 cts. 90

	\$855
For 45 miles of road at \$855	\$46,170
	\$362,745

Leaving Mount Pleasant in a western direction, the ridge of the Bigby Creek will be avoided by Gordon's Hollow, and Swan Creek crossed between W. Thomas's and _____'s mill; then, passing about half a mile north of Grinder's old stand, and avoiding the head waters of Grinder's Little Rock house and Trace

Creeks, the line will follow a straight course for about 20 miles in the barren, and bending a little to the south, take advantage of the valley of Sinking Creek, cross Buffalo river, at Thompson, and reach Cotton's Ferry, by the valley of Bee Creek.

The estimate for this line will be as follows:

4 miles at \$5,000	-	-	\$20,000
3 " 7,000	-	-	21,000
3 " 4,000	-	-	12,000
Crossing Swan creek	-	-	700
20 miles at \$4,000	-	-	80,000
6 " 5,000	-	-	30,000
Crossing Buffalo river	-	-	1,000
3 miles at \$10,000	-	-	30,000
3 " 6,000	-	-	18,000
4 " 8,000	-	-	32,000

46	\$244,700
Contingent expenses, at 5 per cent.	\$12,235

Iron plates for 46 m. of road at \$535,	\$39,330
	\$296,265

The country between Bee and March Creeks being generally inundated at common high water, no convenient landing place will be found above Jennings' Bluff the line of railroad will reach that point in three different directions.

1st,—By the Valley of Cedar Creek.

For the foregoing line from			
Mount Pleasant to Buffalo	\$164,700		
1 mile at \$10,000	-	-	10,000
5 " 5,000	-	-	25,000
5 " 6,000	-	-	30,000
4 " 8,000	-	-	32,000

	\$261,700
Contingent, at 5 per cent.	\$13,085

51 miles of iron plates at \$855	-	-	\$43,605
			\$318,390

2d,—By the Big Rock house Creek.

For the foregoing line from			
Mount Pleasant to Buffalo		\$164,700	
3 miles at \$10,000	-	-	30,000
5 " 7,000	-	-	35,000
2 " 6,000	-	-	12,000
3 " 8,000	-	-	24,000

	\$265,700
Contingent, at 5 per cent.	13,285

49 miles of iron plates at \$855	-	-	\$41,895
			\$320,880

3d,—By Hurricane Creek.

For the foregoing line from			
Mount Pleasant to Buffalo			\$164,700
1 mile at	\$6,000	-	6,000
2	"	10,000	20,000
8	"	8,000	64,000

	\$254,700
Contingent, at 5 per cent.	\$12,735

47 miles of iron plates at \$855	-	-	40,184
			\$307,620

Columbia to Mount Pleasant.

As the point of departure from town, and the location of the depository in the village, demand some consideration, which will be hereafter determined by the board of directors, I have only to give the estimate of the intermediate ground, which I divide as follow:

2 miles at \$6,000	-	-	\$12,000
3 " 8,000	-	-	24,000
6 " 5,000	-	-	30,000

	\$66,000
Contingent, at 5 per cent.	\$3,300

11 miles of iron plates at \$855	-	-	\$9,405
			\$78,705

Recapitulation of the different Lines.

South Line.

11 miles from Columbia to Mount Pleasant	-	-	\$78,705
54 miles from Mount Pleasant to Roche's Place	-	-	\$365,745
65 Whole amount	-	-	\$441,450

Middle Line.

11 miles from Columbia to Mount Pleasant	-	-	\$78,705
46 miles from Mount Pleasant to Cotton's Ferry	-	-	\$296,265
57 Whole amount	-	-	\$374,970

1st North Line.

11 miles from Columbia to Mount Pleasant	-	-	\$78,705
51 miles from Mount Pleasant to Jennings' Bluff, by the Valley of Cedar Creek	-	-	\$318,390
62 Whole amount	-	-	\$397,095

2d North Line.

11 miles from Columbia to Mount Pleasant	-	-	\$78,705
49 miles from Mount Pleasant to Jennings' Bluff, by the Valley of the Big Rock house Creek	-	-	\$320,880
60 Whole amount	-	-	\$399,585

3d North Line.

11 miles from Columbia to Mount Pleasant	-	-	\$78,705
47 miles from Mount Pleasant to Jennings' Bluff, by the Valley of Hurricane Creek	-	-	\$307,620
58 Whole amount	-	-	\$386,325

The foregoing estimates are made on the supposition that the company will follow the plan of construction adopted in the Charleston and Hamburg railroad, with some modifications and improvements indispensable in the rocky soil of Maury County, the steam power also being the only in operation for locomotion on the road.

It is very satisfactory to me, in closing this report, to inform you that your great and advantageous undertaking will be very well received in the community at large, and that the relinquishment of land and timber will be easily obtained in any direction where the railroad may pass. I take this opportunity also to thank two of your members, Messrs. P. R. Booker and Alexander Brown, who joined with me in that journey, regardless of the inclemency of the weather, or the difficulty of the roads. Their great knowledge of the country has been extremely useful, and their polite and kind attention very agreeable.

Report to the Commissioners of the Western Railroad, of the State of Tennessee, on the practicability, utility, and advantage of the project. By JOHN B. PETITVAL, Civil Engineer.

For the information of the public, we the subscribers, four of the Western Railroad Commissioners, beg leave to report, that with Col. Petitval, an experienced and scientific engineer, who has been engaged for the last five years in the general survey, location, and construction of the Charleston and Hamburg Railroad, now in operation, we have viewed and explored the country and ground from Jackson in the direction of Randolph, and of Fulton, and of the mouth of Cole Creek, and of Ashport, all on the Mississippi river, for the purpose of ascertaining the practicability of the establishment of a railroad from Jackson to the said river. And, we are satisfied, beyond a possible doubt, of the practicability of the project; and that the expense thereof will be much less than has been generally supposed. But, for a particular detail on the subject, we refer to the

report of said Engineer, which is herewith submitted for public consideration.

BENJAMIN PARSONS,
JOS. H. TALBOT,
FRANCIS S. COLE,
JAMES ELROD.

Jackson, January 21, 1834.

To Col. Joseph H. Talbot, James Elrod, Francis S. Coxe, and Benjamin Parsons, Esqs., Commissioners of the Western Railroad.

Gentlemen,—In conformity with your instruction of the 7th inst. directing me to make the preliminary surveys, exploration and reconnoitering, of several routes, in regard to the practicability of a railroad from four points on the Mississippi river, viz.:

1st. Randolph,
2d. Fulton,
3d. The mouth of Coal Creek,
4th. Ashport, to Jackson, passing by Brownsville; as well as every statistical document and information which can be collected, in regard to the productions and resources of that part of the country, furnishing an adequate freight to the probable expenditure in the construction of said railroad, and the necessary engines to the same, I have the honor to report, that,

In taking advantage of the Low-ground at about half a mile below the town of Randolph, and following for about three miles the same valley in an eastern direction, deep excavations near the river-bluff will be unnecessary; the bridging over Indian Creek is of no consequence, but the crossing of the head waters of McLeMore's Creek, the country for two miles near Covington, the bottom and crossing of Hatchie river, over which a draw-bridge will be probably necessary, require minute observations to locate the railway on the most advantageous ground. The balance of the route following an undulating country gives the advantage of a graduated road.

The distance from Randolph to Brownsville is about 40 miles, reducible to nearly 37 miles; in adopting the mode of construction which has been used in the Charleston and Hamburg Railroad, of piles and sleepers as suitable to the different nature of the soil, and graduation, constructing also the road for steam power only, the average estimate is at \$3,850 per mile, making for

37 miles \$138,750
Contingent expenses at 5 per cent. 6,937 50

Whole distance from Randolph to Brownsville \$145,687 50

FULTON.—The bluff at Fulton requires some deep excavation, and the country for about four miles is hilly and broken; the distance to Brownsville, following the gradual slope of the hills of the north bank of Hatchie river, crossing Cane and Town creeks, and avoiding the head waters of Rhea's and Lagoon creeks, is about 36 miles, on the following average estimate:

Excavations \$4,000
6 miles at 5,200 . . . 31,200
15 do. at 3,850 . . . 57,750
15 do. at 4,000 . . . 35,000

\$137,950

Contingent expenses at 5 per cent. \$6,897 50

Whole distance from Fulton to Brownsville \$144,847 50

COAL CREEK.—The mouth of Coal creek presents a very high bluff, surrounded by hills which require great excavations. The distance to Brownsville is about 33 miles, following for the last 20 miles the same route as the Fulton line. The estimate is as follows:

Excavations, \$6,000
4 miles at \$5,550 per mile 22,200
4 do. at 4,675 do. . . 18,700
5 do. at 4,200 do. . . 21,000

5 do. at 3,850 do. . . 19,250
15 do. at 3,000 do. . . 45,000
\$132,150

Contingent expenses at 5 per cent. \$6,607 50

Whole distance from Coal creek to Brownsville \$138,757 50

ASHPORT.—The country from Ashport, on the bank of the Mississippi river, extends for about 7 miles on a low level ground, intersected by lakes, slough, cane brake, partly overflowed every year, and exposed to inundation once or twice in the course of 15 or 20 years; leaving the low ground, the line of road will cross a very hilly country for about 5 miles, and a rolling ground for about 4 miles. The continuation will be by the same route as the two foregoing. The whole distance to Brownsville is about 31 miles, estimated at an average of \$4,475 per mile, giving for 31 miles, \$138,725

Contingent expenses of 10 per cent. 13,872 50
\$152,597 50

As the foundation through the Mississippi bottom appears to me soft and unsettled, requiring mud sills or braces, I thought proper to increase the contingent expenses at 10 per cent.

JACKSON.—The ground one-fourth of a mile north of Brownsville being very advantageous, the line will pass that place at about that distance, and curving to the south follow an easy undulating country for about five miles; then taking advantage of some valleys in the eastern direction, retake a perfectly level land heading the waters of Cypress and Cub creeks. Johnson creek will be crossed without bridge by common piling. The bottom of the south fork of Forked Deer river being good and hard will be crossed also without additional expense; and a substantial bridge built over the river at a moderate price. The railroad reaching the west end of Jackson in a very nearly straight line of about 24 miles, at the average estimate of \$3,875 per mile; making . . . \$93,000

Contingent expenses at 5 per cent, 4,650

Whole distance from Brownsville to Jackson \$97,650

The ratios of the four points of departure from the bank of the Mississippi river and the different estimate to Brownsville are, viz.:

Distance 34 miles, amounting to \$145,172 50
Brownsville to Jackson 24 miles, 97,650 00

58 miles of wood construction, \$243,022 50
For the iron plates at the same price as for the Charleston and Hamburg Railroad, 17 tons per mile, at \$45 each . . . \$765
1000 lbs. of 5 inch spikes at 8 cents . . . 90

\$855

For 58 miles of road at \$855 each \$49,590

Whole amount of construction 292,612 50

The necessary utensils, and employments for the road are as follows:

2 Locomotive engines, \$5,500 each, \$11,000

10 Freight cars, at \$110 each, and 1,100

4 Passenger cars, at \$400 each to an engine, equals \$2,700×2 . . . 5,400

4 Turnouts, with water stations, revolving platforms, &c., at \$500 each 2,000

For three depositories, with regular tracks, tools, work shops, offices, &c. 4,000

Engineer department, superintendence, surveys, &c. 18,000

\$40,400

Contingent expenses at 10 per cent. 4,040
44,440

Total amount of expenditures for the completion of the whole line of railway to be put in operation in the first quarter of 1837, \$337,052 50

In compliance with the second part of my instructions, I submit to you the following statement of exports and imports taken from the latest statistical data and information collected from the more enlightened farmers and merchants.

Madison county, 9,000 bales of cotton at a toll of \$1 40 per bale, \$12,600

Henderson county, 6,000 bales of cotton, at a toll of \$1 40 per bale, 8,400

Carroll county, 4,000 bales of cotton, at a toll of \$1 40 per bale, 5,600

Gibson county, 2,000 bales of cotton, at a toll of 1 40, 2,800

Haywood county, 8,000 bales of cotton, at a toll of 90 cents, 7,200

Tipton county, including the cotton from Hardeman and Fayette counties, deposited at Covington, 10,000 bales at a toll of 40 cents, 4,000

Corn, flour, hay, oats, tobacco, lumber, &c., equal to one-fourth of the cotton receipts, 10,300

The imports are equal to the exports of cotton, as regards the toll, 40,600

Transportation of the daily mail, 3,000

Passengers 6,000

Supposed receipt per annum \$100,500

Yearly expenses; repairs on 58 miles of road, at \$75 per mile, \$4,350

Superintendence, salary of officers, clerks, laborers, &c. 15,000
\$19,350

Nett receipts per annum \$81,150

I cannot close this report without expressing all my gratitude to every settler whom I visited in Madison, Haywood and Tipton counties, for their prompt and accurate information received in regard to the undertaking, and their kind hospitality offered to me in every house; and among others, by Col. W. H. Henderson, Maj. John T. Brown, Maj. W. Conner, Col. Boiller, Col. W. Gilliland, R. C. Campbell, Esq., Henry Williams, Esq., and W. Potter, Esq., volunteering themselves as guides and pilots, without regard to the inclemency of the weather or the difficulty of the roads.

J. B. PETITVAL, Civil Engineer.

Jackson, Jan. 20, 1834.

[From the London Court Magazine.]

SUMMER SONGS, BY MRS. HEMANS.

O! YE HOURS.

O! ye hours, ye sunny hours!
Floating lightly by,
Are ye come with birds and flowers,
Odours and the blue sky?

Yes, we come, again we come,
Through the wood paths free,
Bringing many a wanderer home,
With the bird and bee.

O! ye hours, ye sunny hours,
Are ye wafting song?
Doth wild music strain in showers
All the groves among?

Yes, the nightingale is there,
While the starlight reigns,
Making young leaves and sweet air
Tremble with her strains.

O! ye hours, ye sunny hours!
In your silent flow,
Ye are mighty powers!
Bring me bliss or woe?

Ask not this!—oh! ask not this!
Yield your hearts awhile
To the soft wind's balmy kiss,
And the heaven's bright smile.

Throw not shades of anxious thought
O'er the glowing flowers!
We are come with sunshine fraught,
Question not the hours!

DRY ROT.—An officer of the navy, now dead, was informed by the Rev. G. Williams, of Rhicolos, in North Wales, that it had been found, from long experience, that the water in the reservoirs for supplying the precipitate pits at the copper-mine works at Parry's mountain in Anglesea, has the property of preserving timber from decay and dry rot in a surprising manner, by the short process of steeping it therein a few weeks only, and that it has such a powerful effect in hardening the wood, as to blunt the sharpest tools. It, consequently, is found necessary to shape and fit the wood completely for the use intended, before it is put into this water for seasoning.

The water at Parry's mine is impregnated with copper, sulphuric and vitriolic acids. It is preserved in large reservoirs for supplying the precipitate pits, which are filled with old iron, that attracts the copper from the water.

It appears that the farmers, when they find their timber for agricultural purposes too green for immediate use, steep it for a few days in the copper-water, which has the power of extracting the sap, and fitting it for use properly seasoned.

I understand that a complete transmutation takes place in the iron, it gradually becomes incrustated with the copper, whilst at the same time the acids act as a corrodent; so that a piece of iron thrown in, after a certain time, comes out copper, but whether weight for weight, or size for size, I do not recollect.

The Admiralty, I believe, are in the possession of this information; if, however, the present method of immersing ships and timber in sea-water is successful in curing or preventing the dry rot, we certainly cannot obtain a more easy or cheap method for gaining the desired end. The component parts of sea-water, common salt, marine magnesia, and salenite, are very dissimilar to those of the mineral waters of Parry's mine, and it will be curious if both, nevertheless, produce the same effect upon wood.—[U. S. Journal.]

AGRICULTURE, &c.

[From the New-York Farmer.]

CREDIT—SHEEP.—There are two requisites to obtain credit, good character and business capabilities or habits. These are the poor man's riches. Credit, like all other good things, must be judiciously resorted to, and carefully guarded, otherwise it will prove a source of misfortune; and pain. The following is from the Genesee Farmer:

Late in the summer of 1830, I borrowed \$100, and went into the neighboring towns and purchased sixty-eight sheep, at the average cost of \$1.30 per head, which left me remaining on hand \$13 of my borrowed money. At this time I had on hand twelve sheep, which, with those I bought, made me a flock of eighty head. The next winter I kept them on good fine hay, without any grain, until the first of March, when as the ground was bare, I quit feeding hay, and turned them out upon my old pastures, and commenced feeding a little corn. The winter of 1830-31, it will be recollected, was one of uncommon severity; but notwithstanding its length and coldness, I lost but one sheep, and that by casualty. I continued feeding grain until the first of May, when, as the grass had got a considerable growth, I thought it unnecessary and quit entirely. That season I raised thirty-six lambs, which increased my flock to 115. In June I sold the wool produced by my old sheep for \$150.06. I went and redeemed my note, and had left of money I received for wool \$44. The winter of 1831-32 I fed my sheep as before, but lost three head; consequently, in the spring, had but 112 to shear, which produced 300 pounds; this I sold at the very low price of 35 cents the pound, or \$105 for 300 pounds. The same season I raised 45 lambs, and sold 60 head of my old sheep for \$78.60; making the amount of sales from my flock that season

\$181.60. In the winter of 1832-33, I lost 6 sheep; in the spring sheared 91; but in consequence of the great proportion of lambs, the produce of wool was small. I retained a number of fleeces for home use, and sold the remainder (176 pounds) for 50 cents the pound, or \$88 for what I had to sell.

Thus it will be seen that my flock, for three years, has averaged 94 head, and that the actual sales from it have amounted to \$419. The last summer I raised 30 lambs, and sold none of my old sheep; consequently, in August last, when the three years had expired since my purchase, I had on hand 119 sheep, which is 25 above the average for three years past, and which 25 sheep were worth at that time \$2 the head—making \$50 for 25. This added to my sales would make \$469 for the produce of 94 sheep for three years, or \$156.33 for one—equal to \$1.66 per head annually.

I have made the following estimate of the expense of keeping 100 sheep for one year. I may be incorrect; if so, I hope some of your correspondents will correct me.

Twenty acres of good land, well turfed, will keep 100 sheep a year, viz.: five acres of meadow, producing two tons of hay to the acre, will winter, and fifteen acres of good pasture land will summer them. Twenty acres of land at \$40 per acre would cost \$800, and 100 sheep, at \$2 the head, \$200: making the cost of land and sheep \$1,000.

Interest on \$1000 one year, is	- - -	\$70.00
Cutting and securing 5 acres of grass	-	5.00
Thirty bushels of corn, at 4s.	- - -	15.00
One barrel of salt, at 16s.	- - -	2.00
Washing and shearing 100 sheep	- -	5.00

\$97.00

If the above estimate be correct, it will be seen that I have realized from my flock a nett profit of more than fifty per cent. for three years together.

W. G. B.

Genoa, March 31, 1834.

DOG POWER.—John Farley, of Danville, Vt., advertises a patent "Dog Churn." He says, that churning is performed by the labor of dogs; and that the machine may be applied to other uses, such as turning grindstones and washing clothes. Women may now introduce "dog power" into their kitchens and dairy rooms, and seat themselves in the parlor.

APPLES IN ENGLAND.—The reporter of the Covent Garden Market, in Loudon's Magazine, observes that, apples are supplied altogether from our own growth; very few foreign have yet been imported, or are likely to be, as our own stock is yet very good: indeed, with tolerable seasons, we shall always have enough, as our plantations are now much extended, and, from the introduction of so many new varieties, generally more productive. Of pears we have no supply at present: it will require time, care, and attention, to effect a change in this article, equal to the present demand for it.

CULTIVATION OF VINES, Cucurbita ceæ.—Lay out your ground in hills four and a half feet asunder, each way, raising them considerably above the natural surface of the ground, with the hills inclined towards the south. Having prepared your hills you are ready to commence planting. Distribute no less than ten or fifteen seeds in a hill, covering them one quarter of an inch in depth. As soon as the plants have made their appearance, take of ashes or soot two parts, plaster one part, pulverized charcoal one part, mix these ingredients together, until the mixture is well incorporated. With this composition enter your garden or field, in the morning, while the dew is on, and with a quantity in your hand throw it over the plants, dusting them as much as possible, in order to suffocate the insects, taking particular care to dust the under part of the leaves.

By following these directions you will have the pleasure of seeing your plants in a thriving condition, and in a few days entirely out of the way of these troublesome insects.

As soon as the plants begin to interfere with one another, commence thinning them out. Pull out all but two or three in a hill, leaving those that look the most promising. There are many persons who leave no less than half a dozen in a hill; this is a *mistaken notion*, for I am confident that could you rest assured that no worms would molest the roots, it would be better to pull all out but one; and I am fully persuaded too, that you would gather more fruit from the vines where there was but one or two plants in a hill, than you would were you to leave half a dozen.

Where you leave too many, the vines will become so thick that, when they set for bearing, most of the fruit will decay before it comes to any maturity.—MILES BRACH. N. Lebanon, March 20, 1834.—[Goodsell's Far.]

PROTECTING YOUNG TREES AGAINST SWINE.—Dr. Dean, in his New England Farmer, after speaking of the great advantages of pasturing swine in orchards, adds, "when the trees are young, the swine will be apt to injure them by tearing the bark." We have been in the practice of planting out young trees, however, in an enclosure where not less than twelve or fifteen hogs continually pasture, and we meet with no such accidents or injuries. It is not owing to our swine being better bred than others, or that they have acquired any higher moral tone. Their love of mischief is occasionally exhibited, but not against our young trees. These they never touch, always keeping at a safe, and commonly at a respectful, distance. The secret (if such it be) is soon told. We only tie fast to the tree two or three stems of the sweet briar in an upright position.—[Gen. Far.]

ON SUCKERING CORN.—I had the pleasure, about four years ago, to spend a day in company with old Mr. Macon of North Carolina, when our conversation was principally on subjects of agriculture; and among others, the cultivation of Indian corn. After having inquired whether I had the suckers which grew from the roots of the corn pulled off, as is the common practice, and received my answer in the affirmative, he informed me that he had suffered them to remain, having, from repeated experiments, ascertained that they did not injure the corn; but on the contrary, the suckers more frequently than otherwise produced good ears of corn; and that if they failed to do so, there was an increase of fodder. I have since tried the experiment, and witnessed the following results. That after carefully examining the ears of corn on the stalks producing suckers, they were found to be as good as the ears on the surrounding stalks not producing them—that a large majority of the suckers produced good corn, though the ears generally were smaller than those on the mother stalk, and that (of course) there was an increase of fodder. Without entering into an inquiry, whether corn ought not to be planted so thick as to prevent its producing suckers, (if thick planting will prevent it, of which I am not sure,) or whether the pulling them off may not injure the corn, by inflicting wounds on the stalks, I can now safely recommend Mr. Macon's practice, as saving the time and labor of pulling off suckers, and what is of

more consequence, as producing an increase of the crop of corn and fodder. I ought to add, that none but the suckers growing from the root ought to be suffered to remain.—W. M. WATKINS. Charlotte county, March 20, 1834.—[Farmers' Register.]

TO DESTROY CATERPILLARS.—*Mr. Fleet:* If you think this worth insertion in your paper, it is at your disposal.

To destroy worms or caterpillars on fruit trees, take a gimlet and bore a hole about one-third of the way through the body of the tree, and then fill up the hole with the flour of sulphur, and plug up the hole tight. This will inhale through the tree in the sap. This should be done just as the leaves begin to put forth, and it will kill the worms as soon as they begin their work of destruction. I have tried it and found it worth my trouble.

O. G. BUTTS.

REMARKS.—The above is not new; but the effect assigned to the sulphur has been denied. Now is the season to repeat the experiment.

SORREL SAUCE.—Wash a quantity of sorrel, and boil it tender in the smallest quantity of water you can; strain and chop it; stew it with a little butter, pepper, and salt; and if you like it high, add a spoonful of gravy.

Be careful to do it in a very well tinned sauce-pan; or if you have a silver one, or a silver mug, it is far better, as the sorrel is very sour, especially in spring.—D. C.

TARRAGON. is a fragrant, aromatic, perennial plant, cultivated in gardens, and used to impart a pleasant flavor to different dishes; to mix with salads, and for flavoring vinegar.

The common mode of increasing this plant is by dividing the roots.

The stalks grow from two to four feet high, and bear a strong resemblance to the common golden rod of the fields. One bunch is sufficient for a garden.

RYE IN THE GRAIN, AS FOOD FOR HORSES.—A friend, in whom I have every confidence, who is a gentleman of scientific acquirements, and a practical agriculturist, has just given me the following information, relative to horses' feed.

While travelling recently on one of our public roads, he fell in company with a farmer, from one of the northern counties of Virginia, and in the course of conversation the subject of feeding horses was mentioned; when the farmer observed, that for four years past he had pursued a new plan, greatly to his advantage, as well as to that of his horses. The new plan was that of feeding rye, in the grain, without grinding. He said, that after four years experience, he had become perfectly satisfied that less rye produced a better effect than if it were chopped or ground. After much difficulty, he had prevailed on some of his neighbors to try it; and thus, gradually, all the horse owners in his neighborhood had become converts, and now all fed rye in the grain; all agreeing that a large proportion of grain was saved by it, besides a marked difference in the condition of the horses for the better. He said, he could not give the "why and because;" it was different from the universal prescription of science, and the almost universal practice of intelligent husbandmen; but that the fact was before him, and challenged his belief in such a way, that to have continued incredulous,

would have been to shut his eyes against the most palpable demonstration. The best of this is, that an experiment is easily made, and, even if unsuccessful, cannot result in material loss. But should it prove to be true, that rye in the grain is better, or even as good as when ground, a considerable saving would result to the farmer, in avoiding the trouble and expense of going to mill. The farmer stated, that he had observed grains of rye passed off in the dung, but that they seemed to have left their substance in the body of the horse. In this he is doubtless mistaken; but may not the *modus operandi* of this new diet be explained thus: The grain that escapes crushing by the teeth prevents the mass in the stomach from concreting into lumps, and thus permits the free action of the juices of the stomach upon the whole. Persons afflicted with dyspepsia swallow white mustard seed, with great advantage; but I believe it is not pretended that the mustard seed has any other action than a mechanical one—that of keeping the contents of the stomach from forming a dense mass; keeping the food light and penetrable by the gastric juices, &c.

The anecdote was given to me in so earnest a manner, and by so respectable a gentleman, that I thought, as I was about writing to you, I would give it to you for insertion in the Farmers' Register. Very respectfully. GIDEON B. SMITH.—Baltimore, March 15, 1834.—[Farmers' Reg.]

CULTURE OF RAPE SEED FOR OIL.—Colchicum or rape seed is of the greatest importance, and produces an oil which is, and has long been, much wanted for manufacturing purposes. This seed is grown abundantly in all parts of Europe, and the oil made from it is extensively used in the process of manufacturing cloth: it is, I believe, the cheapest oil they have, and takes the place of common kinds of olive oil, which the manufacturers of this country are obliged to use at a great cost. This is a matter of great importance, when it is known that to every 100 pounds of wool carded there is consumed from two to three gallons of oil. The rape seed oil is so cheap and abundant in Germany, that it is much used in adulterating linseed oil; hence the bad quality of some of the German paint oils, as the rape seed oil does not possess the drying qualities of that from flax seed, and is therefore unfit for the purposes of painting, &c.

Having been for a long time engaged in the manufacture of flax seed oil, and having made various experiments on other seeds, I have, of course, had some experience on the subject. In relation to rape seed, I had an excellent opportunity of making full and satisfactory experiments. In the year 1822 or 1823, an English gentleman, who was familiar with the culture of rape seed, and who had a farm somewhere in the neighborhood of Salem, N. J. brought to my establishment about forty bushels of rape seed, which he had produced upon his farm. The account he gave of its culture was this. Two acres were sown with this seed (broad cast) in the month of August; it sprouted, and was growing very handsomely, but late in the fall the cattle broke into it, and, as he thought, completely destroyed it. He abandoned the experiment, and suffered his cattle to roam in it all winter; but in the spring, observing it sprouting again, he put up the fence, and as he expressed himself, "let it take its chance." The two acres, with this, as he considered it, unfair experiment, produced him about forty-four bushels of seed, for which I offered him four dollars per bushel, which he refused to take. I expressed it for him; and although my apparatus was not by any means perfectly adapted to the purpose, the manufacture differing in some respects, not necessary to state, from that

of flax seed oil, I produced three and a half gallons of oil per bushel. The cake, that is, the pulp, after the oil is expressed from it, he valued highly for fattening cattle, and refused to take seventy-five cents per bushel for it; the oil he sold to a woollen manufacturer for one dollar and thirty cents per gallon, thus, including the cake, realizing five dollars and thirty cents per bushel, out of which he paid the expense of manufacturing. It is, I am told, considered in England a profitable crop, although the price is not much, if at all, above two dollars per bushel. The gentleman was in high spirits as to the result, and told me he intended to go into the culture of it more extensively; but, from what cause I do not know, I have never seen him or heard from him since—whether he failed in his experiments, died, or returned to England, I do not know. I have not, however, the least doubt that our soil and climate are well adapted to the culture of this seed; it is of the same family with the cabbage, which every one knows grows luxuriantly here. We have, besides, such a variety of soils and climates in our country, that if it will not succeed in one district it certainly will in some other.—[Journal Franklin Institute.]

SPRING AND WINTER VETCH.—"It is impossible to distinguish a difference between the spring and winter vetch seed; but if any imposition is practised on a farmer by his seedman, it may be detected as soon as the plants spring up; the winter vetch comes up green, and the spring vetch of a deep brown purple color: this observation may be useful, as it enables the farmer, in case of sowing a spurious sort in the autumn, to detect the imposition: if he finds he has sown the spring kind at that time, he must plough his land again, and apply it to some other purpose, for the spring kind will not stand the winter. I should recommend every farmer purchasing the winter vetch to have the seed warranted; and when he has got the right sort, afterwards to raise his own.—[R. W. Lloyd.]

BLOODY MURRAIN.—About two years since, Mr. Benjamin Bailey, a farmer of the town of Clarence, Erie County, handed us a statement of an examination which he made (assisted by two of his neighbors, Col. Miner and Mr. Goff,) of a cow which he had lost by the above disease, which has proved very common and fatal to cattle in this section within a few years. The statement was mislaid at the time—but having been accidentally discovered a few days since, we think we cannot do a better service to the farming community than to lay it before them, as the season for the disease is approaching, and by knowing what is, *probably*, the true cause of it, they may be enabled to guard against its effects.

Mr. Bailey states, that on opening the cow he found about two pails' full of blood in the stomach; the liver was completely rotten, covered with purple spots, and full of holes, filled with clotted blood. On searching the liver in the direction of these holes, he found a dead worm, similar to that which produces the butterfly, and a live leech. The liver was perforated in all directions, and a hole made through the main artery, near the gall, about large enough to admit of a pipe stem. When the holes came near the skin of the liver they ran off in another direction, as though the animals making them had turned back—and it was where these holes thus approached the skin, that the purple spots on the liver were visible. The leech lived about twelve hours after it was taken from the liver.

As several of Mr. Bailey's cattle were affected in a similar manner with the cow which died, he prepared a draught of alum and sulphur, and gave it to them, which soon relieved them.

Mr. B. imagines that the cattle swallow the leeches when drinking from stagnant pools of water in the warm season, when the streams are in a measure dried up.—[Lockport. Cou.]

The following account of the proceedings of a meeting held in Tennessee, together with the reports of Col. Pettitval, also published in this number, will show the degree of interest felt in that section of the country.

RAILROAD CONVENTION.—At a convention of Delegates from the Counties of Madison, Hardeman, Fayette, McNairy, and Shelby, held in accordance with previous notice, at the Court-House in the town of Bolivar, on Friday the 11th day of October, 1833: the convention being called to order, on motion of Wm. B. Turley, Esq., of Hardeman, Gen. E. P. Gaines, of Shelby, was unanimously chosen President, Col. Jas. Trezvant, of Fayette, Vice President, and R. A. Parker, of Sommersville, appointed Secretary.

On taking a list of the members present, it appeared that the following counties were represented in this convention, viz.: Madison, McNairy, Hardeman, Fayette, and Shelby.

From Madison—Messrs. Milton Brown, S. J. Hays, and A. R. Heron.

McNairy—Col. John Deberry.

Hardeman—Messrs. Wm. B. Turley, Gen. Jones, David Fentress, E. R. Belcher, J. J. Williams, Gen. J. C. N. Robertson, J. H. Bills, Levi Joy, E. W. Kenny, W. J. Riddle, E. D. Tarver, T. Shaw, A. Kirkpatrick.

Fayette—Messrs. Lewis P. Williamson, W. Gray, James Hamilton, B. M. Patterson, Col. James Trezvant, Durant Hatch, Wm. Davis, West H. Humphrys, D. J. Johnson, James Ruffin, and R. A. Parker.

Shelby—Messrs. Adam R. Alexander, Gen. E. P. Gaines, John Pope, Robertson Topp, David Dunn, Joel W. Royster, and Isaac Rawlings.

E. R. Belcher, Esq., of Hardeman, presented the following resolutions:

Resolved, that a committee, composed of one member from each county, be appointed to take into consideration the purpose for which the present convention was called, and to classify the order in which the business of this convention shall be conducted.

Which resolution being adopted, on Saturday morning the convention met according to adjournment.

Kemp S. Holland, a delegate from Fayette; W. Howard, a delegate from Hardeman; H. B. Mitchell, a delegate from McNairy; Gen. Jacob Tipton, Major D. A. Dunham, Nathaniel Potter, Marcus Calmes, Philip B. Glenn, and Major A. Morehead, delegates from Tipton county, appeared, produced their certificates, and took their seats as members of this convention.

The committee to whom were assigned the duty of drafting resolutions expressive of the purposes for which the convention was called, through their chairman, Gen. E. P. Gaines, made the following report:

1st. Resolved, as the opinion of this meeting, that a railroad between the Mississippi river and the Atlantic Ocean, to pass through the south-west border of the State of Tennessee, the northern parts of the States of Mississippi, Alabama and Georgia, and the southern part of South Carolina, is practicable and desirable: that its anticipated local benefits and national advantages may reasonably be estimated as greatly to exceed the whole expense of its construction, and that it ought to be commenced forthwith. * * *

3d. Resolved, as the opinion of this meeting, that the proposed work, as a measure of national defence, would contribute more, by the facilities it will afford in the transportation of troops and munitions of war to the protection and security of the south-eastern States and East Florida, than all the fortifications constructed or designed to be constructed south of Chesapeake Bay; for it is obvious to every man of military mind that the strongest of fortifications must depend mainly for defence and preservation on prompt and seasonable supplies of fighting men, with arms and subsistence; and that these cannot be promptly wielded from the interior to the frontier without good

roads, railways, canals, or large navigable streams—and a railway will cost much less than a McAdamized road.

4th. Resolved, as the opinion of this meeting, that the proposed railroad, in a political point of view, will be found to be one of the strongest links in the chain of the union of the twenty-four States.

And whereas, the growth and prosperity of the western district of Tennessee would be greatly promoted by the construction of a railroad from the interior of the district to the bank of the Mississippi river; and whereas, union of action is necessary in order to give success to the enterprising efforts making to effect that desirable object, we, the delegates representing our respective counties, do therefore

Resolve, that we will unite in petitioning the legislature of Tennessee to grant a charter to a company to be formed for the purpose of constructing a railroad from Jackson, in Madison county, to the Mississippi river, at Memphis, or to any other point on said river which the company may designate, or permitting said company, if they should find it necessary to do so, to run said road so as to intersect the contemplated road from Memphis to Tusculumbia, leaving the route said road is to run to the determination of the stockholders, voting according to the number of shares held by each.

After a warm and lengthy discussion, in which several gentlemen took part, the resolutions were finally adopted.

Five counties, viz.: Madison, McNairy, Hardeman, Fayette, and Shelby, voting in the affirmative, and Tipton county alone in the negative.

Judge Turley, of Hardeman, moved to strike out all after the word railroad in the sixth resolution, and insert the following: "commencing at or near Memphis, in Shelby county, and running thence to Jackson, in Madison county, over the ground that may be selected by the agents of the company," which amendment was adopted unanimously, without discussion.

The convention then adjourned *sine die*.

EDMUND P. GAINES, President.

R. A. PARKER, Secretary.

We are indebted to Capt. Tinsley, of the brig Hunter, for Panama papers to March 23d, inclusive.

A subscription of \$90,800 had been made in Panama for the construction of a rail road from Porto Bello to Panama, i. e. from the Pacific to the Atlantic. The speedy achievement of the undertaking was considered certain.

A gentleman by the name of Ventura Marroguin, has discovered a passage from Cruces to Porto Bello, i. e. from sea to sea, in a great measure free from hills, which can be accomplished, and which he has actually accomplished, in less than one day. The paper before us anticipates immense advantages from this discovery, and says it will be one of the most splendid triumphs which the Isthmus could achieve for commerce and civilization. The authorities of Panama had sent a commission, accompanied by Mr. Marroguin, to explore more fully the route referred to.—[Jour. of Com.]

INLAND NAVIGATION.—From the New-York Observer, we make an extract from the proceedings at the recent anniversary of the Seamen's Friend Society.

Mr. Peet, in moving the second resolution, presented an interesting statistical view of the canals, rivers, lakes, and inland navigation, of the great west. In New-York alone, he said, the canals now completed and in operation extend 500 miles through a populous country, having on their bosom 100 villages and cities, and bearing on their bosom 1,800 boats, navigated by between 10 and 12,000 men. The great lakes were also navigated by numerous large vessels, the number on lake Erie alone being 170, including 30 steamboats. Passing through these lakes, and the Ohio canal, on which the number of boats and boatmen is increasing with great rapidity, we come to the river Ohio, which stretches a thousand miles through a fine country to the Mississippi, the father of

rivers, with its twenty-three tributaries, affording navigation for 8000 miles in various directions. The whole line of inland navigation in the United States, including canals, rivers, and lakes, Mr. P. estimated at 20,000 miles, and the whole number of boats employed on these waters at between 6 and 7,000, viz. 4,000 flat boats, 2,000 canal boats, between 3 and 400 steamboats, and 200 sloops and schooners. The number of men employed in inland navigation is 60 or 70,000, and the number of passengers transported annually is more than 200,000. Through nearly the whole extent of this immense line of navigation, Mr. P. said, the sabbath is shamefully violated. With few exceptions the arrangements of men of business were such as to require the labor of the boatmen and others connected with inland navigation on the Sabbath, as on other days, and thus they were deprived of the opportunity of receiving religious instruction, and the way was prepared for the introduction of every species of immorality.

ON THE BURNING OF WATER.—From a recent number of Silliman's Journal, we copy the following respecting the "American Water Burner," which we have several times mentioned. We omit several pages of theoretical reasoning, and confine our extracts entirely to the results.

"The experiments which I have made have proved practically, that an engine with a power equal to driving a boat four miles an hour, and a railroad car twice that distance in the same time, with ten or twelve passengers, may be made for one hundred dollars: and that the engine with its preparing vessel (a substitute for the boiler in the steam engine) need not weigh one hundred pounds—and the expense of working it will not exceed ten or twelve cents per hour. There are certainly no difficulties to be removed. These facts have been verified practically and repeatedly before hundreds of people.

"Some recent improvements in the mode of constructing lamps for burning water, to produce light and heat, have perfected the operation for these purposes. It now carries demonstration in every form. For instance, when you put by one fourth of a gill of spirits of turpentine into the lamp, and as much water, and raise the temperature to less than that of boiling water, the vapor that comes over will be in the ratio of about equal parts of each. If, in the combustion of these vapors, a due proportion of air is mixed and inflamed, it will in a few minutes boil a two quart copper tea kettle. If small brass wire is brought over and in contact with the flame, it instantly drops in pieces—small copper wire is readily melted—fine iron wire, if the proportion be right, is instantly inflamed—and thin sheet copper, with a small piece of silver, or silver soldered on it with borax, being exposed to the same, the silver melts in a few seconds, and the copper very soon; and this is done while the vapor is not concentrated in any way, and issues only with a velocity about the same as that of gas in gas lights.

"This discovery gives every promise of supplying a much cheaper fuel, (as a fuel,) exclusive of a clear saving of light, than any one now in use. It is my intention to introduce my lamps, &c. into use as soon as I conveniently can."

The following remarks by Professor Silliman will show how much importance may be attached to these discoveries:

"We have seen some of Mr. Morey's experiments, and can testify to the correctness of his statements, as regards the great amount of heat and light evolved by combustion of the vapor of water mixed with that of spirits of turpentine, or alcohol, and duly modified by common air. The results are very striking and beautiful, and we can see no reason why they should not prove of great practical utility."

NEW-YORK AMERICAN.

MAY 17—23, 1834.

LITERARY NOTICES.

No. XXIV.

Upper Mississippi, February, 1834.

I hardly know whence to date this letter, unless it be from the sources of the Sinsinaway, between Prairie du Chien and Galena. I left Prairie du Chien in a furious squall of snow, which, violent as it was, however, could not affect the politeness of the young officer, who insisted upon driving me 6 or 7 miles, to the banks of the Ouisconsin, in a cariole. A gentleman who fills a civil station of some importance on the frontier, while he also acts as sutler to the post at Fort Crawford, was waiting for me at the crossing place, where several squaws, with immense packs sustained, after the usual Indian fashion of carrying burthens, by a band around the forehead, collected with two or three Frenchmen, and half breeds, under a shed appertaining to a large stone mansion on the immediate bank of the river, gave to the place the appearance of an extensive trading establishment. Entering the house for a moment, I found two rather pretty and very well dressed young girls of sixteen or eighteen, whose raven locks and eyes of jet, alone proclaimed their half blood origin. One of the ladies sketched; and we had just got into a discussion upon the plates of a new English Annual which she had in her hands, when a call from without compelled me at once to bid my friend farewell, and leave him the agreeable task of entertaining the backwood beauties by himself. I have, at different places on the frontier, seen some of these half-breed fair ones, the piquancy of whose charms would excite no slight sensation in the gay circles of the Atlantic States. But, like the full-blooded Indian females, they lose their beauty very soon: like them, too, when faded, they exhibit a harshness of feature which is almost forbidding. An aged Indian has often something interesting and even attractive in his countenance, but an aged squaw, or one even in whose face the light of youth no longer lingers, is any thing but prepossessing—is even haggish. It is to this frail and fleeting condition of their charms, the early desertion of their husbands, whether red or white, is chiefly to be attributed: for the affection, the fondness, the devotedness of an Indian girl to her lover know no bounds, and her truth is beyond impeachment. In the strange intermixture of population on the frontiers, these qualities are of course of tender tried and better tested, than in those distant wilds where the Indian still roves free from the perilous influence of the white man, untaught in those principles of morality which are made to depend upon degrees of latitude and longitude, and unskilled in that system of dealing which takes its color of fairness according to the blood of the person dealt with. I have said that, though their features are not often regular, there is at times something very attractive, even to piquancy, about them. You would think so, I know, could you see one that I have in "my mind's eye" at this moment. I have fallen in with so many straggling parties and broken bands of different tribes upon the borders, any where between Detroit and Prairie du Chien, that it matters not to say at what point I had an opportunity of studying the large, dark, and eloquent eyes that beam in swimming lustre before me. The straight forehead is, perhaps, a thought too low; and yet, while those tresses, dark as night, are gathered so far away from its broad polished surface, it were too masculine if an atom higher. I said her features were not regular; the nose is too *retroussé* for a sculptor's model, yet never did his chisel set that feature with more beautiful distinctness, between a pair of clear and pencilled brows, like those. How much of manhood's force and woman's fondness dwells around that mouth: and when its dewy portals disclose teeth, whiter than "snow upon a raven's wing," one need not be a Mahometan, to fancy Hourii's lips, like those. But what shall I say of her figure? It is too much below the standard height to create a sensation in a ball-room; and the untrained waist, were it not for the plump though falling shoulders, and full outline above,

would not appear too slender to dispense with some of Mrs. Cantelo's discipline: yet such a form would Hebe choose, should she roam the world for a new tenement to dwell in.

To repeat the unspeakable and ludicrously expressive name of this Indian beauty, would destroy any interest this attempt at describing her may have created; and I am half disposed to steal the finely appropriate name of a Menominee belle, strongly resembling her, who is called *Mokeychéwon*, or "The Bubbling Spring."

But I am too long a truant from my fellow traveler. We descended the steep bluff together, and got upon the now frail ice of the Ouisconsin, by means of poles and pieces of loose timber thrown out from the shore, while we slid our baggage upon a smooth board over a broad opening near the margin of the rapid current. Once on the main body of the ice, I was dragged over in a train by Indians, while a Canadian or two went ahead with long poles to try the ice, and then on reaching the opposite shore the same ceremonies being repeated, we after some delay made good our landing. A tall, rickety old Barouche, (I should as soon think of driving an ox cart into my bed room, as bringing such a machine among these hills at this season) stood waiting for us in a frozen swamp; after stowing our baggage, and making the crank craft shorten sail by lowering the leathern top, we got fairly under way. We had not gone a mile before the swingle-tree broke, while crossing a brisk stream, and our driver having repaired the difficulty after an hours delay in a heavy snow storm, by cutting a piece of timber with his knife from a grove at hand, we started afresh, and reached the foot of the bluff by which you first descend into the valley of the Ouisconsin, at about three o'clock. The ascent—perhaps two hundred feet high, was in two pitches, either of which, on a summer's day, would trouble a man to walk up, who wanted wind and a firm tread. They were now covered with fresh snow, having an underlayer of smooth ice, created by the previous thaw, and the office of our two half-starved horses in getting up the old barouche, you may readily imagine, was no sinecure. The driver (from my own State) was a forward, two-third witted sort of a chap, grafting the impudence of a New York hackney coachman upon the not disagreeable freedom of Western character, and having a head coated without with a mass of hair, which curled so tight as to keep his eyes always open on the stare, while it was lined within with an accumulation of conceit that swelled his cheeks nearly to bursting, yet bold, active, and with all his disagreeable familiarity, probably meaning well. His two nags (which looked like frames of that interesting quadruped, the horse, set up for further finishing; he honestly believed, with Goldfinch, were "equal to any pair of tits that ever touched harness;") did therefore treated our suggestion that they would not be able to make good their footing to the top of the hill with just disdain. Like Bonaparte, however, he paused to harangue his forces before scaling the Alps: "Now, you, Doctor, be careful how you tread, you infernal villain—and Fanny, you know better, you hussy, than to let the Doctor be always a-dragging you his side the road—now go ahead. G—d— you!" This pithy address seemed to be as well understood by the sagacious brutes, as if our friend had spoken in the Hounhym language, like Gulliver himself. The learned M. D. and the gentle Fanny gave such a violent start, that what with our pushing behind the vehicle and our conductor's urging them on with an enormous ox-goad before, the first ascent was, with much floundering, soon made good: but they could no more.—Like Saunders Supplejaw in Quentin Durward, "there they stuck." They did indeed make little excursions up the side of the hill, but it was only to slip back to the same place. Nor did I wonder at it. I was obliged myself to climb the slippery steep on my hands and knees, at the risk of having my neck broke by the floundering horses, who once nearly gained the top, when their footing giving way, they came tumbling down, carriage and all, jumbled together like the picture of Phæton's mishap in the school edition of Tooke's Pantheon. In this last attempt they fortunately broke the carriage, or we might have cooled our heels on the spot till midnight. In the existing wreck of matter, however, we determined at once to mount the two horses' bare backs, while our conductor should try and keep up with us on foot till we gained the house of a settler some six or seven miles off, and could send back a conveyance for our baggage. The horses being with some difficulty led up the hill, our conductor began at once trying the strength of his legs, by kicking the poor brutes in their ribs, an application

which the Doctor took with as much quiet as if he felt that he deserved it for his mal-practice. The gentle Fanny, however, seemed determined to show her humane master, that however he might excel her in the use of the whip, she was more than a match for him when it came to a flourish of heels; and accordingly, she handled her hoofs with such dexterity that one of them descended so plumply upon the epigastrium of the offending conductor, as nearly to drive the breath out of his body. He recoiled a few paces in the snow, but did not seem the least hurt, while I mounted his assailant before another round could be had between the combatants, and my companion taking the other horse, we all pushed off together as fast as we could from the scene of our misfortunes. Commend me to an afternoon's canter on the back of a broadword, but never let my limbs cross the naked chine of such a beast again in a trot of six miles. My companion dismounted and walked a part of the way, but I clung to my bed of down the whole of the route, twisting and turning the whiles thereon at a rate that made the wolves—of which we passed several—stop and stare at me, as if I had the St. Vitus' dance. The cabin at which we stopped belonged to an emigrant originally from New Hampshire, but now for fifteen years a rover in the West. From his present residence he had been several times driven off by the Indians, and of course like most of the settlers, hated them cordially. He had two or three loaded rifles suspended by wooden hooks over his fire place; and assigned to me as a reason for keeping them always thus ready, "that he was a lone man, and didn't want any rascally Indian to come snooping for hogs about his place."—"Surely, sir," I observed, "you would not shoot them unless they did you mischief?" "Why, I don't say as to that stranger, but the varmint give us a heap of trouble; and I'd rather for their own sakes that none of their rifles would come cracking about my door." "Well, I always get rid of the red devils," pursued an old backwoodsman, standing by, "with out shooting any on them, and its only by catching two that came hunting near me last spring, and making them understand that they run a smart chance of their lives if they ever come within rifle shot of my cornfield again. Government's bought their land, and it's wrong for them to be carrying round quiet people's houses any more."—Contrast such views and feelings with the hospitable conduct toward the Indians, of recent settlers from your own State, which I have commemorated in former letters, and you will for the moment feel a glow of pride for the generous dealings of the New York emigrant. Examine the subject deeper, and that just pride will not be diminished, but you will at least have charity for the startling creed of the old backwoodsman.

The cause of the existing hatred of many of the old borderers to the very name of Indian must be sought for far back in the bloody annals of our frontiers. Its origin may there be found in the fierce collisions, the midnight burnings, the massacres and cruel devastations which are familiar to us in a thousand tales of our infancy. The bitter feelings, the recollection of wrongs committed or incurred—of vengeance wreaked or reaped in these desperate scenes,—have lived for generations in the families of their daring and much enduring actors. In the solitary life of a frontier-man, so far removed from the ordinary objects which engage the thoughts of men of his class in thickly-settled parts of the country, they form his chief subject for reflection, when roving the forest, or laboring alone in the field by day, and they are the theme upon which he descants when his young offspring gather around their humble hearth by night. His children drink in the black story with all the greediness of infant ears, and when wishing for the detail of further horrors, they are placed perforce by their mother on their pallet of straw, she stills their cries by whispering the name of some dreaded Chieftain in their ears—as I have more than once myself heard the name of Black Hawk used to still the murmurs of a nursing. The lessons thus taught are ineradicable, while the accumulated passions and prejudices of generations are thus transmitted and kept alive. A peculiar class of men is thus created, or rather was created, years and years ago;—a class of men as distinct in many respects from the more happily situated inhabitants of countries sheltered by the strong arm of the law, as if it had its birth in another planet; and the chief characteristic of its members is—(I do not speak ironically)—that they have two consciences—one for the white and another for the red man. You smile credulously at such an anomaly in morals; but however paradoxical it may appear upon paper, it is a fact as notorious as the open day that there have

been and are men on the frontiers, whose dealings with civilized society, whose general humanity, whose exact attendance even to their religious duties, are such as to ensure them respect, if it did not give them weight, in any well ordered community, and that with these very men the rights and privileges, the property, the life of an Indian, do not weigh a feather. For some most remarkable and deeply interesting facts in relation to this strange incongruity of disposition, I refer you to several admirable articles on frontier life and "Indian Hating" in the back numbers of Judge Hall's Western Magazine.*

Now this is the class, bold, enterprising and hardy, true to each other, and just and hospitable to the white stranger, but having no place in their system of doing good for the unfriended Indian, which since the English settlement of the back countries, have been brought continually in contact with the original possessors of the soil. They alone are the real pioneers. Wave after wave of Western immigration has rolled from our cultivated coast over the Alleghenies and the Mississippi, but while each shot beyond its predecessor, and left it settling far behind, it has only thrust in advance, it has never absorbed, or commingled with, the distinct and narrow currents that first led the way. These pioneers do indeed continually penetrate beyond the immediate Indian boundaries, and there, as is the case in the Peninsula of Michigan, you may see the hereditary enemies they have left behind living upon the kindest terms with the new white population that succeeds, until their land becomes so valuable as to be coveted by their neighbors, when government steps in and removes them once more to struggle with their old enemies beyond the border. Driven from their favorite hunting grounds—torn from the graves of their fathers—and the attachment of an Indian to the last is like his love of vengeance and his propensity for gambling, and his devotion to spirituous liquor—when once tasted a perfect passion with him—he goes to dwell among a strange and often a hostile people, with whom his unremembered and broken tribe soon passes into a by-word. There, generally, the terms he is upon with the scattered pioneers that often have reached even that remote place before him, preclude him from a market for his venison and skins in his immediate neighborhood. And if he does not take to shooting his white neighbors' hogs, and get brought down himself by a rifle ball in return, he wanders off to some distant trading post, where he either runs himself incurably in debt by taking goods at credit from the American Fur Company, at a thousand per cent. above their market value, or else learns from the Scotch and English trader to love the *Sagarnash* and the *Chemocomon*, and to go with the various tribes within our borders, which the British Government at this moment religiously keep in their pay, to receive arms and presents at Malden, and to hold himself ready to join the first marauding party of his red brethren which shall raise the warwhoop on the border, and add new venom to the deadly feud of the pioneer. Sometimes indeed he becomes a dealer in small peltries on his own account, and usually visits the home of his childhood, where some thriving village has in the meantime sprung up, to dispose of the fruits of the chase, and get his supply of little necessities in return. Several instances of the last were mentioned to me at the pretty hamlets of Ottawa and Hennepin, on the Illinois, where I was told that the storekeepers dealt with different Indians, whom they had repeatedly trusted to the amount of several hundred dollars for the term of a year, without their confidence being ever abused. But the Indian returning hence to his wildwood haunts, still in passing the frontier avoids the beings between whom and himself there is such a fearful account of mutual wrong and injury left unbalanced; and if he lies down at night beneath the shelter of a white man's roof, it is one that covers the family of some new wanderer to the west, to whom the wild deeds of frontier life are only known through the softened medium of fiction, as a tale of other days. But much more likely is he,

* If I am not very much mistaken the records of the criminal Court in the county of Montgomery, State of New York, will supply some facts in relation to Indian Hating nearer home. I think it was last October only that I saw a statement in a Johnstown newspaper in relation to an Indian murder committed by an old man of sixty, who had been in past years tried and acquitted by Mohawk juries, several times, upon different indictments for Indian murders. He destroyed his victim, whom he had never seen till that moment, by picking him off with his rifle, while fishing in his canoe between two white men.

if his blanket alone be not his bed, to betake himself to some tenantless mansion, where the charred shell of what was formerly the family dwelling of a once happy but now desolated pioneer, blackens the lonely heath. Here, while the prairie blast whistles through the gaping timbers, the Indian, crouched upon the floor, where the feet of his red brothers have slipped in the blood their ruthless hands have shed, may well be supposed to exult in the demoniac feelings of gratified revenge, so dear to his race, to brood through the hours of midnight over the accumulated wrongs under which he believes himself to be suffering, and to emerge from his gloomy lair in the morning, eager for an encounter that may relieve his swollen feelings. Imagine now the white man, who once thought himself the possessor of that spot;—he, the ruined parent of that shattered home, hanging around the only remains of all that was dear to him! and then conceive what would be the meeting of two such beings. There is not another touch required to the picture;—and yet it is no picture; it is reality. The deserted dwellings I have seen again and again. The stories connected with them are so familiar in their neighborhood, as to be told without emotion. The state of feeling they keep alive among the whites I have already explained. The isolated condition of the Indian is also too well known.

But enough of this for the present; when I have delivered the letters which I have for individuals high in the Indian department further down the country, you shall have my own crude notions in relation to our national policy toward this singular people.

Having recovered our baggage, I started with my fellow traveller at about ten o'clock the next morning, in a jumper, trusting to his knowledge of the different groves, which are the landmarks of the prairies, for finding our way to a neighbor's, between thirty and forty miles off. We had proceeded a very few miles, when every sign of a trail being snowed up, we became completely lost, and wandered over the prairie for eleven hours; sometimes, indeed, we would get a snatch of a track where the snow had drifted it bare, but a few moments afterwards we would be driving just as much at random as ever.—The night at last closed in extremely cold, and the wind swept over the prairie so piercingly, that the very wolves seemed to shiver as they stood looking at us in the bright moonlight—(the number and impudence of these rascals on the prairies is almost incredible)—but the glorious sky above us seemed to lend some of its influence to our spirits; and, so long as our poor horse held out, we determined to keep on. His strength, however, began to be too much tried as we passed along the mouth of a number of ravines scooped out of the prairie, and descended occasionally into the groves that filled them, to see if we could discover a house. The wearied brute seemed so loathe to leave the last one we entered, that, after pausing and hallooing in vain for sometime, I proposed that we should turn him loose to browse on the trees, and, making a fire, lay down in the snow for the night. My friend preferred trying one more ravine for the house, as we were both very sharp set; and, starting anew to take a short cut up the hill side, we came to the brink of a narrow and deep gully, which my companion got out to examine. "Jump him over," he cried.

"Jump the devil!—the horse can hardly step."

"Try him."

"He'll break the jumper."

"Then we'll camp upon the spot."

The grove echoed with a single application I made with a flat stick to the poor brute's back, and the flying car (emphatically a jumper) landed safely with me in it on the other side of the gully. We gained the open prairie once more—heard the bark of a watch dog—and descending another ravine, were comfortably housed, an hour before midnight, in the log dwelling of a miner.

AN ESSAY ON NEW TRIALS, by DAVID GRAHAM, Counsellor at Law. New York: HALSTEAD & VOORHIES. 8vo. pp. 636.—"The principal object of this work is to aid the junior members of the profession, in a branch of practice of daily occurrence."—The arrangement of the work appears well suited to accomplish the object announced in the first sentence of the preface, which we have extracted above. The work is divided into sixteen chapters; the first thirteen of which are devoted to the various grounds of motion for new trials, as, for example, want of due notice of trial, irregularity in impanelling the Jury misconduct of the party or his Counsel on the trial—misconduct of the Jury—defects of the verdict as

being void or against law, or against evidence, or by reason of the damages, &c.

The fourteenth chapter is devoted to applications for new trials, in what are termed "Hard Actions," under which head are classed actions arising *ex delicto*, *qui tam*, and *penal actions*, and criminal cases.

The fifteenth chapter relates to applications, after two trials, and trials at bar; and the sixteenth to applications in Equity, "after verdicts on feigned issues and issues at law."

The subject is one with which we are personally little conversant; but of the execution of the work, and its general accuracy and fidelity, we willingly accept the experience of its author, whose name has been long known at the bar, as a sufficient guarantee.

THE PHILOSOPHY OF SLEEP, by Robt. Macnish; 1st American edition: 1. vol.; N. York, D. APPLETON & Co.—Is not this, gentle reader, a very taking title—"the Philosophy of Sleep!" and does it not forthwith set the waking faculties upon inquiring into that state, which the author denominates "the suspension of animal life," during the continuance of which "the creature is under the influence of organic life alone?"

Such, we think, will be its general effect, and we may promise in all safety, that whether philosophers or not, those who take up this volume will find themselves both instructed and interested by it.

We make a short extract about dreams:

There is a strong analogy between dreaming and insanity. Dr Abercrombie defines the difference between the two states to be, that in the latter the erroneous impression, being permanent, affects the conduct; whereas in dreaming, no influence on the conduct is produced, because the vision is dissipated on awaking. This definition is nearly, but not wholly correct; for in somnambulism and sleep-talking, the conduct is influenced by the prevailing dream. Dr. Rush has, with great shrewdness, remarked, that a dream may be considered as a transient paroxysm of delirium, and delirium as a permanent dream.

Man is not the only animal subject to dreaming. We have every reason to believe that many of the lower animals do the same. Horses neigh and rear, and dogs bark and growl in their sleep. Probably, at such times, the remembrance of the chase or the combat was passing through the minds of these creatures; and they also not unfrequently manifest signs of fear, joy, playfulness, and almost every other passion.* Ruminating animals, such as the sheep and cow, dream less; but even they are sometimes so affected, especially at the period of rearing their young. The parrot is said to dream, and I should suppose some other birds do the same: Indeed the more intellectual the animal is, the more likely it is to be subject to dreaming.—Whether the fishes dream, it is impossible to conjecture: nor can it be guessed, with any thing like certainty, at what point in the scale of animal intellect, the capability of dreaming ceases, although it is very certain there is such a point. I apprehend that dreaming is a much more general law than is commonly supposed, and that many animals dream which are never suspected of doing so.

Some men are said never to dream, and others only when their health is disordered: Dr. Beattie mentions a case of the latter description. For many years before his death, Dr. Reid had no consciousness of ever having dreamed; and Mr. Locke takes notice of a person who never did so till his twenty-sixth year, when he began to dream in consequence of having had a fever. It is not impossible, however, but that, in these cases, the individuals may have had dreams from the same age as other people, and under the same circumstances, although probably they were of so vague a nature, as to have soon faded away from the memory.

Dreams occur more frequently in the morning than in the early part of the night; a proof that the sleep is much more profound in the latter period than in the former. Towards morning, the faculties being refreshed by sleep, are more disposed to enter into activity: and this explains why, as we approach the

* "The stag-hounds, weary with the chase,
Lay stretched upon the rushy floor,
And urged in dreams the forest race
From Teynot stone to Eskdale moor."

—*Lay of the Last Minstrel.*

hours of waking, our dreams are more fresh and vivid. Owing to the comparatively active state of the faculties, morning dreams are the more rational—whence the old adage, that such dreams are true.

Children dream almost from their birth; and if we may judge from what, on many occasions, they may endure during sleep, we must suppose that the visions which haunt their young minds are often of a very frightful kind. Children, from many causes, are more apt to have dreams of terror than adults. In the first place, they are peculiarly subject to various diseases, such as teething, convulsions, and bowel complaints, those fertile sources of mental terror in sleep; and, in the second place, their minds are exceedingly susceptible of dread, in all its forms, and prone to be acted on by it, whatever shape it assumes. Many of the dreams experienced at this early period, leave an indelible impression on the mind. They are remembered in after-years with feelings of pain; and, blending with the more delightful reminiscences of childhood, demonstrate that this era, which we are apt to consider one varied scene of sunshine and happiness; had, as well as future life, its shadows of melancholy, and was not untinged with hues of sorrow and care. The sleep of infancy, therefore, is far from being that ideal state of felicity which is commonly supposed. It is haunted with its own terrors, even more than that of adults; and, if many of the visions which people it are equally delightful, there can be little doubt that it is also tortured by dreams of a more painful character than often fall to the share of after-life.

In health, when the mind is at ease, we seldom dream; and when we do so our visions are generally of a pleasing character. In disease, especially of the brain, liver, and stomach, dreams are both common and of a very distressing kind.

WILLIAMS' N. Y. ANNUAL REGISTER for 1834; N. York, Jas. Van Norden.—This is the fifth year of this valuable, elaborate, comprehensive and accurate publication; and now only, as we learn, does it begin to afford to its enterprising and persevering Editor some compensation. Heretofore he has lost, not only time and labor, but money, by each publication. Its character is now, however, so justly established, that he may, we think, calculate upon at last reaping a harvest from his toils. The contents are of so miscellaneous a character, that it is impossible to enumerate any considerable portion of them. It must, therefore, suffice to say that every thing relating to the civil, literary, political, commercial and statistical affairs of this great State, together with much similar information with regard to the United States, is to be found in its pages, which, by the way, are more numerous by nearly one hundred in this Register than in any preceding one. The Register is for sale by the Editor alone at 41 Courtlandt street.

THE MECHANICS' MAGAZINE, AND REGISTER OF INVENTIONS AND IMPROVEMENTS, Nos. 1, 2, 3 and 4, of Vol. III; N. York, D. K. MINOR & J. E. CHALLIS.—We take blame to ourselves for not having before called attention to the progress made in its second year by this excellent and useful periodical. It seems, however, to be so well established now in public favor as to be able to win its way alone, and without the notice of the contemporary press. It is, nevertheless, but just to say, that these numbers exhibit good judgment in the selection of topics, and as far as we are competent to judge, skill in the mode of treating them. The work is now stereotyped, so that back numbers can always be had; and no one who has any should be without all. It is also published in weekly sheets of 16 pp. each, like the London work of the same name, in order that those who desire it oftener than monthly may be accommodated. According to the wish of the parties, too, it may be had either in monthly parts, or in a bound volume once every six months.

The Editorial department is conducted by John Knight, who was long connected in that capacity with the London Mechanics' Magazine.

TRAVELS AND RESEARCHES IN CAFFRARIA, &c. &c. By STEPHEN KAY. 1 vol. N. Y.—HARPER & BROTHERS.—The writer of this volume, abounding in in-

teresting details of a region and peoples little known, is a Missionary, who passed six or seven years among them, in the discharge of his self-sacrificing labors. It is designed, and we think well calculated, to arouse attention to the condition of Africa, so deeply wronged by her intercourse with the other quarters of the world.

As a mere book of adventures, privations, and unaccustomed expedients—Independently of any higher motive—this work will repay the attention bestowed on it.

THE KNICKERBOCKER, for May; N. York, J. Dis. TURNELL.

THE MONTHLY MAGAZINE, for May; New York, MONSON BANCROFT.

The first named of these periodicals has changed proprietors and editor, and has improved by the change both in the matter and the manner of its articles. A vain glorious tone of superiority, unsustained by real merit of any sort, has given place to the quiet and gentle address of men who respect the judgment of their readers, and aim not, by proclaiming their own excellence, to forestall opinion. The biography of Talleyrand in this number is capital, though unsparing. The chapter on Cats is very good too.

The new Editors are *Lewis Gaylord Clark* and *Clement M. Edson*.

This number of the *Monthly* is excellent. Varied, sprightly, gay and wise by turns, it must work its way to favor and fortune—though as yet, both have been rather hoped for than realized. We commend this periodical to our friends.

HOOKE'S PLAN OF NEW-YORK.—We spoke some weeks ago of a Plan of this City by Burr, for sale by *Disturnell*, which was very neatly and portably put up. We have now another, by Hooker, not quite so neat as that by Burr, but comprehending more explanatory matter, as to public buildings, and designating the fire limits. These are very useful companions.

THE TOURIST; or Pocket Manual for Travellers—3d edition: N. Y., HARPER AND BROTHERS.—This speaks for itself; a little volume it is, but of indispensable necessity to travellers who perambulate our great State and the Canadas. It tells them all that is needful to comfort, speed and economy in their movements; and throws into the bargain a very considerable sprinkling of amusing historical lore.

LANDSCAPE ILLUSTRATIONS OF THE BIBLE, by W. & E. FINDEN. LONDON: JOHN MURRAY. Part I.—The success which has attended this tasteful manner of illustrating profane story, has encouraged the publisher to essay it in regard to the Bible. The drawings are made by *Turner, Calcot, Stanfield*, and other eminent artists, from Sketches taken on the spot—the engravings by the *Findens*—and the descriptive parts are from the pen of the Rev. *Hartwell Horne*, of Cambridge. Each number is to contain four plates, and the work is to be completed in 24 monthly numbers. The price is half a crown, or about 56 cents per number. This first number gives views—of *Mount Ararat, of the brook Kedron, of the Dead Sea and mouth of the Jordan, and of Tadmor in the Desert*. It is a beautiful specimen; and if, as it may be anticipated, it is followed up in the same style, the work cannot but be popular.

PAUL AND VIRGINIA—translated from St. Pierre. 1 vol. Boston: LILLY, WAIT & CO.—A republication, in a small and neatly printed volume, embellished for the attraction of children and young persons, of one of the prettiest stories ever written for their entertainment.

HISTORY OF BOSTON, by ROBIN CARVER. Boston: LILLY, WAIT, COLMAN & HOLDEN.—We are glad thus to see our own histories popularized. With the records of Boston are connected some of the noblest acts of our struggle to become a nation; and we re-

joice to see them so told, as without losing any thing of their authenticity to become familiar and eagerly sought schoolboy tales.

SKETCHES—by Mrs. SIGOURNEY. Philadelphia: KEY & BIDDLE.—The pen of Mrs. Sigourney, which heretofore has chiefly been employed in poetry—pure, spiritual and most happily inspired—now adventures into a field where competitors are more frequent, but where success is not less gratifying.

We are compelled by want of room, to postpone to-day our further remarks, suggested by these "sketches" from her pen; but could not let another week pass without, at least, this brief notice.

We have several works yet on hand—some of them long in arrear: among them, the attractive volume prepared for publication by *S. De Witt Bloodgood*, of Albany, from the M.S. of the *Etrick Shepherd*. We have, too, Vol. I. of the life of *ALEXANDER HAMILTON*, by his son, *I. C. Hamilton*, to which we hope to do justice in next Saturday's Review.

SUMMARY.

Mr. Wise, Mr. John Quincy Adams, Mr. Thomas, of Louisiana, Mr. Pinckney, and Mr. Murphey, have been appointed a Select Committee in the House of Representatives, to take into consideration the expediency of carrying into operation the Resolution of the Revolutionary Congress, concerning the erection of a monument at Yorktown, Va.

APPOINTMENTS BY THE PRESIDENT,

By and with the advice and consent of the Senate.

Uriel Sebee, to be Receiver of Public Monies at Fayette, Missouri, 17th December, 1833, when his commission expired.

Thomas Gillespie, to be Register of the Land Office at Bucyrus, in the State of Ohio, from the 25th day of May, 1834.

Finis Ewing, to be Register of the Land Office at Lexington, Missouri, from the 23d day of May, 1834.

William Wright, to be Register of the Land Office at Palmyra, Missouri, from the 29th day of May, 1834.

Hilary B. Cenas, to be Register of the Land Office at New Orleans, Louisiana, from the 17th of December, 1833.

Valentine King, to be Register of the Land Office at Opelousas, Louisiana, from the 28th of January, 1834.

John Killian, to be Register of the Land Office at St. Helena, Louisiana, vice G. Davidson, resigned.

Shelden S. Clark, to be an Appraiser of Customs for the port of New Orleans, in the place of R. F. Canfield, removed.

John P. Morton, to be Collector and Inspector of Edgartown, Massachusetts.

Pierre A. Barker, to be Collector and Inspector of the Revenue for the port of Buffalo Creek, New York.

Gabriel Holmes, Surveyor and Inspector of Wilmington, in the State of North Carolina, April, 1834, in the room of Richard Bradley deceased.

James Wade, to be Surveyor and Inspector of the Revenue, Swansborough North Carolina.

John D. Jones to be Naval Officer, Wilmington North Carolina.

James McGuire, to be Surveyor and Inspector, in the District of Columbia.

Robert Mitchell, to be Collector of the Customs, Pensacola, Florida.

Woodson Wren, to be Surveyor and Inspector, Natchez, Mississippi, in the place of Andrew Marchalk, rejected by the Senate.

Charles Barnett, to be Consul for Genoa, in the place of Robert Cambell, removed.

Ceran St. Vrain, to be Consul for Santa Fe, in Mexico, in the place of James Davis, removed.

George Adams, to be Attorney for the District of Mississippi, re-appointed.

All reappointments except those otherwise specified.

Coffee House Slip.—The bulk head recently put down on a line with South street, started a day or two since, left its bed, and slid into the river. A new one will have to be placed on the foundation of the old, before the slip can be filled in. Old slip is filled up, and in a short time will be regulated and paved. [Daily Adv.]

WOODSURY, (N. J.)—A copper mine, the ore of which yields from 60 to 70 per cent. has been open-

ed near Flemington, in this State. In addition to the mine, which is said to be inexhaustible, a vein of four or five feet in thickness, and as many in breadth, has been discovered in its immediate vicinity.—[Village Herald.]

SHIP BUILDING.—We find in the Journal of Commerce of this morning the following paragraph:

In addition to the three ships now building in this city, as mentioned by us a day or two since, we learn that a fourth has been contracted for, to be built by Brown & Bell.

Among the list of passengers by the *Paiacon*, for Vera Cruz, we notice Mr. Aaron Leggett, Merchant, of this city, who we learn is bearer of despatches from our Government to Col. Butler, Chargé d'Affaires at the city of Mexico.

[From the *Baltimore American*.]

The new Convention with Chili, recently ratified by the United States Senate, has been officially promulgated. It consists of thirty-one original, and four explanatory articles.

The commerce and navigation of the two countries with each other, are put on the footing of those of the most favored nations, and every subsequent grant, by either, to other nations, is to become as common to the other, as though specially granted, freely, if given freely, or on the same terms, if compensation is required. The Republic of Chili reserves out of this stipulation its existing treaties with other South American Governments and with Mexico, and both parties except their own coasting trade.

The 5th, 6th, 7th, and 8th articles provide for the security of the property of the citizens of either country in the other, against embargoes, or imprisonment for military purposes, without indemnification, for protection and aid in their harbors, against pirates or other enemies, or in distress, for the restoration of property carried by pirates into the ports of either, and for exempting the cargoes of wrecked and damaged vessels of either party, not intended for consumption in the country, from all duties and imposts.

The right of disposing of personal estate is secured to the citizens of either party in the territory of the other, according to the laws which regulate the property of its own citizens, and successions, by testament or from intestates, follow the same rules.—In the case of real estate, three years is given to alien heirs to dispose of it, and withdraw the proceeds. Security of property, free access to the courts, and liberty of religious worship are mutually guarantees to the resident citizens of either.

From article 12 to 24 inclusive, relate to the questions of neutral commerce, contraband, and blockade.

They establish succinctly that free ships make free goods; that commerce in time of war shall be free from neutrals, direct to the ports of the enemies of either, and from port to port; and that on board of the ships of neutrals, every thing is free, (contraband excepted;) although the whole or part of the lading belong to belligerents. The same principle of protection extends to persons, except officers or soldiers in actual service; it further limits the benefit of this protection to the property and persons of belligerents, who acknowledge the same principles.

An alternative stipulation is made, that when the neutral flag protects the property of the belligerent, the flag of the belligerent shall not protect neutral property, and *conversos*,—where the neutral flag does not, the enemy's shall.

Article 14, defines what shall be contraband.—Contraband does not subject the vessel or cargo to confiscation, except of the contraband articles, nor to detention, if those articles are given up on demand. Sufficient notice of blockades is to be given, and vessels entering or departing are to be warned, and liable to confiscation only on persisting in spite of warning and notice.

Captains of armed vessels are made personally liable for all extortion or ill treatment in searching for contraband, and no commander of a merchant vessel is to be summoned on board of an armed vessel.—When vessels are under convoy, the word of honor of the commander of the convoy is to be taken as final evidence of the character and cargoes of the merchant vessels under his charge. Mutual stipulations are made, for the regulation of prize cases, that the reasons for condemnation in each case may be fully stated, and authentic evidence furnished to the party.

In case of war between the United States and Chili, a specific time is to be allowed to resident merchants to wind up their affairs, and safe conduct given them.

Persons of other occupations may remain, under the protection of the laws,—responsible for their personal conduct towards the State. No debts or property to be confiscated or sequestered.

A series of articles provides for the reception and treatment of Ministers, and their powers, and those of consuls.

Deserters from public and private vessels are to be given up to the consuls. An explanatory article except *slaves* as such, serving in any capacity in our vessels.

The other explanatory articles are not important, only making more explicit some of the provisions or the original articles.

The treaty is to continue for twelve years, and to be terminated then and thereafter only on a previous notice of twelve months.

FROM LIMA.—By the ship *Leonidas*, Capt. Woodbury, we learn that the time of his sailing, there was a revolution in Lima, and that Obregoso had been elected by a large majority. His opponent, Gen. Gamarra, late President, had possession of the capital with 800 troops. Obregoso was in the fortress of Callao with about the same number, and it was expected he would get the mastery, as the people were in his favor. Every prospect of a speedy peace prevailed.—[Gazette.]

CAPT. BACK.—A letter has been received this morning by Mr. Buchanan, his British Majesty's Consul, from Capt. Back, dated Fort Reliance, east end of Great Slave Lake, 7th December, 1833.

The following is an extract:—After detailing various matters of a private nature—

"And now, my dear sir, I must inform you that the expedition has advanced steadily in its humane and interesting object, without having experienced any of those untoward circumstances that sometimes paralyze and cast a gloom over our best and most strenuous exertions. Every thing is in a fair train; and next year, under the guidance of Divine Providence, I trust, we may be still in time to rescue suffering mortality from destruction."

[From the *Boston Courier*.]

MADAWASKA.—The people living in the disputed territory, are, it appears in rather a singular position, belonging to no nation and yet claimed by two. Under such circumstances they had better "take the responsibility" of setting up for themselves, or remove themselves and their deposits to some other place. The following is from the *Kennebec Journal*.

Madawaska.—We learn that the inhabitants of Madawaska have been taxed by the British government, and the tax has been collected with much rigor: that the British hold undisturbed possession and have built a court house; that the inhabitants are suffering much from want, their crops having been scanty the last season. As the town had been incorporated by the Legislature of Maine, and the inhabitants assured of the protection of the United States, they prepared a memorial to our government asking assistance and protection, which was signed by a number, but subsequently seized and destroyed by the British authorities. They have, however, sent on a delegate to see Gov. Dunlap, and ask the assistance of the State. This delegate we learn has been to Brunswick, where the Governor now is, and obtained an order on the treasurer for a small sum of money. The authority of the Governor to do this may be questioned, but we are not inclined to urge that point in this case.—We have not seen the delegate, but gather the foregoing statement from those who conversed with him. We were told many years ago that if Gen. Jackson could be elected President we should soon have our territory secured; but instead of this we first find him requesting the Governor of New Brunswick to pardon and release from prison, upon condition of *not repeating the offence against his British majesty*, certain persons of Madawaska who had been guilty of the heinous crime of proceeding to incorporate the town in pursuance of a special law of the State of Maine. Next we find him trying to get the Dutchman's award accepted; and this being stopped by the Senate, we have another decree requiring the Legislature of Maine to bargain away the territory for "an ample indemnity" in land or money, in secret session; and now we find the British government taxing the inhabitants and using as full authority as over any part of New Brunswick; while our government, State and National, looks on with apparent unconcern.

Has there been, asks the National Intelligencer of yesterday, an Earthquake in any part of the wide tract of territory which lies between us and New

Orleans? Or what else has interrupted the intercourse between this city and that? For four or five successive mails, no newspaper has reached this city from New Orleans.

[From the *United States Gazette*.]

THE LOCUSTS ARE COMING.—A very respectable inhabitant, who has resided in Germantown during a life of 74 years, mentions the curious fact that locusts not only appear every seventeen years, but that they make their appearance in great numbers always on the 25th of May. Our informant recollects their advent on the 25th of May, 1766, then six years old. He has since recorded their coming on the

25th of May, 1783,
25th of May, 1800,
25th of May, 1817.

Their holes may now be seen in ploughing, or under boards lying on the ground, preparing to come forth on Sunday week, 25th inst.

It is remarked that occasionally a few locusts are seen creeping out of their hiding places before the 25th, but they return again to join the great crowd.

Some two months since, a highly respected friend, who has resided all of his long and useful life in the vicinity, left for us a notice of the approach of the locusts, and an account of their time and customs. The piece did not reach our hand until it had appeared elsewhere. It was instructive with reference to this subject, and contained a remark that the locust seasons had usually been characterized as those of plentiful harvests of grain, &c.

DISTRESSING ACCIDENT AND LOSS OF LIFE.—The *Erie*, (Pa.) *Gazette* of last Thursday, gives the following melancholy statement.

Yesterday, about 10 o'clock, a sail boat, with nine passengers on board, put off from the wharf to cross the Bay to the public pier. The wind was blowing very heavy. When about half way across, she capsized and seven out of the nine were lost. Thomas Miles, son of Capt. Miles, of the steam boat New York, and a Mr. Woodbury or Woodford, from French Creek in this county, clung to the boat, and were taken off by a boat that put off to their relief.—Thomas McConkey, deputy Collector of this port, and a Mrs. Thomas, wife of the second mate of the steam boat William Penn, both of this town, were among the number lost. The other five were strangers, who were going to take passage on board the New York, which was then coming into the harbor. We have taken every possible means to ascertain the names and residence of the strangers. From the Register of names in the public Hotels and on the way-bills, and other sources, we gather the following result, which still may not be accurate, to wit: Amos H. Bishop, Butternuts, Otsego county, N. Y., Luther Douglass, Sherman, Michigan Territory, and a man by the name of Palmer, who took passage on board the stage at North East in this county, on the 13th inst. A young man, name not known, said to belong at North East in this county, and a gentleman from the town of Palmer, Michigan Territory, name not known, understood from his conversation, to have been a merchant at that place. One of the bodies has been found, but nothing about him, by which his name can be discovered.

The suspension of the New Orleans mails for several days past, until yesterday, is thus explained by the Post Master at Columbus, Geo.

"Four Western Mails are now due at this office. Three successive failures are owing to the destruction of a causeway by the recent heavy rain, over the swamp in the Creek Nation, about 50 miles from this."—[Jour. of Com.]

THE MORMONITES IN MOTION.—According to a late number of the Painesville Telegraph, General Joe Smith, the leader of the Mormonites, has, accompanied by about five hundred of his followers, set out for the purpose of reconquering the "Holy Land," lately taken from them by the infidels of Missouri.—Joe, it seems, has been stirring up his proselytes for some time, stating that it was the command of God that they should buckle on the armour of their faith, and enrol under the banners of Mormonism; that their church was in danger; and that they must, if necessary, die the death of martyrdom. Accordingly, the deluded fanatics obeyed his summons; a great rise took place in the market for warlike implements, as each had provided himself with an abundant supply of pistols, dirks, swords, &c. The sword of Smith himself, it is said, is more than four feet long. The prophet, professes the expectation of sharing the fate of a martyr at the coming contest. We trust that the good people of Missouri will take care of these fanatics, and see that they do not violate the laws with impunity.—[Phil. Inquirer.]

NEW PERIODICAL.—An association of young men is just formed, as we learn, who mean to publish a monthly magazine, to be issued on the 15th of each month, under the title of the *American Spectator and National Magazine*.

We wish them all success, although we fear the multiplication of such periodicals does not augur permanent success to any of them.

An act relative to the Superior Court of the city of New York. Passed April 24, 1834.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

§ 1. All writs or process which shall issue out of the said court, may be tested in any day of the term in which such court shall sit, and be made returnable on any other day of the same term, or at the next term.

§ 2. The said court may establish by its rules the time to be allowed for entering and perfecting bail in suits pending therein, and to be given to the sheriff in such cases before an attachment can issue against him; also the time to be allowed for pleading in such suits, and for noticing the issues in fact joined in the same for trial; but in none of the above cases shall such time be less than eight days.

The Mobile Bank has declared an extra dividend of ten per cent. It has always declared semi annual dividends of four and a half per cent. or nine per cent. per annum. The Bank has just obtained an extension of its charter. [Jour. of Com.]

The steam packet William Gibbons, Capt. Pennoyer, arrived last night from Charleston, which place she left on the evening of the 17th, bringing papers to that date. We extract the following:

The Nashville Banner says—"The frost destroyed all the cotton which was situated on high grounds in this vicinity."

HUNTSVILLE, (ALA.) MAY 1.—Great Damage by Frost.—The damage sustained by the frost on Sunday night, has, perhaps, never been greater in this section of the country, so late in the season. For some weeks past the weather had been mild, just such as the planter could desire, and the stand of cotton was exceedingly fine; but the flattering prospects has been sadly reversed. Saturday night was attended with some frost—the weather was cold throughout Sunday, the wind from the north, and a killing frost was the consequence at night. We fear the injury has been general throughout North Alabama, if not the whole cotton growing country. In our immediate vicinity, we hear of some planters who have lost whole fields, others, one half, &c. Many will be unable to replant for the want of seed, which it will be impossible to procure at this late season.

Cholera.—A gentleman in this city, (says the Louisiana Advertiser) whose family were passengers on board the steamboat Warren, which left this city on the 15th inst. for Cincinnati, received accounts on Monday, dated Randolph, stating that the cholera had broke out on board of that boat, that his nephew, and three others were buried that day, and that about 15 or 20 in all had died.

There have been several cases of cholera in the city which have proved fatal, yet we do not think it epidemic, and that it may be avoided by prudence. The cases, so far, have been generally confined to the boats.

Forgery.—A gentleman of this city, (says the New Orleans Advertiser of the 5th inst.) of the highest respectability and large family connexions, and a director of a bank, has disappeared, and it is discovered that he has been for a long time past committing forgeries to a vast amount.

Casualty.—A laboring man in the employ of a grocer at the foot of Franklin street, drank a large quantity of cold water during the extreme heat of yesterday, and returned to his employment. In a short time after he complained of being unwell, and retired into a neighboring store, where he died. The deceased was in perfect health, apparently about thirty years old. The warmth of the weather makes caution in the free use of cold water necessary. [Times.]

[From the Sackets Harbor Journal.]

We learn that the steamboat Oswego is ashore about five miles west of Oswego. It is said that for the want of a supply of wood, she failed to make sufficient steam to work her engines, and was driven ashore by the severe wind of Sunday night last. The latest report says that her situation is dangerous, and fears are entertained that she will be much injured, if not entirely wrecked. Her situation, we under-

stand, is such, that the engines, furniture, &c. may be saved, should the boat go to pieces.

[From the Evening Post.]

Among the Polish emigrants is an officer of the rank of Captain, who has left behind a wife and family. This gentleman is very anxious to return to Europe. One of the foreign ministers at Washington has liberally granted him a passport for that purpose. The sum of \$100 is necessary to effect the object. Those who are disposed to aid a gentleman, under circumstances that call for no comment, will confer a real favor by sending their contributions to this office, addressed to the care of J. Fenimore Cooper.

Great Haul of Fish.—On or about the middle of last month, at Greenway Landing, (fourteen miles below town,) occupied by Messrs. George H. Smoot and Charles Cooley, one million five hundred thousand Herring, and eleven to twelve hundred Shad, were caught at a single haul of the seine. Again, on the 28th inst., eleven thousand Shad were caught at a single haul of the seine, at the same landing. [Alex. Gaz.]

Great Haul of Great Fish.—On Friday some Fishermen at Carpenter's Point took at a single haul, upwards of eight hundred Rock Fish, of the largest size we ever saw. Some of them weighed upwards of 100lbs. They were selling this morning in market, at from 50 cents to one dollar for the largest, say one cent a pound for such fish as this. [Balt. Gaz.]

Great Fire at Needham.—On Monday night about eleven o'clock, a fire broke out in the paper mill of Messrs Lyon & Co. at Needham, in the village of the Lowell falls, which entirely consumed that establishment, together with the Machine Shop of Ware & Clark, and the small Wrapping Paper Mill of Hurd & Crehore. All the valuable Mills on the Newton side escaped. Messrs Lyon & Co. are insured \$4000 at the Manufacturers office—Hurd & Crehore, \$2000 at the National—Ware & Clark, \$1000 at Roxbury. Total loss, about \$20,000. [Boston Courier.]

LATER FROM ENGLAND.—The packet ship *South America* brings Liverpool dates of the 16th, and London to the 15th ult.

From France we have direct, later intelligence than this arrival furnishes. Of English news, so called, there is nothing, and our extracts therefore relate solely to Portugal, where the *Pedroites* were prospering.

LONDON, Monday Evening April 14.—The private letters received this morning from Oporto, dated the 30th ult. are very encouraging, and state that a considerable force marched out of that garrison on the 25th, towards Guimaraens, which town they entered and made themselves master of on the 26th, driving the Miguelites, about 2000 in number, in great confusion before them, and compelling them to retreat in the direction of Amarante. The Queen's troops then proceeded towards Braga, which they also took possession of, while Admiral Napier on the other side, conquered Viana, thus placing the whole province of Entre Douro e Minho under the command of the Pedroites, the greater part of which had declared in favor of the Queen. A reinforcement of 400 men had arrived at Oporto from Lisbon—and an additional number was shortly expected under the command of Vila Flor, who, immediately on his arrival was to make an attack on Coimbra, which if taken would then place nearly the entire coast of Portugal in the hands of Donna Maria.

Baron Soure, son of Viscount Pezo de Regua, alias Gaspar Teixeira, a lieutenant general in the army of Don Miguel, entered Oporto on the 22d ult. to negotiate an amnesty for himself, father and friends. He was well received, his proposals acceded to, and a command on the Coimbra road given to him. This step on the part of the Miguelite officers was considered in Oporto of considerable consequence, particularly to the commercial world, as the Viscount was one of the greatest landed proprietors in Tras os Montes, and possessed the greater part of the vineyards in that province. He is also said to have considerable influence in that part of the country, which hitherto has been considered a strong Miguelite position.

LATE AND IMPORTANT FROM FRANCE.—By the *Turbo* from Havre, on Saturday, we received our Paris papers to the 8th, and yesterday by the *Poland*, Packet Ship to the 15th ult:

France has again been disturbed in her two chief

cities, *Lyons* and *Paris*, by insurrectionary movements—which, however, were put down so decisively, as should demonstrate the hopelessness of such desultory attempts. The details will be found in the extracts. The duration of anarchy, both in *Lyons* and *Paris*, was manifestly occasioned by a considerable desire to spare as much as possible the effusion of blood, and especially not to hazard the troops of the line or the National Guard, unnecessarily in narrow streets, of which the houses were filled with adversaries, who might fire upon them, without being themselves accessible. There was, it is clear, force enough to have crushed the insurrection in a moment, it imperious necessity had so required. We look upon the cautious and humane manner in which the insurgents were approached and reduced, as indicative, in a high degree, of the confidence entertained by the government in its own strength.

The disturbances at Brussels do not, we suppose, indicate any general discontent; though they go to prove restlessness and impatience on the part of masses, which must sooner or later lead to a wide spread explosion.

In the *Journal des Debats*, of 4th April, we observe a letter from an American gentleman in Paris, G. M. Gibbs, refuting conclusively the allegation made, and apparently relied on the House of Deputies, while discussing the American indemnity, that the Florida treaty between the United States and Spain contained a provision for cases of seizure and condemnation in Spanish ports by French authorities, which same cases to the amount of eight million francs, it was argued in the Chamber, were now again brought forward as claims against France. Mr. Gibbs shows, what indeed M. de Broglie did in the House when the objection was first made, that it was wholly groundless.

M. Carrel, Editor of the *National*—which paper was sentenced to be suspended for a time from publication—having established a new one under the title of the *National* of 1834, was prosecuted and condemned before the Assize Court, for an evasion of the first sentence. On appeal to the Superior Court, this judgment of the Assize Court was set aside, on the ground that the *National* of 1834 was a new paper, and not the paper under interdict of the law.

This may be thought to look like quibbling; but it is right that all penal statutes should be confined within the strictest letter.

In the streets where the barricades were formed, the lamps were all broken by the rioters. The inhabitants of the neighboring houses, in order to supply the deficiency, illuminated their windows.

Two young men arrested for the disturbances in Paris, and passing under guard along one of the bridges, sprang from the parapet into the river. The guard immediately fired upon them and killed one instantly, his body being seen floating in the Seine. The fate of the other, in the confusion, was not ascertained.

It may be the habit of revolutions, or it may be the extent of the city of Paris, but it is certainly curious to find it stated, as we do in one of the papers, "that during the bloody disturbances in and about the Rue St. Martin, the theatres of the boulevards distant from the scene, were thronged as usual, and the shops and coffee houses were all open."

M. Baillet, son of a Deputy, and a Captain in the National Guard, who was wounded while on duty, had died.

M. St. Marc Girardin, one of the Editors of the *Journal des Debats*, and a civil magistrate moreover, had a mischievous trick played on him during the riots, which caused him some very rough treatment. Some persons had, unperceived by him, placed some cartridges in his pocket, which, having been discovered by a patrol of the National Guard, they considerably maltreated this innocent and pacific person.

The latest intelligence from Lyons is annexed. It shows that all was again quiet.

Telegraphic Despatch from Lyons, 12th April, 11 o'clock at night.

"TO THE MINISTER OF THE INTERIOR:

Lyons is delivered. The faubourgs occupied by the insurgents have fallen into our power. The intercourse is every where re-established. The mails have this evening again taken usual routes. The anarchists are in the greatest disorder."

The vessel of war despatched from Brest for this country with despatches, will bring, we apprehend, assurances that the French Government will make a second effort, in the next Chamber, to obtain a grant of twenty-five millions, due by treaty to America.

The accounts from London are of the 13th, without any news.

The dates from Madrid are of 6th. That capital was tranquil. General Martinez de San Martin was just appointed Captain General at Madrid, in place of M. Freyre, who became Inspector of Cavalry.

From a passenger we learn that General Lafayette was so much debilitated by reason of his indisposition, that fears were entertained for his life.

HAVRE, APRIL 16, 1834.

I send you herewith the Havre paper of yesterday, which contains some particulars of the attempt at revolution in Paris, which has become so fashionable.

Let not the world accuse Louis Phillippe, if this monarchy of the people should finish by a military monarchy. You see nothing will do but force. At Lyons, it appears between 5 and 600 workmen and about 200 of the troops were killed or wounded, during the four days which the affair continued. The number of killed and wounded at Paris is reported to be about 100. The Dukes of Orleans and Nemours were fired on at the head of the cavalry, but not hurt. In our country, we talk of bush-fighting—here it is house-fighting. The insurgents concealed themselves in houses, and fired on the National Guard and troops of the line from the window. Some of the former were *poignarded* on their way to their posts. The barricades were but feebly defended.

Well, you see the Chamber, in spite of the Government, has rejected the bill presented for the first instalment of indemnity due to our citizens, on the ground that Mr. Rives obtained too much—no small compliment, *en passant*, to the negotiator. But what is to be done upon the occasion, is the question with every one. The opposition prints reason as if the Treaty was at an end, and that a fresh negotiation must be entered upon. The Government here, and the King the first, will act with good faith; and it appears to be the opinion of the best informed, that the affair will be brought with better success before the next Chamber.

I refer to the papers for what has happened lately at Brussels.

Events at Paris.

April 12.—Several members of the *Société des Droits de l'Homme* were arrested yesterday.

Government have taken strong precautionary measures for securing the tranquillity of the capital. The troops are consigned to their barracks, with a battalion of each regiment for pickets. Cartridges have been delivered out, and during the last night numerous patrols have paraded the streets. It is satisfactory to be able to announce that perfect tranquillity prevailed. A few groups, assembled in the populous quarters of the city yesterday, at the hour when the workmen usually go to dinner, dispersed on the remonstrances of the police.

April 13.—The band of rioters who last night attempted to renew the scenes of the Cloître St. Mary, in this capital, have been, as we fully anticipated in our account given in a preceding column, which was written between one and two o'clock this morning, defeated at every point by the bravery and devotion of the troops and the National Guards, who vied with each other in zeal and energy to put an end to these lawless and desperate outrages. The insurgents had placed themselves at the windows in the se-

veral streets in which they had taken their stand, whence they could fire in comparative safety upon the troops and National Guards, and thus assassinate their brave antagonists. They kept up in this manner an occasional firing during the entire night, which was not returned by the troops; but when daylight enabled the latter to act, to take possession of every barricade, and every house which afforded them shelter, was but the work of an hour, and, between seven and eight o'clock, they were masters of every hostile position. It is stated (but in the disorder necessarily prevailing at a moment like the present, we cannot vouch for the truth of every statement we receive), that in one of the houses, a number of the rioters were discovered, who had been most active in their murderous assailment of the National Guards and soldiery, and that not one of them were suffered to escape alive. The insurgents were evidently intimidated at the break of day by the display of force which surrounded them on all sides, and by the arrival of the artillery; they immediately abandoned their advanced barricades, and retreated to the houses of the narrow streets and alleys, which were then blockaded by the armed force on all sides, and several prisoners made. The National Guards of the Baulieu arrived in Paris during the night, and were stationed in the Place du Carrousel, and, with other detachments are now patrolling the disturbed quarters. At six in the morning the Dukes of Orleans and Nemours mounted their horses and rode to the scene of disturbance, taking the Quays, the Place de Greve, and the adjacent streets, to the Rue St. Martin. They were received in their progress with the warmest acclamations from the troops, the National Guards and the people. They returned to the Tuileries at eight o'clock.

The following additional particulars have reached us relative to the proceedings of last night:—In the 7th arrondissement the whole population, and especially the workmen, beheld with indignation the assassination of a drummer and a grenadier of the 7th legion who were walking alone. An officer of the staff on his way with orders for the 12th legion, received a bullet, which pierced his arm and entered his side. His life, however, is not despaired of. The National Guards and the Line received each other with cries of *Vive la Garde Nationale! Vive la Ligne!* At the Pointe St. Eustache the barricades were carried by a column of two battalions of the 4th Legion of the National Guards, one of the 10th, one of the 1st, and a battalion of the 54th of the Line.—M. Chapuis, Col. of the 4th Legion, a most gallant officer, was wounded in the arm by a bullet, and was replaced in the command by Gen. Alez. The lamps, as a matter of course, was broken by the insurgents in a part of the Rues St. Denis and St. Martin, as well as in several of the adjacent streets; but their absence was made up for by the inhabitants lighting up their houses. The Minister of the Interior remained almost constantly on horseback during the evening. He was with Gen. Bugeaud at the attack of a barricade; a young auditor of the Council of State, an officer of the National Guards who was on horseback by his side, received a bullet in the collar bone.

P. S.—(One o'clock.)—His Majesty is now reviewing the troops in the Place du Carrousel, preparatory to riding through the quarters of Paris which have become the seat of disorder, as he did in June, 1832. He was received by the troops and National Guards, as well as the assembled crowd, with enthusiastic cheers, and cries of *Vive le Roi! Vive Louis Phillippe!* The quarters where the disturbances took place are still occupied by the Military and Municipal Guard, and the vigilance of the Government is unabated. Cavalry, infantry, and masses of the citizen troops remain under arms, ready to act at a moment's notice, should their service be again called for, of which, however, we are happy to announce, no apprehension is entertained. A great number of prisoners were made at the various barricades. As the Dukes of Orleans and Nemours were passing the Rue du Ponceau, two shots were fired at them, happily without effect.

The National announces that the patent of M. Mio, printer of the Tribune, has been withdrawn.—The number of this morning has not appeared.

The Lyons mail is still in arrear, so that we remain without any journal from that town of a date later than the 9th inst. Up to the moment of going to press, we could not learn that the Government had received any further details.

Events at Lyons and the Neighborhood.

The Ministerial Evening Journal gives the following details relative to the events at Lyons:—"The government received this morning by express a report of the proceedings at Lyons on Wednesday—

It presents a lamentable picture, since French blood has been shed, but at the same time affords positive assurances of the triumph of order and the laws.—For several days the authorities had been warned, and were prepared for sinister occurrences. Every thing showed that the agitators, despairing of success in the capital, where the magistracy is sustained by the National Guards and the garrison, determined to make an attempt in the provinces, and the unfortunate city of Lyons, the capital of industry, obtained the deplorable preference. The *Mutuellistes* appeared little disposed to engage in the plot, and it has been clearly demonstrated that only such workmen as have become connected with political societies, joined the *arnachists*. As early as the preceding day, the brave General Aimard made his arrangements. The court was well guarded; reinforcements were called in from the environs. The Prefect went to the place St. Jean to judge of the state of affairs, and to consult with the military commanders. Although the court was sitting, the place St. Jean was completely free from any assemblage of the people, and this solitude evidently proved that the *arnachists* had determined to come *en masse*. In fact, they made their appearance about 11 o'clock. A man read an incendiary address, and in a few minutes after the barricades were begun. The Prefect, without a moment's hesitation, gave orders for their being destroyed.—[Galignani's Messenger, 12th April.]

Major General Buchet, who commands the department of the Bouches-du-Rhone, under General Aimard, directly brought the troops forward. The Gendarmerie under Col. Gannet, and the Infantry, assailed the barricades with the most determined resolution and carried them under a brisk fire. The Prefect never quitted the troops during the action. The barricades were all thrown down as soon as they were raised, but still there were a great many seriously wounded, and some killed, but the greatest loss was not on the side of the troops. The severest part of the action took place in the Palace de la Prefecture. The Anarchists found their most solid entrenchment in the new temporary hall, and it became necessary to beat down the palisades with cannon shot. They were soon destroyed, and those who had endeavored to defend them were put to flight. The place was then entered by the troops, and a long exchange of musketry ensued between the soldiery and the insurgents, who had stationed themselves in what is called the Organ gallery.—Cannon were again used, the Gallery was forced from the alley, and entered. A house, filled with rioters armed with muskets, was burst open by means of petards. A great number of prisoners were taken, some wounded, and others blackened with gunpowder. At every point the troops had the advantage. Other engagements took place on the bridges, at the Place des Terreaux, and at La Croix Rousse.

The cannon and musketry were firing for several hours together in the midst of this commercial city, where nothing would be heard but the sound of the looms, if factions had not attempted to put a stop to them. During a contest of five hours the troops displayed a firmness which must put an end to the criminal hopes of those who, it is said, relied on their defection. The military and civil authorities rivalled each other in zeal and devotedness. It is painful to have to bestow upon them this praise, but it is a duty to do honor to those who most expose their lives for the maintenance of order and the laws. At four o'clock the action ceased. Some few musket shots resounded afterwards at intervals in the streets in the centre of the town. The troops were in repose. The Government has not received any telegraphic despatch since that of yesterday morning, which announced that Gen. Aimard was in full possession of all the positions, but today no telegraphic communication could come beyond Semur. Despatches from all the surrounding country, as well as from St. Etienne, Macon, and Dijon, announce that all was quiet there."

[From the Journal de Paris of 12th April.]

On the reception of despatches, requesting the utmost speed in their transmission, at the Maritime Department, at Brest Capt. Bruix, of the brig *le Cuirassier*, was immediately ordered to be in attendance. The despatches from government were handed to him with instructions to make sail instantly for the United States, and to use the greatest exertions to make a quick passage.

A quarter of an hour afterwards the *Cuirassier* was under sail.

NEWS FROM BELGIUM.—Serious disorders have broken out at Brussels. The Belgian Journals of the afternoon of the 6th April give some details of the occurrences of the preceding day and that

morning, but the *Emancipator* of the 7th, which ought to arrive this morning, has not been received. In default of this journal, we give the following extract of a private letter from Brussels, dated 6th of April, six o'clock in the afternoon.

BRUSSELS, SUNDAY, 6th April, 6 o'clock.

You know that our Orangemen, at the time of the sale by auction of the stud of horses at Tervuren, had made a subscription for the purchase of the finest horses in it, for the purpose of presenting them to the Prince of Orange, to whom the stud belonged before September, 1830. The list of subscribers appeared two days ago in *le Lynx*, and amongst them were the names of many of the first inhabitants of Brussels, among others, the Prince de Ligne, M. de Trazegnier, the Duke d'Ursel, the Count de Bethune, &c.

This publication has produced an effect on the people which it is impossible to describe. All day on Saturday it was evident a disturbance was brewing. The manager of the theatre was called upon and requested to give on the following day *The Dumb Girl of Portici*, which piece is connected with the recollections of the revolution of 1830.

In the evening crowds collected—lists of Orangemen were handed about, at last, after the play, a numerous mob proceeded to the office of the Journal *le Lynx*, from whence, as a measure of prudence, the publishers had removed the day before. After having broken some windows and destroyed the printing cases, the mob directed its steps to the *Rue de l'Evêque*, where an Orange club was a short time since organized, but all the members, warned of the popular movement, had prudently disappeared.

The mob remained together all night. The next morning early they besieged the hotel of the Duke d'Ursel, where they broke all the windows and threw the furniture in the street. The hotels of the Prince de Ligne and Messieurs de Bethune, and Trazegnier were also sacked. The Orange club in the *Rue de l'Evêque*, where on the day before, they had only broken the windows, was again visited and devastated. Numerous mobs paraded the streets with flags flying, and displaying lists of Orangemen whom they threatened to punish.

The troops sent by the Government against the rioters appeared to show little desire to disperse them. They confined themselves to preventing the devastation becoming a pillage. A certain number of arrests were made, but almost entirely of individuals who were carrying off the furniture which had been thrown into the street.

In the afternoon at 3 o'clock, the drum called the civic guard to arms, which, however, assembled but slowly.

It is the general opinion here that all these mobs are excited by those who appear to be the victims of them, and that the object is to bring about a conflict between the troops and the patriot part of the population, and thus give better chances of success to an attack which is preparing by the Prince of Orange, and which is shortly to take place.

What renders this conjecture probable, is the news received here, that two days since the Prince quitted the Hague for his headquarters.

King Leopold went out this morning in the streets of Brussels on horseback, accompanied by a numerous staff. He was very well received by the people, without his presence preventing the continuance of the disorders.

JOSEPH BONAPARTE published the following letter in the London Morning Herald.

To the subscribers of the petitions addressed to the Chamber of Deputies calling for the repeal of the law of banishment, enacted in 1815, against the family of Napoleon.

Gentlemen—Your voice was raised in favor of the family of Napoleon. We love to believe that it expressed a popular wish. Yet it was not favorably received by a majority of the Chamber in the Sitting of the 22d February. Notwithstanding, we are not less bound to offer you the tribute of our hearty gratitude as well as to the members of the minority, the real organs of the national sympathies.

On that occasion the President of the Ministerial Council, the Duke of Dalmatia, Marshal Soult, Major-General of the Emperor at Waterloo, and my old Chief of the Staff in Andalusia, &c. stood forth as our censor, and not satisfied with proscribing us, was daring enough to assert that the brothers of Napoleon 'had not refrained in foreign countries, from the intrigues of factions.' I alone, of all the brothers of Napoleon, resided in a free country, at the period of the revolution of 1830. I was alone in a condition to recall to France the son of Napoleon, with whose sentiments, altogether French, I was acquainted. I wrote to the Chamber of Deputies on the 18th of

September, 1830, from New York. The new King was proclaimed when my letter reached Paris; it was not read in the Chamber. I arrived in England after the Reform Bill, and on the same day saw in the public Journals the announcement of the premature death of my brother's orphan. At the same time I learned France was still closed against us. I have waited under the social securities (which are not deceitful illusions here) in expectation of the moment when the voice of the French People, restored to itself, would destroy this monument of national bondage exacted by foreigners in hatred of the French revolution, and of him who was its most formidable representative.

The France of July has erected his statue; his family are still proscribed; their only crime being the name which Napoleon bequeathed to them. I could not but hope for the repeal of an unjust law, which I hastened with all my might, not so much on account of my private interests, but rather in behalf of fifty members of our family, and, still more than all, for the sacred interest of the outraged national dignity.

Such are the intrigues of which I take a pleasure in rendering a full account to my fellow citizens. I appeal to the impartiality of their judgment, and they will persevere in manifesting it in a legal manner, by availing themselves of the sacred and inalienable right of petition. If the Paris police can discover any other intrigues, I urge them to disclose them to the President of the Council—I defy him to produce a single proof in support of his calumnious assertions—I do not wish to recriminate further.

With respect to the proposition for giving us permission to reside in France, according to the good pleasure of the ministers, we trust that no one will believe that a single member of our family would ever wish to return to it stripped of the security of the common law. It would be a strange spectacle, truly, were the family of Napoleon, to constitute, amongst a great people, a class of ministerial hostages! It could not have been, certainly, to degrade us, that you demanded our return; and the members of the Chamber of Deputies who repudiate the law that deprives us of our right as citizens, have been the interpreters of our sentiments and of yours. It is the country, with all the rights and all the responsibilities of a citizen, that we seek for, which you seek for us, and we hope to obtain from the nation's will.

In order to decry us in the eyes of the new generation, and to justify both the banishment and confiscations with which we have been visited, they have made us pretenders. We belong to the age in which we live—we are the creatures of France, in 1804—Kingsmen, subordinate to the French in 1834—we are aware that the generation of to-day is not bound by the will of its ancestors, that nations may perpetuate, alter, modify, restore, and destroy whatever has been established in former times, and under a different state of circumstances—we have ever known that families, as well as individuals, were bound to free nations by duties and not by rights. Had Napoleon been alive at this day, he would have concurred with us—he would have recognized the sovereignty of the French people, who alone have the right to give that government, which seems most to their interest, or according to their pleasure, nay, even according to their caprice. The Dictatorship too long maintained by Napoleon, caused him to be misunderstood by some persons. This Dictatorship was prolonged by the perverseness of the foes of the Revolution, who would have destroyed in his person, the principle of national sovereignty, of which he was but the emanation.

But at the general peace, universal suffrage, the liberty of the press, and all the guarantees of enduring prosperity of a great nation, which he contemplated, must have wholly unveiled him to France, and must have enabled all his contemporaries to form the same judgment of him, as posterity will entertain. His whole thoughts were known to me, and my duty is to proclaim them loudly. He sacrificed himself on two occasions to prevent a civil war in France. Those who inherit his name, would renounce for ever the felicity of breathing the air of that country, could they believe that their presence would be a source of the slightest disturbance to her peace. Never will they relinquish their appeal to the nation.

Such are the principles, opinions, and feelings of the whole of the members of the family of Napoleon; of whom I am the organ—all for the people and by the people.

With such sentiments, gentlemen, and fellow citizens, shall we vindicate, I trust, the patriotic anxiety which you have testified towards us.

JOSEPH NAPOLEON BONAPARTE.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 40, page 772 of this Journal.

RAILROAD TURNOUTS, REVOLVING PLATFORMS AND SIDELINGS.

The subscriber having been for some years engaged in constructing turnouts, and inserting the necessary switches and fixtures appertaining to the same, on the Baltimore and Ohio Railroad, and as those works on that road will be shortly completed, he is desirous of being employed by any Railroad Company requiring work of the above description.

He will either contract at a fixed price to execute the work, he providing all the necessary materials and fixtures, or otherwise,—or he will engage himself at a stated salary.

In relation to his abilities and general character he begs to refer any Company, disposed to engage him, to the Baltimore and Ohio Railroad Company.

Letters can be addressed to him at the Office of Construction Baltimore and Ohio Railroad, Baltimore.

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REUBEN ALER.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

J31 6t

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repair, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. M. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY B. CAMPBELL, Eng. Philad.,

Germantown, and N. York, Railroad

md 17

LATER FROM EUROPE.

By the *Napoleon*, there are dates from London to the 24th ult.

Parliament reassembled on the 18th, and Mr. O'Connell made along speech on the 22d in favor of a repeal of the Irish Union. He was to be replied to by Mr. S. Rice.

The Ministry had entered with zeal upon some important measures, viz:—for the commutation of tithes—for the abolition of church rates, a tax particularly odious to dissenters, who were made to contribute for the repairs of churches in which they do not worship—for a system of national education, &c.

An immense meeting of the Trades Union, to the number, the Times estimates, of two hundred thousand, paraded London and Westminster with flags and banners on the 23d, in order to petition the King for the mitigation of the sentence of certain *Dorchester rioters*. Every preparation was made by the authorities to preserve the peace, and the meeting passed off quietly and without effecting its object—the King having been advised to refuse to receive a petition from a multitude, or a deputation thereof, while the multitude were at hand, and in motion, as if to overawe the Throne.

The disturbances in Brussels had given to King Leopold a pretext to revive an old law for the exclusion of foreigners from the kingdom; and many, accused of fomenting disturbances, had accordingly been sent off.

From Spain the accounts are encouraging, since the Queen Regent has decided on the convocation of the Cortes, *per estatutos*. We give the decree at length, as it may be looked upon in some sense as a constitutional Charter given to Spain. No time nor place had, however, as yet been named for the meeting. [It will be published in our next.]

Spain has agreed to acknowledge *Donna Maria* as Queen of Portugal. Rumors of changes in the Spanish ministry, by the expulsion of *Burgos*, *Zurco del Valle*, and their partisans, and the substitution of more liberal Ministers, had reached London, but were not confirmed; and the decree requesting the convocation of the Cortes, bears, it will be seen, the signatures of these functionaries.

The motives for calling the Cortes are set forth in a long report, for which we have not room.

In France order was restored, and at Lyons the operatives were returning to their work. The injury and loss, besides that of life, occasioned by the sanguinary tumults in that city, are spoken of as very great and distressing. The dates from Paris are of the 21st.

The telegraphic despatch, purporting to have been sent from Lyons at 11 o'clock at night of the 12th April, and published in the Paris papers of the 15th as official and authentic, proves to have been unfounded,—since the riots and battle continued, as will be seen by our extracts, some days afterwards. The latest intelligence however leaves no doubt now that the disturbances were at an end.

The Journal du Paris of the 18th says—"Government has today received despatches from Lyons, and from all parts of the kingdom where the anarchists had attempted disturbances. Order is re-established everywhere."

PORTUGAL.—There are dates from Lisbon to the 14th April, and they bring an account of the Miguelites having despatched from Santarem a large force, which made an attack upon St. Ubes on the 12th, but was repulsed with considerable loss. The attack served to elicit the zeal of the troops in Lisbon, many of whom, particularly the foreigners who were lately in disgrace, volunteered to go to St. Ubes, to assist in repelling it. Their services were not accepted.

An attempt was made by Lord Howard De Walden and Admiral Parker, on the 31st March, to induce Don Miguel to leave Portugal, upon the following

terms. He was to be allowed a safe conduct out of the country, and a liberal income, guaranteed by England; an amnesty was to be granted to all his followers; and his own right of succession to the throne recognized in default of issue of the Queen. These terms Miguel rejected.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of *Duffee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbonale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, }
January 29, 1833. }

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 60 nails, and about forty 100 nails in a minute, and in the same proportion larger sizes, even to spikes for shingles. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 18, 1833. A29 if RM&F

TO IRON MANUFACTURERS AND OWNERS OF IRON ORE BEDS.

JOSEPH GOULDING, of Keosauqua, Essex county, N. Y., has invented and patented a *Magnetic Separating Machine*, for separating iron ore from the extraneous matter usually found in connection with it; and he begs leave to recommend it to the especial notice of owners of Ore Beds as possessing qualities of great importance, as by the use of it many ore beds can be made very valuable, it being applicable in all cases when the Ore is magnetic.

The quality of the iron made is much improved by the process of separation, indeed good iron can, after separation, be made from ore which would without it be considered not worth working. There is also found to be a great saving in the transportation of ore, and in time and fuel required to work the same into iron.

Mechanics can be furnished at short notice which will separate from half a ton to twenty tons each in twenty-four hours.

J. Goulding also manufactures to order, *Cylindrical Forge and Blast Furnace Bellows*, of the most improved construction, and which are successfully used in nearly all the Forges and Furnaces in Clinton and all the adjoining counties.

January 20th, 1834. M 141f

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in length of 14 to 16 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
300 do. 1 1/2 do. 1/2 do.	
40 do. 1 3/4 do. 1/2 do.	
200 do. 2 do. 1/2 do.	
800 do. 2 1/2 do. 1/2 do.	
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 2 3/4, 3, 3 1/4, 3 1/2, and 3 3/4 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Government, and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.
Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71mcowr

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucerne, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Kuta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN.

347 N. Market st. (opposite Post Office).
Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine.
MECHANIC'S MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either of all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 204 Elizabeth street, near Bleeker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J 45 11f

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such I should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the Levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have borne made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

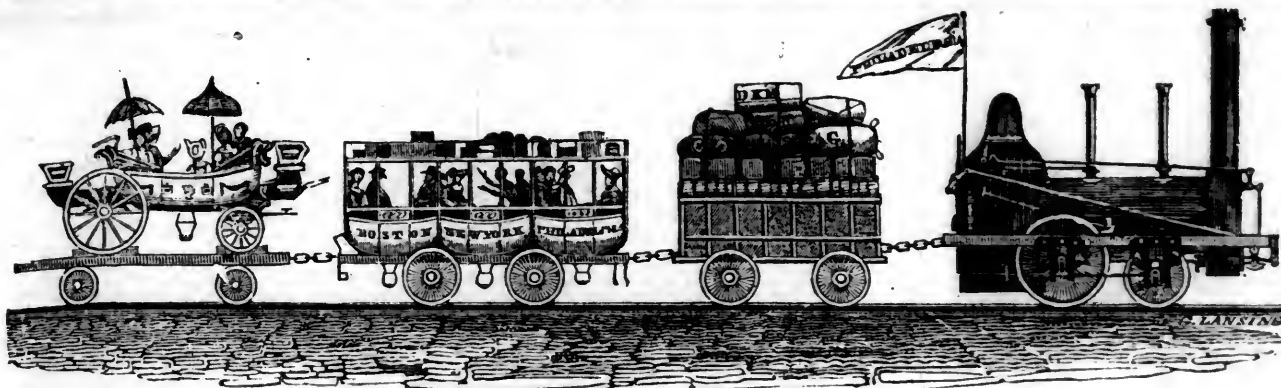
Baltimore, May 1st, 1836.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities or my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m34 f



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, MAY 31, 1834.

[VOLUME III.—No. 21.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 31, 1834.

RAILROAD MAP.—We have again to ask the indulgence of those who have subscribed for the Railroad Map. We were obliged, even after it was nearly ready, to have it *re-engraved*, which of course has very much retarded its appearance. It will, however, be far more complete than at first contemplated, as there will accompany it a concise description of the most important railroads and canals, compiled from the best sources within our reach, which will render it far more useful to those who desire to see at a glance the numerous works of the kind now constructed, constructing, and in contemplation.

It will be forwarded as soon as completed to those who have ordered it. It is desired that those who wish it, but have not ordered it, will let us know at an early period, that all those for a distance may be forwarded at the same time.

It comprises all that section of the U. States and Canada in which there are any works of internal improvement. And in order that the account to accompany the map may be as complete as possible, we desire that a short statement may be forwarded to us at the *earliest possible period*, by the engineer, president, or agent of each company now constructing, or preparing to construct, any work of the kind within the limits of our map. It will cause them very little labor, yet confer upon us a great favor; and we in our turn will endeavor to reciprocate their kindness.

We also ask for a statement of the present

condition of, and amount of business done on, those works which are now in use, excepting the South Carolina Road, the Chesapeake and Ohio Canal—statements relative to which we have already received.

BOSTON AND PROVIDENCE RAILROAD.—We have been favored with a copy of the charter granted by the Rhode Island Legislature, at their late Session, for the continuance of this Road from its termination at the Massachusetts' Line to tide water in Providence. The company, although for a time kept in suspense, have, as will be seen by the following extract from the charter, very little cause to complain. The charter is a very liberal one.

"And the said Corporation are hereby authorized and empowered to locate, construct and finally complete a Railroad in such manner and form as they shall deem most expedient, commencing at the dividing line between this State and the State of Massachusetts, and at that point which shall intersect and connect with the railroad now being constructed by the Boston and Providence Railroad Corporation, from the city of Boston in said State of Massachusetts, towards the State of Rhode Island; and from this dividing line as aforesaid passing into the State of Rhode Island to tide water in the city of Providence, in such place or places as may be deemed most convenient for said company, and with such lateral branches of said road to any part of the waters of Narragansett Bay, or to any villages or factories as the said company shall deem expedient, provided the same do not interfere with the privileges heretofore granted to any other railroad company."

Twelve miles of the road commencing at Boston are completed, and will be opened for use on Tuesday next, the 3d of June. For the purpose of witnessing this event the directors will assemble in Providence, and on Monday pass along the line towards Boston, with such gentlemen as desire to examine the route, and witness its state of forwardness; and on Tuesday they purpose an excursion in their passenger cars, with a locomotive engine, on that part of the road which is completed.

The *Agent and Engineer* will please accept our thanks for his polite invitation to be one of the party. It would afford us great pleasure, but other engagements will probably prevent.

The railroad between Buffalo and Black Rock, in the State of New-York, has been finished in part, and the cars have commenced running on the Buffalo end of the route. At the Black Rock end, a line of stages conveys passengers to the Falls.

INTERNAL IMPROVEMENTS IN CANADA.—We publish to-day an account of two contemplated works of improvement in Canada, which, when completed, will afford great facilities to the inhabitants of the upper province. The first is for a canal from Port Hope, on Lake Ontario, to Rice Lake, and probably to Lake Simcoe, from which there is a water communication with George's Bay and Lake Huron. The other, a railroad from Ancaster, at the extreme west end of Lake Ontario, to the town of London, on the river Thames, and probably to Lake Huron. These are works of great importance to Canada. It will be seen, by a glance at the map, that these works, if completed, taken in conjunction with the improvement of the St. Lawrence, now in contemplation for steamboat and sloop navigation, will divert much of the business now done upon the Erie Canal—and that they will be completed, we have little doubt.

What, then, ought New-York to do to retain her share of the business? She *ought*, and *must*, construct a sloop and steamboat canal from Oswego to the Hudson. That, and only that, will secure her just proportion of the business.

AUGUSTA AND ATHENS (GA.) RAILROAD.—The continuation of the South Carolina Railroad to Athens, (Ga.), or rather the construction of the Augusta and Athens Railroad, which, we hope, will soon be commenced, will constitute another very important link in the great line to the Mississippi River, for short of that point it certainly will not be terminated.

POSTS.—The Maine Farmer states that Mr. North, of Augusta, several years ago, set two posts near the river. One was butt-end up the other butt-end down. Both were equally sound when put into the ground, and now the one with butt-end up is sound and good, while the other is decayed.

CANAL FROM RICE LAKE TO LAKE ONTARIO.—The following is an outline containing the most essential features of a Report to His Excellency Sir John Colborne, on the practicability of connecting Rice Lake with Lake Ontario, by a Canal through Port Hope, by Mr. R. A. Maingy, Civil Engineer.

Mr. Maingy commenced his survey about the middle of December last. The object was to ascertain the cheapest and most direct route from Rice Lake to Ontario.

A very formidable difficulty presents itself within a few yards of Rice Lake, in a high ridge of land stretching in an East and West direction from near the mouth of the river Trent, quite through the country, into the State of Ohio, rising from a few yards to many hundred feet above the level of the waters in Rice Lake. It being necessary to procure a sufficient supply of water from the Lake to feed the Canal for the first three miles—this barrier appeared at first sight as an insurmountable obstacle to the undertaking; but, by persevering in his researches, discovered a natural passage or ravine through it, well calculated to assist in passing through this formidable ridge; although its adoption will occasion the route of Canal to be more circuitous than could be wished, from its being necessary to follow the ravines the whole distance to Port Hope—still it is the only chance there is of bringing the waters of Rice Lake down to Port Hope.

Mr. Maingy's attention was next directed to the choice of a place at which the Canal should commence at the Rice Lake, and Orton's Creek has been determined on, on account of an excellent harbor and many other advantages.

The proposed dimensions of the Canal are twenty-two feet broad at bottom, with a slope of one foot and a half horizontal to a foot perpendicular, and four feet depth of water, with locks seventy feet long, by fourteen feet broad, and in general ten feet lift. It is also proposed, in consequence of the very great distance from the intended line of Canal, at which proper building stone can be procured, that the locks should be built of wood, which, if properly constructed at first, will, with occasional repairs, last from fifteen to twenty years, and be equally as useful as those of stone, the interest on the difference of expense between them will more than repay the cost of maintaining them in repairs, and should it ever be contemplated to increase the dimensions of the Canal, those built of wood can be readily removed.

The route of Canal follows the natural passage before mentioned, in a southerly direction; after crossing the Cobourg Road, the land rises very rapidly until it arrives at the summit of the ridge, distant from the Lake one mile and a quarter, and 63 feet and 15th-hundred part of a foot above its level; on the north and south sides of which summit, (at a few yards asunder,) two springs take their rise, one sending its surplus water into Rice Lake, through Orton's Creek, the other running south from the head of Howe's Creek, and discharges itself into Lake Ontario. Both are, however, very insignificant; from this point the route continues in nearly a straight direction, until it crosses the Cavan Road, at the corner of Howe's Inn, and enters a ravine running in a due west direction to Moon's clearing, the termination of the first section, and three miles distant from the place of starting—the fall of the land from the summit is very rapid until at Moon's, where the route is once more level with the waters of the Lake. The expense of this section will be very great, in consequence of the great depth of cutting, no less than £63,495 14, as per annexed estimate. A guard gate at the head of the lake will be required to protect the Canal against spring and fall floods, that otherwise would have a tendency to obstruct the navigation, as also to shut out the supply of water in case of any accident occurring along the line of Canal. The next section continues in the same direction for a mile, and then turns to the south. The land being considerably below level, and being well adapted for damming, it is proposed, at the point

marked A, (see plan,) to build a dam of such dimensions, that it will not only resist the effects of frost, but also serve the purpose as a road. An embankment to confine the water from drowning too much land will be required on the north side of the ravine, unless the land which is of no value can be procured in gift, (which is not improbable, from the anxiety of the different holders of land along the route of Canal, to see it go into immediate operation,) in which case a saving of £2,005 0s. 6d. may be effected in this section,—to provide against floods, as also to carry off the surplus water, it will be requisite to construct a waste weir in the dam, and two along the embankment; the former will be very valuable for any hydraulic establishment, and would, in the course of a few years, more than pay the expense of erecting the dam, &c., as also keeping it in repair. In the next section, running in a southerly direction through Mr. Trotter's land, being much above the level, there will be some extra excavating, and, as per annexed estimate, the amount required to complete it will be £4,758 7s. 4d. The section commencing near Mr. Riddle's land, follows the same direction as the last, to its termination in the centre of Mr. Seaton's clearing—in this mile nine locks, of ten feet lift each, will be necessary. Smith's stream is frequently crossed in this and the two following sections, but no culverts will be required, as its course can readily be changed, until such time as the work be completed, when it is intended to admit it into the Canal,—the cost of this section, as per detailed estimate, will be £4,533 6s. The next mile, which is somewhat winding, commencing in the 9th lot of the 6th concession, follows the before mentioned creek in the 7th lot, then turns back with a gradual bend into the 10th lot, back again into the 8th lot of the 5th concession, and terminates at Messrs. Boen and Coy's mill pond. In this section 6 locks, of 10 feet lift each, will be necessary—cost of this mile £3,305 19s.

The 8th section, terminating at said mill dam, will cost but little, it being intended to make use of the pond, as being a canal already formed; by raising the present mill dam from 5 to 15 feet, it will drown the ravine as far back as Fye's clearing, the termination of the last section, and afford more than sufficient depth of water for the navigation, at the small cost of £370, and at the same time serve as a reservoir for supplying the locks, and by raising the water on a level with a small ravine, through which it is intended to leave the pond; much extra cutting will be saved in the next section which, commencing at this point, continues in a south-east direction through the lands of Messrs. Jamieson and Quay, and by six locks, (one of five feet, and five of ten feet lift,) descends into Bedford's Creek, which turns its direction to the south. The cost of completing this mile, (in which there is some extra cutting in passing from the mill to the creek,) as per annexed estimate, will be £5,284 3s. 6d. The 10th section continues still to following the course of the same creek, which is admirably adapted for damming, (its banks being very steep, and not more than eighty feet asunder,) were it not for the rapid fall of the land, which will require four locks of ten feet lift each, and cost, agreeably to the annexed estimate, £2,527 17s. From this last section, following the same creek to the termination of the 11th section, at John Brown, Esq.'s mill pond, two locks, of ten feet lift each, will be necessary, and the cost of completing it will be £1,754 3s. 6d. 12th and 13th sections, commencing at the mill pond, which it is intended, by the formation of a tow-path along its bank, and clearing it of its stumps, &c., to use, as part of the Canal, terminates in John D. Smith's property, near the stone quarry. One lock, of ten feet lift, will be required to descend into, and two locks, (one of five and one of ten feet lift,) to descend out of the pond. The expense of this section will be £2,012 15s. 6d. The 14th and last section runs on the east side of Smith's Creek, and passing in front of the post office, terminates at the boundary line

of the Wharf Company's Land. In this section there will unavoidably be some rock excavation, also some embanking, and five locks, one of five feet and four of ten feet lift.

The whole distance, from Orton's Creek, in Rice Lake, to the Wharf, at Port Hope, is 14 miles, within a fraction, and the difference of level between the two lakes is 361 feet, and 32 hundredth parts of a foot, as per annexed estimate, which has been carefully made. The amount required for completing the communication, will be £101,535 15s. 6d.

The ultimate success of any measure for facilitating the communication of the Rice Lake with Lake Ontario, depends wholly upon its connection with an accessible harbor. The reporter considers that he has sufficiently informed himself of the localities of the shores of Lake Ontario, to be able to say with confidence that Port Hope, from its position, is not only the natural, but the most accessible, point of communication to the chain of navigable lakes by which this section of country is every where intersected. Its natural disadvantages are very few, and capable of being greatly improved; the harbor, when completed, (which it will be this summer,) will be one of the safest and most convenient ones between this and Quebec, and capable of sheltering any number of ships that are likely at any time to be found on these waters.

As no natural intercourse, however perfect, if comparatively distant and prolonged, can be of much benefit to the district from whence it proceeds, so neither will a communication, however short, be of much utility, if it does not possess a proper outlet for the produce of the country at some convenient harbor.

That the position of Port Hope is particularly favorable for the termination of such a work, must appear evident to every partial observer; it is not only the shortest possible distance from Lake Ontario to Rice Lake, possessing a safe and commodious harbor, but its eminences present every facility for defence in case of war; and the communication from Lake Ontario to Rice Lake up to Lake Simcoe, can by this route be completed for a sum not greater than is necessary merely to open the navigation from the mouth of the Trent to Rice Lake. These are facts that cannot be refuted, and which the reporter sincerely hopes will induce its being adopted and undertaken by the province in lieu of the round-about and expensive route by the Trent.

An estimate follows the report, which it is not necessary we should particularize; it is sufficient to say that it amounts to £101,426 6s. 6d. currency.

LONDON AND ONTARIO RAILROAD.—We perceive, by the True Patriot, that the first meeting of the friends of the London and Gore Railroad was held in London on the 7th ult. and we rejoice to find that stock to the amount of 400 or 500 shares was taken up before the meeting adjourned. A committee to select subscriptions along the line of the contemplated road was appointed, and stock books placed in their hands, or transmitted by mail to such gentlemen of the committee as were not at the meeting. The Act requires that stock to the amount of £25,000 be taken up, before the company can be completely organized; and it appears by a letter received this day, by E. A. Talbot, Esq., from the Secretary of the Committee at London, that there is no doubt of that sum being subscribed by persons possessing property on the line of the intended road. We have heretofore avoided making any allusion to the act of Incorporation of the London and Gore Company, solely because we felt apprehensive that the undertaking of such magnitude was beyond the means of the persons most interested in carrying it into effect; and friendly as we have ever been to public improvement, and highly appreciating the zeal of the gentleman to whose management the procuring of the charter was committed, we were unwilling to throw any obstacle in his success in so important an

undertaking. When it is considered that every landholder within ten miles of the intended road must be greatly benefitted by its completion, and that the produce of the finest and most fertile part of the country of America must, in a few years, be of little value unless some such improvement is effected, we are not at all surprised to hear that the farmers are coming forward to take stock, solely under the influence of an impression that, should the business on the roads make no return in the way of tolls, their lands would increase in value to such an extent as fully to justify the investment of whatever capital they may possess. The sum of £100,000 is said to be amply sufficient to make an excellent iron or wooden railroad from London to Hamilton, or Dundas, and if any farmer whose land would be increased in value 50 per cent. by the completion of so magnificent an undertaking, was to take up two shares, which for the most would only subject him for two years to a quarterly payment of £3 2s. 6d. it would be unnecessary to open a stock beyond the line of the intended road. Should the Company succeed, (as we hope sincerely they will,) in making the road from the head of the Lake to London, there can be no doubt of its being continued to the navigable waters of the Thames, or of its being one of the most profitable investments of capital in this country. A single glance of Samuel Taylor's new map, on which the intended line of the road is marked, and the extensive region bordering on Canada, west of the St. Clair, will be sufficient to show that in the event of its continuance either to the navigable waters of the Thames, or to the south-western extremity of Lake Huron, the Company must derive all the benefit of the extensive carrying trade and travel now going on between the eastern and western States of the Union.—[Toronto Courier.]

Wedge Wheels—Indian Arts and Manufactures. By JOHN ROBISON. [From the London Mechanics' Magazine.]

SIR,—In the Mechanics' Magazine for April there is an article entitled "Hancock's Wedge Wheels," in which, although no direct claim of novelty of invention is made by your correspondent, most readers will be led to infer that the construction of the wheel is new, and the invention of Mr. Hancock. I beg, therefore, to state that as far back as the year 1811, I had wheels with the spokes and naves of the same identical construction, made at Hyderabad, for some artillery carriages. I had a pair made at the same time for a currie, in which the nave was fixed on the axle by double nuts and an oil-tight cup, like Collinge's patent. In the putting together of these wheels, I used a precaution which appears to have escaped your correspondent. I made the butts of the spokes a little too full to admit of their touching the metal box, leaving a vacancy or near an eighth of an inch between them; a corresponding opening was left at the joints of the felloes, and the consequence was that on the tire hoop being put on, its contraction forced the spokes home to the box, and wedged them so hard together at the shoulder, that, even in the hot climate of India, I never observed a spoke become loose by shrinking; it need hardly be said, that the bolt-holes in the butts of the spokes require to be made of an oval form, to admit of the contraction taking place without bending the bolts. My naves were of gun-metal, and I found it better to have the holes of the inner flanch tapped, than to have nuts on the bolts.

A construction very analogous to this has long been in use in the Madras Artillery, in which service I have always understood that it gave every satisfaction. I once witnessed

striking proof of its good qualities, in seeing a field-piece upset in the course of a charge over some rocky ground, and dragged some yards on its back, until it again righted, without any thing appearing to have given way; in such cases, when the wheel fails, the butts are all left firmly seated in their place, and the spokes break off near to the edges of the flanges.

I observe you have an Indian correspondent, who occasionally gives you descriptions of tools and practices in use among the native workmen. He has omitted to notice one which may be made useful in this country: the saw of an Indian workman always cuts in the pull, and not in the push; by this means a thin bladed saw may be made to do the work of a strong one, as no application of strength in pulling will cause it to buckle. If small saws, such as key-hole saws, were formed to cut by the pull, they would not be so liable to break as they are at present; and if saws for pruning fruit trees were so made, they might be fixed to the ends of long poles and worked from the ground, without requiring the use of a ladder. The common hand-saw in India is from 14 to 18 inches long, with a handle like that of a duelling pistol.

If you have the means of communicating with your Bombay correspondent, you should ask him to get you an account of the processes followed by the lapidaries of the north-west of India, where they make cups and other things of agates, at so cheap a rate, and yet so much cut, that they must have some expeditious methods which may be useful here if known.

I am, sir, your very obedient servant,

JOHN ROBISON.

9 Atholl Crescent, Edinburgh, March 14, 1834.

On the Color of the Air and of Deep Waters, and on some other Analogous Fugitive Colors. By COUNT XAVIER DE MAISTRE. Translated from the Bib. Univ. by Prof. J. Griscom. [From the American Journal of Science and Arts.]

(Continued from page 308.)

Having considered the opaline property of air and water, let us now examine the production of opaline blue in opaque bodies.

The cause of the blue tint assumed by the fine skin which covers the veins has hitherto been a doubtful question. This phenomenon, which is uniformly connected with the opaline property of the skin, is mentioned by Leonard De Vinci; let us first see the conditions under which it exists.

First, the vein must be deep enough to absorb all the light transmitted by the skin; and the skin must have the thinness requisite to transmit a great portion of the light. If the vein is thin, it reflects the color of the blood and becomes red;* this color, mixing with the opaline blue of the skin, forms those violaceous tints observable on the countenances of persons of dark complexion (brouille). If the vein is still thinner and nearer the epidermis, the transparency of the skin increases and the red color is more distinct; finally, a tissue of imperceptible veins, very near the surface of the skin, colors the cheeks and lips of young people of a fine complexion, with a uniform red; but we may observe that these beautiful colors have not the exact tint of the blood which produ-

* It is thus that a wide barometer tube, filled with colored wine, appears black, while a thin thermometer tube, under like circumstances, is of a beautiful purple.

ces them; it partakes of the opaline blue, which renders the color slightly carmine, and tinges sometimes the lips of sanguine people of a purple or violet hue.

Thus, the difference which may exist in the size of the blood vessels, and in their proximity to the surface, is sufficient to produce all the shades of blue, violet, red and purple, which are seen in the human face, by the mixture of the opaline blue of the skin with the red of the blood.

The red color of the blood is not the cause of the blue tinge of the veins; it might be black or green without occasioning any change; it is enough that the coloring principle absorbs all the light transmitted by the skin. This result may be artificially produced by a very thin plate of ivory, which has nearly the same effect as the skin. If a few drops of ivory black, prussian blue, cochineal, or bile, sufficiently dense to be opaque, be placed on one of its surfaces, they produce alike a blue tint on the opposite surface, because they equally absorb all the light transmitted by the ivory. But if, instead of a coloring matter which absorbs light, we use an opaque reflecting coloring substance, we have a tint compounded of opaline blue and that of the color employed.

The red oxide of lead placed on the ivory gives on the opposite surface a slight tinge of carmine. Some painters avail themselves of this property of ivory, in sketching the cheeks and lips of their portraits, by placing a coat of minium on the opposite surface, and thus obtain indirectly the effect of a slight use of carmine.

But if, instead of minium, Naples yellow be put on, there is on the opposite surface a green spot. In both these cases, then, the opaline blue is mingled with the proper tint of the opaque reflecting color, while the blue alone appears when the applied color absorbs the light transmitted by the ivory.

The mixing of colors in oil painting furnishes still more evidently an opaline blue. The most common case is the mixture of white with vegetable black, which produces a bluish shade. Various writers have adverted to this, and as indigo and prussian blue, in mass, approximate to black, it was thought in former days that blue was a mixture of light and shade; but the blue produced on this occasion belongs exclusively to white and not to black, as is proved by the following process: two plates are painted of a grey color, one by a mixture of ceruse and charcoal ground in oil, the other by superadding to a coat of white a glazing of charcoal, so that they may both have the same depth of shade; the first will be bluish, the second grey, without a mixture of blue.

As transparent colors in oil lose almost wholly the color which they have in a pulverulent state, and thus in mass approach to black, the mixture of them with white produces also opaline blue, which modifies the natural shade of the color.

Every painter knows the striking difference there is between the color of a mixture of cochineal lacker with white, and that which the same lacker produces as a thin coating upon a white ground; the first is of a violet color, and the second has all the purity and splendor which is characteristic of this fine color. Thus artists, who wish to obtain the beautiful red of cochineal or madder in their draperies, always employ these lackers in mixture (en glacis). Opaque reflecting colors, such as Naples yellow, chromate

of lead, yellow ochre, produce, as well as white lead, opaline blue, by a mixture with black, and the effect is still more sensible. These compounds, according to theory, ought to give only shades of yellow; and yet their tints are decidedly green, so that they are often used for painting the deepest verdure of landscapes. In these cases it is the opaque reflecting color which is opaline.

I have stated the most remarkable instances of the singular property which certain colors possess of producing opaline blue by mixture, but there is an infinite number of other modifications less apparent, resulting from mixtures of compound colors, which it would be impossible to describe, but which may always be pre-ascertained by the following rule: *When white lead or opaque reflecting colors are mixed with black, or with transparent colors, there is a production of blue, and a consequent modification of the primitive shade of the coloring matter.*

These modifications are often very slight, but they do not escape attentive observers. In the preceding observations I have described effects, well known, it is true, but which appear to have no analogy to each other, and which appear to me to depend wholly on the peculiar property which the blue ray possesses of being reflected, in preference to other rays more or less refrangible, by the simple mechanical resistance of the molecules of bodies which transmit light. This resistance takes place in large masses of transparent fluids, as in air mixed with watery vapor, and in water mixed with air.

It takes place also in opaque bodies which are less transparent, but under smaller dimensions. Lastly, it is observed in white opaque or colored bodies, as in the fine skin which covers the veins, and in mixtures of colors.

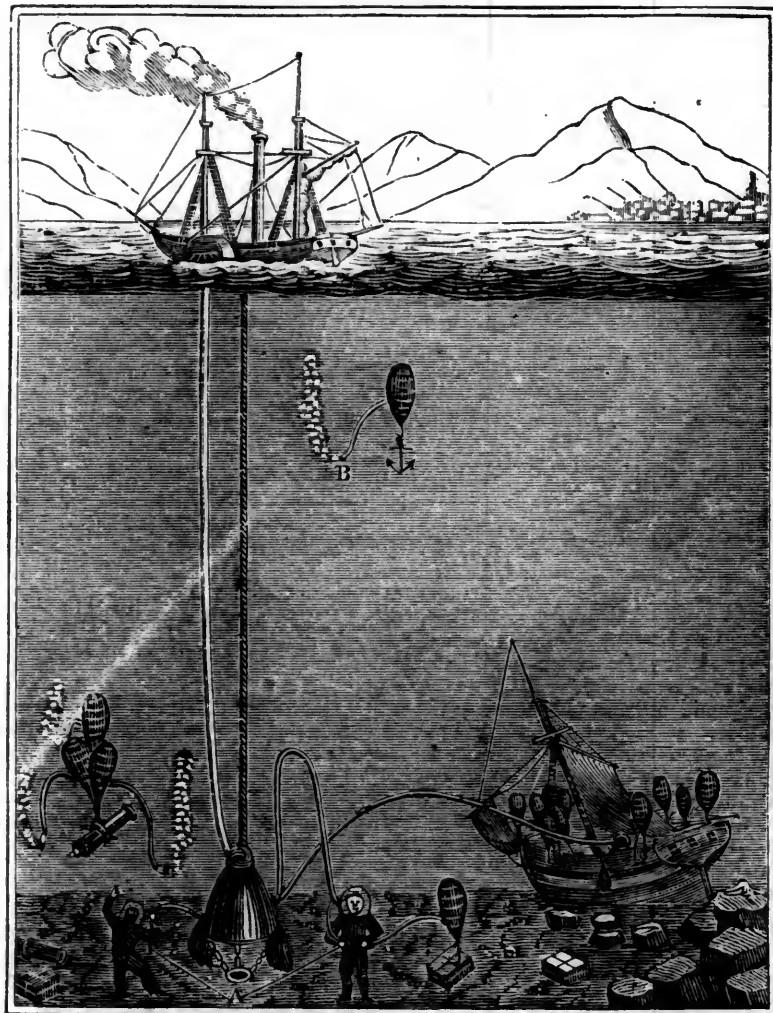
Plan for raising Vessels sunk in Deep Water.

By Mr. JOHN MILNE, Teacher of Architectural and Mechanical Drawing, Edinburgh. [From the London Mechanics' Magazine.]

SIR,—Having read in a recent number of your Magazine, that Dr. Hancock has proposed the use of air as a power for raising goods, &c. from the bottom of the sea, I beg to forward to you a pamphlet of mine published in 1828, which contains, among other plans, two on this very principle. They attracted some share of attention at the time of publication, but neither of them has ever, as far as I am aware, been carried into actual practice. Should you see cause, I shall be glad to find that you have drawn the attention of the public to this important but neglected subject. I am, respectfully, your obedient servant,

JOHN MILNE.

The pamphlet obligingly forwarded to us by Mr. Milne,* is entitled "Plans for the Floating Off of Stranded Vessels; and for raising those that have foundered; with an Improved Method of Carrying Vessels over Banks in Shallow Water." Of the two plans to which Mr. Milne more particularly invites our attention, one is adapted to the case of ships sunk near the shore, and the other to deep sea operations. Both are on the same principle—both exceedingly ingenious, and, in our humble judgment, quite practicable. We shall extract the author's description of the first at length, and beg to



refer those who may be desirous of further information on the subject, to the work itself, which is altogether well deserving of perusal.

"I shall now describe the application of these air buoys,† to the raising of a vessel that has been sunk in deep water; but before doing so, it may be proper to mention the disadvantages attending the common practice. At present we pass one or more chains round the wreck, and by means of these chains suspend it by one, or between two floating vessels, a process which in deep water is attended with much expense and uncertainty, because no sufficient power can be applied from the floating vessel to raise the wreck at once to the surface. Moreover, from the great weight of the wreck, and from the manner of placing the chains about it, they are liable to cut the timbers of the ship, as in the case of the Comet steam-boat (see Narrative of the Loss of the Comet steamboat). The operators must wait till the lowest ebb of the tide, then, pulling up the ends of the suspending chains and securing them, the rising of the water acting upon the floating vessels, lifts the wreck from the bottom; and while the tide rises, they proceed with their load towards the land, until the suspended vessel again rests upon the bottom, by the water becoming less in depth. Hence, they cannot, during one flowing tide, raise the sunk vessel more than

the height to which the water had flowed from its lowest ebb, which at a maximum on the British coast does not exceed sixteen feet, and they must now suspend their exertions till the end of nearly twelve hours.

"Before that period arrives, however, a storm comes on, the workmen desist from their operations, and it not unfrequently happens, that before they can again commence their labors, the object of their toils has broken up, or has been imbedded in the sand.

"These inconveniences being obvious, I propose the following methods. The place of the wreck being ascertained by an improved drag, which at present I shall not describe, let her state be ascertained from a diving bell, and let there also be sent down with it a number of the before-mentioned buoys, in a perfectly collapsed state; and let the diving operator stow them away in that condition below decks, also hooking on as many about the ship as shall collectively be sufficient to buoy it up when inflated; for their inflation let him insert a small copper tube, which is attached to a leathern pipe,* into the nozzle of each of the buoys (see engraving, fig. A), which pipe, communicating with the air within the diving bell (air being forced down into the steam-vessel†), will also inject air into the buoys, if they be held up, at the commencement of filling, a little higher than the level of the water at

* "Leathern bags, well sewed and tanned or barked in the best manner"—"made nearly air-tight, and proof against the attacks of vermin." [p. 5.] Mr. Milne, in a manuscript note on this passage, in our copy of the pamphlet, says: "Open-mouthed vessels of tin-plate would be preferable, to be inverted when in use, and packed into each other when not in use."—[Ed. L. M. M.]

† This pipe should be sufficiently long to admit of the operator hooking on other buoys, while one bag is in the act of being filled with air.

‡ To be stationed over the sunken ship, (as explained in a preceding section of the pamphlet,) and provided with an air-compressing pump and a common blowing pump.—[Ed. L. M. M.]

* Author of the excellent "Practical View of the Steam Engine."

the mouth of the bell.* Or these envelopes may be speedily filled, by letting down a number of metallic vessels, charged with thirty or more atmospheres, which being discharged will quickly inflate them at the convenience of the operator, by his turning a common stop-cock, which, in either of these methods, is all he has to do.

"Having, by one or other, or by both of these methods, filled a sufficient number of buoys, the wreck will begin to rise whenever the bags have displaced that bulk of water which is equal to the weight of the wreck while immersed in the same fluid. Let the weight to be raised from a depth of 65 feet be 300 tons avoirdupois, = 672,000 lbs. \div 64 lbs., the medium weight of a cubic foot of sea water, = the buoyant effect of 10,500 cubic feet of air discharged from the diving bell at that depth.

"But by using air previously compressed to thirty atmospheres, and discharged at the same depth, and by allowing the capacity of each vessel so charged to be $2\frac{1}{2}$ feet, then $27\frac{1}{2} \times 2\frac{1}{2} = 67\frac{1}{2}$ cubic feet of air discharged from one compressed vessel, \times 64 lbs., the buoyant effect of one foot of air in sea water, = 4,320 lbs. buoyant effect of air originally compressed into one vessel; but the load to be raised was 672,000 lbs., therefore, \div 4,320 lbs., = 155.5, &c. compressed air vessels, allowing the apparatus to have no weight of itself. I would also propose the use of such leather buoys for giving expedition to common diving bell operations, in bringing all kinds of goods, cannon, anchors, &c. from the bottom; and also for clearing such rivers as the Tay, below the town of Perth, and many such places, where navigation and the salmon fishing are greatly impeded by large stones at the bottom of the river. The stones might be Lewis'd† at low water, or they might be bored from a diving bell, the collapsed buoys made fast, and at convenience they could be inflated from a boat by a common forcing pump; the stones being suspended in the water may be towed to any place for the purpose of embanking, where they could be instantly sunk by pulling up the end of the escape pipe, B; the more immediate use, of which pipe is to allow the superabundance of air to escape, which, while at the bottom of the sea, is compressed by the hydrostatic action of the surrounding medium; but immediately when the envelope begins to ascend with its load, the pressure of the water becomes less, and in the same proportion will the air expand within these bags, and ultimately would burst them, were it not that this pipe allows it to escape. It should be about nine feet long,

having its lower end weighed down by a nose of metal, from which the air will always be retained within the bags till its expansive force becomes more than the pressure of water at the under orifice of this escape-pipe. Indeed, the maximum expansive force of air within its envelope may always be known by the length of this pipe B. Such an escape pipe must also be attached to each of the buoys employed in raising the wreck from the bottom of the sea. I shall only remark, that it would not be necessary for these buoys to be absolutely air tight, because they may be kept sufficiently full by the method already pointed out. Nor would there be any chance of their bursting by their buoyant power, which could never exceed the weight of their bulk, and they would require to be just as strong as to be capable of retaining water without bursting when filled with it, and suspended by their hooks from a pin in the wall. I would also propose the use of these buoys for floating the large stones which are used in forming sea-fences or dykes; the stones are usually carted from low water mark, but the method here proposed would be less expensive."



CAST IRON PUMPS.—The following drawing represents a pump about two and a half feet high, and is designed for cisterns, particularly in kitchens, barns, green-houses, and other out buildings. The pump may be placed within the building, and the water drawn from a cistern without the building by the aid of a beaded tube of copper or lead. The following are the directions for setting and using.

Unscrew the three screws in the bottom of the pump, and it will then be separated into three parts.

After placing the pipe into the well, carry the other end through the floor and sink, or where you wish the pump to stand; then put the bottom plate over the end of the pipe about three-fourths of an inch, and with a piece of wood the shape of an hen's egg, you will easily bend the lead into the place left in the plate for it; then hammer it down level with the top of the plate, and screw down the plate with wood screws, placing a piece of leather or cloth under the plate to make it tight, if it is set in the bottom of the sink; then place the leather valve and pump as you took them apart, and screw them together tight, after having wet the leather in warm water.

The pipe should be placed a little descending from the sink to the well, so that the water will

run out freely when necessary. This pump is so constructed, that by raising the brake clear up, the valves are opened, and the water passes off immediately out of the pump and pipe, which operation is necessary in cold weather to prevent it from freezing.

Manufactured by Scott, Keith & Co., East Bridge-water, Mass., Patentees, and sold by H. Huxley & Co. 81 Barclay street, New York. Price, small size \$8; large size \$10.

THE THAMES TUNNEL.—The completion of this great undertaking seems, if practicable, likely soon to be attempted, as several scientific and distinguished persons have lately visited it, and on Monday last Mr. Brunel received many of the members of the Royal Society to view it, and conducted them to its extreme end, where tables were laid out, having drawings, &c., showing the whole progress of the work, the great difficulties that have already been overcome in carrying the tunnel 600 feet under the Thames, and the data upon which the engineer confidently anticipated being enabled to complete this bold undertaking, were the necessary funds supplied. Mr. Brunel, at considerable length, detailed the exertions that have been used to overcome the difficulties arising from the irruption of the river, and stated that in the course of the work the miners had for twenty-seven days pushed on the tunnel over a quicksand. The members of the Royal Society, after leaving the tunnel, proceeded to view the experimental arch constructed on a new plan by Mr. Brunel. The structure is built with bricks and Roman cement, and consists of two semi-arches, springing from the same pier, without any support. By this plan an arch of the greatest span may be constructed without centering, and demonstrating, as the projector observed, the practicability of building a tower of brick-work 50 feet high, and 200 feet in diameter, and sinking the whole gradually in one mass. By this method it is intended to complete the circular and winding carriage approaches to the tunnel. It may be interesting to observe that of the two semi-arches one is shorter than the other, and it has been loaded with about eleven tons of iron for the last nineteen months, without any sensible change in its position. The company, after expressing their high satisfaction at the novelty of the works of the tunnel, and the last invention, partook of a cold collation.—[English paper.]

MECHANICS IN CANTON.—There is no machinery, properly so called, in Canton. Much of the manufacturing business, required for the supply of commercial houses in the city, is done at a town situated at a short distance; still the amount of labor performed in Canton is very considerable. There are about 17,000 persons in Canton employed in silk weaving. The number of persons engaged in manufacturing different kinds of cloth is about 50,000. They occupy 2,500 shops, averaging usually twenty hands in each shop. Some of the Chinese females, who devote their time to embroidery, secure a profit of from twenty to twenty-five dollars per month. The number of shoemakers is more than 4,000. Those who work in wood, brass, iron, stone, and other materials, are numerous; and those who engage in each of these occupations form a distinct community, and are governed by their own laws and regulations in their business. The barbers form a separate department. No man can act as tonsor without a license. The number of this fraternity in Canton is more than 7,000. The whole number of mechanics in the city is estimated at 250,000.

MORRIS CANAL.—We learn that owing to a difference between the Morris Canal Company and the Jersey City authorities as to the price of property, the contemplated continuation of the Canal will probably pass through Harsimus, and terminate nearly a mile north of the Ferry, instead of the place originally designated, which was contiguous to the termination of the Railroad.—[Newark Daily Advertiser.]

* Even the azotic gas discharged by the operators might be employed for this purpose; the quantity of common air deteriorated by them being very considerable. Pepys and Allen, in their Essays on Respiration, state that an easy inspiration is about 16 cubic inches, and that the subject of their experiments made about 19 of these per minute; for which it can be shown by calculation, that four men would discharge from their lungs, in one hour, a volume of air having a buoyant power equal to 2702.08 lbs. avoirdupois, or thereby.

† The air-buoys being at a depth of 65 feet, would be compressed by the water with a force equal to the weight of two atmospheres.

‡ A Lewis consists of three bars of iron, which are square on their section, when cut at right angles to their sides; these being placed side by side, form something like a dove-tail tenon; a corresponding mortise is cut in the stone to be raised, and the two outside bars are first placed within this aperture; the centre bar being throughout of equal thickness, is next placed between them, and a bolt with a clutch-ring is passed through the heads of all the three, by which the stones may be suspended. This instrument has long been in use, and is almost indispensable in a massive building.

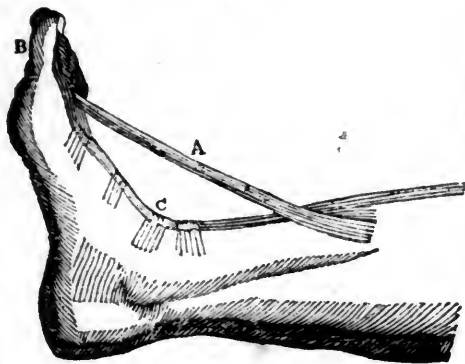
We copy the following from the forthcoming number of the *Mechanics' Magazine*:

Animal Mechanics, or Proofs of Design in the Animal Frame. [From the Library of Useful Knowledge.]

(Continued from page 248.)

We may perceive the same effect to result from the course of the tendons, and their confinement in sheaths, strengthened by cross straps of ligament. If the tendon, A, (fig. 27) took the shortest course to its ter-

Fig. 27.

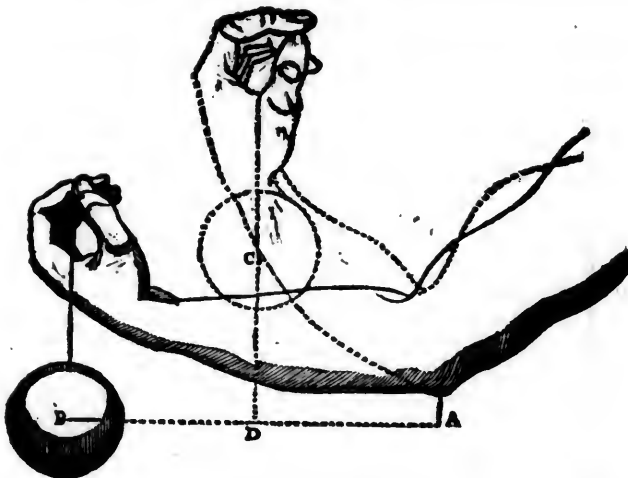


mination at B, it would draw up the toe with greater force; but then the toe would lose its velocity of movement. By taking the direction, C, close to the joints, the velocity of motion is secured, and by this arrangement the toes possess their spring, and the fingers their lively movements. We may take this opportunity of noticing how the mechanical opposition is diminished as the living muscular power is exhausted. For example, in lifting a weight, the length of the lever of resistance will be from the centre of the elbow joint, A, (see engraving on the next column, fig. 28,) to the centre of the weight B. As the muscles of the arm contract, they lose something of their power; but in a greater proportion is the mechanical resistance diminished, for when the weight is raised to C A D, it becomes the measure of the lever of resistance.

A more admirable thing is witnessed by the anatomist—we mean the manner in which the lever, rising or falling, is carried beyond the sphere of action of one class of muscles, and enters the sphere of activity of others. And this adaptation of the organs of motion is finely adjusted to the mechanical resistance which may arise from the form or motion of the bones. In short, whether we contemplate the million of fibres which constitute one muscle, or the many muscles which combine to the movement of the limb, nothing is more surprising and admirable than the adjustment of their power so as to balance mechanical resistance, arising from the change of position of the levers.

In the animal body there is a perfect relation preserved betwixt the parts of the same organ. The muscular fibres forming what is termed the belly of the muscle, and the tendon through which the muscle pulls, are two parts of one organ; and the condition of the tendon indicates the state of the muscle. Thus jockeys discover the qualities of a horse by its sinews or tendons. The most approved form in the leg of the hunter, or hackney, is that in which three convexities can be distinguished,—the bone, the prominence of the elastic ligament behind the bone, and behind that the flexor

Fig. 28.



tendons, large, round, and strong. Strong tendons are provided for strong muscles, and the size of these indicate the muscular strength. Such muscles, being powerful flexors, cause high and round action, and such horses are safe to ride; their feet are generally preserved good, owing to the pressure they sustain from their high action. But this excellence in a horse will not make him a favorite at Newmarket. The circular motion cannot be the swiftest; a blood horse carries his foot near the ground. The speed of a horse depends on the strength of his loins and hind quarters; and what is required in the fore-legs is strength of the extensor tendons, so that the feet may be well thrown out before, for if these tendons be not strong, the joints will be unable to sustain the weight of his body when powerfully thrown forward, by the exertion of his hind quarters, and he will be apt to come with his nose to the ground.

The whole apparatus of bones and joints being thus originally constituted by Nature in accurate relation to the muscular powers, we have next to observe that this apparatus is preserved perfect by exercise. The tendons, the sheaths in which they run, the cross ligaments by which they are restrained, and the *bursa mucosa** which are interposed to diminish friction, can be seen in perfection only when the animal machinery has been kept in full activity. In inflammation and pain, and necessary restraint, they become weak; and even confinement, and want of exercise, without disease, will produce imperfections. Exercise unfolds the muscular system, producing a full bold outline of the limbs, at the same time that the joints are knit, small, and clean. In the loins, thighs, and legs of a dancer, we see the muscular system fully developed; and when we turn our attention to his puny and disproportioned arms we acknowledge the cause—that in the one instance exercise has produced perfection, and that, in the other, the want of it has occasioned deformity. Look to the legs of a poor Irishman travelling to the harvest with bare feet: the thickness and roundness of the calf show that the foot and toes are free to permit the exercise of the muscles of the leg. Look again to the leg of our English peasant, whose foot and ankle are tightly laced in a shoe, with a

wooden sole, and you will perceive, from the manner in which he lifts his legs, that the play of the ankle, foot, and toes, are lost, as much as if he went on stilts, and therefore are his legs small and shapeless.

And this brings us naturally to a subject of some interest at present: we mean the new fashion of exercising our youth in a manner which is to supersede dancing, fencing, boxing, rowing, and cricket, and the natural impulse of youth to activity.

By this fashion of training to what are termed *gymnastics*, children at school are to be urged to feats of strength and activity, not restrained by parental authority, nor left to their own sense of pleasurable exertion. They are made to climb, to throw their limbs over a bar, to press their feet close to their hip, their knees close to their stomach; to hang by the arms and raise the body; to hang by the feet and knees; to struggle against each other by placing the soles of their feet in opposition, and to pull with their hands. No doubt if such exercises be persevered in the muscular powers will be strongly developed. But the first question to be considered is the safety of this practice. We have seen a professor of gymnastics, by such training, acquire great strength and prominence of muscles; but by this unnatural increase of muscular power, through the exercise he recommended, he became ruptured on both sides. The same accident has happened to boys too suddenly put on these efforts.

It is proper to observe, that when the muscular power is thus, we may say preternaturally increased, whether in the instance of a race-horse, an opera-dancer, or a pupil of the Calisthenic school, it is not merely necessary to put them on their exercises gradually in each successive lesson, but each day's exertion must be preceded by a wearisome preparation. In the great schools, like that at Stockholm, the master makes the boys walk in a circle; then run, at first gently; and so he gradually brings them into heat, and the textures of their frame are composed to that state of elasticity and equal resistance, as well as to vital energy, which is necessary for the safe display of the greater feats of strength and activity. This caution in the public exercises is the very demonstration of the dangers of the system. The boys will not be always under this severe control, and yet it is important to their safety.

We may learn how necessary it is to bring

* These *bursae mucosae* (mucous purges) are sacks containing a lubricating fluid. They are interposed wherever there is much pressure or friction, and answer all the purposes of friction wheels in machinery.

the animal system gradually into action from the effects of very moderate exercise on a horse just out of the dealer's hands. The purchaser thinks he may safely drive him ten miles, not aware that the horse has not moved a mile in a week, and the consequence is inflammation and congestion in his lungs. The regulation in the army has been made on a knowledge of these facts. When young horses are brought from the dealer they are ordered to be walked an hour a day the first week, two hours a day the second week, three hours a day in the third week. They are to be fatigued by walking, but they must not be sweated in their exercise. Horses for the turf, under three years old, in training for the Derby, are brought very slowly to their exercise, beginning with the lounge; then a very light weight is put upon them, and that gradually increased. Indeed, nothing can better show the effects of exercise in perfecting the muscular action than the consequence of the loss of one day's training. It will bring the favorite to the bottom of the list, and that without any suspicion of lameness; but from a knowledge of the fact, that even such a slight irregularity in his training will have a sensible effect on his speed. Shall the possibility of pecuniary loss excite the jockey to more care for his horse than we, in our rational and humane attention to the education of our youth, pay to their health and safety?

In reflecting on these many proofs of design in the animal body, it must excite our surprise, that anatomy is so little cultivated by men of science. We crowd to see a piece of machinery, or a new engine, but neglect to raise the covering which would display in the body the most striking proofs of design, surpassing all art in simplicity and effectiveness, and without any thing useless or superfluous.

A more important deduction from the view of the animal structure is, that our conceptions of the perfection and beauty in the design of nature are exactly in proportion to the extent of our capacity. We are familiar with the mechanical powers, and we recognize the principles in the structure of the animal machine; and, in proportion as we understand the principles of hydrostatics and hydraulics, are able to discern the most beautiful adaptation of them in the vessels of an animal body. But when, to our further progress in anatomy, it is necessary that we should study a matter so difficult as the theory of life, imperfect principles or wrong conceptions distort and obscure the appearances: false and presumptuous theories are formed, or we are thrown back in disappointment into scepticism, as if chance only could produce that of which we do not comprehend the perfect arrangement. But studies better directed, and prosecuted in a better spirit, prove that the human body, though deprived of what gave it sense and motion, is still a plan drawn in perfect wisdom.

A man possessed of that humility which is akin to true knowledge, may be depressed by too extensive a survey of the frame of nature. The stupendous changes which the geologist surveys—the incomprehensible magnitude of the heavenly bodies moving in infinite space, bring down his thoughts to a painful sense of his own littleness: "to him, the earth with men upon it will not seem much other than an ant hill, where some ants carry corn, and some carry their

young, and some go empty, and all to and fro a little heap of dust."

He is afraid to think himself an object of Divine care; but when he regards the structure of his own body, he learns to consider space and magnitude as nothing to a Creator. He finds that the living being which he was about to condemn, in comparison with the great system of the universe, exists by the continuance of a power no less admirable than that which rules the heavenly bodies; he sees that there is a revolution, a circle of motions, no less wonderful in his own frame, in the microcosm of man's body, than in the planetary system; that there is not a globule of blood which circulates but possesses attraction as incomprehensible and wonderful as that which retains the planets in their orbits.

The economy of the animal body, as the economy of the universe, is sufficiently known to us to compel us to acknowledge an Almighty Power in the creation. What would be the consequence of a further insight—whether it would conduce to our peace or happiness, whether it would assist us in our duties, or divert us from the performance of them,—is very uncertain.

CHAPTER VII.

BOOKS REFERRING TO THESE SUBJECTS MORE GENERALLY.—Ray, "On the Wisdom of God manifested in the Works of the Creation," has several chapters on the animal economy.

Archdeacon Paley has composed a work of high interest, by taking the common anatomical demonstrations, and presenting them in an elegant and popular form. His work is entitled *Natural Theology; or Evidences of the Existence and Attributes of the Deity, collected from the Appearances of Nature*.

The celebrated Fenelon has, with the same pious object, composed a small duodecimo, in which he draws his arguments from the structure of animal bodies.

Wollaston, in the "Religion of Nature delineated," has the same train of reflection to prove that there can be no such thing as chance operating in and about what we see or feel; and he says, with great propriety, "How may a man qualify himself so as to be able to judge of the religions professed in the world; to settle his own opinions in disputable matters; and then to enjoy tranquillity of mind, neither disturbing others, nor being disturbed at what passes among them?"

Derham, in sixteen sermons, preached in 1711, at the lecture founded by Mr. Boyle, treats at length of the structure of our organs. These are also published separately under the title of *Physico-Theology*; and they naturally suggest to learned divines the expediency of sometimes expounding to their hearers the evidences of design apparent in the universe, as a sure means of enlightening their understandings, elevating their views, and awakening their piety.

This cultivation of the mind, by exercising it upon the study of proper objects, is a man's first duty to himself. Without it he can have no steady opinion on points of the nearest concern. He is wrought upon by circumstances which ought not to sway the mind of a sensible man; at one time depressed to the depths of despondency, and

at another exalted into unreasonable enthusiasm. Without such cultivation, were a man to live a hundred years, he is at last like one cut off in infancy.

AGRICULTURE, &c.

ON THE MANUFACTURE OF POTASH.—It is remarkable that the manufacture of potash, which has formed so considerable and profitable an employment for the industry of the northern states, has never been in operation in Virginia. Of course no satisfactory answer to the following letter of inquiry on this subject was to be obtained at home—and it was therefore sent to a gentleman who resides at Cayuga county, New-York, whose location, as well as his general information, it was inferred, would enable him to give the statements required. He has kindly complied with the request, by sending the communication inserted below. We also add the article on this manufacture in Rees' Cyclopædia.—[Farmers' Register.]

The enormous waste of wood throughout Virginia and the southern states, induces me to inquire whether a considerable saving to the country may not be effected, by converting a portion of it into potashes, and by preparing the bark of certain descriptions of trees, for tanning and dyeing.

In clearing our lands, it is the practice to burn all the wood which is not used for fence rails, and no care is taken of the ashes. It is well known that from the branches and twigs of oak, a larger quantity of potash is obtained than from the same weight of the trunk of the tree, and that the branches are entirely lost with us in clearing land.

Now, my object in addressing you is to request that you will obtain and publish the most simple and clear directions for making and preparing potashes for market, embracing the cost of all requisite apparatus, labor, &c., and the quantity produced from a given weight or measure of white oak, red oak, and other woods common to our country. The preparation of bark for exportation might also be valuable, if the mode of doing it was made known to our farmers. QUERIST.

William Culver, Esq., from whom the following particulars were obtained, has been concerned in the manufacture of potash for many years.

It is estimated that 450 bushels of good house ashes will make a ton of potash. Some skillful workmen can produce more. The manager of his works contracted to make a ton from every 425 bushels; and he has even made that quantity from 420 bushels; but it is more than common workmen can produce.

Of field ashes about 550 bushels are required to make a ton. This difference is owing to impurities, and to a want of compactness in the ashes. Great care should be used in scraping them up, so as to exclude as much dirt as possible. It requires more care to work them.

At this time, house ashes are worth 10 cents a bushel, at the ashery; and field ashes, 5 cents.

One man can manage an ashery, consisting of the different vessels hereafter to be mentioned. There ought to be six leaches (leach tubs), each ten feet long, constructed in the following manner: Lay two parallel sills one a little higher than the other. On these the bottom of the leaches are laid—made of boards four feet long, not grooved and tongued, but breaking joints. These should be a foot high from the ground, so as to admit a trough under the lower edge to catch the ley, and to lead it into the ley tub, which may be a half hogshusk sunk in the ground, and which will serve for two leaches.

The boards, four feet in length, which constitute the sides of the leach, are held together by two rectangular frames; the lower one resting on the bottom is eighteen inches, and

upper, near the top of the leach, three and a half feet wide.

On the bottom of the leach, lay small sticks crossing each other, to the height of two inches, for the purpose of letting the ley run off freely. On these place straw, to be four inches thick when well pressed down, to prevent the ashes from washing through, and mixing with the ley. Three bushels of lime to each leach are spread on the straw: its effect is to facilitate the melting of the potash. Every third time that the leaches are filled, new lime is to be applied after ejecting the old.

The ashes, when thrown into the leaches, must be made compact by pounding it down. In this way a leach will hold 60 bushels.

The leaches are worked in pairs. One pair may be *running* while the second is *soaking*, and the third is being *emptied* of old ashes, or being *filled* with new. This arrangement prevents the workman from losing time by waiting, or from being too much hurried at another time.

Two potash kettles, of 90 gallons each, are wanted for boilers, and may cost about \$35 a piece. These are set in arches. Several sugar kettles, containing about 20 gallons each, will also be wanted for coolers.

The manufacture of potash is generally commenced in the spring, when there is no longer any danger from freezing.

Ley, too weak to bear an egg, is not put into the boilers, but is used for wetting such leaches as have not begun to run.

During the boiling, a *dipping pan* is placed in each boiler, resting on the bottom, to catch the *black salts* as they settle; and when the pan is full, it is emptied from time to time. By this process, the ley will not become so thick, and consequently evaporate faster.

When the strong ley (such as will bear an egg,) from the *two leaches*, is all poured into the boilers, then increase the fire. For this purpose, *good dry wood is necessary*. The black salts are now to be *returned* to the boilers; and there will be a danger of the liquid running over. This is prevented by dipping it up and pouring it back into the boiler. Repeat it till this disposition to rise over shall disappear. Then raise the heat still more till the potash is perfectly *molten*, and becomes almost as thin as water. It is then to be dipped out into the coolers, *being careful to have them VERY DRY*. Let the potash stand till next day—it will crack into four quarters. Turn it out, and it is fit to barrel.

My informant suggests there would be a great advantage in having some person to start the works who was well acquainted with the business. D. T.

Article on Carbonate of Potash in Rees' Encyclopedia.—The potash of commerce, or black ash, as it is also called, is universally procured from the combustion of wood; and therefore its preparation can only be undertaken with success in those uncultivated countries where there are vast natural forests, and where, from the imperfection or distance of transportation, the value of timber is no more than that of the labor required to fell it. The only districts in Europe in which any considerable quantity of potash is made, are the mountainous forests in Germany, and the extensive woodland tracts in Poland and Russia. The British market is principally supplied from the United States, a country in which, from its rapid increase of population, there is a constant demand for cleared land, for the purpose of agriculture; and therefore, where timber is looked upon rather as an incumbrance than as contributing either to the beauty or the value of the ground in which it stands.

The American method is to pile up the wood, as soon as it is sufficiently dry to burn, in large heaps, and reduce it as quickly as possible to ashes: these ashes are then put into a wooden cistern, with a plug at the bottom of one of its sides, and a quantity of water, sufficient to make a strong lixivium, is added. After standing for

an hour or two, the plug is withdrawn, and the water holding the potash in solution runs out, leaving the earthy parts till impregnated with a portion of alkali in the cistern. This solution is then evaporated to dryness in iron pans, and hastily fused into compact reddish brown masses of semi-caustic potash, in which state it is fit for market.

In Germany, where the value of wood is greater, care is taken to select such kinds as are the richest in potash; the combustion is slower, and of course the temperature lower, in consequence of which, but little is lost by volatilization; the lixiviations also of the ashes are judiciously repeated till the alkali is extracted.

Proportion of potash afforded by 100 parts of wood of different species, which being previously dried, were burned by an open fire to ashes; and which, after being weighed, were lixiviated till all their saline contents were extracted.

	Ashes.	Salt.	Salt from 100 parts of Ashes.
Oak,	1.03	0.15	11.1
Beech,	0.58	0.12	21.9
Aspen,	1.22	0.07	6.1
Fir,	0.34	0.04	13.2

[Academy of Sciences at Paris.]

SAVOY CABBAGES.—The green curly savoy cabbage is one of the finest garden vegetables that is grown, and ought to take the place of every kind of cabbage put up for winter's use for the table. It is as hardy and as easily cultivated as any other kind of cabbage; it is much more delicate, sells more readily, and as many, indeed rather more, can be grown from a square in the garden, or from an acre of land.

An acre of land has 4310 square yards—equal to 43,560 square feet: two feet wide each way is enough to plant the savoy cabbage; thus, an acre would yield 10,890 cabbages, which require as little cultivation as potatoes, after the ground is well prepared, and the plants are planted out, and which would bring, at the moderate price of one cent apiece, the enormous sum of one hundred and eight dollars and ninety cents.

PRESERVING AND PLANTING PEACH PITS.—Seeds intended for planting should be buried in the ground immediately after the flesh is taken from them, to prevent their becoming dry, as in that case they are more sure to come up, than when they are allowed to dry and remain out of the ground until late in the fall. Whether the seeds are planted at first in the places where they are to remain, or are buried as preparatory for planting, it is important that they should be put in the ground either before they become dry, or so early in the season that they may swell again before winter, and that they should be so near the surface as to insure their being frozen, otherwise they may lie in the ground, like rose and thorn seed, one year before they will vegetate.

PRESERVING BACON.—Dr. Bartlett: There is much said about preserving Bacon. I have noticed in all the communications on the subject, that it is recommended to have the Bacon *well dried*; and I think this is the principal thing required. If Bacon is not well dried, there is nothing that it can be packed in, that will keep it sound. When Bacon is hung up for drying, boards or plank should be laid on the joints over it, in order to keep dirt or dust from falling on it, also to keep the smoke from escaping too soon. A smoke should be kept under it till it is thoroughly dry, and be continued in wet weather in the summer. Whoever will follow this plan will save their Bacon.—[Southern Planter.]

NATIONAL WEALTH.—Who promote national prosperity? Those who promote virtue and religion.—Who destroy it? Those who encourage the vicious, either by example or precept.

NEW-YORK AMERICAN.

MAY 24—30, 1834.

LITERARY NOTICES.

No. XXV.

Galena, Upper Mississippi, February 22d.

When I came to look round, in the morning, at the place where you last left me so fortunately accommodated, I found that our host, an enterprising Kentuckian, had been very fortunate in his choice of a location: it was a rocky and, as I was assured, a healthful dell, about a hundred feet below the surrounding prairie, abounding in lead ore, and having a fine stream, with a considerable cascade, winding through its wooded bosom. His house was situated among a clump of ashes and elms, and a crystal spring burst from beneath an ancient sycamore within a few yards of it, in what resembled a torrent rather than an ordinary fountain of water, making altogether in summer a most delicious retreat, and affording even in winter a very agreeable change from the windy prairie above. But inviting as it appeared, this sequestered spot would not seem equally attractive to every one who should see that strong block house, within a few hundred yards of this peaceful dwelling, and know that it is thus placed out in the naked prairie, to prevent the secret approach of a lurking foe, when the family of the miner resort within its wooden walls for protection. Passing this block house, after an early breakfast, we struck a track leading to the Platte Mounds, which were distinctly visible, as they reared their blue tremontane peaks in the morning air: we travelled through a beautiful country of mingled grove and prairie, while large herds of deer were occasionally to be seen roving about for miles away. Frequently, in places where no other traces of man were to be seen, we would come to trenches opened by the miners, who had either been driven away by the Indians, or abandoned the pursuit of mineral in one place to try it in another. These trenches bear exactly the appearance of a grave, and are about the same size, and you meet sometimes in a few miles ride, not one or a dozen, but hundreds; the high price of lead, before the Winnebago difficulties of '28, having attracted a vast number of adventurers to this region, who have since abandoned it for the mineral regions of Missouri. In one place, at last, we saw two miners at work out on the prairie, off afar from any house; and finding, on approaching the spot where they were sinking the shaft, that they had a windlass at work, my friend politely consented to wait till I could descend and see how things looked below. I was let down by the rope in a few moments, and passing through an upper crust of rich soil, at least three feet thick, a stratum of gravel succeeded, and then coming down to the clay, I found a solitary miner with his pick, at work upon a vein of lead ore. He was a northern man, from the State of Maine, and seemed glad to see any one from so near home, as he considered New York, when viewed from this remote point. I shook hands with him, and pocketed two or three specimens of the mineral which he struck out for me. A push of the rope then set them turning the windlass above, and my resurrection from the narrow place was effected in a few moments. There was some of the afternoon left when we arrived at the Platte Mounds; but it was late on the fourth day from Prairie Du Chien, when we reached Galena. Here, I have been sorry to lose my late agreeable fellow-traveller; and a fresh thaw having laid an embargo upon travelling by melting the snows, and rendered the streams impassable, I have employed my time, as much as possible, in looking about Galena. The mud is so deep that it is impossible to go afoot, and as these steep hills are unfit for carriages, the children going and returning from school pass the door of my lodgings, on horseback, every morning and evening; three or four boys and girls sometimes being piled on before and behind an old negro, till the mass of heads, arms and legs belonging to the juveniles, makes the fabric look like the wood-cut in the nursery book of that celebrated ancient female's residence, who had so many children, "she did not know what to do."

The population of Galena is about 1000, and that of Jo-Davies county, in which it is situated, is computed at 5000; a very large proportion of which is engaged in mining operations. The town, for its

size, is one of the busiest places in the Union. The value of goods imported into this place, last season, amounted to \$150,000. The exports of lead amounted to 7 millions of lbs. at \$4 50 per cwt. There were 96 departures and 97 arrivals of steam-boats during the last season; three of which were owned by persons engaged directly in the trade. This, for a frontier town, built indifferently of frame and log houses, thrown confusedly together on the side of a hill—is certainly doing very well. People now hold their property by a somewhat precarious tenure, which prevents them from making improvements. When Government gives them title deeds to the lands they occupy, both Galena and the adjacent country will assume a very different appearance.

I took quite an extensive ride in the neighbourhood yesterday. There was to be a public meeting of the miners and other residents held about 12 or 15 miles from town, upon the subject of petitioning Congress in relation to the sale of lands; and having procured a tolerable saddle horse, I started with a gentleman, whose family name is already known among the very first in our history, and whose acknowledged talents and influence in this quarter will insure his making a figure in public life, when the new State of Wisconsin shall take her place in the confederacy.* Having, within the few years that have elapsed since, a mere youth, he left the city of New York, to try his fortunes in the West—followed at different times the various occupations of a Lawyer, a Prover, a Miner, and lastly a Smelter; besides taking an active part in two Indian wars, where his early West Point education came favorably into play, Colonel H. is, perhaps, second only to General Dodge in knowledge of frontier affairs, and popularity with the back-woodsmen in this quarter.

I cannot give you a better idea of the thoroughly Republican state of society here, than by repeating the whimsical conversation in which I first became aware of this gentleman's being a resident of these parts.

"I allow that you know Colonel H. of your city?" asked a sturdy borderer and thriving farmer of me, a few weeks since, while in the lower country.

"Colonel H. the son of General H.? certainly I do: why, what in the world brought him out here at this season. You must be mistaken, my dear sir; the duties of his office, as U. S. District Attorney, would hardly allow him to take such a tour as this."

"Tower, stranger, why, he's living among us."

"Here?"

"No, not exactly on this prairie, but in the mines. The Colonel took a drove of hogs up for me, some time since."

"My dear friend," replied I, laughing heartily at the very idea, "Colonel H. would see you to the devil first, before he'd take ten steps after a drove of hogs, for you or any one else."

"By G—d, sir," rejoined the Backwoodsman, with some excitement, "you don't know little Bill; for though he is the son of General H. and the smartest man in all these parts to boot, he has none of your d—d foolish pride about him; but would just as soon drive any honest man's hogs over the prairie as his own."

"Certainly, sir, the Colonel H. that I mean, would just as soon drive your hogs as he would his own, but I now perceive that your "little Bill" is a very different person from the one I alluded to: yet no one could admire the independence of character you ascribe to him more than I do."

"Squire, give us your hand! you and little Bill must know each other before you leave this country."

I had an opportunity of hearing Mr. H. address a public meeting on the evening of my arrival in Galena, and was much struck with the logical precision and force with which he spoke; his fluency, clear enunciation, and thorough command of himself and his audience. His features, when animated in speaking, bore a striking resemblance to those of his great and lamented father, as exhibited in the plaster casts which are familiar to every one.

"Colonel H." said the gentleman who introduced

me, "is at present disguised in a suit of broad-cloth; to have him in character, sir, you should see him in his leather shirt and drawers, driving his ox team with a load of lead into town." Mr. H. laughed in reply, and our horses being ready we mounted, and soon escaping from the muddy town, found topics enough for conversation while galloping through the oak openings on the hills beyond. The gathering proved to be not so numerous, when we arrived at the place of meeting, as I had hoped; and, though in the grouping of wild looking figures with their variety of strange faces and striking costumes, Inman's bold pencil might have found some fine studies among these miners, yet I was wholly disappointed in any outlandish exhibitions of character. They were, in fact, as civil and well behaved a set as would come to the call of a committee in any of the best inhabited wards in your city. Their politeness to me indeed—being a stranger—could not be exceeded; I never approached the fire but two or three rose to offer me a seat, and scarcely one of the company called for any thing to drink, but turning round, he would add, "stranger, won't you join us?" As we spent several hours among them merely talking and moving round without getting up any formal meeting, I had ample leisure to study the different appearances of the company, as some bent over a card table, where the pieces of dirty pasteboard were rapidly compelling the small piles of money collected there, to change hands, while others lay stretched in the sun upon the wood pile before the open door, listlessly whittling a piece of stick with their long hunting knives. Among the faces and figures that particularly struck me, I remember there was one of a tall young man of about seven or eight and twenty, whose delicate features, though somewhat embrowned with toil and exposure, were only relieved from effeminacy by a dark beard trimmed around his oval face and depending from his chin, much in the style that Sir Walter Raleigh and Shakespeare are painted—either of whose fine heads, his high, pale, and expressive forehead would not have misbecome. His figure, about six feet in height, was set off by a close fitting hunting shirt of black buckskin, lightly embroidered on the collar and arms with straw-colored silk, which, from long use, had grown so dingy as scarcely to be detected upon the rusty leather it was meant to adorn. Others there were with the common cotton hunting of the west belted around them. But the majority were dressed in rough blanket coats of every possible color; while a vest of the most costly description, with pantaloons of Kentucky jean, or vice versa, would often complete their incongruous apparel.* I could form a tolerable estimate of the intelligence of this collection of people, from observing the language which my new friend used in talking to them upon the subject that brought them together; and, when speaking in earnest, it was invariably such as one educated gentleman would use to another when comparing views upon any new topic of interest.—Upon my commenting upon this, after we had bade them farewell, and were riding off together, my companion observed, that there were not only many strong-minded men of ordinary education, who had adopted the way of life which I saw prevailing around me, but that had I time to remain longer in that section of country, he could point out to me a number of regularly educated persons, the graduates of more than one of our eastern colleges, who were seeking their fortunes in this region in the capacity of common miners. While he was yet speaking, we were accosted by a poorly clad, and in every respect ordinary looking person, to whom my companion replied with great politeness, and then resuming the subject after we had passed the forlorn shanties which the individual called his house—"par exemple," he exclaimed, "that man—and a shrewd, sensible fellow he is—was bred to the bar in your State—he looks poor enough now, it is true, but I hear that he has lately struck a lead, and a few years will probably find him in independent circumstances. We are now, you observe, among his diggings; and though, at this moment, he has hands to help him, I believe he began like most of us, with his single pick. Clear that trench now, and guide your horse through those pitfalls on the right, and I will take you to a point where you may see how we get up the mineral." Following my conductor along a mile or two further of pretty rough road, we came up at last to a spot

*A Backwoodsman when he lays aside his buckskins and hunting shirt, is anxious to dress in the finest broadcloth—at least I have derived that impression from what I have seen, and from being told by a merchant in extensive business in Galena, that the very best of dry goods will alone command a sale in the mines.

where a huge mound of dirt, with piles of lead ore scattered here and there on the adjacent ground, showed that a mine was very successfully worked beneath; and giving our horses to an accommodating fellow that stood by, we threw off our overcoats and prepared to descend into it. The orifice on the top of the mound over which a windlass was placed, was about three feet square, being lined with split logs crossing each other at the angles down to the original surface of the soil, below which point the adhesiveness of the earth seemed to be all that kept the sides of the pit together. It was so dark, however, at this part of the passage down that other precautions may have escaped me. Taking the rope from above in my hands, and placing my foot in a wooden hook attached to the end of it, I swung myself from the top, and in a few moments descended some 70 or 80 feet below the surface. The narrow chamber was of course excessively dark to one just coming from the light of day; and landing upon the edge of a tub immediately beneath the aperture through which I had descended, I lost my foothold and pitched head over heels in the water with which the bottom of the mine was flooded. "Any one hurt," cried a voice behind me, and looking round as I sprang to my feet I found myself in a long horizontal passage or narrow gallery with a grim looking miner approaching me with a lantern in one hand and a pickaxe in the other. The next moment the form of my companion darkened the opening above, and then, after landing by my side, he introduced me to the miner, who proceeded to show us about these subterranean premises. They consisted of three or four galleries, generally terminating in a common centre, though one or two short ones just commenced, appeared to run off at right angles to the rest, and the lead ore, which glitters like frosted silver in its native bed, appeared to lie in thick horizontal strata along their side. The masses were readily separated by the pickaxe from the neighboring clay, and we remained long enough to see several tubful hauled up by the conveyance which had admitted us into these dusky regions. The labor and exposure of these miners is very great; but the life, to those who have an interest in the work, is said to be so exciting, that I am told the most indolent man, when he has once fairly burrowed under ground, and got a scent of what is called "a Lead," will vie in devotion to his toil with the most industrious of those who labor in the light of Heaven. His stimulus indeed resembles that of the gold-hunter; for the lead, when delivered at Galena, is as good as coin in his pocket; while if he chances to strike a rich lead of mineral, he at once becomes independent, as if he does not choose to work it on his own account, there are houses in Galena which will purchase him out for a handsome sum, for the sake of speculation.

It was late in the evening, when, after taking this wide circuit, I once more regained my lodgings at Galena. I found the tavern entirely deserted, and upon inquiring the cause, and learning that there was "a play to be acted in town," I rode off at once to the door of the theatre. It proved to be in an unfinished building on the side of a hill, the basement of which entering the lower street, was fitted up as a stable, there being no flooring to the apartment above it, so that you stepped over the naked beams above the horses heads, if deviating from the plank which formed a passage way to a rude staircase leading into the histrionic realms in the uppermost story. The company consisted of four grown persons, and a child of about ten years old, and the play was the Melo-drama of The Woodman's Hut. A thing so easily turned into ridicule would be game not worth hunting down, and I mean therefore to disappoint any ill-natured expectations you may have of the picture I could give of Galena theatricals.—That the rest of the audience were at least as liberal as myself, you may gather from the fact of their showering half dollars like peas upon the stage, to express their delight of the little girls dancing, between the act, which certainly did not surpass that of the Vestris, not to mention Taglioni. In the midst of the performance of the Melo-drama, I happened to be standing in the apartment—if it may be so called, at the foot of the staircase—below, when I was not a little startled at the passage of a heavy missile by my ears, which, striking fire from a beam near to where I was standing, concluded its career by giving a hearty thump to a horse who was ruminating in his stall beneath. The mystery was presently cleared up by a little negro dropping at a bound from the entrance to the Thespian hall above, and exclaiming, "Did you see a gun come by here, sir? The Count went to stand it in the corner and it slipped between the planks of the floor." I directed the imp to the realms below, and

*A period much less remote than you would think it. The country between Rock river and the Wisconsin combines more advantages for emigration than any I have seen in my whole Western tour. That lying between the Fox river and Lake Michigan is celebrated as being equally good, and, supposing the Indian difficulties to be now forever terminated in this quarter, this region will fill with Northern emigrants, the moment it becomes known. A glance at the map will show how favorably it is situated for trade, commanding the markets alike of New York and New Orleans.

starting at once for my lodgings, had no further opportunity to study these unrehearsed stage effects. The want of a regular theatre many will think a merit in so small a town as Galena; but there is another defect in the place, and, indeed, is almost all western towns where you get so far beyond the mountains that is not so easily got over, and that is, the want of female society. The number of males in proportion to females on the frontier, is at least two to one; and girls of fifteen, (I might say twelve) or widows of fifty, are alike snapped up with avidity by the disconsolate bachelors. In the mines a few years since, their eyes were so seldom cheered with the sight of the better part of creation, that I was told by an old borderer, "he had travelled twenty miles, only to get a look at a petticoat, where it was rumored that there was actually one in the neighborhood." Even now they talk seriously in Galena of getting up an importation of ladies, for the especial amelioration and adornment of the place. How so delicate a matter is to be managed, in our fastidious age, I am unable to divine, unless, indeed, they should invite the blooming ones hither, under the ostensible purpose of getting up a fair, and then persuade them to remain and cheer these monastic abodes. I have been more than once feelingly appealed to, to make the languishing condition of these hermits of the prairies, known in more favored parts of the country; while, not wishing to betray the slenderness of my influence with the fair parties they would conciliate, I have avoided making rash promises of using my feeble offices in their favor. The only method of serving their cause I have yet hit upon is, to have inserted in the newspapers, after my arrival home, under the head of "Singular fact," "Remarkable phenomenon," "Unequalled spirit," or "Sudden disappearance," some such paragraph as this: "It is attested by credible witnesses, among whom are some of the oldest and most respectable inhabitants of Galena, that single ladies, visiting their friends in that place, never see 'a second winter.'" H.

COMPLETE WORKS OF WALTER SCOTT, VOL. VI., in seven parts. N. Y.—CONNER & COOKE.—Thus far has this very cheap and well printed edition of Scott's works progressed towards its completion: the first and the last volume are now alone wanting. The materials for the first have not yet been published in England; those of the seventh and last are already on hand, and will in due course appear. We have only to commend, as in the past, the materials and typographical execution of this work.

SKETCHES, BY MRS. SIGOURNEY. Philadelphia: KEY & BIDDLE.—We took a hasty and passing notice on Saturday last, of these beautiful Sketches, hoping to-day to have more space to devote to them, but we are little better off in that particular than before. We must, however, at least enumerate the contents of the volume, and give a short extract from one of its highly-wrought tales.

The Sketches are six in number: the Father, the Legend of Oxford, the Family Portraits, Oriana, the Intemperate, and the Patriarch. Some of them, especially the Intemperate, which was published at length in this paper, may be known to our readers: yet in this permanent form, combined as they are with others now for the first time published, they will be valued, as constituting a charming volume. From *The Patriarch*, a sketch of a colony of North Carolina, remote from civilization and from the intercourse of men, where the founder and father of the colony was also its priest, we extract a passage, which, though beautiful in itself, yet is less effective thus torn from the context, than in its original connexion. It relates the death of the Patriarch. The *Lay Reader* was his eldest son.

Never will that scene be effaced from my remembrance: the expressive features, and thrilling responses, of the Patriarch, into whose expiring body the soul returned with power, that it might leave this last testimony of faith and hope to those whom he loved, are among the unfading imagery of my existence. The spirit seemed to rekindle more and more, in its last lingerings around the threshold of time. In a tone, whose clearness and emphasis surprised us, the departing saint breathed forth a blessing on those who surrounded him, in the "name of that God, whose peace passeth all understanding."

There was an interval, during which he seemed to slumber. Whispers of hope were heard around his couch, that he might awake and be refreshed.—At length, his eyes slowly unclosed. They were glazed and deeply sunken in their sockets. Their glance was long and kind upon those who hung over his pillow. His lips moved, but not audibly. Bowing my ear more closely, I found that he was speaking of Him who is the "resurrection and the life." A slight shuddering passed over his frame, and he was at rest, for ever.

A voice of weeping arose from among the children, who had been summoned to the bed of death. Ere I had attempted consolation, the lay-reader with an unfaltering tone pronounced, "the Lord gave, and the Lord hath taken away: *blessed be the name of the Lord.*"

Deep silence ensued. It seemed as if every heart was installing him who spoke, in the place of the father and the governor who had departed. It was a spontaneous acknowledgment of the right of primogeniture, which no politician could condemn: He stood among them, in the simple majesty of his birth-right, a ruler and priest to guide his people in the way everlasting. It was as if the mantle of an arisen prophet had descended upon him, as if those alien lips had broken the seal of death to utter "behold my servant whom I have chosen." Every eye fixed upon him its expression of fealty and love. Gradually the families retired to their respective habitations. Each individual paused at the pillow of the Patriarch, to take a silent farewell; and some of the little ones climbed up to kiss the marble face.

I was left alone with lay-reader, and with the dead. The enthusiasm of the scene had fled, and the feelings of a son triumphed. Past years rushed like a tide over his memory. The distant, but undimmed impressions of infancy and childhood,—the planting of that once wild waste,—the changes of those years, which had sprinkled his temples with gray hairs,—all, with their sorrows and their joys, came back, associated with the lifeless image of his beloved sire. In the bitterness of bereavement, he covered his face, and wept. That iron frame which had borne the hardening of more than half a century, shook, like the breast of an infant, when it sobbed out its sorrows. I waited until the first shock of grief had subsided. Then, passing my arm gently within his, I repeated, "I heard a voice from heaven saying,—'Write, from henceforth, blessed are the dead, who died in the Lord.'" Instantly raising himself upright, he responded in a voice whose deep inflections sank into my soul, "Even so, saith the spirit, for they rest from their labors, and their works do follow them."

I remained to attend the funeral obsequies of the Patriarch. In the heart of their territory was a shady dell, sacred to the dead. It was surrounded by a neat inclosure, and planted with trees. The drooping branches of a willow, sweep the grave of the mother of the colony. Near her slumbered her youngest son. Several other mounds swelled around them, most of which, by their small size, told of the smitten flowers of infancy. To this goodly company, we bore him, who had been revered as the father and exemplar of all. With solemn steps, his descendants, two and two, followed the corpse. I heard a convulsive and suppressed breathing, among the more tender of the train; but when the burial-service commenced all was hushed. And never have I more fully realized its surpassing pathos and power, than when from the centre of that deep solitude, on the brink of that waiting grave, it poured forth its consolation.

LETTERS OF JOHN RANDOLPH to a young relative, &c. &c.; 1 vol.; Philad., CAREY, LEA & BLANCHARD.—This is a selection, as we learn from a preliminary notice, from several hundred letters written by John Randolph to a young relative, and which extend through a period from early youth to mature manhood.

They indicate very strikingly the peculiarities of the writer's character, and combine with much sagacious observation, sound maxims, and valuable counsels, a good deal that is egotistical, strange and little. The measure of indulgence, however, which the friends of that distinguished individual may be entitled to expect for him from his contemporaries and from posterity, will be judged of by the following sad note to letter CLIX:

"This letter was written during a lucid interval of alienation of mind; which, for the first time, amounted to positive delirium. Fits of caprice and petu-

lance, following days of the deepest gloom, had, for years previously, overshadowed his mind, evincing the existence of some corroding care, for which he neither sought, nor would receive any sympathy.

"For many weeks, his conduct towards myself, who was the only inmate of his household, had been marked by contumelious indignities, which it required almost heroic patience to endure, even when aided by an affectionate devotion, and an anxious wish to alleviate the agonies of such a mind in ruins. All hope of attaining this end, finally failed; and, when he found that I would no longer remain with him, the above letter was written; it is almost needless to say with what effect. I remained with him two years longer.

"The truth and beauty of the eastern allegory, of the man endowed with two souls, was never more forcibly exemplified than in his case. In his dark days, when the evil genius predominated, the austere vindictiveness of his feelings towards those that a distempered fancy depicted as enemies, or as delinquent in truth or honor, was horribly severe and remorseless.

"On the contrary, when the benevolent genius had the ascendant, no one ever knew better how to feel and express the tenderest kindness, or to evince, in countenance and manner, gentler benevolence of heart.

We fear that the disease, for such undoubtedly it became, had originally more connection with the evil passions of the heart, than would seem consistent with the "gentle benevolence" thus imputed to his happier moments. Political disappointment was not, we apprehend, without its share in inducing "the gloom" of his mind—though his aspirations in politics even, seemed always vague, desiring notoriety apparently rather than power—and therefore resenting—indifferences "of which in his later letters he more than once complains, as a personal offence":

We annex some extracts from the Letters:

"Do not undervalue the character of the real gentleman, which is the most respectable amongst men. It consists not of plate, and equipage, and rich living, any more than in the diseases which that mode of life engenders; but in truth, courtesy, bravery, generosity, and learning, which last, although not essential to it, yet does very much to adorn and illustrate the character of the true gentleman. Tommy Merton's gentlemen were no gentlemen, except in the acceptance of innkeepers, (and the great vulgar, as well as the small,) with whom he who rides in a coach and six, is three times as great a gentleman as he who drives a post chaise and pair. Lay down this as a principle, that truth is to the other virtues, what vital air is to the human system. They cannot exist at all without it; and as the body may live under diseases, if supplied with pure air for its consumption, so may the character survive many defects, where there is a rigid attachment to truth. All equivocation and subterfuge belong to falsehood, which consists, not in using false words only, but in conveying false impressions, no matter how; and if a person deceive himself, and I, by my silence, suffer him to remain in that error, I am implicated in the deception, unless he be one who has no right to rely upon me for information, and, in that case 'tis plain, I could not be instrumental in deceiving him."

"To form good habits is almost as easy to fall into bad. What is the difference between an industrious, sober man and an idle drunken one, but their respective habits? 'Tis just as easy for Mr. Harrison to be temperate and active, as 'tis for poor Knowles to be the reverse; with this great difference, that, exclusive of the effects of their respective courses of life on their respectability and fortunes, the exercises of the one are followed by health, pleasure and peace of mind, whilst those of the other engender disease, pain, and discontent, squalid misery, and the contempt of the world, contrasted with affluent plenty, a smiling family, and the esteem of all good men.—Perhaps you cannot believe that there exists a being who would hesitate which of these two lots to choose. Alas! my son, vice puts on such alluring shapes, indolence is so seducing, that (like the flies in *Æsop*.) we revel whilst the sun shines, and for a few hours temporary pleasure pay the price of perishing miserably in the winter of our old age. The industrious ants are wiser. By a little forbearance at the moment, by setting a just value on the future, and disregarding present temptation, they secure an honorable and comfortable asylum. All nature, my son, is a volume, speaking comfort and offering instruction to the good and wise. But 'the fool saith in his heart,

There is no God: he shuts his eyes to the great book of Nature that lies open before him. Your fate, my dear Theodorick, is in your own hands. Like Hercules, every young man has his choice between pleasure, falsely so called, and infamy, or laborious virtue and a fair fame. In old age, indeed long before, we begin to feel the folly, or wisdom, of our selection. I confidently trust that you, my son, will choose wisely. In seven years from this time, you will repent, or rejoice, at the disposition which you make of the present hour.

"ROMANCE, June 10, 1821.—"You do not overrate the solitariness of the life I lead here. It is dreary beyond conception, except by the actual sufferer. I can only acquiesce in it, as the lot in which I have been cast by the good providence of God; and endeavor to bear it, and the daily increasing infirmities, which threaten total helplessness, as well as I may. 'Many long weeks have passed since you heard from me.' And why should I write? To say that I had made another notch in my tally?—or to enter upon the monotonous list of grievances, mental and bodily, which egotism itself could scarcely bare to relate, and none other to listen to. You say truly: 'there is no substitute' for what you name, 'that can fill the heart.' The bitter conviction has long ago rushed upon my own, and arrested its functions. Not that it is without its paroxysms, which I thank Heaven, itself, alone, is conscious of. Perhaps I am wrong to indulge in this vein; but I must write thus, or not at all. No punishment, except remorse, can exceed the misery I feel. My heart swells to bursting, at past recollections; and, as the present is without enjoyment, so is the future without hope; so far, at least, as respects this world."

"The true cure for maladies like yours, is employment. 'Be not solitary; be not idle!' was all that Burton could advise. Rely upon it, life was not given us to be spent in dreams and reverie, but for active, useful exertion; exertion that turns to some account to ourselves, or to others—not laborious idleness. (I say nothing of religion, which is between the heart and its Creator.) This preaching is, I know, foolish enough; but let it pass. We have all two educations; one we have given to us—the other we give ourselves; and, after a certain time of life, when the character has taken its ply, it is idle to attempt to change it."

MONDAY MORNING, JAN. 21, 1822.—"I have just received your letter of Saturday, which I read with much pleasure; although I cannot think you are right in giving up exercise altogether. You know my opinion of female society. Without it we should degenerate into brutes. This observation applies with ten fold force to young men, and those who are in the prime of manhood. For, after a certain time of life, the literary man may make a shift (a poor one, I grant) to do without the society of ladies. To a young man nothing is so important as a spirit of devotion (next to his Creator) to some virtuous and amiable woman, whose image may occupy his heart, and guard it from the pollution which besets it on all sides. Nevertheless, I trust that your fondness for the company of ladies may not rob you of the time which ought to be devoted to reading and meditating on your profession; and, above all, that it may not acquire for you the reputation of *Dangler*—in itself bordering on the contemptible, and seriously detrimental to your professional character. A cautious old squarero, who might have no objection to employing such a one at the bar, would, perhaps, be shy of introducing him as a practitioner in his family, in case he should have a pretty daughter, or niece, or sister; although all experience shows that, of all male animals, the *Dangler* is the most harmless to the ladies, who quickly learn, with the intuitive sagacity of the sex, to make a convenience of him, while he serves for a butt, also.

"Rely upon it, that to love a woman as 'a mistress,' although a delicious delirium, an intoxication far surpassing that of Champagne, is altogether unessential, nay, pernicious, in the choice of a wife; which a man ought to set about in his sober senses—choosing her, as Mrs. Primrose did her wedding-gown, for qualities that 'wear well.' I am well persuaded, that few love-matches are happy ones.—One thing at least, is true, that if matrimony has its cares, celibacy has no pleasures. A Newton, or a mere scholar, may find employment in study; a man of literary taste can receive in books a powerful auxiliary; but a man must have a bosom friend, and children around him, to cherish and support the dreariness of old age. Do you remember A. V.? He could neither read nor think; any wife, even a scolding one, would have been a blessing to that poor man. After all, 'suitability' is the true foundation for marriage. If the parties be suited to one

another, in age, situation in life, (a man indeed, may descend, where all else is fitting,) temper, and constitution, these are the ingredients of a happy marriage—or, at least, a convenient one—which is all that people of experience expect."

LA REVUE FRANCAISE; New York, *Hoskin & Snowden*.—This monthly periodical, now entering upon its second volume, has been united with, or rather has absorbed, *la Bibliothèque Choisie de littérature française*, published by Carey & Lea, of Philadelphia—whence its chances of, and claims to, permanent success, are considerably increased. The present number contains much interesting matter, not the least attractive part of which is the article on "*Chateaubriand's Memoirs*."

LA FRANCE LITERAIRE, N. Y.—This, as our readers know, is a semi-monthly periodical, affording at an unusually cheap rate, a great variety of extracts from the current French literature.

To students of French, both the works here noticed offer, as it seems to us, cheaper and more attractive—because more varied—"school books," than the everlasting *Telemaque*, or *Gil Blas*.

RECOLLECTIONS OF A NAVAL LIFE, by CAPT. SCOTT.—This is the title of a work recently published in London, which adds another to the revolting libels upon this country emanating from the British press, and bearing the names of men whose profession—that of arms—has heretofore been thought to imply the possession of courtesy and honor, even where brains were lacking.

In three successive numbers of the London Literary Gazette, we find extracts from this work, referring chiefly to the capture of Washington, and the attack on Baltimore—at both which the author was present—the whole aim and scope of which seems to be, to represent the freebooter Cockburn, as a *peaux Chevalier*, and the Americans, one and all, as cowards and liars.

We will at another time give some specimens of this precious work.

NEW MUSIC.—The only novelty is "Hail Columbia," arranged as "a brilliant Fantasia" for the piano, by Wm. A. King, and published by Firth & Hall, Franklin Square.

SUMMARY.

[From the National Gazette—communication from an authentic source.]

We are extremely gratified to learn, that the unfavorable statements made in several of the newspapers, regarding the health of the venerable ex-President Madison, are somewhat exaggerated. He does not appear to be in immediate danger, although he is extremely feeble, and laboring under disease of a somewhat complicated character, which prevents him from indulging in the active intellectual and corporeal efforts, to which he has been, through a long life, accustomed. On this account, it has been enjoined on him not to harass himself by inordinate attention to the numerous questions of interest incessantly propounded to him, regarding the constitutional history of the country, or which refer to the various absorbing scenes of which he has formed so important a part, and on many of which his voice is esteemed oracular. At the advanced age of eighty-three, and upwards, and afflicted with rheumatism in his hands, it need scarcely be said that the exertion demanded in replying to such inquiries must be irksome, even as respects the mere manual part; yet many questions require answers, which, if complete, would extend to volumes. For all this kind of labor his feeble frame is inadequate, and when the fact is once known, it will, doubtless, be no longer expected of him. Every patriot and philanthropist burns with a glow of veneration towards this illustrious benefactor of his country and his race, and will pause before he requests of him any exertion of mind or body, which may tend, even in the most remote degree, to curtail the existence, or diminish the comforts of one whose whole life has been so ardently devoted to the good of humanity.

The Board of Brokers on Friday, voted a donation of one hundred dollars to the Colonization Society, to be expended in the colonial supplies to be shipped by the *Jupiter*.

NAVAL.—The United States frigate *Potomac*, J. Downes, Esq. Commander, arrived in Boston on Friday, from the East Indies, after an absence of two years and a half.

The cruise of the *Potomac* has been an extensive one. She was originally intended to relieve the *Guerriere* in the Pacific; but her destination, on the eve of sailing, was so far altered, by the Department, as to direct her to take an easterly route, by the way of the Cape of Good Hope and the Sunda Isles, and China, and after performing special duties assigned her in that quarter, to repair to her station in the Pacific. She has completed a circumnavigation of the Globe, and run, by log, more than sixty-one thousand miles, and been five hundred and fourteen days at sea. During this long period, she has never had a spar carried away, nor a man seriously injured by casualty on board, nor have all hands been called at night, but in one instance.

No one of our public vessels since the last war, has performed a cruise so varied, so extensive, and in many respects so interesting, as the one performed by the *Potomac*.

The *Potomac* left at Rio Janeiro, U. S. sloop of war *Peacock*, Capt. Geissinger, for the United States April 17; *Natchez*, Capt. Zantinger, and schr. *Boxer*, Capt. Farragut. Hon. E. A. Brown, our Chargé d'Affaires to Brazil, contemplated returning to the United States in the *Peacock*.

The sloop of war *Ontario*, Capt. Salter, was at Buenos Ayres at last dates. The sloop of war *Fairfield*, Capt. Vallette, and schooner *Dolphin*, Lieut. Com. Voorhees, were cruising at last accounts to Lima; the former had been as far as Guayaquil.

The *Potomac* sailed from New York on the 24th of August, 1831, and has therefore been absent two years and nine months. During her cruise she has crossed the Equator six times, and encountered dangers in navigation, unknown in ordinary voyages.—The men have been exposed to disease and pestilence in the most insalubrious regions of the earth; and shared also the risks of war in the assault and capture of the Malay forts. Yet the degree of mortality has been even less than usual on board vessels of war, only twenty-seven having died, (including those killed in battle at Qualla Battoo) out of about 500 souls on board.

OFFICERS OF THE POTOMAC.

Commodore John Downes, Commander; Irvine Shubrick, 1st Lieut.; Stephen B. Wilson, 2d do.; Henry Hoff, 3d do.; Jonathan Ingersoll, 4th do.; Matthew F. Maury, 5th acting do.; Sylvanus Gordon, 6th acting do.; Alvin Edson, 1st Lieut. Marines; George H. Terrett, 2d do.; Samuel Jackson, Fleet Surg.; J. N. Reynolds, Esq., Com. Secretary; Philo White, Purser; John W. Gries, Chaplain; Robert S. Faten, Sailing Master; M. G. L. Clairborne, Acting do.; Jonathan M. Foltz, Henry D. W. Paulding, Assistant Surgeons; Francis Warrener, Schoolmaster; David Tellair, Commodore's Clerk; Charles de Selting, Richard Jones, Master's Mates; Henry C. Hart, Wm. H. Pendleton, Levi Lincoln, Jr. John W. Taylor, George T. Sinclair, James B. Lewis, Alonzo B. Davis, Francis P. Hoban, Charles W. Morris, Wm. May, James G. Stanley, Charles Hunter, George M. Totten, Theodore B. Barrett, Eugene Begle, Wm. B. Whiting, Wm. T. Cooke, and Wm. M. E. Adams, Midshipmen; John McNelly, Boatwain; John R. Covington, Gunner; Wm. E. Sheffield, Carpenter; Christian Nelson, Sail Maker.

Passengers, Lieut. N. C. Lawrence and Mid'n V. L. Williamson, late of U. S. ship *Fairfield*; Assistant Surgeon Cornelius Moore, Midshipman Wm. P. Taylor, and Charles Dougherty, Gunner, late of U. S. schooner *Dolphin*; Mr. Philo White, late Navy Agent at Valparaiso. [Purser Wm. A. Slacum remains at Valparaiso, in charge of the Navy Agency.]

The United States ship *Peacock*, David Geissinger, Esq. Commander, arrived in this port on Sunday, from a cruise in India, and last from Rio Janeiro.—E. A. Brown our Chargé d'Affaires at Brazil, came passenger in the *Peacock*. We annex a list of her officers, and from the Boston papers take a notice of those of the *Potomac*, and some particulars of her cruise.

Officers of the *Peacock*.—David Geissinger, Commander; Robert B. Cunningham, H. Y. Purviance, Edward B. Boutwell, Thomas W. Breut, Lieutenants; Francis B. Stockton, Purser; Benajah Ticknor, Fleet Surgeon; George Hurst, Sailing Master; Augustus S. Baldwin, George R. Carroll, Charles Thomas, William Reynolds, D. R. Crawford, H. Wingate, John B. Weed, A. H. Wells, Robert Patton, Midshipmen; H. M. Fowler, Lieut. of Marines.

H. N. Robinson, Schoolmaster; Frederick T. Poor, Captain's Clerk; John Barr, Acting Gunner; William Condy, Acting Carpenter; Charles H. Haven, Purser's Steward.

OFFICIAL—NAVY DEPARTMENT.

Extract from a letter addressed to the Secretary of the Navy from John A. Kearney, Surgeon of the West India squadron, dated on board the *Vandalia*, Pensacola, May 8, 1834.

"I have been eight months Surgeon of this fleet, and have not lost a man, a circumstance rare in these tropics, and attributable, no doubt, to the excellent police and subordination, so strictly and judiciously enforced."

An Oration in honor of Mr. Wirt, was delivered in Baltimore on Tuesday. The Baltimore American thus speaks of it:

"There is but one opinion, among the crowded audience that listened to Mr. Kennedy's Oration on the death and character of Mr. Wirt, delivered in the Rev. Mr. Nevin's church on Tuesday evening, at the request of the Baltimore Bar. It was highly polished, eloquent and affecting—all that was anticipated from the accomplished speaker, and the elevating theme. The spacious building was filled, and as the orator spoke with just praise and merited affection of the genius and virtues of the illustrious dead, dwelling upon his labors, tracing his career, and unfolding the history of his mind, the graces of his life, and the moral beauty of his character—he was heard with profound and delighted attention.

We learn that the Locomotive Engine on the New Castle and French Town Rail Road, on Friday, when on her way about seven miles from French Town, broke some of her machinery, but we believe no injury was sustained by the passengers. In consequence of the accident, the line did not arrive in Philadelphia until near four o'clock.—[Philadelphia paper.]

[From the Cincinnati Mirror.]

THE FIRST FLAT BOAT ON THE MISSISSIPPI.—A friend called on us a few mornings since to accompany him to the shop of Mr. F. Shields, for the purpose of viewing an iron tablet, recently cast by Hanks & Niles, of this city. It is to be erected to the memory of one of the pioneers of the West, and we should judge that it will perpetuate his name through many ages. It is very spacious, with large and deeply indented letters, and is the first of the kind ever executed west of the Alleghanies.

The following is the inscription:

JACOB YODER,

Was born in Reading, Pennsylvania,
August 11th, 1758.

And was a Soldier in the Revolutionary Army in 1777 and 1778.

He emigrated to the West in 1780, and in May, 1782, from Fort Redstone, on the Monongahela River,

in the

FIRST FLAT BOAT

that ever descended the Mississippi,
He landed at New Orleans with a cargo of produce.

He died April 7, 1832, at his farm in Spencer County, Kentucky, and lies here interred beneath this tablet.

Capt. Jacob Yoder was a highly respectable and wealthy farmer of Spencer county, Ky. To him belongs the honor of having descended the Mississippi in the first flat boat. And if no other powers than those of time, and wind, and storm shall assail it, this tablet will preserve the fact recorded upon it thro' a long series of coming ages.

No one who has any pretensions to the possession of a soul can contemplate this tablet without a variety of emotions. A brilliant series of associations enchain the mind of the gazer, as with a spell, to it.—That the man who navigated the first flat boat that ever descended the Mississippi, should have lived to see a magnificent steamboat ploughing the same watery track, is a truth which affords a subject of much admiration. When he launched his little bark on the Monongahela, what were his anticipations? Such a time has proved? No, he then thought of the wily savage, whose covert was a wide and untrodden wilderness. He proceeded on his precarious voyage. Instead of cheering aspects of busy cities, flourishing villages, and cultivated farms, which now chain the voyager's attention, he saw a range of hills, unshorn of their primeval wilderness, whence the lugubrious howl of the wolf proceeded, the vast wilderness where the foot of civilized man had not trodden, "instinct," 'tis true, "with life," but it was the life of the forest denizen, the trembling fawn, and the myriad songsters of the wild. He reached his destination, but his safety was a marvel to him-

self, and his dangers in after recital, wakened up a fear stricken excitement in the minds of those who listened to his tale of perils "by field and flood."—He lived to see the country change masters, the wilderness blossom as the rose, and human energy achieve a conquest over a thousand obstacles. This is the greatest triumph that man has yet achieved.—History records no parallel. To the future generations of America, it will be what the fabulous age of the Titans was to the ancient Greeks.

The manner of men's dying has often been commented upon, as indicative of individual character under circumstances where dissimulation can no longer avail. The indication is not good for much in our judgment, for there is very frequently as much study of effect, and "hollow show," in the last moments of life, as at any other period of it.

The following extracts from volume II. of a curious and clever book, called *the Doctor*, lately published in England, have some bearing on this point.

[From the Doctor.]

"It is one thing to jest, it is another to be mirthful.—Sir Thomas More jested as he ascended the scaffold. In cases of violent death, and especially upon an unjust sentence, this is not surprising; because the sufferer has not been weakened by a wasting malady, and is in a high state of mental excitement and exertion. But even when dissolution comes in the course of nature, there are instances of men who have died with a jest upon their lips. Garci Sanchez de Badesjez, when he was on the point of death, desired that he might be dressed in the habit of St. Francis; this was accordingly done, and over the Franciscan frock they put on the habit of Santiago, for he was a knight of that order. It was a point of devotion with him to wear the one dress, a point of honor to wear the other; but looking at himself in this double attire, he said to those who surrounded his death-bed, 'The Lord will say to me presently, "My friend Garci Sanchez, you come very well wrapt up!" (may arropado) and I shall reply, "Lord, it is no wonder, for it was winter when I set off."'

"The author who relates this anecdote remarks that 'o morrer com gracia he muyto bom, e com gracia he muyto mau;' the observation is good, but untranslatable, because it plays upon the word which means grace as well as wit. The anecdote itself is an example of the ruling humor "strong in death;" perhaps also of that pride or vanity, call it which we will, which so often, when mind and body have not yielded to natural decay, or been broken down by suffering, clings to the last in those whom it has strongly possessed.

"Don Rodrigo Calderon, whose fall and exemplary contrition served as a favorite topic for the poets of his day, wore a Franciscan habit at his execution, as an outward and visible sign of penitence and humiliation: as he ascended the scaffold, he lifted the skirts of the habit with such an air that his attendant confessor thought it necessary to reprove him for such an instance of ill-timed regard to his appearance. Don Rodrigo excused himself by saying that he had all his life carried himself gracefully! The author by whom this is related calls it an instance of illustrious hypocrisy. In my judgment the father confessor who gave occasion for it deserves a censure far more than the penitent sufferer. The movement, beyond all doubt, was purely habitual,—as much so as the act of lifting his feet to ascend the steps of the scaffold; but the undeserved reproof made him feel how curiously whatever he did was remarked; and that consciousness reminded him that he had a part to support, when his whole thoughts would otherwise have been far differently directed.

"A personage in one of Webster's plays says:

"I knew a man that was to lose his head
Fed with an excellent good appetite
To strengthen his heart, scarce half an hour before,
And if he did, it only was to speak."

Anecdote.—In a friend's album, Mr. Smith, keeper of the prints in the British Museum, wrote a playful account of himself, in which is the following paragraph:—"I can boast of seven events, some of which great men might be proud of—I received a kiss when a boy from the beautiful Mrs. Robinson; was patted on the head by Dr. Johnson; have frequently held Sir Joshua Reynolds' spectacles; partook of a pot of porter with an elephant; saved Lady Hamilton from falling when the melancholy news reached her of Lord Nelson's death; three times conversed with King George the Third, and was once shut up in a room with Mr. Kean's lion.—[London Paper.]

The schooner *Mexico*, commanded by Capt. James Almeida, and engaged in the Mexican trade, which disappeared so mysteriously some months since, is thus accounted for by a New Orleans paper: The captain and cabin passengers of that vessel were murdered by three Italians who were on board, and she was afterwards scuttled and abandoned by them somewhere on the Spanish Main.

City of Brooklyn.—The Common Council met on Tuesday 20th, and elected George Hall, Esq. Mayor, and Cyrus P. Smith, Counsellor and Clerk. The oath of office was administered to the Mayor elect by Judge Morse. The Mayor then addressed the Board in a short speech, in which he congratulated them and his fellow citizens on the successful issue of their application for a city charter; and the more so, as it has been a struggle against the combined and untiring opposition of a portion of their own county, and the great and influential city of New York. But while we rejoice, gentlemen, (said he,) that the legislative wisdom of our State has indignantly frowned down the narrow minded policy which has been arrayed against us by our sister city, and by an almost unanimous vote, secured to us those rights and privileges which our position, our population and wealth had a right to demand; let us not be unmindful of the additional obligations it imposes on every good citizen, and especially upon us, their representatives, to proceed with caution and prudence, in the discharge of the various duties committed to our trust.—[Commercial.]

[From the Keene N. H. Sentinel of May 22.]

The snow storm of Thursday last (15th May!) was very severe on the high lands in this vicinity, the snow drifting as in February. We learn that west of the mountains the snow was a foot deep, and that two of the stages from Middlebury went out on runners. At Haverhill, N. H. the snow fell nearly two feet on a level.

The Rutland Herald says the storm raged with fury from 8 o'clock Wednesday evening, to Thursday afternoon. The snow fell twelve inches. "On Friday, when the sun came to shed its beaming rays on the foliage, it was enough to make a sensitive heart sick at the prospect. All the beauty of Spring had vanished, and every green thing bore the marks of desolation—it looked like the 'gloom of Autumn.'"

GREAT RISE IN THE ALABAMA RIVER.—The Mobile Register of the 8th, states, on information received from passengers by the steamboat Choctaw, from Tuscaloosa, arrived the evening before, that the River at Lempolis had risen twenty-five feet, within a few days, and that it was rising when the boat left that place. Serious apprehensions were entertained for the Cotton and Corn planted on the bottom lands.

All the contents of the number for next month, of the American Quarterly Review, are printed, and the number will be issued without delay. The titles of the several articles are,—Art. 1. Washington and his Writings. 2. Life of Alexander Hamilton. 3. Italian Tragedy. 4. Cox on Quakerism. 5. Life and Writings of Robert C. Sands. 6. Black Hawk. 7. Decline of Poetry. 8. Paris and the Anniversary. 9. The Public Distress.

Colony of Pigeons.—A Susquehanna Pa. Co. paper mentions that immense numbers of Pigeons have taken possession of, and appropriated to their use, a territory said to be nine miles in length, and two miles in width; every foot of which, and almost every tree and branch of a tree upon it, are constantly occupied by them. It is presumable that the beech woods are indebted for this Pigeon visit, to the abundant crop of beech nuts this season.

Appointment.—We understand, says the Commercial, that Eli Moore, of this city, has been appointed by Gov. Marcy, to inspect and make a report to the Executive of the State, of the different prisons, at a per diem allowance of five dollars, and travelling expenses.

DEPARTURE OF MISSIONARIES.—The ship *Corvo* sailed on Wednesday, from Boston, for Bombay, having on board the Rev. Messrs. Graves and Munger, and Messrs. Hubbard and Abbott, and their wives, and also Miss Graves and Miss Kimball, all destined to the Mahratta Mission. Many persons assembled on the wharf to witness the impressive ceremony of embarkation.

Mr. MADISON.—It will be gratifying to our readers to learn that Professor *Dunglison*, on his return through Washington on Thursday from Montpelier, the seat of Mr. Madison, reported him to be in a rapid state of recovery.

NEW MANUFACTURE.—We have before us two ladies hats called the "White Aspen," and they are very pretty light summer hats, as one would wish to see. The one is plain: the other an open diamond figure; and either is fit to grace the head of a beauty. These new articles may be had of Wm. P. E Sloan, 29 Stone Street.

BOSTON, May 21.—*The Hardest fend off*.—The ship *Neponset* was yesterday hauled upon the railway, and her cut water exhibits the effects of the tremendous power of the stroke of a whale. Capt. Hunt informs us that on his passage out to Canton on the 19th of last July, when sixty days from Boston, a sudden shock was felt by all on board, and that those who did not see the whale, supposed the vessel had struck a rock. It was in broad day, and the mate, who was steering at the time, saw the whale, and might have avoided it as well as not, but thinking to have a little sport, and not being apprehensive that there could be the least danger in giving him a gentle touch, kept straight on; he soon found out his mistake however, and came off second best, for the whale on being disturbed, gave a sudden turn, bringing his tail directly across the bows of the ship, carrying away a part of the cut-water, a piece of solid timber eight feet long and nearly a foot thick, breaking off a number of copper bolts as short and with as much ease as if they had been pipe stems, and doing some other considerable damage. It was a large right whale, and in all probability if he had got a fair lick, as the boys say, for this was nothing but a gentle touch, he would have sent the vessel to the bottom. Capt. Hunt was obliged to repair as well as he could in Canton, and now the ship is on the rail-way, the effects of the encounter are plainly to be seen.

[From the *Western Carolinian* of May 17.]

HARD TIMES.—Corn is now worth one dollar per bushel in this place, and hard to get at that. It has never, but once, within our memory, been so high here. In 1817 it sold, we believe, as high as \$1.25—but that was hardly as high as 50 cents now, if we take into consideration the redundancy of the circulating medium then, and its extreme scarcity at the present time. Many poor families are in a state of actual suffering, for they have not the "ways and means" of going any distance in search of grain; and those farmers in the country, who had it to spare, have already disposed of their surplus.

It is said that Corn may be had, as yet, in abundance, up the Yadkin. Those who have spare capital, would act, if not prudently, at least generously, by contributing something to collect a supply at this place to be distributed to the poor on such terms as would tend to alleviate distress without encouraging idleness.

The privilege of filling up Coffee House Slip and Old Slip, has been sold for two thousand seven hundred dollars, and the privilege of dumping dirt into them is retained by the contractor at three cents a load. This at first seems more strange, than that servants should hire the privilege of tending in hotels. But when it is considered how great the quantity of dirt and rubbish is which must be taken away from the buildings which are pulling down, and the cellars which are digging in the lower part of the city, and that there is no other place of deposit for it within the distance of nearly two miles, the thing is accounted for.—[*Jour. of Com.*]

Accident.—The sloop *Rising Sun*, Capt. Bull, of Barnegat, whilst proceeding down the bay in a squall on Saturday afternoon, was struck by a heavy flaw of wind and capsized. Two of the hands were drowned. One of them was in the cabin at the time of the accident, and the Captain hoping to save his life, procured as soon as possible, an axe from a schooner hard by, with which he cut a hole into the cabin, but as soon as the air was admitted the sloop righted, and the poor fellow was irretrievably lost. The sloop soon after drifted ashore on Robin's Reef, and on Sunday morning, when the Captain boarded her, he found that some rascals had in the night completely stripped her of rigging, blocks, &c.

HUDSON, COLUMBIA COUNTY, MAY 27.—The barque *Washington*, Captain Clark, left our docks on Tuesday afternoon last for the Pacific, in pursuit of the sperm whale. She was manned and furnished for

three years. She sails on her second voyage. Our citizens have now eleven vessels in quest of the oily treasures in the prolific deep.

Criminal Outrage.—The church, called St. Mat thews, in Manchester village, on the west side of the Schuylkill, near this city, was entirely destroyed by fire on Saturday evening. There is not the slightest doubt that this conflagration was the work of an incendiary. There had been no fire in or near the building, for a long time.—[*Philadelphia Commercial Intelligencer.*]

The bill concerning gold and silver coins of the United States, and for regulating the value of foreign coins, passed the House of Representatives on Tuesday. The Senate will undoubtedly—supposing the provisions of the bill to be satisfactory, (of which, not having seen it, we have no means of judging)—speedily adopt it.

[From the *Arkansas Gazette*, April 30.]

CHOLERA.—LITTLE ROCK.—Among the passengers who passed up on the steamboat *Gallipolis*, on Friday night last, were Lieuts. Chandler and Taylor, U. S. A., having in charge about 140 recruits for the 7th U. S. Infantry, at Fort Gibson, which have been recently enlisted in New York and other eastern ports. These recruits, we are sorry to say, were in a distressing situation when they passed here, the Cholera having made its appearance among them, and bidding fair to thin their ranks considerably. Six had died since they had left New Orleans—two on the day they arrived here, and upwards of 40 new cases reported same day.

The *Helena Herald*, of 24th instant, states that the steamboat *Warren* passed there on the 22d, bound up, having lost 10 or 12 passengers by cholera, between New Orleans and that place—one of which was Mr. B. Stowell, of Natchez.

The Cholera was still prevailing, with little or no abatement, among the Cherokee emigrants, encamped near the mouth of the Cadron, when we last heard from them. The number of deaths in the party, from all diseases, since they left Waterloc, on the Tennessee river, amounts to about 60—a fearful mortality in a party originally not exceeding 550 souls, in the short space of about two months. Every humane exertion within the control of Lieut. Harris, the conducting agent, has been used to alleviate the sufferings of the emigrants. One of the physicians, Dr. J. C. Roberts, employed by him to attend on the sick, was attacked by the disease, and died on Tuesday last; and Dr. John T. Fulton, the only other attending physician, was also seized with it last week, but, we are happy to learn, was convalescent and out of danger on Friday evening last. Another has since been employed from this county, who, we hope, may be more fortunate.

The disease also appears to be spreading along the river. A citizen of this county, Mr. Madison Taylor, died last week, about 15 or 20 miles above this place, and there was said to have been another in his family and one in the vicinity, both of which are convalescent. There have been several cases of the cholera at or near Pine Bluffs, within the last ten or fifteen days, and three or four blacks have died; but the disease had abated when the last steamboats left there.

For the information of our friends abroad, we have the pleasure of assuring them, that we have no case of the Cholera in town, nor in the vicinity, and that our citizens are as healthy as usual at this season of the year.

The Park.—The Corporation, some months since with a view to adorn this beautiful promenade, and to protect the areas from being invaded and trampled upon, made an appropriation for the purpose of purchasing handsomely turned Locust Posts and chains to enclose all the areas in a substantial manner.—The work and the materials were let out on contract to a gentleman who sent over a sample of the kind of chain required to England, and ordered enough to complete the enclosure of all the areas. They arrived a few days since, and a number have been passed through the turned posts, and present a rough, weak, and miserably insufficient appearance for the purpose intended. Some of them have since been broken and others will doubtless soon be broken by the boys and others resting on them, and the post holes will soon become so large as to let the chains down almost to the earth. The whole job, in short is most miserable executed. The reason for sending to England, the contractor says, is because he could, and did purchase these chains at 13 1/2 cents per pound, whereas when made in this country twice as good, they would cost 16 cents a pound and em-

ploy American mechanics. This is favoring American industry with a vengeance and exhibits a disposition to disregard public feeling, which should meet with popular disapprobation.—[*Daily Advertiser.*]

STEAMBOAT UNITED STATES.—This splendid Boat proved herself an excellent sea vessel, by riding out in safety the tremendous gale that wrecked the Steamboat *Oswego*. Though encountering the full force of that storm, she was perfectly manageable, so much so that the passengers felt entirely safe. On her last trip down the Lake, she run from Niagara to Ogdensburg, (325 miles) including the usual stoppages at seven different ports, in thirty-five and a half hours. The last thirty-six miles was accomplished in two hours and forty-nine minutes. The Ogdensburg paper speaks in high terms of her popular Commander, Capt. R. J. Van Dewater.

P. S.—The United States will hereafter leave Ogdensburg at 9 o'clock, A. M. on Sundays, instead of 5 o'clock, P. M.—[*Alb. Even. Jour.*]

[The previous day's proceedings will be found in the *Extra*.]

A Novel Law Point.—The Supreme Court of Massachusetts, at its law session in Boston in March last, decided, that a grand-child born eight months and a half after the death of his grand-father, is included in a bequest to grand-children "living at his decease."

The London Weekly Despatch, in declining to publish a "Subaltern's Eulogy on a great Captain," takes occasion to remark, that they have but little respect for heroes, in the common acceptance of the term, but there have been great leaders, whose memory will be ever dear to freemen—such were,

"Leonidas and Washington,
Whose every battle-field is holy ground,
Which breathes of nations saved—not worlds undone.
How sweetly on the ear such echoes sound!
While the mere victors may appal, or stan
The servile or the vain: such names will be
A watchword, till the future shall be free!"

[From the *Journal of Commerce*.]

LATEST FROM RIO JANEIRO.—By a decree of March 6th, government has granted to a company called "Nitheroy," the exclusive privilege, for ten years, of navigating the rivers and bays of the Province of Rio Janeiro by Steam. The Company, on their part, agree to establish steamboats on said bays and rivers, within 15 months from the date of the decree, under penalty of two contos of reis, to be paid to the public Treasury.

The Minister of the Home Department has addressed Circulars to the Presidents of several Provinces, stating that the government had received information of the existence of the Silk-Worm in those Provinces, and requiring them to investigate the matter, and "remit to the Secretary of State a portion of balls of silk as made by the insect, if such are to be found," and also "every possible information as to where they are to be found, the shrubs or trees on which they feed, and whether they can be propagated with facility in houses." The Silk-Worm of Brazil is not exactly of the same species with that of Asia, being larger and of a more hardy nature. The Silk is said to be of an excellent quality.

Jose Aronche de Toledo Rondon has been commissioned by the government to write a treatise upon the process of manufacturing Tea. It appears that this plant has been propagated to some extent in the Provinces of St. Paul's Nines, &c. and that it flourishes extremely well. It was introduced into St. Paul's by the gentleman above named, whose plantation in 1829 contained upwards of 30,000 plants.

RIO JANEIRO, April 5th.—The horizon of our political world bears a more favorable aspect than it has done for some time past; the reports from the Presidents of the different Provinces to the Regency, and the numerous felicitations received from the several municipalities, all announce that tranquility is firmly restored in all the Provinces, except that the insurrection of Panellas and Jaquie has not yet been quelled; but as troops from all directions have marched against the insurgents, they cannot stand out long; several persons implicated have been taken and sent to the Island of Fernando Noronha.

The long continuance of dry weather has much injured the crops in the Minas districts generally, and reduced the towns of Diamantina and Principe to absolute starvation; happily the rains which have lately fallen, and the liberal subscription made by the inhabitants of this city, both natives and foreigners, whose names have been published, amounting to near Rs. 30,000,000, and measures adopted by government, have greatly relieved the unfortunate sufferers.

[From the Journal of Commerce.]

A NEW CONTINENT.—It will be recollected that a year or two ago, a paragraph was put forth by the London Literary Gazette, if we recollect right, and extensively copied, stating that a large body of land had been discovered somewhere to the Southward of the Cape of Good Hope. There was however a great lack of details, for want of which, as well as the extraordinary character of the discovery, many were inclined to regard it with incredulity. We now have the long sought details.

INTERESTING TO THE WORLD AT LARGE.

[From the Tasmanian of Hobart Town, dated October 11, 1833.]

Most of our readers will recollect that about 18 months since, Capt. Briscoe, of the brig Tula, brought his vessel to this port for repairs. It will also be fresh in the memory of many, that some of our public writers pretended to doubt the authenticity of Capt. Briscoe's statement—viz, that he was then on an expedition, at the cost of a London mercantile house; indeed, in this very journal, the epithet "piratical" was more than once repeated when referring to the Tula and Lively. At the time Captain Briscoe was with us, it became pretty generally understood that a discovery of land of some importance had been made, but as great pains were taken to keep the situation a secret, the various reports circulated, of course, were only surmises of those who pretended to be more knowing than their neighbors. The following extract, however, will disclose the secret, which was so well kept by the enterprising crews of the two little vessels.

"The discovery of the land towards the South Pole, made by Captain Briscoe, in the brig Tula, accompanied by the cutter Lively, both vessels belonging to Messrs. Enderby, extensive owners of ships in the whale fishing, has been communicated to the Royal Geographical Society.

"It is supposed that this land forms a part of a vast Continent, extending from about longitude 47—31 east, to longitude 69—29 west, or from the longitude of Madagascar round the whole of the Southern or South Pacific Ocean, as far as the longitude of Cape Horn. On the 28th February, 1832, Captain Briscoe discovered land, and during the following month remained in the vicinity; he clearly discovered the black peaks of mountains above the snow, but he was, from the state of the weather, and the ice, unable to approach nearer than about 30 miles. The Stormy Petros was the only bird seen, and no fish. It has been named Enderby's Land, longitude 47 31 E. latitude 66—36 S. An extent of about 300 miles was seen. The range of mountains E. S. E.

In consequence of the bad state of the health of the crew, Capt. Briscoe was compelled to return into warmer latitudes. He wintered at Van Diemen's Land, and was rejoined by the cutter, from which he was separated by the stormy weather, in the high south latitudes.

"In October, 1831, he proceeded to New Zealand. In the beginning of February, 1832, he was in the immediate neighborhood of an immense iceberg, when it fell to pieces, accompanied by a tremendous noise.

"On the 4th of the same month, land was seen to the S. E. longitude 69—29, latitude 67—15. It was found to be an island, near to the head land, of what may be hereafter called the Southern continent. On the island, about four miles from the shore, was a high peak (and some smaller ones,) about one third of its height was covered with a thin scattering of snow, and two thirds completely with snow and ice. The appearance of the peaks was peculiar; the shape was conical, but with a broad base.

"This island has been named Adelaide Island, in honor of her Majesty. Mountains were seen to the South at a great distance inland, supposed about 90 miles. On 21st February, 1832, Captain Briscoe landed in a spacious Bay on the main land, and took possession in the name of his Majesty William IV. The appearance was one of utter desolation, there being no vestige whatever of animal or vegetable life. In future, this part of the continent, if such it prove, will be known as Graham's Land."—[Sydney Monitor.]

FOREIGN ITEMS.

The Prince de Ligne, the Duke d'Ursel, and others whose houses were sacked by the Brussels mob, had arrived at Paris.

M. Barbé Marbois, at the age of 90, retires from the Presidency of the *Cour des Comptes*, and is succeeded by M. Bartke, created for that purpose a Peer of France.

Mr. Livingston, our Minister to Paris, had interviews with the King on the 3d and 5th ult., both after the rejection of the indemnity.

FRENCH TREATY.—The following article from the National Gazette, shows that we have no reason to expect any reconsideration of the vote in the French Chamber of Deputies, rejecting the American indemnity—no such usage existing in that body. At the next session, we entertain little doubt of a different result.

A French friend has sent us the following note, which possesses interest in regard to the fate of the Treaty with France:

"The answer to your inquiries about the reconsideration of votes, is more easy than I at first supposed. Annexed, you have the text of two articles of the Charter, as revised in 1830, after the Revolution.

"Art. 15. The right of proposing laws belongs to the King, to the Chamber of Deputies, and to the Chamber of Peers. However, all revenue laws must be voted first by the Chamber of Deputies."

"Art. 17. If a proposition of a Law has been rejected by one of the three branches, it cannot be brought up again (représenté) during the same session."

"As for what is called reconsideration of a vote, that is, voting again in the same session, upon a question decided when the proper number of Deputies (the Quorum) has been present at the vote, it is altogether unknown in our legislative assemblies, at least since the famous Convention, who never having consulted anything but their arbitrary and despotic will, often treated their own decrees as they had dealt with most of the sacred laws of humanity."

Population of Great Britain.—There has just been printed in two volumes folio, an "Enumeration Abstract" of the population of Great Britain for 1831, made from the returns and answers forwarded from each parish in England and Scotland, pursuant to an act of Parliament.

Population of England and Wales, from the year 1700 to the year 1830, including the army and navy, and merchant seamen.

1700—5,134,516	1750—6,039,648	1800—9,187,176
1710—5,066,337	1770—7,217,586	1810—10,407,556
1720—5,345,351	1780—7,814,827	1820—11,957,565
1730—5,687,993	1790—8,540,738	1830—13,840,851
1740—5,889,705		

The population of Ireland amounted to 7,767,401.

The increase of Great Britain since 1801, has always been about one a half per cent. per annum.

The comparative proportion of families stands as follows in centesimal parts.

	Agriculture.	Trade, &c.	Others.	Total.
G. Britain {	1811—33	44	21	100
	1821—33	46	31	100
	1831—28	42	30	100

Thus trade and manufactures appear to have somewhat increased between 1811 and 1821, agriculture to have somewhat declined; but between 1821 and 1831, the proportion of families employed in trade receded from 46 to 42 per cent. and the agricultural population from 33 to 28 per cent.

	1801	1811	1821	1831
England,	8,331,434	9,551,888	11,261,437	13,191,005
Wales,	541,546	611,788	717,438	806,182
Scotland,	1,599,061	1,805,582	2,093,456	2,365,114
Army, Navy,	476,598	640,530	319,306	277,017
	10,942,646	12,609,864	14,391,631	16,539,318

Error Corrected.—In noticing a great assemblage of the Trades Unions in London, who met to petition the King for a commutation of the punishment of some Unionists condemned to transportation, we stated the number of the procession at 200,000, while in fact it did not, we find, exceed 30,000. Our mistake arose from the following paragraph in the Times of the 21st, the day before the meeting:

An absurd notion has got hold of these "Trades' Unionists," that notwithstanding their multitudinous meeting, and their alarming and most inconvenient and troublesome procession, their petition must, as a matter of course, be received at Whitehall, provided only that the entire mass of 200,000 petitioners abstain from breaking badly into the Home-office, and content themselves with sending a small detachment of their numerous army to present it. Now, we can inform them that so clumsy and wretched an expedient will not serve the purpose.

Steam v. the Turn-outs.—The turn-out of the Lan-

eshire workmen in the building trade has introduced a curious application of the steam-engine. This machine is now employed instead of manual labor, in hoisting building materials to the top of the edifice where they are intended to be used. The Liverpool Custom-house is at the present moment rising into existence by the assistance of a steam-engine, which raises sixteen thousand bricks *per diem*, with seven or eight tons of mortar, and at the same time mixes the mortar below.

ROYAL STATUTE—ESTATUTO REAL,
For the Convocation of the General Cortes of the Kingdom of Spain.

Art. I.—In conformity to the provisions of the law 5th, chap. 15th, part 2d, and the law 1st and 2d, chap. 7th, book the 6th of the new Constitution, her Majesty, the Queen Governor, in the name of her august daughter Donna Maria II, has resolved to convocate the General Cortes of the Kingdom.

Art. II.—The General Cortes shall be composed of two *Estamentos* (Estates), viz., of the *Pruceres* (Peers) of the Realm, and of the *Rrocuradores* (Deputies) of the Kingdom.

CHAPTER II.

Of the *Estamento* of the Peers of the Realm.

Art. III.—The *Estamento* of Peers of the Realm shall be composed—

1. Of the Most Reverend Archbishops, and of the Most Reverend Bishops.
2. Of the *Grandees* of Spain.
3. Of the *Titulos* of Castile.
4. Of an undetermined number of Spaniards, elevated in dignity and illustrious by their services in various careers, who shall or may have been Secretaries of State, Ambassadors, or Ministers Plenipotentiary, Generals of the Navy or Army, or Judges of the Supreme Tribunals.
5. Of the territorial proprietors and chief partners in manufacturing companies, or mercantile establishments, which shall be found to unite to personal merit, and other corresponding circumstances, the possession of an annual income of 70,000 reals, and have been previously Deputies of the Kingdom.
6. Of those who as public teachers or cultivators of science and literature, have acquired renown and celebrity, and who also possess an annual income of 70,000 reals, whether derivable from private property or a salary paid by the State.

Art. IV.—It shall be sufficient to be Archbishop, or Bishop Elect, or Bishop Auxiliary, to be eligible in that class, and to take a seat in the *Estamento* of the Peers of the Realm.

Art. V.—All the *Grandees* of Spain belong by birth to the *Estamento* of Peers of the Realm, and shall take their seats accordingly, contingent only upon the following conditions—

1. That they shall be 25 years of age complete.
2. That they be possession of the *Grandeeship*, and hold it in their own right.
3. That they shall have an annual income of 200,000 reals.
4. That their estates shall not be subject to any kind of mortgage.
5. That they are not under criminal process.
6. That they are not the subjects of any other Power.

Art. VI.—The dignity of Peer of the realm is hereditary in the *Grandees* of Spain.

Art. VII.—The Sovereign shall elect and name the other Peers of the realm whose dignity shall be for life.

Art. VIII.—The *Titulos* of Castile, who may be named Peers of the realm, shall prove that they possess the following qualifications:

1. That they are 25 years of age.
2. That they are in possession of the *Titulo* of Castile, and hold it in their own right.
3. That they are in the receipt of an income of 80,000 reals.
4. That their estates are not subject to any kind of mortgage.
5. That they are not under criminal process.
6. That they are not the subjects of any foreign Power.

Art. IX.—The number of Peers of the realm is unlimited.

Art. X.—The dignity of Peer of the realm shall be forfeited only in case of legal incapacity, or in virtue of a sentence by which an infamous punishment may be awarded.

Art. XI.—It is reserved to future regulations to determine all that concerns the interior proceedings and mode of deliberating in the *Estamento* of the Peers of the realm.

Art. XII.—The Sovereign shall elect from the Peers of the realm, whenever the Cortes are convoked, those who are to exercise, during the period of that Session, the offices of President and Vice-President of the said *Estamento*.

CHAPTER III.

Of the *Estamento* or Procuradores or Deputies of the Kingdom.

Art. XII.—The *Estamento* of the Deputies of the kingdom shall be composed of the persons to be chosen according to the law of elections.

Art. XIV.—To be a Deputy of the kingdom it will be necessary—

1. To be a native of these kingdoms, or the son of Spanish parents.
2. To be of 30 years of age completed.
3. To be in possession of an income of 12,000 reals yearly.

4. To have been born in the province for which the Deputy is named, or to have resided in it for two previous years, or to possess in it some property either in town or country, which shall produce half the rent necessary to be a Deputy of the kingdom. In case any individual should be elected a Deputy to the Cortes for more than one province, he shall have the right to choose between those by whom he shall be named.

Art. XVI.—The following cannot serve as Deputies of the Kingdom—

1. Those who have been proceeded against criminally.
2. Those who have been condemned by a tribunal to an infamous punishment.
3. Those who have any natural physical incapacity, notorious or permanent.
4. Those traders who are declared in a state of insolvency, or who have suspended their payments.
5. Proprietors whose estates are mortgaged.
6. Debtors to the public Treasury, in quality of indirect contributors.

Art. XVI.—The Deputies of the Kingdom shall act in conformity to the powers with which they shall have been invested at the time of their election, as prescribed by the Royal Decree of Convocation.

Art. XVII.—The duration of the powers of the Deputies of the Kingdom shall be for three years, except when the Sovereign shall dissolve the Cortes before the expiration of that time.

Art. XVIII.—When a new election shall be preceded in, whether in consequence of the powers having expired, or that the Sovereign shall have dissolved the Cortes, those who have been Deputies of the Kingdom may be re-elected, provided they still fulfil the conditions required by the laws.

CHAPTER IV.

Of the Meeting of the *Estamento* of the Deputies of the Kingdom.

Art. XIX.—The Deputies of the kingdom shall meet in the place designated by the Royal Decree of Convocation for the celebration of the Cortes.

Art. XX.—The Cortes themselves shall enact rules for determining the form of verification, of the powers of Members.

Art. XXI.—When the powers of the Deputies of the kingdom shall be determined, they will proceed to elect five from among themselves, from whom the Sovereign will select the two who are to act as President and Vice President.

Art. XXII.—The President and Vice President of the *Estamento* of the Deputies of the kingdom shall cease their functions when the Sovereign shall suspend or dissolve the Cortes.

Art. XXIII.—The regulations shall determine every thing relative to the interior proceeding and the mode of deliberating in the *Estamento* of the Deputies of the kingdom.

CHAPTER V.

General Provisions.

Art. XXIV.—To the Sovereign shall exclusively belong the right of convoking, suspending, and dissolving the Cortes.

Art. XXV.—The Cortes shall be assembled in virtue of the Royal Convocation, in the place, and on the day therein named.

Art. XXVI.—The Sovereign shall open and close the Cortes either in person or by commission.

Art. XXVII.—In observance of the law 5th, chapter 15th, part 2d, the Cortes shall be convoked after the death of the King, in order that his successor shall swear to the observance of the law, and receive from the Cortes the necessary oaths of fidelity and obedience.

Art. XXVIII.—Likewise the general Cortes of the kingdom shall be assembled in virtue of the said law, when the Prince or Princess who may be heir to the Crown shall not be of age.

Art. XXIX.—In the case expressed in the preceding

article, the Guardian of the minor King shall swear in the Cortes loyally to watch over the safe keeping of the Prince, and not to violate the laws of the State, receiving from the Peers of the realm, and the Deputies of the kingdom, the necessary oaths of fidelity and obedience.

Art. XXX.—In observance to law 2d, chap. 7th, book 6th, of the New Compilation, the Cortes of the kingdom shall be convoked when any difficult circumstances occur, the weight of which may require their counsel.

Art. XXXI.—The Cortes shall not have the right to deliberate upon any subject which shall not be submitted expressly to their examination in virtue of a Royal decree.

Art. XXXII.—This article shall be without prejudice to the right which always has been exercised by the Cortes of offering petitions to the Sovereign, making use of the form and mode which shall be prescribed in the decrees.

Art. XXXIII.—In order to constitute a law there shall be required the approbation of one and the other *Estamento*, and the sanction of the Sovereign.

Art. XXXIV.—In conformity to the law, 1st, chap. 7th, book 6th of the New Compilation, neither taxes nor contributions of any class whatsoever shall be imposed without having been proposed by the Sovereign and voted by the Cortes.

Art. XXXV.—No taxes shall be imposed for more than the space of two years, before the expiration of which period they should be voted anew by the Cortes.

Art. XXXVI.—Before voting in the Cortes the taxes which are about to be imposed, the respective Secretaries of State shall present a statement, in which shall be set out the condition of the several branches of the public Administration; after which the Minister of Finance shall have to propose to the Cortes an *expose* of the expenditure, and the mode by which it is proposed to be met.

Art. XXXVII.—The Sovereign shall suspend the Cortes by virtue of a decree signed by the President of the Council of Ministers, and immediately upon the reading of said decree, both the *Estamentos* will rise, and not resume their sittings or exercise any further deliberation.

Art. XXXVIII.—In case the Sovereign suspends the Cortes they cannot be reunited, but in virtue of a new Decree of Convocation.

Art. XXXIX.—On the day which shall be appointed for the meeting of the Cortes the said Deputies of the kingdom shall assemble in them, except in such cases where the term of three years, during which their powers are given, shall have expired.

Art. XL.—When the King dissolves the Cortes, it is done either in person or by means of a decree, countersigned by the President of the Council of Ministers.

Art. XLI.—In either one or the other case both *Estamentos* shall separate immediately.

Art. XLII.—The order for the dissolution of the Cortes being announced, the *Estamento* of the Peers of the realm cannot be reunited or enter into any resolutions, except, in virtue of a new Convocation the Cortes shall be reassembled.

Art. XLIII.—When the order of the Sovereign dissolves the Cortes, the powers of the Deputies of the kingdom are annulled by the same act.

Art. XLIV.—All that may be done or determined afterwards is null and void.

Art. XLV.—When the Cortes shall be dissolved others shall be called before the expiration of one year.

Art. XLVI.—When the Cortes are convoked, at the same time are to be convoked both the one and the other *Estamento*.

Art. XLVII.—One *Estamento* cannot be assembled without the other.

Art. XLVIII.—Each *Estamento* shall hold its Sessions in separate Chambers.

Art. XLIX.—The Sessions of both the one and the other Estate shall be public, except in those cases where the regulations shall point out.

Art. L.—The Peers of the realm as well as the Deputies of the kingdom shall not be held responsible for the opinion and votes which they may give in discharge of their duty.

Art. LI.—The regulations of the Cortes shall determine the relations of the one and the other *Estamento* as well as reciprocally between themselves as well as respect to the Government.

(Signed) FRANCISCO MARTINEZ DE LA ROSA,
NICHOLAS MARIA GARELLY,
ANTONIO REMON ZARCO DEL VALLE,
JOSE VASQUEZ FIGUERA,
JOSE DE IMAZ,
JAVIER DE BURGOS.

[FOR THE NEW YORK AMERICAN.]

MR. EDITOR.—The writer, acting on the suggestion of your Western Correspondent, has attempted to versify what was poetry before. He cannot claim the credit of giving the lines a "happier dress," but, albeit, not a poetical friend of you or any body else, he delights in simple rhyme, and has tried to retain that quality in the following—

INDIAN SERENADE

In imitation of the original prose translation, made by Mr. H.

Bud of the forest, now shut in thy bower,
Rise from the leaves swelling round thee, a flower!
Beautiful bird of the prairie awake!
Powerless the hawk is, and charmed the snake.

Thou with the eyes of the fawn, give to me
Wild, timid glances, and draw me to thee:
Warm are thy looks, and the joy they disclose
Gladdens my heart, as the dew drop the rose.

Sweet is thy breath as the sigh of the south;
Sweet as the store of the bee thy mouth:
Sweet is thy voice as the music of rain
That lulls the rous'd hunter to slumber again!

When the snows melt, and the maple trees run
Flow the springs murmur, and swell to the sun
So towards thee swells my blood with delight;
No, too, I murmur to silence, all night.

When with mild passion thy bosom is mov'd,
How my heart sings unto thee my lov'd!
So, in the moon of red berries, awake
Breezes, and sing to the leaves as they shake.

If thou art sad, and art sighing the while,
Dark is my heart and uncertain my smile!
Like the bright river that bears on its breast
Sunset, made dim by a cloud in the west.

Morning's red ray, as it shines on the lake,
Brightens the ripples that night breezes make;
So, when thou smilest, the gloom that before
Clouded my spirit, surrounds me no more.

Woe and behold me, beloved and best!
Flood of my heart! come and live in my breast!
Heaven, earth, water, are smiling around:
I alone sadly look up from the ground.

E. L.

[FOR THE NEW YORK AMERICAN.]

THE BRIDEMAID'S GRAVE.

Lines suggested by the recent death of Miss M*****
C***, of Ulster, N. Y.

"And then I think of one, who in her youthful beauty died,
The fair morn blossom that grew up, and faded by my side."

Where the tender o'er's wave,
And soft winds sweep,
We will make her gentle grave,
And memories keep—
There the stainless virgin Rose,
And Violet,
Will their balmy lids unclose,
With tears wet—
Such as solemn Evening sings
On Lillies fair,
While each bell in fragrance rings
For spirit pray'r.
With the bridal-chapel bound,
Still on her brow,
We will "lay her in the ground,"
Afar from woe.

New York, May 24th.

[From the Youth's Sketch Book.]

THE LITTLE BOAT BUILDERS.

Beside the sea-shore Charles and Ben
Sat down, one summer day,
To build their little boats—and then
To watch them sail away.

"Hurrah!" the boats have left the shore,
And side by side they sail;
And pleasant sunshine all before,
Behind, the summer gale.

But all too rough the sunny sea—
One boat upset—and then
They clasp their hands and shout with glee,
"Hurrah! she's up again!"

But on the wave it cannot live;
It sinks:—and now the other:
And now a louder shout they give,
"Hurrah! we'll build another!"

"Let's make ourselves a little sea—
The ocean is too large;
This tub will do for you and me
To sail our little barge."

Dear children! thus through life your joys
May vanish! Will you then
Still laugh as o'er your childish toys,
And think they'll rise again?

And when life's ocean seems too wide
Your quiet course to trace,
Say will you wisely turn aside,
And choose a humbler place?

And will you, as your joy's decay,
First one, and then the other,
Shout on, as one hope sinks away,
"Hurrah! I'll build another?"

TIME.

On: on: still on: the bell of Time tolls on
Its unregarded tolls to the ear;
On: on: the stream of Time, that long hath gone
O'er crown and crook, o'er banquet and o'er bier,
Rolls by; whilst on its banks we sport and play,
Reckless of rising floods. Years disappear,
And kindred, vanish; yet the heedless mind
Can see no warning in the leaf that falls—
Can note no promise in the buds that find
New thrones in old woods—when the cushat calls
Its spring reveille. Still we chase away
The omen from our breast, and shut our sight
To the hand-writing on the wall, while night
Blots out the idle labors of the day!

Canal Tolls.—The tolls collected upon the New York Canals, for the week ending on the 14th May, amount to the sum of *forty-six thousand five hundred and thirty-three dollars and twenty-eight cents*. The total amount collected during the four weeks ending on the 14th instant, is \$195,018 57.—[Alb. Argus.]

TOWNSEND & DUFFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Duffee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jarvis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon Dale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, {
January 29, 1833.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 13, 1833. A29 of RM&F

TO IRON MANUFACTURERS AND OWNERS OF IRON ORE BEDS.

JOSEPH GOULDING, of Keeseville, Essex county, N. Y., has invented and patented a *Magnetic Separating Machine*, for separating Iron Ore from the extraneous matter usually found in connection with it; and he begs leave to recommend it to the especial notice of owners of Ore Beds as possessing qualities of great importance, as by the use of it many ore beds can be made very valuable, it being applicable in all cases when the Ore is magnetic.

The quality of the iron made is much improved by the process of separation, indeed good iron can, after separation, be made from ore which would without it be considered not worth working. There is also found to be a great saving in the transportation of ore, and in time and fuel required to work the same into iron.

Mechanics can be furnished at short notice which will separate from half a ton to twenty tons each in twenty-four hours.

J. Goulding also manufactures to order, *Cylindrical Forge and Blast Furnace Belows*, of the most improved construction, and which are successfully used in nearly all the Forges and Furnaces in Clinton and all the adjoining counties.

January 20th, 1834. M 141f

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in length of 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. 1/2 do.	
40 do. 1 1/2 do. 1/2 do.	
800 do. 2 do. 1/2 do.	
800 do. 2 1/2 do. 1/2 do.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 3 3/4, and 4 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

d7lineowr

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and sowing of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN.

347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit—

NEW YORK FARMER and American Gardener's Magazine.

MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772 of this Journal.

RAILROAD TURNOUTS, REVOLVING PLATFORMS AND SIDELINGS.

The subscriber having been for some years engaged in constructing turnouts, and inserting the necessary switches and fixtures appertaining to the same, on the Baltimore and Ohio Railroad, and as those works on that road will be shortly completed, he is desirous of being employed by any Railroad Company requiring work of the above description.

He will either contract at a fixed price to execute the work, he providing all the necessary materials and fixtures, or otherwise, or he will engage himself at a stated salary.

In relation to his abilities and general character he begs to refer any Company, disposed to engage him, to the Baltimore and Ohio Railroad Company.

Letters can be addressed to him at the Office of Construction Baltimore and Ohio Railroad, Baltimore.

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REUBEN ALER.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

J31 6t

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information: The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the *vane sight*, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germantown, and Norrist. Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleeker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J 25 1f

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

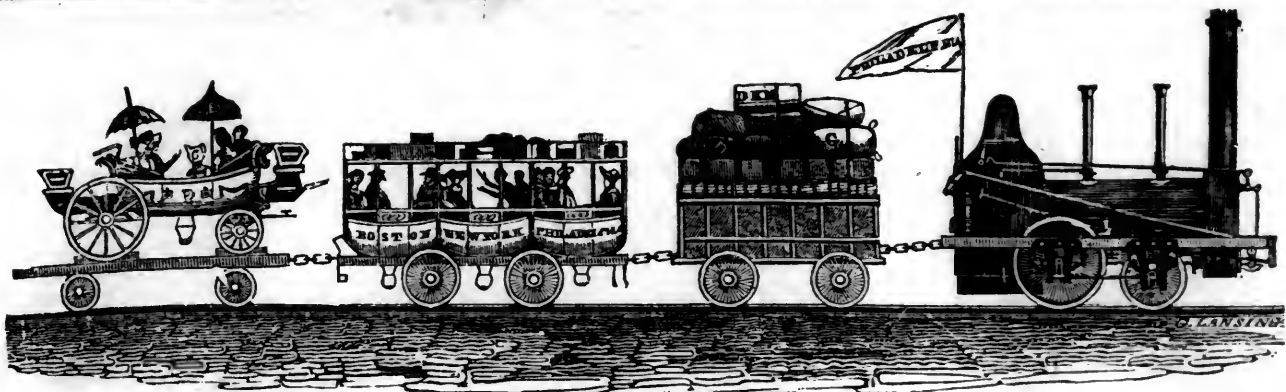
To Messrs Ewing and Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of pursuing the same.

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, JUNE 7, 1834.

[VOLUME III.—No. 22.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 7, 1834.

RAILROADS—WIDTH OF TRACKS—UNIFORMITY OF.—Those of our readers who have taken the Journal from its commencement, will probably recollect a communication published in No. 4, Vol. 1, showing the importance of uniformity in the width of railroad tracks. We have occasionally referred to the subject as one requiring early and particular attention. It will at once be seen that, by a variation of three, or even two inches, in the space between the rails of roads, now distinct, but destined hereafter to be united,—as, for instance, the *South Carolina*, the *Tuscumbia*, and other roads, which, to the extent of many hundred miles, will, within the next ten years, be connected with them,—the engines and cars of one road cannot be used upon the other roads, and therefore a transshipment will be necessary, at the termination of each part of what should be one great whole.

THE SARATOGA AND SCHENECTADY RAILROAD.—The locomotive engine commenced its regular trips on this road on Wednesday the 28th ult.; on which occasion a party of gentlemen from this village and Ballston Spa, were politely invited by John B. Lasala, Esq., one of the directors and a principal stockholder, to join in the festivities of the occasion. They repaired to Schenectady in a railroad barouche, where they were joined by two of the directors. The engine left that place a little before 12,

and reached this village, drawing a train of 12 or 14 carriages and waggons, in one hour and twenty minutes. The party repaired to the Pavilion, where they partook of the hospitality of Mr. Lasala in a rich and sumptuous dinner. After the drinking of several toasts, the party separated at an early hour, happy in the polite attentions they had received, and gratified in having witnessed the good condition of the road, and the increasing and flattering prospects of business thereon. Indeed, the travel is continually augmenting; and it is a source of no small pleasure, that the various estimates of income heretofore given are likely to be more than realized. Though not immediately connected with the work, we cannot but feel a deep and lively interest in its prosperity, and in every thing pertaining to the welfare of its stockholders.

Another engine, we understand, will be placed on the road in a short time.—[Saratoga Sentinel.]

RENSSELAER AND SARATOGA RAILROAD.—This road, from Ballston Spa to Waterford, is under contract, and the work of constructing it in progress. The building of the bridges over the Hudson and Mohawk, and also the road itself from this to Waterford, will be put under contract without delay.

The officers of the company for the present year are as follows—they were chosen at an election held yesterday:

Stephen Warren, President, (Richard P. Hart having declined a re-election.)

Directors—Elisha Tibbitts, George Griswold, John Cramer, John Knickerbacker, Richard P. Hart, Townsend McCoun, Nathan Warren, Stephen Warren, George Vail Le Grand Cannon, Moses Williams, John P. Cushman, and John Paine.—[Troy Press.]

Extract of a letter dated Boston, May 30, 1834:

"Our Worcester Railroad is doing very well. The cars paid \$900 last week, \$700 of which is clear profit, beyond the expense of their management of \$100 a day, which is an interest on the whole \$600,000 which has been assessed. The weather, besides, has been unusually bad, and so cold, that few persons comparatively have gone out. I think therefore that the stock will eventually be very productive. They now only run seven miles, but will, in a few days, go thirteen miles, which is the first stage towards Worcester. A friend of mine came today from Newton in 19 minutes with a watch in his hand. They have at other times landed in fifteen minutes, which is at the rate of twenty-eight miles an hour. At this rate but few will go in the stage, which, including stops, takes an hour and a half."—[Jour. Com.]

PENNSYLVANIA RAILROAD.—The advantages of this great state work are already becoming developed. On Thursday afternoon, a lot of 80 bbls. superfine flour, from Columbia, was brought to the depot corner of Vine and Broad streets. This is the first flour that has been brought from the Susquehanna by this route. A lot of between 2 and 300 bushels of corn has also been received from Columbia by this road.—[Phil. Com. Her.]

RAPID TRAVELLING.—Yesterday, the passengers by the Railroad line from New-York were landed at ten minutes past one o'clock. Our exchange papers brought by this conveyance were delivered at our office at eighteen minutes after one.—[Ibid]

CANALS.—The Eastern Division of the Pennsylvania Canal, the Lehigh, and the Morris Canals, are now in excellent navigable order, and, we are pleased to learn, are doing a brisk business. An arrangement has been made with the directors of the Morris Canal for transporting a large quantity of coal from the Mauch Chunk mines to Newark, and other points along the line of this work. This arrangement cannot but be highly advantageous to those interested in the mines, as well as to the owners of the canal stock. Paterson and other places will also come in for a share of the benefits of this arrangement.—[Ibid.]

The corner stone of the Cape Fear, Yadkin and Pedee Railroad, was laid with imposing ceremonies at Fayetteville, on the 15th instant, an interesting account of which appears in the last Observer, and shall be transferred to our columns next week.—[Raleigh Register.]

NEW IRON STEAMBOAT, &c.—We recommend to the attention of the public, the advertisement of our late highly enterprising and public spirited townsman, G. B. Lamar, Esq. (now of Savannah,) whose efforts in facilitating the river communication between this city and Savannah—and particularly the present one, now nearly completed, of a new Iron Steamboat—are worthy of the highest praise, and we hope will insure to him the great success they merit. This Iron Boat is the first of the kind ever introduced into this country, and we doubt not will prove to be one of the most valuable commercial facilities it possesses.—[Augusta Chronicle.]

ECONOMY.—He who saves in one way, that he may enjoy his savings in a more rational one, is the true philosopher: he will do good while living, and be remembered with respect when dead.

Specification of a Patent for an Improvement in Wheels for Cars and Locomotive Engines, to be used upon Railroads. Granted to ROSS WINANS, Civil Engineer, city of Baltimore, November 19, 1833.

To all whom it may concern, be it known that I, Ross Winans, of the city of Baltimore, in the state of Maryland, Civil Engineer, have invented an improved mode of constructing wheels for cars and locomotive engines, to be used upon railroads, and that the following is a full and exact description thereof.

The more clearly to exhibit the difference between my improved wheel and those which have been heretofore employed, I will briefly point out the manner in which wheels for this purpose have been most commonly made; not intending, however, as it is not necessary for the purpose in view, to notice all the plans which have been adopted.

1st. Such wheels have been made wholly, or nearly so, of cast iron; the face, or tread of them, being cast within a *chill*, consisting of a thick rim, or hoop, of iron, which forms a part of the mould.

2d. The wheels have been cast without being chilled, and afterwards hooped with wrought iron, which then forms the face and flanch of the wheel.

3d. A cast iron nave, or hub, has been made to receive wooden spokes, inserted in wooden felloes, which were hooped with a tire of wrought iron.

4th. The hubs have been of cast iron, with spokes of wrought iron, and a rim of wrought or of cast iron, hooped with wrought iron.

These plans have each their respective advantages and disadvantages, but neither of them has fully answered the purpose for which it has been adopted; the wrought iron hoop, or tire, upon the cast iron rims have gradually become loosened; the wooden spokes and felloes have pressed the one into the other, and the tire has ceased to bind them, an evil which wedging will not cure. To remedy these defects, and others incident to some of the wheels, is the object of my improvement.

My wheel consists essentially of three parts, namely, an *interior wheel*, the hub, spokes, and rim of which are of cast iron; a *rim of wood*, formed in a way to be presently described, surrounding the cast iron wheel; a *hoop or tire of wrought iron*, surrounding the wood, and forming the face, or tread, of the wheel.

The *inner wheel* is made, in some respects, like those first noticed, but the face is not chilled, nor has it the same form with the chilled face. It should be made of the same width on the rim, with the wrought iron tire which is to surround and form the tread of the wheel, say five inches. The face of the cast rim may be cylindrical for the greater part of its width, but it must in this case have a fillet, or edge, projecting up on each side of it, say to the height, and of the thickness, of half an inch, which will then give to it the appearance of a wheel with a double flanch, having a cylindrical tread of four inches in width. Instead of making the face in this form, I intend sometimes to give to it a regular declination from each edge towards the centre. A section of the rim, transversely, would then be somewhat in the form of the letter V, but with the angle obtuse. The inclination will be sufficient if the diameter at

the centre of the rim is one inch less than that at the sides, or edges. Other forms may be given to the face of the rim, by which the object in view may be attained, namely, that of retaining the wooden rim in its place, without its allowing it to move out on either side.

A *rim of wood* is to be placed around this wheel, which may consist of any convenient number of pieces, fitted to each other, and to the face of the wheel. The grain of the wood is to cross the rim of the wheel, running parallel with its axis. These pieces may be fitted to the face of the wheel with greater facility by driving them into a large hoop, running as a chuck in a lathe, by which means they may be turned to the form required; they may then be fastened on to the rim by wood screws, or otherwise, and turned thereon to receive the iron hoop or tire. The best thickness of this rim will be from two to four inches.

The *hoop, or tire, of wrought iron*, is to be made in the usual form, turned truly, and passed on over the wooden rim when expanded by heating it as highly as may be done without burning the wood. Bolts are then to be passed through the wrought iron, the wood, and the cast iron rims, which are secured by nuts, to confine the whole together.

The hub, or nave, in a wheel thus made, may be cast entire, instead of having those divisions, or openings, which are necessary in the chilled wheel, to allow for contraction. Although I have described the spokes and rim as being of cast iron, either or both of them may be of wrought iron, but it would be more costly, without affording any adequate advantages; those of cast iron being perfectly safe in this mode of construction.

It will be readily perceived that the wood, thus pressed between two hoops of iron, has an extent of bearing surface which will effectually prevent its being condensed by the force to which it is subjected; whilst, by its elasticity, it will tend to preserve both the road and the vehicles passing over it. If perfectly dried when put on, which may be done by artificial heat, the wood will never shrink, but, on the contrary, will expand, and render all the parts the more firm. Such a wheel will have less tendency than any other, where wood is employed, to get out of truth; and should wedging become necessary, it may be done more effectually than with any other.

The dimensions of most of the parts of such a wheel need not differ greatly from those of the cast iron wheels with chilled rims, but, like them, must vary according to their diameter, and the load they are to sustain; the following is a good proportion for wheels of three feet in diameter, intended for cars carrying three tons.

Cast iron interior wheel, twenty-nine inches diameter; hub, seven inches long by six in diameter; spokes, twelve in number, five-eighths of an inch thick, and three and a half or four inches broad; rim, five inches broad by five-eighths of an inch thick; wooden rim, two and five-eighths inches thick, five inches deep, measuring across the rim; wrought iron tire, seven-eighths of an inch thick, five inches broad; flanch, one and one-fourth inch deep, one inch thick.

Although I have described the rim of wood as placed with its grain crossing the rim of the wheel, and am fully convinced

that this is the best manner of placing it, yet it will answer the purpose, to a considerable extent, when running in the direction of the rim, and I do not intend, therefore, to limit myself in this respect, as what I claim as my invention is the interposing a rim or belt of wood between an interior wheel of cast or of wrought iron, and a wrought iron rim or tire, and securing the whole together in the manner and for the purposes hereinbefore set forth.

ROSS WINANS.

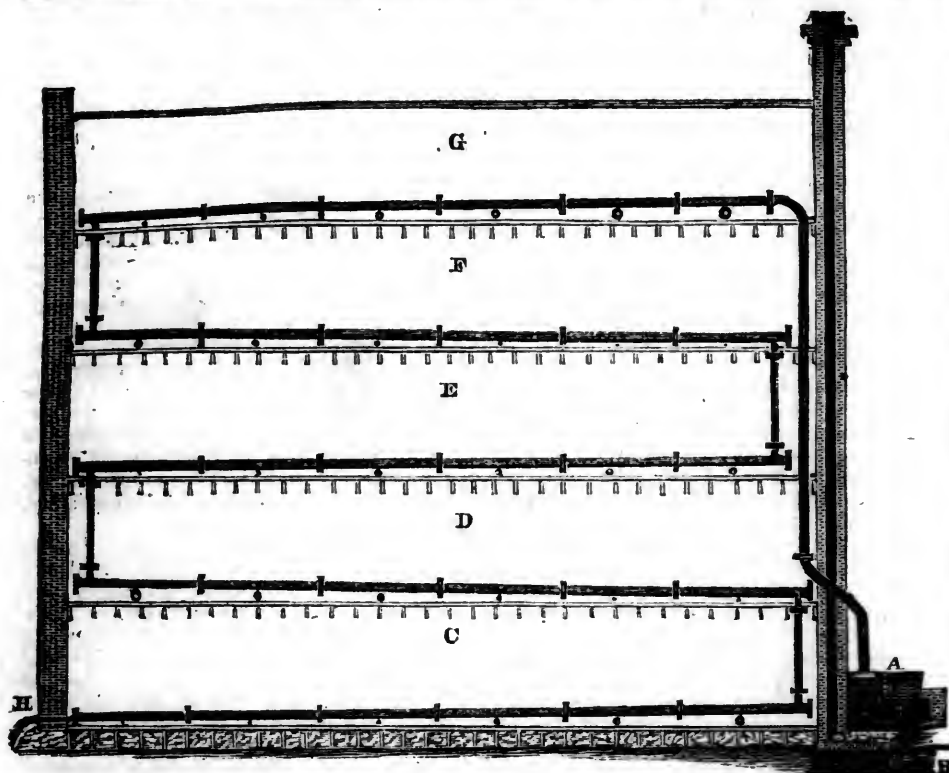
Effectual Plan of Heating Factories, &c., by Steam. Communicated by the INVENTOR. To the Editor of the Mechanics' Magazine and Register of Inventions, &c.

[We have much pleasure in inserting the following communication from Mr. SNODGRASS, an eminent engineer of Glasgow, N. Britain, now on a visit to the United States for the purpose of ascertaining the state of manufactures and mechanical inventions here. We hope to be favored with other contributions during his tour through various parts of the country, which, we are persuaded, will be highly interesting to our readers.—ED. M. M.]

SIR,—Having perused your interesting and valuable Magazine, I beg leave to avail myself of the pleasure of contributing in a small degree what appears to me would materially benefit the rising manufactures of this justly far-famed free country, namely, the best plan of heating by steam. Although I am almost a stranger here, I learn there are, and have seen, a number of beautiful factories heated by stoves, while in Great Britain there are none, to my knowledge, otherwise than by steam. It must be evident that this method is incompatible with the American atmosphere, which in particular seasons of the year, I am told, is highly electrical, and destitute of hydrogen. Stove heat must accelerate this evil in a considerable degree, in the apartments of the factories, which are injurious to the staple of the cotton, during the process of roving and spinning, unhealthy to the workers, and a great increase of risk of accident from firing the building.

Having invented and introduced the system of heating by steam pipes, from 1799 to 1807, (see Philosophical Transactions, London, Vol. for March, 1807,) and since then having 27 years' experience, I presume to send you herewith a plain sketch of the simplest and most effectual plan of heating any regular built factory, and with steam of the lowest temperature. REFERENCES—A, the boiler; B, the ash-hole; C, 1st flat; D, 2d flat; E, 3d flat; F, 4th flat; G, garret flat; H, condensed water pipe.

On looking at the plan from right to left, the pipes are inclined according to the length of the factory, so as the air and condensed water may freely recede before the steam, then descend by the perpendicular pipe to next flat, and so on from flat to flat, after sending the steam to the garret flat in the first instance by a large upright, not less than eight or nine inches in diameter, thus allowing as little condensation as possible taking place in that pipe; it ought to be secured from the external air, and made as a reservoir of steam to the boiler. As each range of pipes descends from the garret flat, they ought to increase in diameter about a half inch in each flat, owing to the latent heat of the steam diminishing as the distance increases from the boiler. The small



copper pipe at the end of the cast iron range of pipes in the lowest flat, for the discharge of air and condensed water, may be about three-fourths of an inch in diameter. These pipes should be laid on small rollers, pivots of which to move in a small frame (cast iron) fixed on the floors, and close to the wash-board of the apartment, on any side most convenient for passing them, thus, not almost, appearing in the room, and, in the lowest position, more effectually heating the air.

The data for proportioning the diameter of these pipes to the temperature of the air in the apartments is a square foot of surface of steam pipe for 200 cubic feet of air, to produce about 64 degrees of heat, supposing the steam about 4 lbs. on the square inch of pressure above the atmosphere, and the surface of the pipes black,—160 superficial inches steam pipe for 72 degrees of heat.

I may add: the boiler may be so placed that the condensed water may be returned to the bottom, and save in a small degree the latent heat therein. Where steam engines are employed to drive the machinery, the surplus steam for a great part of the year is sufficient to heat the factory, thus saving the whole expense of fuel nearly. Insurance ought not to be more than the half, compared with the risk of stoves. If any further information is found wanting, your taking the trouble of addressing me, care of Messrs. Thomson & MacFarlane, No. 87 Pearl street, will be duly attended to by,

Sir, yours, most respectfully,

NEIL SNODGRASS,
Civil Engineer, of Glasgow.
New-York, May 5, 1834.

N. B.—In irregular built factories, much is to be attended to in the arrangement of steam apparatus, for the proper charging with steam, and discharging air and water; also, the best plan for joining the pipes to make them permanent and cheap, which I shall be glad to engineer, and insure the result; also, my metallic packings for steam engine pistons, and piston valves, a drawing and de-

scription of which shall be handed you in a short time.
N. S.

STATISTICS OF FRENCH MANUFACTURES.

—The principal manufactures of France may be dated from the reign of Louis XIV., whose minister, the celebrated Colbert, invited foreign artists and artisans of every kind and of distinguished merit into the kingdom, and encouraged them by premiums to fix their establishments in France. But towards the end of his reign, that monarch, by his revocation of the Edicts of Nantes, and his persecution of the Protestants, in a great measure destroyed the advantages arising from the foreign establishments, by forcing thousands of artisans to seek refuge in England, and the Low Countries, into which they introduced those branches of industry, especially silk. Thus France lost the services of some of her most ingenious mechanics through the folly of an infatuated monarch.

To give an idea of the manufactories of France, it is sufficient to cite the draperies of Louviers, Sedan, Elbeuf, Castres; the cambrics of Valenciennes and Cambray; the pier-glasses of St. Gobain, whose dimensions are occasionally ten feet in height by four and five feet broad; the cotton manufactories of St. Quentin, Rouen, &c. &c.; the linens of Brittany, Dauphiny, and the northern provinces; the laces of Lille, Aulenccon, Valenciennes, and Puy; the silks of Lyons, Avignon, Nimes, and Tours; the tapestries of the Gobelins, at Paris; the carpets of La Savonnerie and Aubusson, which, in beauty of design and brilliancy of colors, rival those of the east; the porcelain of Sevres, her manufactories of clocks and watches, jewellery, crystal, mock diamonds, bronzes, fire arms, &c. To these might be added an immense number of manufactories which were wholly unknown in France half a century ago, such as files, needles, wool-cards, &c.

We have learned from official sources, that the capital employed in manufactures

amounts to 1,820,105,409 fr., which is applied as follows:

In indigenous materials,	416,000,000 fr.
In materials imported,	186,000,000
In wages,	844,000,000
In general expenses, as wear and tear of machinery and tools, repairs, fuel, lights, interest of money, invested as fixed capital, which being deducted from the gross amount leaves 182,105,409 francs for the profit of the manufacturers,	192,000,000

The annual produce of the principal branches of industry in 1828 has been calculated in round numbers as follows:

Thrown silks, silk stuffs, gauzes and crapes,	160,000,000 fr.
Cloths and woollen stuffs,	250,000,000
Linen drapery and thread lace	210,000,000
Stationary,	25,000,000
Cotton,	200,000,000
Lace,	10,000,000
Hardware,	125,000,000
Coal, and other produce of mines and quarries,	30,000,000
Watches and clocks,	30,000,000
Gold and silver articles,	50,000,000
Jewellery,	40,000,000
Glass, plate glass, china, pottery, bricks,	80,000,000
Lime and plaster,	15,000,000
Salts and acids,	30,000,000
Soap,	30,000,000
Refined sugar,	15,000,000
Hats,	30,000,000
Leather,	160,000,000
Dye and varnish,	50,000,000
Perfumery,	15,000,000
Books,	30,000,000
Beer,	60,000,000
Cider and perry,	50,000,000
Brandy,	75,000,000
Upholstery and musical instruments,	50,000,000

Total, 1,820,000,000 fr.

Having enumerated the principal manufactures in France, we shall state from official information the progress made in the productions of those manufactories from 1812 to 1827. In the first place, we find that under the government of the empire, when Belgium and the left bank of the Rhine were under her dominion, France in 1812 employed in her manufactories 35 millions kilogrammes, or 70 million pounds of native wool. In 1816 the quantity of native wool, with the amount imported of foreign wool, for fine cloths, merinos, and cachemires, &c. was in the whole 80 million French pounds, which, with the difference of nearly ten per cent., is equal to 90 million lbs. English. In 1824 and 1826 the quantity of wool used in the manufactories amounted to 48 millions of kilogrammes, making an increase in the consumption of wool in 14 years of 26 millions of French pounds, or more than one million English tons.

In 1812, the quantity of cotton spun into thread did not exceed 10,362,000 kilogrammes. The consumption in 1816 amounted to 12 millions of kilogrammes; in 1825, the quantity manufactured was 26 millions; in 1826, 32 million kilogrammes of cotton employed in prints, calicoes, tulle, &c.: thus the consumption has been more than tripled in 14 years. The consumption of silk has not

less increased in proportion to wool and cotton. In 1816, France imported 400,000 kilogrammes of silk; in 1824 and 1825, 650,000 kilogrammes; and in 1826, not less than 800,000 kilogrammes, notwithstanding the progress made and encouragement given to breeding of silk worms in the country. In 1816, the quantity of coals extracted from the mines did not exceed 1000 million kilogrammes; in 1826, they furnished 1500 million kilogrammes. In 1814 and 1816, the quantity of iron manufactured amounted to 100 millions, and in 1825 and 1826, it had increased to 160 millions of kilogrammes.—[Goldsmith's Statistics of France, and Rep. Pat. Inv.]

The following letter was read, together with, and formed a part of, the report of a committee of the Pennsylvania Legislature, appointed to inquire and report as to the best method of conducting the business of transportation upon the Pennsylvania Railroads.

It was intended that this should follow the Report, which was published in No. 15 of this volume of the Journal, but was at the time mislaid.

Letter from Monsieur Robinson, Esq., to Wm. H. Keating, Chairman, &c., dated Harrisburgh, February 21, 1833.

Sir,—I have received your letter of yesterday, and with pleasure present the following reply to the questions proposed by the committee.

The first inquiry is, "on roads of the length and undulating character of the Philadelphia and Columbia railroad, or connecting two lines of canal, like the Alleghany portage railroad, what are the relative advantages of transportation by horse power, or by locomotive engines?"

When the profile of a railroad is undulating, unless its grades, or ascents and descents, are very short, the useful effect of a horse is materially impaired. In other words, although in descents the force exerted by him may be but trifling, he cannot, in consequence, draw a proportionably large load on ascents. With locomotive power, the diminution in useful effect is by no means in a corresponding ratio; and provided the graduation of a railroad be not at any point too steep to admit of an engine urging on its load by the adhesion of its wheels, a large proportion of what would be its useful effect on the level may be had. The engine, on ascents, travelling at a slower rate under an increased stress; on levels, or on descents, exerting any disposable force in attaining a higher speed.

When a line of railroad is not only undulating, but a long one, the superiority of locomotive power becomes more decided. The loss of time and waste of steam in starting and stopping, become relatively of less moment, and the saving in time, by the superior velocity which locomotives enable us to attain, becomes more important. In the case of the Columbia and Philadelphia railroad, for example, four days would probably be required, with horse power, for the transportation of merchandise and produce between Columbia and Philadelphia. With locomotive power, the trips may be made with entire ease and safety in six hours, including stoppages. Supposing the cost of transportation to be the same with either power, a large accommodation would be afforded to the public, in the greatly increased speed of transportation. Persons coming to Columbia with their produce would have it in their power to travel with it to Philadelphia, and to attend personally to its disposition, without any sacrifice of time; and to the community generally, facilities in intercourse and travel, and in the transportation of the mail, would be afforded, which can scarcely be appreciated until they have been realized.

There is no peculiar reason for using locomotive power on railroads connecting lines or

canal, except that the trade on such lines is, from many causes, more irregular and uncertain than on continuous railroads, and that the use of locomotive power, so far as the profile of the railroad may justify its introduction, enables us to provide an extra power to meet any exigencies of the trade; without incurring any further expense, when the engines may be unemployed, than the interest on their cost.

The next inquiry of the committee is,—“Would it, in your opinion, be practicable, by a rigid enforcement of by-laws and regulations, to make either of these roads (connected, as they are, with the lines of canal,) valuable as a public highway to the State, and to the districts of country which they are intended to accommodate?”

In reply, I would observe, that I do not think it can often be advisable to make any railroad, however short, a public highway; because, a company possessing an exclusive privilege of transportation, and bound to transport whatever may be offered it, may accommodate any given amount of trade, with a smaller disbursement for power, whether that power be locomotives or horses, and a smaller investment in cars and carriages, than would be required to insure the same amount of accommodation to the public, if transportation be effected by common carriers or individuals. A few considerations will suffice to make this apparent. Suppose the business of transportation placed in the hands of a company, the whole amount of trade on a railroad ascertained, and the maximum transportation required in a given period known. A sufficient amount of power and an adequate number of cars and carriages may be procured, and no more. The necessary shops being erected, and skilful workmen provided for repairs, these last are effected economically, promptly and properly. Presuming the capital invested to be diminished, and the power employed, the number of persons occupied, and the expenditure incurred for repairs, to be lessened, the cost of transportation may obviously be reduced; and a company, although bound to transport, without the least delay, every thing which may be offered it on a railroad, may afford to do so at a lower rate than individuals possibly can.

If, however, locomotive power be looked to on the Philadelphia and Columbia railroad, (and the reasons in its favor appear, from what has been said, to be decisive,) it seems to follow, necessarily, that the railroad cannot be a public highway. Setting aside the difficulties, and, I might add, the impracticability of adopting such a police, and enforcing such by-laws and regulations as would in that case be necessary, other considerations lead to the conclusion that, even were it practicable, there would be no advantage in transportation by locomotives on a public highway.

To make use of locomotives on a line of railroad, it is necessary that an adequate number of engines should be provided, to guard against danger of delay from accidents or other causes; that warehouses, depots, engine-sheds, and water stations, should be erected; that there should be shops with competent workmen, at different points on the line of railroad, to effect repairs without delay, and to keep the engines, cars, and other vehicles used on it, in the most perfect order. It is evident that no individual would be willing to make the permanent disbursement necessary to effect transportation advantageously with this description of a power, on a railroad entirely open; that if attempted at all, it would necessarily be also a charge to the producer, or owner, which would not be necessary under such a system as would afford to an individual or a company, a guarantee of a regular and permanent business, correspondent to the outlay which would be necessary to accommodate it effectually.

Different, but not less forcible reasons, make it, in my opinion, very unadvisable to leave it to private competition to provide the means of transportation on the Alleghany Portage. These reasons are given in some detail,

in a report which I had the honor to make to the board of canal commissioners, in December, 1829, and to which I beg leave to refer the committee. It is true that, on the Portage, the same advantage can scarcely be expected from the use of locomotive power, as on the Philadelphia and Columbia railroad; but, on the other hand, if the views taken in that report be correct, a large diminution may be made in the amount of stationary and locomotive power, and in the number of horses which would be requisite, and an accommodation given to an irregular trade, which could not be effected by leaving it open to the principle of private competition.

A view was taken in the report referred to, which it may be proper to express in more detail—this is, “that should transportation on the proposed railroads be effected by agents or responsible lessees of the Commonwealth, the objections which have been made to the Pennsylvania line of communication, as presenting, in its portage, dangers of delay and uncertainty, may be in a great measure avoided.”

Should the railroads in question be public highways, it is not believed that any competition would insure an adequate amount of power, and a sufficient number of cars for transportation, to avoid delay during those seasons of the year when the trade on the canals would be most active; and if it were otherwise, as there can be no obligation on any particular carrier to transport what might be offered him, it would be necessary for an owner sending produce or merchandize by the canal, to accompany it, or to engage the services of an agent on whom he could depend, at the point of transshipment, to forward it. It would be otherwise, under either of the arrangements which have been suggested; it would be only necessary, in either case, to consign it to the care of the transporting agent at Columbia, or at either of the points of termination of the Alleghany Portage, as the case might be, and the articles consigned would, as a matter of course, be forwarded without delay or risk, to the proper address.

The perfect facility and certainty which may be given to the largest business, under the arrangement proposed, may be judged of from the accommodation afforded by the Manchester and Liverpool railroad. On that railroad, a trade and travel so far unexampled, and certainly beyond what may be anticipated for many years on any line of railroad in this country, are accommodated daily without the least delay, interruption or embarrassment, on two tracks of rails; and the line (to use the expression of the board of directors) appears ordinarily “almost a desert.” Indeed, under proper regulations, there appears to be no limit to the business which a double track of railroad, under proper regulations, can accommodate. In this respect, the most spacious canal cannot compare with it, because the capability of this last is necessarily limited by the number of boats which can be passed through its lock of greatest lift in a given time. It is not, however, hazarding too much to say that, with trade very inconsiderable in comparison with the present trade of the Manchester and Liverpool railroad, the most serious embarrassments might be anticipated on a railroad on which transportation should be effected by individuals.

The third inquiry of the committee is, “would you recommend that the Commonwealth, by its officers, should become the transporter; or that the improvement should be leased for a term of years to a company, that should be bound to transport at certain specified rates of toll and transportation?”

I should think the latter plan the more advisable. I can entertain no doubt that, after a very short period, an estimate, sufficiently accurate, of the amount of trade on each of the two railroads, might be made, to admit of an arrangement between the Commonwealth and a transporting company, which would be fair and equitable; and if certain rates of toll and transportation were fixed on by the proper au-

thority, that proposals would be made by a sufficient number of responsible individuals, or associations, for the privilege of transportation, to insure a fair compensation to the Commonwealth for the use of its railroads, and the most complete accommodation to the public. It would be desirable, that as much time as possible should be afforded to responsible individuals or associations, who might be disposed to submit proposals, to make the necessary inquiry and investigations, and to enable the agents of the Commonwealth to act advisedly in any arrangement which might be entered into. No delay in the use of the railroads, as soon as any considerable portion of either of them was in readiness, need result from this cause. The officers of the Commonwealth might proceed to procure the necessary locomotive engines, cars and carriages, and to make all other arrangements, in the same manner as if the Commonwealth were to be the transporter. If an arrangement was made with a transporting company, the engines and cars, if of suitable construction, would be received of the Commonwealth without loss. If no disposition was made of the railroads, the agents of the Commonwealth would then be prepared to effect the transportation of passengers and merchandise at the earliest moment after the roads, or any productive portion of them, were in readiness.

The fourth inquiry of the committee is, in the event of a lease to a transporting company, "what would be necessary, on the part of the Commonwealth, beyond the completion of the railroads, and what precautions should be taken to insure their preservation?"

This inquiry has been in part answered in what has already been said. In order to accommodate the trade on two important lines of railroad, constructed by the Commonwealth, extensive warehouses would be necessary at the points of termination of the Philadelphia and Columbia, and Allegheny Portage railroads, and probably others of a smaller size at many points on the line of the former. Workshops for the purpose of repairing both engines and cars, and water stations and engine sheds, would be necessary on each line. An adequate provision, in these respects, might be made by the Commonwealth in the first instance, with a view to more extensive arrangements, as the trade might require them.

In order to insure the preservation of the railroads, it might be made the duty of the transporting company on each road, to keep the line of railroad in good order, with permission to make such extensions, in the way of turn-outs, turning platforms, warehouses, and repairing shops, as experience might show to be necessary. Or an officer of the Commonwealth might be kept on each railroad, for the purpose of making such repairs and extensions.

In the former case, a company would, of course, expect any necessary disbursements for repairs of the railroad, or extensions, to be an offset in the payment of its annual dues. It would therefore be proper for the Commonwealth to guard against unnecessary or injudicious expenditure, by providing that no claims for repairs or extensions should be paid, unless the expenditure were made on the authority of some engineer of standing, and except on his certificate that the same had been judiciously made; or, the disbursements made by a company might be submitted annually to such an engineer, and subjected to any deductions which he might deem reasonable.

I believe, sir, that I have now replied to the different queries of the committee. I fear I may not have explained my views as clearly as I would have wished. I must plead, as my apology for the hasty manner in which they are presented, the necessity of leaving Harrisburgh to-morrow morning, and the little time consequently at my disposal. Such as they are, they are with great pleasure submitted; and I shall be gratified if they should prove of use to

the committee in the investigation they are making.

I have the honor to be, very respectfully,
your obedient servant,
M. ROBINSON.

THE IRON STEAMBOAT ALBURKHA.—This vessel is now in the river Niger, with the Quorra steamboat, and seems to have been the favorite of the two vessels since they departed on their interesting expedition. The advantages of iron vessels in warm climates are ably pointed out in a short extract we gave in our last number from Chambers' Journal; and these advantages seem in no wise exaggerated in the instance of the Alburkha, according to reports received from those embarked in her. This vessel was built by Mr. Laird, of Liverpool, for the purpose of navigating the shoal water of the river, and we understand that he has since constructed another for the interior navigation of Ireland. We have no doubt that these vessels, from their vast superiority over those of wood, and their durable quality, will speedily be numerously employed.—[Nautical Magazine.]

THE TROY STEAMBOAT.—By the following extract from the "Annual Register" for 1785—"Occurrences" p. 95—it would appear that this boat is not of a new construction. * The only difference between it and that here described, seems to be in the propelling power, the one being by steam and the other by sails.

"EDINBURGH, Dec. 3.—Yesterday an experiment was made at Leith on a vessel of a new construction, the invention of a gentleman of this city. She consists of a vessel of about sixty feet long and seven broad, cut into lengthways, the sections placed at about seven feet distance, and joined at top by strong beams planked over, so as to represent upon deck a vessel of the ordinary proportions, 60 feet by 15. The experiment fully answered expectation, notwithstanding one of the principal sails was by accident, prevented from being properly set. She was attended by the king's boat at Leith, which is reckoned a fast sailing boat of her size; but the new vessel outsailed her, and when the breeze increased left her about a mile in four. It was found that the above vessel is capable of carrying double the quantity of sail of one of the ordinary construction and of the same length and breadth, and has this peculiar advantage that she only draws two feet and a half of water."

The gain by this construction, as in the Troy boat, is in an increase of speed and a diminution of the draft of water.—[Nat. Gaz.]

* There is this other difference, that Mr. Burden's boat consists of two perfect cylinders.—[Ed. N. Y. Am.]

Internal Improvement.—The good people of the upper part of the State are putting their shoulders to the wheel in the great cause of internal improvement. The contemplated rail road from Athens to Augusta is now employing all their energies. The last Banner says, "our public spirited townsmen, Messrs. Williams, Camak and Shannon, returned a few days since from the counties of Greene and Morgan, where they had been for the purpose of procuring subscriptions to the stock of the Georgia Rail Road Company. Their success in those counties was truly gratifying to the friends of internal improvements, and places the entire success of the project beyond a doubt. We now look upon the matter as entirely settled. A very short time will witness the commencement of a system of internal improvement in Georgia, which must, at no distant day, place her proudly by the side of her most exalted and flourishing sisters."—[Georgian.]

[From the Journal of Commerce.]

SUPERIOR COURT—MAY 27.—JUDGE JONES, presiding. *Miles Burke against the Camden and Amboy Rail Road and Transportation Line.*—Damage laid at \$1000.

This was an action to recover damages for injuries done to plaintiff's goods, whilst being forwarded by defendants from Philadelphia to New York.

From the evidence adduced on the part of the plaintiff, it appeared that his son, Master Joseph Burke, left Philadelphia on the 21st of December last in the defendants' steam boat. On that occasion, Master Burke brought with him his own private wardrobe, a theatrical wardrobe, containing forty or fifty dresses, two violins and a trunk full of music in print and manuscript. The baggage thus designated exceeded in weight what passengers are permitted to carry without paying for it, and \$1 50 charged for the surplus.

The baggage of all the passengers in the steam boat was put in a wooden crate or crib, which remained on the deck of the steam boat until it reached Bordentown. The crate with its contents was then being lifted from the boat by a crane which stood on the wharf, and whilst it was suspended in the air, the strap of the crane broke and the crate fell into the water, where it remained about twenty minutes before it was raised out of it. Master Burke's baggage was in consequence entirely saturated with water. The value of the property before this accident, was estimated at \$200 for the two fiddles, \$300 for the music, and from \$1000 to \$1600 for the dresses, all of which articles were considerably injured, and some of them rendered altogether useless by their immersion in the water.

In bringing the action, the plaintiff regarded the defendants as common Carriers, and on that ground sought to render them responsible. They also endeavored to show that the defendants were guilty of negligence in not having sufficiently manned the rope before the accident, and having used it for too long a period without repair or renewal. The defendants admitted that the rope was not calculated to last more than a year, and it had been nearly eight months in use when the accident occurred. When the rope broke, a thicker one was substituted in its place, which the plaintiff maintained was a tacit admission that the first rope was not sufficiently strong.

On the part of the defence, Master Burke was cross examined as to his age, and how the profits of his profession as an actor were applied by his father. To these questions he answered that he did not consider himself more than 15 years old, that he had been an actor during the last ten years, and was altogether ignorant how his father applied the profits derived from his [Master Burke's] acting.

The object of the defendants' counsel in putting these questions, was to show that the property on account of which this action was brought, had been purchased with the profits of Master Burke's acting, and also with a design to show that these profits were received and retained by the plaintiff merely in trust for his son;—in which case the present action should have been brought in the name of Master Burke's guardian.

The Court remarked that the father was entitled to his son's earnings, and unless it could be shown that his father had invested those earnings in his son's name, or had made a written agreement on the subject, the counsel's objection would not hold good.

It was then contended that the public notice given by the defendants in their advertisements, &c. that all baggage should be carried at the risk of the traveller, rendered the present case different from that of common carriers, and prevented the defendants being liable unless they had neglected to provide proper and sufficient means of transport. That in the present case, the sufficiency of transport having been provided, depended whether the crane was sufficient for the purpose of raising the crate from on board, and to prove that it was, several witnesses were called, who deposed that the strap attached to the crane was formed of a rope 4 1/2 inches thick, which was sufficient to raise three or four tons; and that the crates of goods in the steamboats never exceeded or perhaps amounted to 3000 lbs. weight, and were more generally about 23 cwt. The strap of the crane was also served or twined over, as ropes are done in ships, and after it broke, no natural defect or injury from time or the weather could be perceived in it, nor could its breaking be in any way accounted for except by attributing it to pure accident.

It was also shown that Master Burke had frequently travelled on this line before, and had been informed that the proprietors would not be answerable for any injuries done to passengers' baggage or losses which they might sustain.

These were the principal points urged on the part of the defence.

The Court summed up the evidence and commented on it, and advised the jury, in order that the law points involved in this case might be considered hereafter, to find for the plaintiff, on the ground that the defendants were common carriers, and therefore liable for the losses sustained by the plaintiff. The jury would also find a special verdict relative to the question of negligence, and if by possibility they found a verdict on both points, it would probably stand good.

The jury returned a verdict of \$500 damages and 6 cents cost.

And that there had been no negligence on the part of the defendants.

Counsel for the plaintiff, Messrs. Graham—for the defendant, Mr. Anthon.

Animal Mechanics, or Proofs of Design in the Animal Frame. [From the Library of Useful Knowledge.]

(Continued from page 327.)

PART II.

Showing the Application of the Living Forces.

Amongst the least informed people, and in remote villages, there are old laws and rules regarding health, sickness, and wounds, which might be thought to come from mere experience; but they are, on the contrary, for the most part, the remains of forgotten theories and opinions, laid down by the learned of former days. Portions of knowledge, it would appear, confined at first to a select part of society, are in the progress of time diffused generally, and may be recognized in the aphorisms of the poor. These are traced to their source only by the curious few, who like to read old books, and to observe how that which is originally right, becomes, through prejudice and ignorance, distorted and fantastical.

If a very little exact knowledge of the structure of our own frames were more generally diffused, charity would be advanced, empirics could hardly maintain their influence, and medical men might have a further motive to desire professional eminence.

Men suppose that the knowledge of their own bodies must be a science locked up from them, because of the language in which it is conveyed; or they take away their thoughts from it, as from the contemplation of danger, unwilling to survey the slight ties by which they hold their lives. They are like persons for the first time at sea, who shudder to calculate how many circumstances must concur to speed the frail vessel on its voyage, and how little is between them and the deep. It is then a mean and timid spirit that shuts out from our contemplation the finest proofs of Divine Providence. Galen's treatise on the uses of the parts of the human body was composed as a hymn to the Creator, and abounds in demonstrations of a Supreme Cause; and when Cicero desires to prove the existence of the Deity from the order and beauty of the universe, he surveys the body of man, deeming nothing more godlike, as marking man's superiority to the brutes, than the privilege of contemplating his own condition, since it teaches him the ways of Providence, from a knowledge of which come piety and all the virtues.

Although we are writing under the title of *Animal Mechanics*, the reader must be aware that we cannot proceed much farther on mechanical principles alone. At least, before we have it in our power to illustrate particular parts of the animal frame by reference to those principles, we must have the proofs before us that we are considering a living body. It is the principle of life which distinguishes the studies of the physiologist from the other branches of natural knowledge. To lose sight of this distinction is to tread back the path, and to engage once more in the vain endeavor to explain the phenomena of life on mechanical principles. We have taken mechanics in their application to mechanical structure in the living body, because they give obvious proofs of design, and in a manner that admits of no cavil. Yet, although those proofs are very clear in themselves, they are not so well calculated to warm and exalt our sentiments

as these which we have now to offer, in taking a wider view of the animal economy.

In entering on the second department of this treatise, the reader may be startled at the subjects of discussion, but this comes also from ignorance of their nature. Much may be learned from the observation of things familiar. Their perpetual recurrence banishes reflection respecting them, but it is the business of philosophy to make us alive to the importance of that which we have been accustomed to from childhood, and have therefore long ceased to observe with attention.

In the first chapter of this second part we shall continue to examine the operations of the animal body, independently of the agency of the living property: we shall consider it as a mere hydraulic machine. Following the blood in its circle through cisterns and conduit pipes, we shall point out the application of the principles of this science, as we formerly did those of mechanics, and so arrive at the like conclusions by a different course. And as we before found every muscular fibre adjusted with mechanical precision, so now we shall find every branch of an artery, or of a vein, taking that precise course and direction which the experience of the engineer shows to be necessary in laying the pipes of an engine.

Having thus surveyed the mechanical operations of the animal body, and the course of the fluids conveyed through it, on hydraulic principles, we shall consider ourselves as having advanced through the meaner to the higher objects of inquiry, and proceed to show how the principle of life bestows different endowments on the frame-work; how motion originates in a manner quite different from that produced by mechanical forces; how the sensibilities animate the living properties of action; how the different endowments of life correspond with each other, and exhibit power and design in a degree far superior to any thing that we observed in the mechanical adjustment of the parts or the circulation of the fluids.

CHAPTER I.

THE CIRCULATION OF THE BLOOD UPON THE PRINCIPLES OF HYDRAULICS.—In tracing the course of the circulation of the blood, it is natural to inquire how far the system of reservoirs, pipes and valves, which form the apparatus for conveying it, are constructed on the principles of hydraulics.

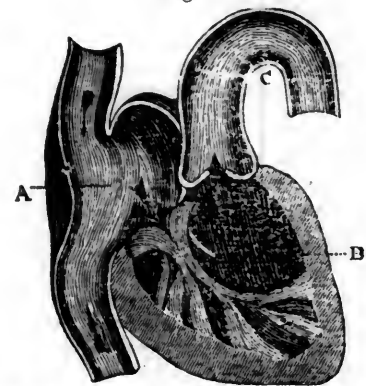
We find this difficulty in the outset, that the vessels containing the blood are not rigid, like those the engineer employs in erecting hydraulic machinery. Instead of resembling pipes which convey water, and which receive the force of gravitation on them, they have both elasticity and an appropriate living power. The artery, the tube which conveys the blood out from the heart to the body, has a property of action in itself. Its elasticity and muscular power must derange those influences which we study in pure hydraulics.

There is to be found, notwithstanding, a great deal that is common to both, when we compare the tubes of an animal body with the hydraulic engine; the capacity of the vessels; the increase or diminution of their calibres; their curves; the direction of their branches—all these ought still to be on the same principles on which experience has taught men to form conduit pipes. We ought not to be indifferent to these proofs of de-

sign, because we acknowledge that an infinitely superior power is brought into operation in the animal body, and which is necessary to the circulation of the blood. It renders the inquiry more difficult, but it does not obscure the inferences drawn from the consideration of the whole subject.

We shall first present to our readers the simplest form of the heart. It is not necessary to detail the more complicated structure of the human heart, where, in fact, two hearts are combined; the fibres of the one continued into the fibres of the other, and the tubes twisting round one another so as to present the form which is familiar to every body. Although there are four intricate cavities, seven tubes conveying the blood into them, and two conveying it out of them, we shall, for the purpose of considering the forces circulating the blood, and comparing the living vessels with pipes, present the heart and vessels as simple; yet with perfect truth, being, in fact, the heart and vessels of animals of more simple structure.

Fig. 1.



The action of the heart is this: the blood returns from the body by veins into the sinus, or auricle,* A, and distends it; this sinus is surrounded with muscular fibres; by the distention or elongation of these fibres they are excited, and the sinus contracts and propels the blood into the ventricle B. The ventricle is, more muscular; it is, in fact a powerful hollow muscle; it is excited by the distention, and contracts and propels the blood into the artery, C.

We understand, then, that every heart must, at least, consist of two cavities alternating in their action; that the vessel which carries the blood to them is called a vein; and that the vessel which carries the blood out from them is the artery.

The first thing that strikes a person examining the heart is the extraordinary intricacy of the cavities, from the interlacing of its muscular fibres, and he naturally says that they appear ill calculated for conveying a fluid through them. There is an attraction between fluids and solids, he might observe, and this attraction is increased by the extension of the surfaces of the pillars and cords which he sees in the interior of the heart.

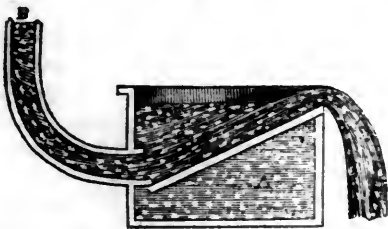
We must remind him that the blood is coming back from the body, having performed very different offices, in different parts, and has parted with different properties in the several organs it has supplied. There is, in that stream of blood which enters through the vein, a new supply of fluid,

* Auricle, from *auricula*, the flap of the ear, is a name given to the sinus, because a corner of it hangs over like a dog's ear.

which has come by digestion, the material for making fresh blood, as well as that which has run the circle. These two fluids must be thoroughly mixed together, and no doubt this is one of the offices provided for by the intricacy of the interior of the heart.

Again, looking to the recesses of the cavities formed between the fleshy columns, and behind the valves, we might suppose that the blood would remain there stagnant. There are cavities, or recesses, too, in the remote parts of the circulating vessels, where we might suspect that the influence of the stream would not be felt, and a stagnation might take place. But there is attraction between the particles of fluids, as well as between the fluids and their containing tubes. Let us see then how, in this figure, a stream of

Fig. 2.



water, carried through a cistern of water, will, by its friction, draw after it the water in the cistern, and carry it above its natural level, and over the side of the vessel.

The stream entering the reservoir, A, by the pipe, B, carries with it all the water, C, which stands above the level of its upper surface. By this we see that the stream of blood entering into the heart, even if its cavities were not emptied at each impulse, as some contend they are, would draw out the blood from its recesses, so that no part could remain stagnant, but, on the contrary, all would be carried in eddies round the irregularities, until they took the direction of the great artery, in which they would be perfectly combined.

The next thing to be noticed partakes of the nature of a mechanical provision—we mean the action of the valves.

We must here remark, that the opening into the ventricle is very different from that which leads out of it, the latter being much smaller. Medical writers describe this as if it were nothing to them, and a mere accident. But it must be recollected that a stream of water entering a reservoir is in a very different condition from that which is going out of it; it is on this principle that the mouths (*ostia* is the anatomical term) of the ventricle are differently formed, and it is this difference which makes the structure of the valves which guard those passages so dissimilar and so appropriate. Without attention to this we should follow our medical authorities, and call this variety in the mechanical adaptation a mere playfulness in nature. It is more agreeable to us to see a precision of design visible at the first step of this inquiry.

The valves of the heart are regular flood-gates, which close the openings against the retrograde motions of the blood. They are not all of the same mechanical construction, and their difference deserves the reader's attention as proving design in this hydraulic machinery.

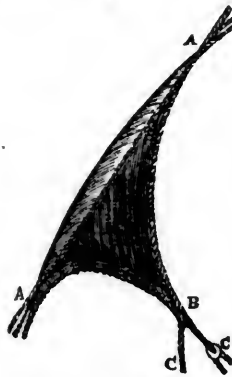
The valve which we have first to describe closes the opening betwixt the auricle, or sinus, and the ventricle, and prevents the

action of the ventricle propelling the blood back again into the auricle.

It is a web, or membrane, resembling a sail when bagged by the wind. The blood catches the margin of this membrane, and distends it as the wind does the stay-sail, or gib, of a vessel, which it much resembles, being triangular and pointed. There are three of these membranes, and the valve is called *tricuspid*, or three-pointed. Three membranes, then, of this kind, combining and being floated back upon the mouth of the opening, effectually close it.

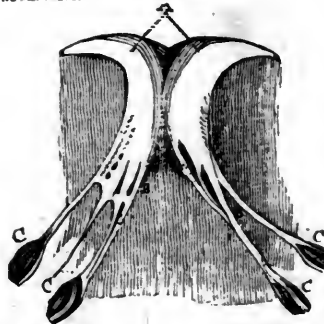
The illustration of the action of these valves by a sail is so perfect, that if the reader will have patience to attend to those little contrivances which the mariner finds necessary for strengthening his canvass, and giving to it the full influence of the wind, he will have an accurate idea of the adjustment of these floating valves.

Fig. 3.



To carry on the comparison: one edge of the stay-sail is extended upon the stay, A A, and tied to it by *hanks*. The edges of the sails, called the *leeches*, have a *bolt-rope* run along them; and on the edge where it is attached, the canvass is strengthened by being hemmed down or tabled. In the same way as the foot of the sail, or lower margin, is strengthened with the bolt-rope, just so are the valves strengthened at their edges and their corners. Where the two ropes join in the loose corner of the sail, they form a clue—a loop to which tackle is attached; the valve has such a corner so strengthened, and has a cord attached. The corners of the sail are strengthened by additional portions of canvass called *patches*; so are the valves strengthened where their tendons are

Fig. 4.



infix. To the corner or clue, B, ropes are attached which are called the *sheets*, C C. These being drawn tight, spread out the foot of the sail to one side or the other, according to the direction of the wind, and the tack the ship is on; the valves have also their tackle; and, in short, we shall find a resemblance to all the parts of a sail in the valves of the heart.

One edge of the triangular valve is tied to the margin of the opening, as one of the leeches of the sail is attached to the stay; the opposite corner is loose, and floats, as the sail does in tacking, until the blood, bearing against it as the wind bears against the sail, bags and distends it; the corner is then held down by tendons, for there are cords attached to the corner of the valve, as well as to the corner of the sail. These the anatomists call *corde tendineae*, B B, which in their office have an exact resemblance to the ropes called the sheets of the sail. They are delicate tendons attached to the margin of the valve, and they prevent the margin from being carried back into the auricle.

INDIAN RUBBER WATER-PROOF.—This substance is every day becoming of increasing importance. For harness and various other farming and domestic purposes, it will at no distant day be used. The following is from the Ohio State Journal:

Having heard much said of late in favor of Jewitt's water-proof, as rendering leather perfectly tight, I witnessed an experiment on Saturday last, showing the improvement of the leather as to its durability; and were there not a number of the most respectable citizens present, I should hesitate to state the fact and publish it to the world. Two pieces of leather, of equal thickness, were tried upon a grindstone, under a pressure of a weight of 12 lbs. In the first place, the leather in its natural state was placed upon the stone, which was revolved 1500 times; then the piece saturated underwent the same operation 3000 times; and when compared, it was found not to be so much worn as the leather in its original state. From the test made, I have no hesitation in giving it as my opinion, that leather thus prepared will last twice as long as that in its original state. When it is considered that in addition to its rendering leather perfectly impervious to water, it adds 100 per cent. to the wear, its value to the American people is almost incalculable.

P. H. OLMSTED.

Columbus, March 18, 1834.

From the Eclectic Journal we extract the following:

In our former notices of this valuable article, we omitted mentioning particularly its beneficial applicability to all kinds of leather harness. It could not fail to have been observed by every individual who has had the opportunity, that those parts of harness composed of leather are, in general, injured infinitely more by wetting and drying, both by rain and sweating of the horse, than by friction or actual wear. By wetting and drying, the leather becomes hard and unpliant, in which condition it cracks and breaks. But let the harness be saturated with the water-proof, and neither water nor sweat can penetrate it, and the leather must remain as soft and pliable after exposure to wet as before. This will certainly render the harness more durable, as well as less liable to chafe or gall the horse.

In conclusion, we will repeat the suggestions of Col. Jewitt, that his composition will be equally as applicable to wood as leather, and by excluding the water from its pores, vastly increase its durability. If future experiment confirms this suggestion, as we have strong reason to hope it will, the advantages which hydraulics, and particularly the shipping interest, will receive from this discovery, will be incalculable.

THE CHINESE WALL.—According to a statement in the "Morgenblatt," the celebrated Chinese wall was erected 213 years before the birth of Christ, against the Mongolese. It is 714 German miles long, 14 feet thick, and 26 feet high; so that with the same materials, a wall, one foot in thickness and 23 in height, might be carried twice round the whole world.

YEARS.—The word Year is purely Saxon, and is supposed by some to be derived from *æra*: whilst others deduce both words from the Greek *ear*, or Latin *ver* (Spring); because many of the ancients were in the habit of dating the commencement of the year from spring. In the Hebrew, Greek, and Latin languages, the word *year* is expressive of a ring or circle. The Egyptians also represented it by a snake placed in a circular position, with its tail in its mouth; whence, perhaps the name of the *Zodiac*, or that *imaginary* circle which is made by the sun in the heavens, during the twelve months. The time in which the sun performs its journey through the twelve *signs* of the *Zodiac* comprehends 365 days, 5 hours, 48 minutes, and 48 seconds, and is therefore styled the Natural, Solar, or Tropical Year. The Sidereal, or Astral year, is the time which elapses from the sun's passage from any particular fixed star, until its return to it again, and is just twenty minutes and twenty-nine seconds longer than the natural or solar year. The Lunar year consists of twelve lunar months, or that period during which the moon passes twelve times through its various phases, or changes. The common or civil year, in use with us and established by law, contains 365 days during *three successive years*, but in each *fourth* year an *intercalary* or additional day is inserted, in order to make up the number 366, such additional day being considered equivalent to the time lost by not counting the five hours and forty-nine minutes at the end of each of the four years, from one *Bissexile* or Leap year to another. The word *leap* sufficiently explains the act of passing over the hours in question. This plan was invented by Julius Cæsar, or by Sosigenes, the Egyptian mathematician, who assisted him in rectifying the Calendar. The additional or *intercalary* day is with us always placed in the month of February, which consequently in *Leap Year* consists of twenty-nine days, the usual number being twenty-eight. Cæsar placed it in the month of March, by reckoning the sixth day of the calendar of that month *twice over*, hence the term *Bissexile*, from the words *bis* (twice) and *sex* (six), or *sextilis* (sixth day). But by the Gregorian alteration, the fourth year coming at the close of a century is not a leap year, unless the number of hundreds be a multiple of four. Thus 1600 was a leap year, 1700 and 1800 were not, 2000 will be. The reckoning of time by the course of the sun or moon was attempted in various ways by different ancient nations; but they, finding that their minor divisions of time did not correspond with the courses in question, endeavored to prevent confusion by ordaining a certain number of days to be *intercalated*, or inserted, out of the common order, so as to preserve the equation of time. The *Egyptian* year (as used by Ptolemy) consisted of 365 days, which were divided into twelve months of thirty days each, besides five *intercalary* days at the end. The *Egyptian Canicular*, or *natural* year, was computed from one *heliacal* rising of the star Sirius, or *Canicula*, to the next. By the regulation of Solon, the ancient *Greek* year was *lunar*, and consisted of twelve months; each containing thirty and twenty-nine days, alternately; and, in every revolution of nineteen years, the third, fifth, eighth, eleventh, sixteenth, and nineteenth, it had an *intercalary* month, in order to keep the New and Full Moons to the same seasons of the year. The ancient *Jewish* year was the same as the *Greek* one, only that it was made to agree with the Solar year by adding eleven and sometimes twelve days at the end; or an *intercalary* month when necessary. The modern *Jewish* year consists of twelve lunar months generally; but sometimes of thirteen, that is, when an *intercalary* month is inserted. The *Turkish* year consists of twelve lunar months of thirty and twenty-nine days alternately, sometimes of thirteen. The ancient *Roman* year, as settled by Romulus, was *lunar*, but contained only ten months, which were irregular, and comprehended 304 days in all; being a number fifty

days short of the true *lunar* year, and sixty-one days of the *solar*. Romulus added the requisite number of days at the end of the year. Numa Pompilius added two months, making the year to consist of 355 days, thereby exceeding the *lunar* year by one day, but being short of the *solar* one by ten days. Julius Cæsar, during his third consulship, and whilst he was Pontifex Maximus, or high priest of Rome, reformed the calendar by regulating the months according to their present measure, and adding an *intercalary* day every fourth year to the month of February; but he being assassinated before his plan could be fully brought into operation, the Emperor Augustus perfected and established what his kinsman had begun. The *Julian* year, which consisted of 365 days and 6 hours, was, however, still incorrect; for it was found to be too long by about 11 minutes, which in 131 years would be equal to one day; consequently, there was a further reformation of the calendar by Pope Gregory, in the 1582. He cut off eleven days, by calling the fourth of October the fifteenth. This alteration of the *style* was gradually adopted in the several countries of the European continent; but in Russia, in some of the Swiss cantons, and in the countries of the East, the *old style* is still preserved. The Parliament of England adopted the *Gregorian* plan, in 1752, by enacting that eleven days should be *omitted* that year, all dates therefore, previous to 1752, are said to be according to the *Old Style*: whilst those since that period are deemed to be according to the *New Style*. In 1800, which was properly a *bissexile*, or leap year, the *intercalary* day was omitted; hence the difference between the old and new style is now twelve days. The *Gregorian* regulation does not absolutely preclude all error in future; but that is likely to be so trifling, as not to require particular attention. The beginning of the year has by no means been the same in different ages and countries. The Chaldeans, the Egyptians, and the Jews, in all civil affairs, began it at the *autumnal equinox*. The ecclesiastical year among the Jews, the common year of the Persians, and of the Romans under Romulus, commenced in spring: a mode still followed in many of the Italian states. Both the *equinoxes*, as well as the *summer solstice*, were each the commencing date in some of the states of Greece. The *Roman* year, from the time of Numa, began on the calendar of January; the Arabs and Turks compute from the 16th of July; the christian clergy formerly commenced the year on the 25th of March—a method observed in Great Britain, generally, in civil affairs, until 1752; from which period our civil year has begun on the 1st of January, except in some few cases, in which it still commences on the “Day of Annunciation,” or the 25th of March. In Scotland, the year was, by a proclamation, bearing date so early as the 27th of November, 1599, ordered thenceforth to commence in that kingdom on the 1st of January, instead of the 25th of March. The English Church, still, in her solemn service, renews the year on the *First Sunday in Advent*, which is always that next to or on *St. Andrew's Day*. Our ancestors, after the establishment of Christianity, usually began their year at *Christmas*, and reckoned the commencement of their *era* from the incarnation, or birth of Christ. William the Conqueror, however, introduced the method of substituting the first year of his own reign for the Christian *era*. At subsequent periods, the English reverted to the ancient custom; but all State proclamations, patents, charters, and acts of Parliament, have continued to be dated from the commencement of the reigns of the respective sovereigns, with the addition of the words, “and in the year of our Lord,” &c. The Russian government did not adopt the Christian *era* until the time of Peter, in 1725; their previous practice had been to reckon from the world's age, or the *year of the creation*.

CREAM OF TARTAR, rubbed upon soiled white kid gloves, cleanses them very much.

AGRICULTURE, &c.

[From the New-York Farmer.]

Cultivation of Grape Vines in Pots. By the Editor.

Very considerable attention is now being paid, by gardeners in England, to the cultivation of the vine in pots. In some instances the long cuttings from large vines are curled around the inside of the pot, leaving above the soil but one or two eyes, which, in consequence of the numerous roots that are made, speedily obtain a vigorous growth. By giving the vines a circular training, they will become quite ornamental, and take up but comparatively little space. By putting the pot containing the vine in another, and filling the space between them with soil, a uniform moisture may be easily preserved. To families living in towns and cities, the subject is of much importance; to the ladies in particular we recommend it. Mr. Mearns, gardener to the Duke of Portland, thus expresses himself in the Horticultural Register, on this method of cultivating them in England:

“By my method I shall introduce vines into any farmer's garden in the kingdom, where none had previously been; and at the expense of little besides ten or twelve lights of glass will insure him from 500 to 1000 fine bunches of good grapes the first season! If any one can boast the same, the fact has never been laid before the public, else it is likely I should have seen it. I go thus far, on purpose to raise a curiosity, and to excite every degree of emulation, knowing, that if such can be excited, the system will very soon discover itself to be most important to the country. The successful cultivation of the grape is certainly one of the simplest branches of the art, both in pots and in borders; if a vine be left entirely to itself it will soon become fructiferous, after having been for years under the most rigid discipline to little purpose. A vine, excited to a high degree of luxuriance, is neither the most fruitful nor produces the finest or best grapes. I have seen Hamburgs, from three to six and eight pounds weight each bunch! The vines comparatively *weak*, and vine border very shallow, and by no means rich!

“As curiosity will be created by such a remark, I beg to state that such grapes were repeatedly produced by a Mr. Minnett, formerly gardener to Mrs. Powes, Berwick House, near Shrewsbury.

“I have there seen bunches of Hamburgs from fifteen to sixteen inches long, and from eight to ten inches across the shoulders; the berries all of a perfect black, as close as they could grow together, and the size of a boy's large marbles.

“I have coiled into pots this season upwards of a hundred branches; forty and more of which I have got into action. I shall continue to introduce others till the middle of June; if I can *starve* them into dormancy by cold bleak exposure, or by burying them in clay-cold murkey graves or caves! or by being sunk under a wall on a north aspect. I am begging of all my friends the long branches which they cut out in pruning, and as far as Somersetshire, Worcestershire, Staffordshire, &c. &c., so that I expect, in a short time, to have a stock of plants sufficient to produce 1000 bunches the first season.”

"Put in your cuttings of young wood, in coils of three, four, to five feet, blinding all the eyes, except the two uppermost. I choose to leave two eyes till the finest gets the lead, and is safe, for fear of accident to one alone; I then slip the weakest off. If placed into a bottom heat, and the eyes be buried about an inch or two in the pots, in the course of coiling, by the time the best eye appears above the soil, as strong as the bud of a fine asparagus! the whole coils beneath will be completely occupied with young active roots; and by the time the shoots are four feet long, the pot will be a perfect mat of those eager feeders. Then shift and top the shoot and never leave on any laterals; plunge as before into a fine bottom heat and encourage the main top-most eye alone to push; and lead it on, but without laterals, till it is again four feet long; when, if the pot is full of roots, shift, top it as before, and encourage again the uppermost eye only to start; and by the time it is another four feet, if not over-potted before, it will require a third shifting. If required, you may stop at every four feet, five or six times; but three shiftings will be found enough for the season; and you had best not suffer it to reach above from twelve to twenty feet of clear bearing wood. At the end of the season you will have shoots one inch and a half diameter, and with fine bold eyes, and full of fine set bunches for the next season!

"You will readily perceive, that, by such an early and abundant accumulation of young vigorous roots, and by such a top and bottom management, it is no extraordinary miracle to have every cutting a fruit bearing shoot at one season's growth; and by a proportional coil of large older wood, it will be equally obvious to you how readily such will produce a fine crop the first season!"

"The extraordinary progress of my grapes upon the coiled vines, placed in a bottom heat, astonishes every one. In another season, when I have got my wood early ripened, I intend to start some in October, and to have plenty of fine ripe grapes by the middle of February. I have some at this time half grown, the branch being only cut from the vine, and placed in bottom heat 20th of November! 'Can such things be?' Yes, easily and simply so. I intend to keep some coilers as late as the middle or end of July, before they are excited, and then to place them in a bottom heat. The fruit, by doing so, will be perfectly ripe before the dull weather of autumn sets in, but not so with the wood; by which circumstance they will retain the leaves vigorously through the winter, and consequently the fruit will retain its plumpness till April or May!

"You will now say this is going too far, but it undoubtedly may be done. New ripe grapes in February, and plenty of old grapes till the end of June! There is little beyond the power of man, if he will but exert those faculties with which God has endowed him."

Uses and Cultivation of the Pie Plant or Rhubarb. By D. F. AMES. [For the New-York Farmer and American Gardener's Magazine.]

MR. FLEET.—America is blest with a favorable climate, and peopled by natives from all parts of the earth, who variously cultivate our various soil; and yet our markets are not so well supplied with fruit and vegetables as those of less favored lands. This arises, in part, from the very limited demand for any thing out of the common way. Animal food

is of a more heating and irritable nature than vegetable; consequently less adapted for our summer season. Indeed, at any time, the wholesomeness as well as luxuriance of our table is greatly magnified by these salutary additions. Among their number, I wish to call the attention of your readers to the Turkish rhubarb, *rheum raphaniticum*. This is a valuable plant, and only requires to be known to receive general cultivation; it has the important recommendation of presenting itself for the table, when few others for a similar purpose are to be had. The petioles or stems of its large fan-like leaf are the part to be prepared. When the leaf is fully expanded, cut it close to the main stem, remove the green top, then deprive the stalk of its outer skin by stripping it down, and not by cutting with a knife; then cut it in small lumps, not too thin, and either boil it in dumplings made of short paste, or bake it in tarts, using sugar, lemon, &c., to the taste. It is found greatly to improve the flavor of apple tarts or pies, by mixing it in the proportion of one-third to two-thirds of apples. The latter fruit having been kept through the winter generally loses its flavor, and becomes flat and insipid. But the good housewife will soon find a variety of ways to cook this delightful plant. I shall only add that it has the reputation of being very serviceable in aiding the discharge of bile, and conclude with a few remarks on its culture. The medical rhubarb is principally brought from the mountains of Tartary, and is the dried root of this plant. It grows there in great abundance upon the declivities of the mountains, preferring a light sandy soil, on the south side, but in the shade; therefore procure a place in a warm shady border of your garden, loosen the earth, *far and deep*, enrich the spot with some rich light soil, and place the root upon a small quantity of old stable manure, so that its top, before any leaves have started, be six inches below the surface; over the crown of the root, strew a little more manure and cover it with fine mould. In the spring, when the leaves begin to appear above ground, draw the earth round them, and when the stem of the leaf has attained the length of six or eight inches, they may be cut for use. The main stem will attain the height of six or eight feet. The root for planting may be obtained at the seed stores and nurseries.

As early as February or March, some growers of this plant put barrels or large boxes over the plants, and cover the whole with heating manure. Thus treated, they will grow very rapidly. Others let them stand in open warm situations, taking no other pains than keeping the ground free from weeds, and cut the leaves as wanted. They are propagated by separating the suckers or roots from the main stem. In a few years one plant will make a dozen or more.

D. F. AMES.

WASHING AND SHEARING SHEEP.—When we wash sheep in warm weather to cleanse their wool it does not injure them, but if cold, it does, and sometimes introduces the rot.

Washing common sheep's wool on their backs is the best method to prepare it for carding, that I have observed, if it is well done; and the best way to do this is to put the sheep in clean running water (to the number of 50 or 60) before we commence washing; this soaks, and dissolves the dirt in the wool, so that even merino wool is made much cleaner. (This we discovered by a merino sheep jumping out of a boat and going to shore, and when we washed it, the wool that had been

wet was considerably cleaner.) Then carefully wash them the common way.

Wool is much better, when shorn early, both for carding and wearing.

I have shorn my sheep from the 1st of 5th mo. (May,) to the 6th mo., (June,) and by several years' experience in carding wool, have found that the earlier wool is shorn the better it works in carding, even merino as well as common wool; because it is more elastic, and softer: but when wool is shorn late in the season, it becomes dead and harsh, and is subject, when carded, to nap: so that early shearing, keeping sheep in good order, and washing wool suitably, are material objects.

According to my observation, about the latter end of April and the first week in May is mostly warm dry weather; that if sheep were shorn about this time, their wool would card, and wear much better than when shorn late; and they do as well with me as when their wool was taken off late, having a suitable shelter.

The best method that I have observed of washing common wool after shearing is to put 8 or 10 lbs. in a tub of cold, soft water; let it soak 30 or 40 minutes, then rub it slightly and rinse it out; fill the tub with fresh wool as before, in the same water, and when thus done, rinse it in clean water, and shake it out loose for drying. Warm water takes the grease too clean out of common wool for carding; and it makes it harsh, and is more or less subject to be fulled; soaking the wool dissolves the dirt, and this is all we want out of common wool; to rub it slightly, for wool may be fulled by rubbing it much, and wool should not be fulled, for that will cause it to nap in carding; to shake it out loose, for wool made loose and unconnected cards the best; it is best not to empty the water until done washing, because the oftener we wash in the same water the cleaner wool will be; for the grease in wool acts like soap, in cleansing it; on this account it is preferable to wash the locks first, before we wash that which is for more particular use.

Wool ought to be taken in before rain, for that injures it, by connecting, or interlocking the fibres; it also makes it harsh and compact.—[Ohio Aurora.]

CULTIVATION OF GARDEN SEEDS.—Without great care in raising seeds, many kinds of garden plants will deteriorate or become of mixed varieties. It is not only necessary to make an early selection of the very best plants for seed, but those growing under all the circumstances likely to produce the desirable properties. If planted near each other, particularly if they flower at the same time, they are sure to mix, and, in nine instances out of ten, produce inferior plants. Among the vegetables liable to hybridise are the brassica family, including cauliflowers, broccoli, cabbage, turnips, &c., and different kinds of peas, beans, cucumbers, beets, onions, lettuce, and corn. The latter, in particular, will, by the aid of strong winds, mix at a great distance. Those who grow seed for sale cannot be too careful.

QUICK SILVER IN TREES.—On reading the following paragraph, in the Genesee Farmer, the thought occurred to us that the infusion of mineral or vegetable preparations into the circulation of the sap of peach trees, infected with the yellows, might be attended with good effects.

"Mr. Garrigues states that a plum tree in his vicinity, which had for several years dropped all its fruit prematurely, had, since a hole had been bored into it, and a quantity of quick silver deposited therein, ripened its fruit, which had been so abundant as more than to supply the family of the owner."

NEW-YORK AMERICAN.

MAY 31—JUNE 6, 1834.

LITERARY NOTICES.

No. XXVI.

Peoria, Illinois, March.

I have gone through a variety of amusing and some vexatious adventures in crossing the country from Galena to this central place; but you have now been with me so long upon the prairies that I shall not fatigue you by detailing more of a traveller's passing mishaps and petty encounters. The great melting of the snows that detained me at Galena, was followed by a sharp frost, which, crusting over the swollen streams, made their passage very painful for the horses. In passing through the Winnebago swamp, we drove for the distance of a mile through water up to the chests of our horses, and so heavily coated with ice, that it was as much as the leaders could do to break a way with their fore feet. My fellow traveller, however, for I started with but one from Galena, proved to be an old campaigner and capital travelling companion, and we managed to extract some amusement from every occurrence, however annoying; and whether we were jolting over the frozen ground in an open wagon without springs or seats, or keeping the freezing night-wind away by stuffing our bed clothes in the crevices, as we shared a pallet together in some half constructed log edifice, the spirit of fun and good humor has been sympathetic between us.

About a day's journey from Galena, we passed over a reach of prairie, some 12 or 14 miles in extent, where my companion, who is a middle-aged man, was fortunate enough, a few winters ago, to be the cause of saving a great many lives. A train of sleighs, holding more than a dozen people, among whom were several females, started immediately after breakfast to cross this narrow arm of the prairie; and though the distance was only as I have stated it, they contrived somehow to lose their way in the snow, and night closing in found them apparently as far from the house they were seeking, as when they started in the morning. They had, in fact, during a sudden flurry of snow, turned completely round, and, as my companion was the first to discover, were actually going backwards instead of advancing on their route. A council was at once held, and all except my friend were for still pushing forward, though the horses were worn down with fatigue, and several of the travellers already frost bitten or becoming torpid with cold. But my companion, who probably had more experience in such scenes than any of the company, immediately took command and ordered a halt, declaring that he would not move a step further, and warning them that they would perish should they not make use of the few moments of light that were left them to secure themselves for the night. Providentially every one yielded to him. The horses were turned loose, and the snow having been removed from a large space of ground, it was forthwith covered with buffalo skins, and the largest sleigh in the train placed inverted upon them. The whole company then, with the exception of my friend, crawled beneath the impending structure, while he remained outside and covered up the box with snow, shovelling it on with a piece of board. This exercise—which alone saved his life, while it ensured the safety of theirs—he continued till morning, when some of the horses having found their way into the settlements, the people came out and led the company to their homes. During the same spell of weather, if not on the same night, two waggoners and some oxen were frozen on the prairie, farther down the country, on a route which I have since passed. There were three of them in company, each with a team, halting* goods to some point on the Illinois. Finding their oxen gradually becoming stiff with cold, they determined to leave them and hurry on to a house. One of the three gave out before they had gone many miles, and his companions buried him in a snow bank; the second sank down on the road; and the third only succeeded in reaching a house and saving his life.—Part of the load of these poor fellows consisted

of blankets, which, had they known, it might have saved them. The incident struck me when told near the spot on a cold day, though not so much as a similar story which I heard when I first came upon the grand prairie in Indiana. It related to the fate of an emigrant who attempted to cross a broad arm of the prairie with his family, in an open wagon, on a very cold day. They were found stiff in the road, the horses frozen in their traces, and standing upright, as if petrified by some sudden influence, and the man leaning against the wagon, with a fragment torn from it in his hands, as if in the act of trying to make a fire. The mother sat upright, with an infant in her arms, but the children were curled about her feet in every position that an attempt to screen themselves from the cruel exposure could suggest. But these stories, of which I could tell you a hundred, begin now to lose their effect, as, with the gradual opening of spring I find myself approaching a milder region. The last day's travel has led along those sunny bottoms of the Illinois, where, even at this early season, the chattering of the parrot may be heard upon every side; and here and there I have delighted to observe a tender green stealing over those sheltered meadows beneath the retreating banks of the river, whose narrow limits and basin-like appearance answer so completely to my preconceived ideas of a prairie. The Illinois about 30 miles above this point expands into a fine lake, upon the banks of which Peoria is situated. The site is one of the prettiest for a town that I ever saw, and the approach to it, through alternate prairies and richly wooded bottoms, that fringe the lake with a vegetation of stupendous growth, and give glimpses of its sparkling waters and blue islets through festoons of vines that overhang the road for miles continuously, must in summer be like a scene of fairy land.

Peoria is about the geographical centre of Illinois, though by no means as yet the centre of population, which is still far to the southeast. This place is rapidly improving, and may very possibly become the future seat of Government. It has inexhaustible quantities of bituminous coal in its vicinity and commands an unbroken steamboat navigation with St. Louis. The adjacent country is very fertile. The soil, like that of Illinois generally, is better suited to the grazier than the agriculturist. It is composed of a black and rich mould, with a small admixture of fine silicious sand, and rests on soft and permeable clay without being interspersed with stone or gravel.—This formation, as is observed by Governor Coles in an excellent address before a scientific body in Illinois, whilst it is unfavorable to the existence of perennial streams and fountains, and impedes the plough of the agriculturist, and endangers his health by the creation of miasma, in the vicinity of the middle lands furnishes inexhaustible meadows to the grazier, and every facility for canals and railroads. The Illinois river was described by Gen. G. B. Clark so long ago as 1777, as "a natural canal passing through natural meadows" and the facility with which branches might be made as the country requires them, is now very apparent. The route of the proposed canal (of which I have before spoken) to connect the waters of Lake Superior with those of the Gulf of Mexico, by a communication of only one hundred miles, commences at a point on the Chicago river, five miles above its mouth, where the water is 12 feet deep, and on a level with Lake Michigan: thence seven miles and a half to the summit level, which is 17 feet above the surface of lake Michigan, and five feet nine inches above the Deplaine: thence (for a ship canal), down the valley of the Deplaine and Illinois, about 90 miles, with 175 feet descent to the mouth of the little Vermillion, four miles below the rapids of the Illinois river; at which point that stream is navigable for steamboats at all seasons.

Ten years, and \$40,000 have now been spent upon this work, and not a shovelful of earth, so far as I can learn, is yet removed from the soil. Let the New York merchants step in and make it, and the warehouses of Buffalo will be to St. Louis what those of New Orleans are at present. New York will have the whole trade of the Mississippi valley, and the vast regions of the Missouri will be tributary to her market. A canal boat that can navigate the lakes may then clear at Coenties slip and discharge her cargo at a trading post on the Yellow Stone. Such a canal would be to this Union what a cut through the Isthmus of Darien would be to the world. The one would draw St. Louis as near to New York as the other would India to Europe. It would be well indeed that Government should make it; but the means required are so slight in comparison with those invested in a hundred similar works

in different parts of the country, as to bring it easily within the limits of individual enterprise. The State of Illinois, judging from the progress already made, will not complete the canal for half a century to come. The want of capital is here so great as almost to seal up each outlet for enterprise, though they present themselves on every side; and our eastern capitalists are so completely ignorant of the prodigious resources of this region, that it may be long before the defect is supplied. Were the people in our rich eastern cities more familiar with even the geographical relations of this extraordinary region, I am convinced that more than one company would be formed, that would be eager to purchase from the State of Illinois, at a handsome premium, the right of making the canal and holding it in joint stock for a term of years. When people of capital and enterprise open their eyes to this matter, the work will be accomplished in three seasons, and as you may then take a steamboat at Buffalo and check a berth for St. Peters, a trip to the Falls of St. Anthony will soon be thought no more of, than is now an excursion to Niagara. Fishing parties will be made up at Islip for lake Pepin; and Hewitt will furnish port folios to tourists that wander away to sketch the awful scenery of the (now) remote "THUNDER'S NEST," while "the Terrors of the burnt wood" will supply Jennings' larder with game, and Paulding's best Madeira be drunk by gentlemen that shoot elk among the Dacotahs.

St. Louis, March, 1834.

Here I am, safely at last in the renowned city of San' Louis. Our route from Peoria, by the way of the flourishing towns of Springfield, Jacksonville, and Alton, through the small meadow-like and half cultivated prairies of Lower Illinois, was very agreeable; and in crossing one prairie of considerable extent, I had the pleasure of seeing it on fire on every side around me. The hour was near midnight, and the spectacle was magnificent beyond description. An illustration by Westall's pencil of The Rich Man in the Burning Lake, which I have seen somewhere, would give as near an idea of the scene as the painter's art could convey. In one place the prairie presented exactly the appearance of a broad burning pool, in others the flames swelled up like seas of fire, rolling the liquid element in solid columns over the land; and then, like the waves of the sea itself, when they break upon the shore, a thousand forked tongues of flame would project themselves far beyond the broken mass, and greedily lick up the dry aliment that lay before them. Our horses did not seem to mind the phenomenon at all, and we drove so near to the fire as to feel the heat very sensibly. But though we probably incurred no danger, it was almost startling at times to see a wall of fire as high as our horses' ears, in some places stretching along the roadside, while the flames, would shoot to the height of twenty feet or more, when a gust of wind would sweep the prairie.

We had an accession of four or five passengers at Jacksonville, and I was not a little amused to find that out of six persons in the stage, we had four colonels; and when we chanced to stop at a tavern, where I saw a cartridge box and a musket, over the mantelpiece, I could not help remarking aloud, that it was the first symptom of the existence of a private, I had seen in the country. Some of the colonels looked a little sour, and the jest might not have passed off as easily as I could have wished it, had not my friend, who was also a colonel, entered my name on the tavern register by the same distinguished title, which, I presume, qualified me to speak a little *ad libitum* of militia deeds of arms.

The population seen in the last few days, seemed to be of a very mixed character: some were quakers, from Pennsylvania, and they had every necessary and comfort of life; others again, were miserable looking creatures, from North Carolina and parts of Tennessee, who lived with scarcely any labor, and kept a blanket suspended over their porch instead of a door—in log huts, that had been built for several seasons. At Alton, again I saw in their neat white houses, with their green venetian blinds—their tasteful piazzas and pretty enclosures, with newly planted shrubbery—sure indications of a New England population. The same, or even greater marks of improvement and superiority in their style of living, over the mass of emigrants hither, are manifest, I am told, wherever the English have established themselves in

* Pronounced *hauling*: a term universally used at the West instead of its northern synonyme "drawing." They have Shakespeare's authority for it—"I think oxen and wain ropes cannot *hole* them together."—TWELFTH NIGHT.

* A young officer of the first Infantry, who commanded an exploring party into this savage region, so called by the Indians, arrived from his tour while I was at Prairie du Chien. He described the scenery as possessing a desolate grandeur which words could not paint.

Illinois. I have missed all their settlements, by passing to the westward of them. But both here and in Michigan, I have always heard the English residents spoken of with respect and affection.

A few miles below Alton, on the Mississippi, I passed a deserted village, the whole population of which had been destroyed by the "Milk sickness." The hamlet consisted of a couple of mills and a number of frame houses, not one of which were now tenanted; but the dried weeds of last year choked the threshold of the latter, and the raceways of the mills were cumbered up with floating timber, while the green slime of two summers hung heavy upon their motionless wheels. Not an object but ourselves moved through the silent town; and the very crows themselves seemed to make a circuit around the fated place when they came in view of the thickly-sown burial ground on the skirts of the deserted village.

We were now on the famous "American bottom;" and I was really astonished at the prodigious size of the trees, and the magnificent vegetation which this region displays, but the scattered inhabitants looked far from healthy. At Alton we struck the Mississippi, and a few miles below we passed the mouth of the Missouri, where its white and turbid current could be seen rushing in among the islands and staining the limpid tide of the Father of rivers far down the western shore, while for twenty miles below that clear stream still preserved its purity on the eastern side. Surely Father Hennepin was mistaken, when he called the streams above and below the Missouri by the same name! For the Upper Mississippi, except in its breadth and volume of water, bears but little resemblance to the Lower river; while the Missouri, as it tears through its muddy banks to drink that beautiful tide, soon gives its own turbulent character to the whole stream below, and even impresses its peculiar features upon the gulf in which it at last loses itself.

It was too late in the evening to cross when we arrived opposite to St. Louis, and I amused myself before retiring for the night, in listening to the sound of the church bells—the first I had heard in many a month—and watching the lights as they danced along the lines of the dusky city, and were reflected in the dark rolling river. We crossed in time for breakfast, and I am now tolerably established at the best hotel in the place.

THE WORKS OF MRS. SHERWOOD.—New York.—HARPER & BROTHERS.—Vol. 1.—Comprising the history of Henry Milner, a little boy, who was not brought up according to the fashions of this world.

The deserved success which attended the publication of a uniform edition of Miss Edgeworth's works; now so recently completed by her last admirable, every way admirable tale of *Helen*, has induced, we may presume, the same enterprising publishers to undertake a similar edition of the works of Mrs. Sherwood; devoted like those of Miss Edgeworth, to the improvement of her fellow creatures—tho' by the more immediate and direct intervention of religion.

Miss Edgeworth, without omitting the occasional introduction of religious sanctions to enforce moral precepts, mainly relies on the present and immediate advantage and happiness which flow from an observance of, and strict adherence to, truth and duty.

Mrs. Sherwood, on the other hand, constantly presents obedience to the will of God as the rule of action, which, from its superior sanctity and obligation, supersedes any appeal to, or reliance on, less exalted motives of action.

Together, these two writers—dissimilar in quality and yet both of great ability—have furnished materials of rare excellence for conducting moral and religious education.

Henry Milner has never before been republished complete in this country. It is not perhaps as attractive, upon the whole, as the *Lady of the Manor*, or *Roxabel*, yet it is attractive notwithstanding.

The number of volumes to which this edition will extend is not ascertained. Meanwhile, we hazard nothing, we are sure, in predicting ample encouragement to this new and meritorious enterprise of the Harpers.

†A fatal spasmodic disease peculiar, I believe, to the Valley of the Mississippi. It first attacks the cattle, and then those who eat beef or drink milk.

THE LADIES COMPANION, No. 1.—New York: W. W. SNOWDEN.—Another monthly Magazine, "devoted to Literature and the Fine Arts." Truly, we are abundantly supplied with light reading, but whether it is as advantageous as it is abundant, "may be well questioned." This is a well printed miscellany, of about 50 pages—double columns; and with a great variety of stories, tales, and anecdotes, selected and original.

A SYSTEM OF MODERN GEOGRAPHY, with an Atlas, by G. M. HUNTINGTON. Hartford: E. HUNTINGTON & Co. New York: R. B. HOLMES.—This is designed for schools and academies, and as a general geographical reading book. It is a general and rapid view of the outlines geographically, and historically, of marking incidents in each country. The United States of course occupy a large space in a book designed for American schools, but it does not exclude from notice any other country. There are woodcuts, representing peculiarities of different people, public edifices, &c. The maps in the accompanying Atlas are colored, and apparently accurate. The whole seems carefully and skilfully prepared.

CONVERSATIONS OF A FATHER WITH HIS SON, ON SOME LEADING POINTS IN NATURAL PHILOSOPHY, by the Rev. B. H. DRAFER. New York, N. B. HOLMES.—There is no excuse for ignorance now a days, though possibly the very facilities which exist for acquiring elementary knowledge on all subjects, may lead to a neglect of that arduous, systematic, and persevering study which alone can make really learned men. Meanwhile let us welcome all of good we can—and as such we consider this little volume—which explains practically and intelligibly the phenomena of matter, of the solar system, of colors, and other analogous wonders, for such indeed they never cease to be even to those who thoroughly understand all about their laws. This little book is, too, very well printed.

FRENCH READER, OR A STEP TO TRANSLATION, &c., by Jos. F. A. BŒUF. New York—Sold by the publisher, 28 Murray street, and by the booksellers generally.—This is a second edition of a work, prepared by a practical man, whose wide and intelligent experience as a teacher, has taught him the difficulties most obvious and common among learners, and who in these pages, has applied himself to diminish or overcome them. There is also a treatise, well executed, on pronunciation, the accents, &c.

LAW OF REAL PROPERTY.—An Essay on the law of real property in New Jersey, by William M. Scudder, Esq., will, as we learn, be issued from one of the New Jersey presses, sometime during the summer. It is recommended by Chief Justice Hornblower, of that State.

THE NEW ENGLAND MAGAZINE for June.—Boston J. T. BUCKINGHAM—clever as usual—and varied.—It flags not in spirit or in interest. We extract a short passage, on a familiar subject.

DUNNING.
"Shut, shut the door, good John, fatigued, I said;
"Tie up the knocker, say I'm sick, I'm dead."
Misery, they say, acquaints a man with strange bed-fellows; and poverty acquaints him with unwelcome followers. The word dun—what the thing is, we need not in these times define—is derived from a troublesome fellow, a collector of bills, named John Dun. Happy mortal, he has gained immortality, like McAdam, by giving his name to a science.—John Doe and Richard Roe have not such general celebrity. I detest the name, and I love not the thing,—though it is principally for my friends that my sympathies are awakened. The last case in which I had a personal interest,—and though I write for Magazines, be it promulgated that I expect no other,—is a present call from the printer's demon for copy. Take it, and away. "So, being gone, I am myself, again."

The Chinese are a wise people; their institutions are perfect,—the paternal government is better than the presidential. They have one law, by the adoption of which, we should be more relieved than by the restoration of the deposits, the re-charter of the

Bank, or [even] the abdication of the President. It would be a great benefit to the public, and the very thing for me. In China, there are three hundred and sixty-four days of rest,—days wherein no one carries to another bill or note,—days on which protests are inoperative, and duns illegal.

There are, however, countries in the East less enlightened than China, and also in the West. In "Merry England," what are the records of the Fleet, especially in the last century, but a book upon the misfortunes and imprudencies of genius. Fielding was almost at home in it; descriptions of a prison, are his most familiar and graphic chapter. He describes like a man who was confined to his subject; like a wight who has no view of the world but what comes through a grated lattice. The very light of the sun on his cold floor, was chequered with bars. Debt, in England, is criminal, and poverty the heaviest of misfortunes. There are two great principles that sway the nation, which thinks it sways the earth, and which possesses but too much of this planet. These are Wealth and Fashion,—fashion is the strongest, from the deep-rooted aristocracy. The cousin of a Duke, or the flatterer of a Dutchess, may be poor in all pride, and claim the precedence of fashion over mere opulence. This is the reason why the English are so shocked in America at our disregard, or happy ignorance of the local, conventional, fashionable modes of England, which, in England, were invented and are kept up with great care, to restrain the irruptions of the vulgar, for such, ninety-nine in the hundred are esteemed,—as the Romans built a wall across the island, to repress the incursions of the barbarians.

This may seem discursive,—but from Fashion to Duns, is but one step. In France, the wight subject to the latter, has less to endure than his contemporaries in England. A foreigner, however, is not favorably or hospitably distinguished by the law. He may be incarcerated for debt till death comes to release him.

It is evident, that in most nations, the rich make the laws,—for poverty is generally harshly treated. The debtor, in ancient Rome, might be sold to captivity across the Tiber. In some of the less enlightened countries, he is, at this day, a slave and may be sold like any other cattle. In China, there are laws that the creditor shall not seize for debt, the debtor or his wife, which shows that such a custom existed.

In this country, where every body is rich and thriving, debtors are hardly within the protection of the law; the legislation respecting them is of course different in various states. The slavery has been lightened in our own State, and the limits of the captive have been enlarged. In the times of the pious founders of our commonwealth the following lesson would have had its influence. It relates to a certain king who was not above overlooking his own treasure:

"And when he had begun to reckon, one was brought unto him which owed him ten thousand talents; but forasmuch as he had not to pay, his lord commanded him to be sold, and his wife and children, and all that he had, and payment to be made.—The servant therefore fell down and worshipped him, saying, Lord, have patience with me, and I will pay you all. Then the lord of that servant was moved with compassion, and loosed him and forgave him the debt. But the same servant went out, and found one of his fellow-servants, which owed him an hundred pence: and he laid hands on him, and took him by the throat, saying, Pay me that thou owest. And his fellow-servant fell down at his feet, and besought him, saying, Have patience with me, and I will pay thee all. And he would not; but went and cast him into prison, till he should pay the debt. So when his fellow-servants saw what was done, they were very sorry, and came and told unto their lord all that was done. Then his lord, after that he had called him, and said unto him, O thou wicked servant, I forgave thee all that debt, because thou desiredst me: shouldst not thou also have had compassion on thy fellow-servant, even as I had pity on thee? And his lord was wroth, and delivered him to the tormentors, till he should pay all that was due unto him."

The facilities of credit have sometimes been too great; dealers have been too ready to trust—that ill-omened word to both buyer and seller. When there is no security but in the character, or punctuality of the purchaser, this facility of credit will be much diminished. It has already had a bad effect on the public morals,—the younger class of dealers are more adventurous more enterprising, than the old.—Their word is not so good and their bond requires more sureties. The distinctions of *meum* and *tuum* have been shaken, and it is the duty of every good citizen and moralist to restore them to their original strength.

The first lesson to be planted and rooted in the

mind of a child is to love God, and never tell a lie. The second should be to shun debt, and respect the most trifling rights of property in others. To shun debt is, however, a sort of corollary to the lesson on truth; for he who has no debts, avoids the strongest temptation to tell a lie. Our veracity—all our virtues—the respect of the world—the respect of ourselves, depend upon independence. R. C.

SUMMARY.

THE COIN BILL.—We were in error yesterday, in our supposition that the bill which passed the House of Representatives on Tuesday, referred to our own gold and silver coins, as well as to foreign silver coins. It regulates the value of the latter only, at will be seen by the bill annexed, in the amended shape, in which it passed.

A Bill regulating the value of certain Foreign Silver Coins within the United States.

Be it enacted, &c. That from and after the passage of this act the following silver coins shall be of the legal value and shall pass current as money within the United States, *by tale*, for the payment of all debts and demands at the rate of one hundred cents the dollar; that is to say, the dollars of Mexico, Peru, Chili, and Central America, of not less weight than as now coined, and those restamped in Brazil of the like weight, when of not less fineness than ten ounces, fifteen pennyweights, and twelve grains of pure silver, in the troy pound of twelve ounces of standard silver; and the five-franc pieces of France, when of not less fineness than ten ounces and sixteen pennyweights in twelve ounces troy weight of standard silver, at the rate of ninety-three cents each.

Sec. 2. *And be it further enacted*, That it shall be the duty of the Secretary of the Treasury to cause assays of the aforesaid silver coins, made current by this act, to be had at the Mint of the United States at least once in every year, and to make report of the result thereof to Congress.

PHENIX BANK, New York, May 24, 1834.

Dear Sir—At a late meeting of the President and Directors of the Phenix Bank, the subject of redeeming the notes of all the banks in this State, *at par*, in the city of New York, was discussed.

The board has long been anxious to meet the often expressed wishes of the merchants, dealers and traders, and in the belief that no time can be more opportune than the present, I am instructed to communicate to you the intention of the Phenix Bank to receive in their daily exchanges from your bank, all notes issued by any or all of the Banks in the State of New York, at the par value thereof; provided the Banks in the city of New York will respectively keep a special deposit in the Phenix Bank, to cover the probable amount employed and the expenses incurred.

The advantages of this system to the citizens of our State—to all who are engaged in exchanging the products of her soil, or other commodities—are too apparent to need illustration.

Our banks will severally partake of the benefits to be derived from an improved currency, and an increased credit necessarily flowing from a system of greater security.

It is believed that the banks in the several counties of the State, will generally approve the contemplated measure, and by degrees will adopt it. Many have anticipated the change, well assured of advantage when the system shall be applied to the entire State.

Desirous to promote and effectually aid the above object, the President and Directors of the Phenix Bank solicit your attention thereto, and ask your co-operation. I am, respectfully, yours,

J. DELAFIELD, Cashier.

Dividend.—The Merchants' Bank have declared a dividend of three per cent, for the last six months, payable on the 2d June.

In Vermont, at half past five o'clock in the morning, of the 19th inst., a shock of earthquake was felt in several places.

[From the Globe of yesterday.]

We are happy to be able to contradict the report of the ravages of the Cholera among the troops at Fort Mitchell, Alabama. We learn from the Adjutant General, that an official report, dated the 22d of May, was received on the 2d inst. from Captain Fraser, the commanding officer of Fort Mitchell, in which he says not a word of sickness of any kind whatever.—If the Cholera had been among the troops, or even prevalent at or near Fort Mitchell, it is believed that Captain Fraser would certainly have reported the circumstance. J.

Africa, fatal Africa, has added another to the long list of those who, seeking to explore her unknown regions, have found in them only a grave. Lander, the real discoverer of the course of the Niger, has perished—as we learn by the Canada—having been murdered 200 or 300 miles up that river. Others, however, will succeed to the place thus made vacant by death, for nothing can daunt the indomitable spirit of human enterprise.

[From a Philadelphia paper.]

TEMPERANCE ANNIVERSARY.—The Anniversary of the Pennsylvania Temperance Society was celebrated on Friday, the 24th inst., at the Central Church, in this city. MATTHEW NEWKIRK, Esq. the first Vice President, took the Chair. The meeting was opened with prayer, by Dr. Beman. A letter from Dr. P. S. Physick, the President of the Society, was read, apologizing for absence. Extracts from the seventh annual report were read by the Rev. John Marsh, Secretary of the Society. They represented the cause as in a very progressive state in many parts of Pennsylvania, and gave a highly gratifying picture of the good already effected through the exertions of the Society. The Rev. Dr. Tucker, of Troy, moved that the report be accepted and printed, which motion was carried. An appropriate Temperance Hymn was then sung.

The Rev. Dr. White, of South Carolina, made a handsome speech in support of the following:

Resolved, That the influence of the female sex, always powerful for good or evil, has been such in the benevolent institutions of the age, as to cause Christians to appreciate more highly than ever their intellectual and moral elevation in Christian countries; and that the friends of Temperance, grateful for the past, look with deep interest at their co-operation in their great and delightful work of reform.

The Rev. Dr. Mason, of New York, introduced the following:

Resolved, That while the Church of Christ is, and must continue to be, the standard and the means of a pure morality in our land, it is our urgent and imperative duty, in view of the light disclosed by the Temperance Reformation, to declare in her sanctuaries and courts, how far she desires this reformation to proceed in its influence on herself, and how soon she desires to reach that point.

Dr. Mason took a deep view of the connexion between the Temperance Reform, and the interests of religion, and showed clearly what may well excite admiration and wonder, that the backwardness and opposition of many ministers and churches had been such as to make it questionable, whether professedly religious men had been most for it or against it. The church, however, of all denominations, are waking up, and he supported the sentiment of his resolutions, in a manner to make ministers and Christians in the house feel deeply on the subject.

Rev. Dr. Beman, of Troy, introduced the following resolution, and closed the meeting with much wit, pungency and eloquence:

Resolved, That the abandonment of more than 3000 distilleries in the United States, and the cessation from the traffic in ardent spirits of more than 7000 vendors under the light of Temperance, shows that there is a moral power in the earth, (public sentiment) which may yet expel that traffic, the great source and support of intemperance, from the abodes of civilized man.

Military.—Major M. M. PAYNE of the United States Army arrived in this city from Fort Gratiot on Saturday with two companies of Artillery; one of which is to be stationed at Fort Hamilton, and the other with the Major at New London. This is the same prompt and efficient officer, who at the time of the *Black Hawk* expedition, received an order to repair to the frontiers with his Company at 10 o'clock in the morning, and at five in the afternoon was on the way from Baltimore to this city with his entire command. He has been kept since that period at Fort Gratiot at the foot of Lake Huron, whence he now returns with his Company, after a two year's absence on seven hours notice.—[Courier and Enquirer.]

DONATION TO THE POLISH EXILES.—We have received seventeen shirts, made by the young ladies belonging to the "Young Ladies' Sewing Association of the Reformed Dutch Church in Exchange place," which have been sent, according to direction, to the Executive Committee, "to be distributed among the exiled Poles lately arrived on our shores."

ANOTHER BANK STOPPED.—The Mechanics' Bank of Patterson, N. J. closed its doors last week. It has not been, for some time, in repute; & therefore there are not a great many of its notes in circulation.

[From the Batavia Times, Extra, May 31.]

GREAT FIRE AT BATAVIA.—Our village is again a heap of ruins. A fire broke out yesterday, (Friday) about 5 o'clock, P. M. between two barns in the rear of the Eagle Tavern and the stand kept by Harvey Rowe. It was discovered at a very early stage of its progress—but it almost immediately communicated to the hay, some of which projected through the cracks of the adjoining barn. Then all hopes of extinguishing it were at an end. The attention of the citizens was directed to the preservation of what property contained in the houses could be got out.—It is impossible this time, to estimate the loss which has been sustained. The following is a list of the sufferers, as far as we have been able to ascertain them:

1. The Eagle Tavern, a large three story brick building, owned and occupied by B. Humphrey—together with the brick building which was attached to and formed a part of the tavern, except the first story, which was occupied by E. C. Dibble, Esq., and Judge Cummings, as offices. Mr. H. was insured on the building and furniture, \$6,700—Buffalo office.

2. The three story wooden building, occupied by Harvey Rowe, and owned by A. Champion, of Rochester. A part of the furniture was saved.

3. The Law Office, owned and occupied by Mess. Taggart & Smith.

4. The tailor shop occupied by Leach & Jones.

5. An office occupied by Wm. H. Webster and Horace U. Soper, Esq., with a family above.

6. The dwelling occupied by Mr. Thomas Cole.

7. A dwelling in the rear of the one last named, occupied by Richard Smith, Esq.

8. A building owned by Erasmus B. Seymour, and occupied by Chas. T. Buxton as a cabinet shop—by Gilbert & Seward as a tin shop. Mr. Seymour was insured \$300 at the Buffalo office.

9. A dwelling house owned by the widow Hewett, and occupied by John Patnam.

10. A law office owned by Ethan B. Allen, Esq., and occupied by Allen & Chandler.

11. A building owned by Ethan B. Allen, Esq., and occupied by Mr. Ottaway as a tailor shop and dwelling.

12. A building owned by Ebenezer Mix, Esq., and occupied by Mr. Putnam as a grocery.

13. A building in the rear of last named, owned by the same, and occupied by Mr. Leonard as a dwelling.

Both of the last named buildings were pulled down, and all of them was situated on Genesee street.

14. On Court street, a building occupied by James M'Allister.

15. A building owned by Cary & Grant, and occupied by James Harrington.

16. On Big tree street, a building owned by Cary & Grant. Messrs Cary & Grant were insured on the two last named buildings, \$500, at the Buffalo office.

17. Another building on Big tree street, but by whom it was owned or occupied we have not been able to learn.

Besides what has been enumerated, the extensive barns, shed and stables of Messrs. Humphrey, Hosmer, Rowe & Putnam, were entirely consumed with their contents, hay and oats. Horses, carriages, &c. all saved.

At one time our whole village was threatened with total destruction. The buildings on the north side of the street were on fire a number of times.

EXTRAORDINARY ARRIVAL.—At 1-2 past 11 o'clock, A. M., we received the United States (Phil.) Gazette of this morning, June 3d, (by the Rail Road Line,) from which we make the following extracts.

"We had a pleasant exhibition of the 'AURORA BOREALES' last evening."

Superfine flour continues steady at \$5.50. Some demand exists for Rye Flour, and sales have been made at \$3.50, which is a trifling advance. Corn Meal in bbls. is selling at \$3. 5000 bushels Genesee Wheat was yesterday sold at \$1.15, to arrive.

The morning steamboat for New York of the Railroad Line, will leave Chesnut street wharf this morning, and the succeeding mornings of this week, at three instead of seven o'clock, as heretofore, and will arrive in New York at 11 o'clock, A. M. in time for morning travellers to reach the race ground before the races commence.

This arrangement will enable our neighbors of

Philadelphia to take an early dinner in New York and return home to tea, when there shall be a 12 o'clock line from New York.

Foot Race.—Yesterday afternoon, at 5 o'clock, Mr. C. W. Clauer, according to previous notice, commenced the undertaking of performing on foot the distance of twelve miles in eighty minutes, which he performed, as we understand, with ease in seventy-eight minutes. The ground over which he passed was from the corner of Fourteenth-st. and the Bowery to Harlem bridge and back.

SAILORS' FREAK.—At the Tremont Theatre in Boston on Monday evening, a party of sailors from the Frigate Potomac, amused themselves by drawing into the second tier of boxes a part of their companions who had taken their seats in the pit. This was done by means of handkerchiefs tied together. One of the tars thus promoted, weighed near 200 pounds.

It is stated that the body, to which we referred a day or two since, as having been taken from the Schuylkill, was that of J. AUGUSTUS STONE, Esq. the author of *Metamora* and several other dramatic pieces. We learn this with deep regret. Mr. Stone possessed many qualities calculated to endear him to a numerous circle of friends. He was, we learn, subject to fits of insanity.—[Philad. Inq.]

Extraordinary Trotting Match.—A bet of fifteen hundred dollars was made some time since, by Mr. B. R. THIEL, of this city, that his two horses would trot in harness one hundred miles in ten hours, over the Centreville Trotting Course. This match against time came off on Saturday. The weather was propitious, there being so sun and the course in fine order. The horses, which are not thoroughbred, but ordinary road horses, started at 20 minutes past 9 o'clock, and performed their task in two minutes and twenty-five seconds less than the time allotted them. At starting the bets were two to one against the horses. After they had gone the first fifty miles however, opinions changed, and bets were freely offered in their favor. At eighty miles, the horses appeared a good deal distressed, and their backers seemed anxious to back out. A feeling that the horses would give in seemed indeed pretty generally to prevail during the last 20 miles, until the last half mile. But they got through their unprecedented task, and won the match for their owner in 9 hours, 57 minutes and 35 seconds. The crowd on the course was immense, and large sums of money were bet during the day. The horses were driven in a light wagon, and Mr. GEORGE SICKER was the reins-man.

Nothing equal to this has ever been done in any country before. Tom Thumb trotted in England 100 miles in 10 hours and 7 minutes, but it was in single harness.—[Courier.]

The last Galenian furnishes a table of the quantity of lead annually made at the lead mines in the United States, from their first opening in 1821 to 1833, inclusive. The statement contains a remark that the lead is less abundant this spring than at any preceding time, and that comparatively speaking, little will be made this year. The whole quantity made during the twelve years mentioned, is set down at 63,845,740 lbs., of which 7,941,792 lbs. were made during the year 1833. The mining business during that time seems by the table to have fluctuated without any perceptible law of increase. The quantity of lead raised in 1828, was more than twelve millions of pounds, and the next year more than fourteen millions and a half. It fell in 1832 to little more than four millions. This variation arises, we suppose, from the want of a regular plan of operations, a deficiency of capital, and the uncertain tenure by which the lead mine lands are held.

We find in the Gazette of Thursday the following postscript:

Postscript.—The British cutter Post-Boy, Captain Toogood, arrived here last evening from Falmouth, England, whence she sailed on the 5th of May. The vessel has no cargo, and only a single letter to a mercantile house in this city. The public, of course, is left to conjecture the object of an arrival under circumstances so unusual. Judging from our own feelings, we can easily imagine how anxious our readers will be for more important information on the subject.

We learn that the above vessel belongs to the Messrs. Rothschilds, bankers, and has brought out a large amount of specie,—rumor says, one million of dollars!!!

We regret to learn, that the house of the Rev. Mr. Davis, of Balleton, was burnt on Wednesday

last. A part of the furniture was saved; but the loss of Mr. D. over and above an insurance on the building, is said to be nearly \$3000.—[Saratoga Sentinel.]

[From the Baltimore American of Tuesday.]

Our highly esteemed fellow-townsmen, CHRISTOPHER HUGHES, took his departure for the Eastward this morning, to embark at New York in the 8th packet for England, and thence to resume, at the capital of Sweden, his duties as the representative of the United States. He carries with him the warmest wishes of his numerous friends for a safe and pleasant voyage, and for the continued success of his efforts in the discharge of the responsible duties of his elevated station. The occasion of his departure has elicited from him the following Address, which it affords us pleasure to be the medium of communicating to his fellow-citizens:

TO MY FELLOW-CITIZENS OF BALTIMORE.

133 South Charles street, }
1st June, 1834.

I have been twenty years in the foreign Diplomatic Service of my country. During that time, I have been at home but four times, to re-visit my country; to see to my private affairs; and to nationalize my European-born children. I may say, that with the exception of the years 1815—16, passed in the State Legislature, I have been abroad since 1813. My three first diplomatic appointments—and I say it with pride—were conferred upon me by Mr. Madison; partly from his personal knowledge of me, and partly at the suggestion of Mr. Monroe, then Secretary of State. This last named eminent, virtuous and admirable man and patriot, when himself President of the United States, stated to me his regret, and his inability, (from the habit of the Government, and he believed, the expectation of the people, that high diplomatic rank could, and *should*, only be conferred upon those who had made themselves known to the Nation, by their services in the national Councils) to promote me to higher rank. He added—"Mr. Hughes, I dare not elevate you, to place and rank, for which I think you fit; it would be attributed to personal favoritism; for, though you are known, and advantageously known to the Administration, you are not known to the Nation. This is a pernicious usage and prejudice, of giving diplomatic missions only to prominent members, and party men, in the National Legislature; but, it is *stronger than I am!* Diplomatic fitness often turns upon other qualities; but, I repeat, I dare not do for you that which I wish, and you deserve, yet I will do something, that may be grateful to you—honorable and useful to you, hereafter—and proving my opinion and respect for you.—I will, if you will allow me, write you a letter—it may be a gratifying family archive—expressing my high value and opinion of your services; for no man has served his country with more zeal, fidelity, honor, and success, than you have done, during the ten years that you have been employed." This was in 1823. The conversation took place at midnight, and in the President's House. It was the last time I saw my venerable and venerated friend and patron. This, (nor any other) country, never produced, nor possessed a more faithful servant, a purer patriot, or a better man, than James Monroe. I knew him from my youth: I venerated and I loved him. And among the testimonials of character and success, in my most dear career, I hold his private letters to me, to be the most precious documents. My son shall inherit them, and his father's respect for the character of James Monroe.

I explained to Mr. Monroe "how happy I should have been to receive such a testimonial, if he had not previously consulted me on it, but after consultation, I begged respectfully to decline it." I was wrong.

I have been continued, as you know, by the succeeding Administrations, in diplomatic employment; true, under some, and heavy disappointments; but, a public man may not always choose.

I arrived at New York, in September last year, after an absence from my country of eight years. My object was to plant my children in the American soil. I am now about to return to my post, in Sweden. I will not say, my humble post—for humility may not be associated with the representation of this great and happy Republic.

I embark on the 8th of June. I leave my children in America. Children should be reared in the country in which they are to live. They should be reared in its habits, its customs, its feelings, its doctrines, its sentiments—aye, even and better, in its national prejudices, (for national prejudices are always excusable—sometimes respectable,) rather than be brought

up in a foreign land. If this be true,—and I believe it,—it is especially true of Americans. Europe is a bad school for the education and rearing of Americans. I understand the word American as convertible with Republican. May they ever be *synonyma*. This is the principle of our political life—of our national and individual independence—happiness—peace—and importance, at home and abroad. Disturb—destroy this principle, admit, among you, any other distinction, than that which superior talents and superior virtue establish and command, and then only, "during good behavior," on which you are to pass, and for limited terms, which you are to renew,—admit among you any other, than the principle of political and social equality, and rottenness will creep into your foundations,—and your fabric must fall; your blessed and beautiful Union—in whose duration I conscientiously believe, notwithstanding the recent throes and menaces, and for whose duration I will devote, as I am ready to stake, my life!—your glorious Union must, and will split, into degraded, powerless, unhonored fragments! You will add another to the many memorable and mournful monuments of human weakness and folly; you will furnish another argument to the logic of the foul and pernicious foes of your institutions! You will strengthen the cause of tyrants and of aristocrats, who insolently maintain, that they, and only they, are fit to govern; for "that man is incapable of self-government."

Upon yourselves, my fellow-citizens, depend your national honor, happiness, and Liberty. Your national honor, happiness, and Liberty depend upon your Union, and your Union depends upon equality.

I am not more convinced of my Religion, than I am convinced of these truths. They have been the guides of my public and private life; they are engraven on my heart, and my heart has ever been, and ever will be, my Country's.

But, my fellow townsmen, it is not my object to address to you a political homily. You can have nothing to learn from me, in the value of your unpassed political and social advantages, nor the means to preserve and to perpetuate them. You know your privileges; you know their value. I know you; and knowing, I esteem and value you; and I should be unworthy of the constant and gratifying evidences of attachment, of kindness and of personal consideration, which since my boyhood I have received from you, in this my native town, if I did not beg leave to offer you my grateful and affectionate acknowledgements. I trust I am not pampering myself into the delusion of self-importance, if in my inability to call and take personal leave of the many I know and love—the companions of my boyish sports, and the esteemed associates of my riper years—if I respectfully ask to be permitted to take leave of you in this public manner; besides, it will be recollected, that though one man may receive three hundred visits in one day, it would be the work of many days for him, to return them in person.

As far as one, situated as I am, may speak of his movements, my notion is, that my absence from the United States will not be long.

"This is my own, my native Land."

I leave it with augmented attachment; I leave it, with increased knowledge of its resources, with a deeper conviction of its unequalled blessings; I leave it, with elevated sentiments of its grandeur and its destinies. May my countrymen watch over—preserve—and promote them!

I leave my country; and I leave my children. I will not remain long from either. To return to both, will be to me an elevated joy! and I shall then, whatever I may be worth, hold myself ready, as one of the People, to obey the call of the People, and to serve them as they may think me competent to serve my country.

Nothing but poverty could induce me to accept a paid office, at home. I say this, as man should say every thing, subject to circumstances and reflection. To represent one's fellow-citizens and neighbors—and at their call—is not an office in the ordinary sense of the word. It is the only place, in my present notions, that I would consent to fill; and only then, if called to it. When called to it, an American has no right to refuse; and this is the only right an American has not. This has ever been my opinion, on this first and most important of patriotic duties; and there is one other point, on which I have ever entertained and ever shall entertain, a fixed opinion, to wit—that it is the sacred duty of every American to vote at every election. If he omit to vote, he fails in one, perhaps the chief one, of his duties to his country.

My Fellow Townsmen, I bid you an affectionate, and a respectful farewell.

CHRISTOPHER HUGHES

[From the *Detroit Courier*, May 21.]

IMMIGRATION.—Our streets are again thronging with life, and crowds of emigrants are daily arriving, filling all our hotels and places of public resort to overflowing. It is computed that on Friday and Saturday of the past week alone, not less than two thousand strangers arrived in the different boats at our wharves. Some are reloading their furniture and starting at once in caravans for the interior with their families; while others who are more at leisure, or are awaiting public conveyances, are grouped around with pocket map of the interior in their hands, tracing their separate routes from this great rendezvous of western adventurers. There are expressions of satisfaction and cheerfulness in these strange faces which argue any thing but disappointment or discontent at the aspect of Michigan on the introduction. We are happy also to observe the appearance of robustness and health which these new comers present, in whom we seem already to recognize the hardy and enterprising materials for many new and flourishing settlements. This tide, which is constantly pouring onward along the great thoroughfare of waters, seems speedily to promise to Michigan her complete quota of inhabitants requisite for admission into the Union.

It is a fact which we presume none will venture to controvert, that our population both for integrity and intelligence, will sustain a most honorable comparison with that of our neighboring sisters of the States. A prominent cause of this may undoubtedly be traced to the fact that settlers here are invariably required to pay the amount of their purchases on occupation thereof; a requisition with which the better and more able class of emigrants alone can comply. We cannot but congratulate our new friends on their choice of a location in a land so full of fatness and of promise.

[From the *Quebec Gazette* 23d May.]

TOTAL LOSS OF THE JAMES OF LIMERICK, WITH 11 OF THE CREW AND 247 EMIGRANTS.

We have had a conversation with Mr. Downes, the Surgeon of the *James*, one of those saved from the vessel, and who signs the statement subjoined. There is no doubt on his mind that the vessel went down with all on board. The *Margaret*, which he was fortunate enough in gaining, after receiving very serious bodily injury while embarking in the boat, came to the spot where the *James* ought to have been, in an hour or two after he had left her, and she had then disappeared. From the condition in which she was left, there can be little doubt on his mind, that she must have foundered with all on board, or, at least, by far the greater number. Some chance of a portion being saved in the boats may exist; but as the *Margaret* had a light out, they very probably would have been enabled to have boarded her. No list of passengers has been saved, the Captain's having been left on board. Their names can now only be exactly ascertained by reference to the Custom House books at Limerick. Several of the families had been well to do in Ireland, and they had with them between £2,000 and £3,000 in gold; being in most part from Rathkeale and its neighbourhood, about fourteen miles from Limerick. When the *James* left that port, deaths by cholera were daily occurring; but although several suspicious cases appeared, none had proved fatal on the passage.

To the Editor of the *Quebec Gazette*:

Sir: Allow me the liberty of intruding on your space with a more accurate detail of the circumstances connected with the loss of the *James*, which was rather imperfectly given in yesterday's *Mercury*.

We sailed from Limerick on the 8th April, with 251 passengers and a crew of 16. On Friday, the 11th, we put out to sea, where, after a few days, from heavy gales, &c. we experienced nothing but a series of mishaps, having carried away our topmast, studding-sail-boom, jib boom, main-sail, fore-sail, and yard. On Sunday, the 25th, at six A. M. they set about pumping the ship out, but were not long thus engaged before the pumps were found to be choked by the passengers' potatoes, which, from the rotten description of bags in which they were kept, went adrift about the hold, filling the pump wells, and preventing the possibility of working the pumps, which were hoisted on dock, and a great quantity of potatoes brought away from them; and to prevent a recurrence of this, tin kettles, with holes made in them, were laid on the heels, which proved ineffectual; after which, baskets were substituted, with as little success. Finding the water to increase to an alarming extent, and a gale from the N. W. springing up, with a heavy sea, the ship straining very much, we had recourse to the expedient of baling her out from the fore hatch with buckets

and a provision cask made fast to a tackle; but the water casks which were floating about there, excited the apprehensions of the people, and one passenger, Henry Morgan, getting three of his fingers broken between two of them, the attempt was abandoned. About 4 o'clock P. M. she shipped a sea which carried away the lee bulwarks, and was soon after struck by a second still heavier, with the force of which she listed, canting her ballast, and never returned to an erect position. The water having reached the between-decks, and no chance of saving her presenting itself, the Captain, at five o'clock, ordered the long-boat and skiff to be lowered, as a sail tacking to the southward made its appearance. The passengers crowded into the skiff while she was within the long-boat, and by this means made it difficult to lower the latter, which, when drawn from the after chock, came against the stanchions; after which, they did not seem inclined to take further trouble with her. At half-past six we lowered the jolly-boat, in which eleven of us were picked up by the *Margaret*, of Newcastle, Capt. Wake, to whose kindness and humanity since we are indebted for our preservation.

The persons saved are—Captain Laidler; Robert S. Laidler, his brother; Henry Downes, surgeon; Thomas Enwright, carpenter; James Cook, seaman; Peter Lilly Wall and James Clark, apprentices; with Mary Hasting, Andrew Young, James Shehan, and Edmund Curry or Cedy, passengers.

Your obedient servant,

HENRY DOWNES, Surgeon of the *James*.

Still more distressing Intelligence.—Confirmation of the loss of the *James*, with upwards of 252 persons.—Loss of the bark *Astrea*, with 228 persons.—Loss of brig *Edward*.—Loss of brig *Fidelity*.—Loss of brig *Columbus*: all bound to Quebec.—Loss of bark *Charlotte Langin*, from Liverpool for Philadelphia.—Loss of ship *Marchioness of Queensbury*.—Loss of bark *John Atkins*, from Halifax for Richmond.—Loss of brig *Margaret*, from Belfast, and four lives.

Never, within our recollection, have we had to record such a list of disasters among shipping, and loss of lives, as has fallen to our lot this day. It will be seen from the following account, copied from the *Halifax Gazette* of the 21st instant, that the loss of the *James* is confirmed, together with numerous other vessels.

[From the *Halifax Gazette* of May 21.]

Our paper of today contains melancholy accounts of shipwrecks and the loss of human life. We saw a person yesterday who was at Louisburg when the *Astrea* was lost. The survivors had reached that place. They informed him that that vessel struck on the morning of the 7th instant, against some high cliffs at Little Lorain Head, about five miles from Louisburg and almost instantly went to pieces: that she had studding sails set at the time, and up to the fatal moment of striking had gone at the rate of ten knots. The only individuals saved were the surgeon, carpenter and one seaman, who were thrown almost insensible on some of the cliffs.

SYDNEY, MAY 14.—Bark *Astrea*, William Ridley, master, with two hundred and eleven passengers and crew, went ashore at Loran, near Louisburg, morning of 7th inst., and only the surgeon and two of the crew saved! Same day, brig *Edward* struck a piece of ice near Port Nova, and sunk immediately—crew saved. On the 1th, brig *Fidelity*, Clarke, from Dublin, for Quebec, went ashore on Scattari and was lost; passengers and crew, 15 in number, saved. Same day, brig *Columbus*, Russell, from Newcastle for Quebec, was lost three miles East of Louisburg, crew saved. On the 27th ult., lat. 45 20, lon. 48 53, the *Margaret*, Walsh, from Newcastle, picked up the captain of bark *James*, from Ireland for Quebec, with ten others, only survivors of two hundred and sixty-five persons on board the *James* when she sprang a leak and sunk.

The crew of bark *Charlotte Langin*, of New Brunswick, from Liverpool for Philadelphia, has been landed here from an American fishing vessel. The ship had sprung a leak and they had abandoned her. They were three days in their boats.

Ship *Marchioness of Queensbury*, from Liverpool for Miramachi, went ashore on Cape Tormentine, night of 16th inst. but will be got off if the weather continues moderate.

Bark *John Atkins*, from Halifax for Richmond, went ashore three miles from that place, and was totally lost.

On the night of the 15th inst. brig *Margaret*, from Belfast for St. John, N. B. went ashore at Barrington, and was totally lost—crew saved. The mate's wife and four children were drowned.

[From the *Journal of Commerce*.]

LOCUSTS.

This year being the regular septemdecennial period for the re-appearance of locusts in our country, and these insects having already made their debut in some places, we cannot do less than devote a brief space to their history and habits. Whether the locust of the United States is of a different species from those which, at various intervals, have carried terror and desolation over large portions of the Eastern world, we cannot positively say; though it is certain that their visits have proved comparatively harmless. The history of the immense multiplication of locusts in some cases, and of the damage done by them, if it were not well authenticated, would be wholly incredible.

This has been chiefly in Oriental countries, where the insect has accordingly a proverbial reputation. "The land," says the Prophet Joel, "is as the garden of Eden before them, and behind them a desolate wilderness; yea, and nothing shall escape them." Again: "They shall run like mighty men; they shall climb the wall like men of war; and they shall walk every one in his own ways, and they shall not break their ranks; neither shall one thrust another."

This graphic description might by some be mistaken for a poetical exaggeration; but let us observe for a moment how remarkably it is accredited by the account the well known Dr. Shaw gives in his *Travels*, of the ravages of these animals in Barbary, in the spring of 1724, when they appeared in such numbers as absolutely to darken the air. After a while they retired into the plains to lay their eggs. "These," says the traveller, "were no sooner hatched, than each of the broods collected itself into a compact body of a furlong or more square, and marching afterwards directly towards the sea, they let nothing escape them. They kept their ranks like men of war, climbing over, as they advanced, every tree or wall that was in their way; nay, they entered into our very houses and bed chambers, like so many thieves." He then goes on to state that attempts were made to stop their progress by fires of stubble and heath, but all to no purpose, so numerous were the swarms.

In 1797, Southern Africa was overrun in like manner, the traveller Barrow being there at the time; and he states that the whole surface of the ground, for an area of nearly two thousand miles, was literally almost covered with them, while the water of a wide river was scarcely visible on account of the carcasses of those drowned in endeavoring to come at the reeds on the banks. This was the third year of their continuance, and their increase from year to year was estimated at over a million fold. The year before, they had made great ravages, but were finally driven into the sea, which is their common fate, by a tempestuous north wind, and when they were afterwards cast upon the shore, Barrow says they made a bank three or four feet high, extending fifty miles in length, the taint of which was plainly perceptible at the distance of one hundred and fifty miles. It seems that during the night these insects discontinued their march and clustered together in large heaps; and at this time the farmers sometimes destroyed vast multitudes of them by driving among them a flock of several thousand sheep.

Pallas, in his *Travels in Russia*, gives a more minute description of their mode of march. After getting started in the morning, he says, they resemble a swarm of ants, all taking the same course, but without touching each other ["neither shall one thrust another."] They uniformly travel toward a certain region as fast as a fly can run, and without leaping, unless pursued. In their course, they advance from morning to evening without halting, frequently at the rate of a hundred fathoms and upwards a day. "When their progress is opposed by ditches, they penetrate through them; their way can only be impeded by water, as they are apparently terrified by every kind of moisture." Often, however, they endeavor to gain the opposite bank, with the aid of overhanging boughs; and if the stalks of plants or shrubs be laid across the water, they pass in close columns over these temporary bridges, on which they even seem to rest, and enjoy the refreshing coolness. As soon as they acquire wings, they progressively disperse, but still fly about in large swarms.

As long since as 1650, mention is made of a cloud of locusts in Russia, which entered the country in three different places; and it is stated in a volume of the English Library of Entertaining Knowledge, and elsewhere, that they afterwards spread themselves over Poland and Lithuania in such numbers, that the earth was covered and the air darkened with them. The trees bent with their weight in

some instances, and in others they were seen lying on the ground dead, to the depth of four feet.

In some regions of the world they populate and migrate almost as regularly as certain species of birds. Irby and Mangles, in their Travels in Egypt and Syria, speak of seeing at the southern extremity of the Dead Sea, one morning, a swarm resting in a gully, in sufficient numbers to alter the color of the rocks they alighted on. The guides stated that they were on their way to Gaza, and that they passed almost annually. Volney also describes the movements of swarms which came under his own observation.

From Africa, which would appear to be the home of the animal, they have frequently come, in former times especially, into Italy and Spain. In the year '59, a vast phalanx of very large ones ravaged the former country far and wide, until they were at length driven into the sea; and it is recorded that a terrible pestilence arose from their stench, which carried off an incredible number of both men and beasts. Their depredations are said to have been such in the Venetian territory, in the year 1748, as to have occasioned a famine, in which 30,000 persons perished. There is certainly nothing improbable in this statement.

We cannot ascertain from the sources of information within our reach, that Great Britain has been infested by these insects to any considerable extent. They appeared in England, it is stated, in 1798, but fortunately disappeared without propagating.

We shall add to these notices of the locust, as some of them may be considered apocryphal, or insufficiently authenticated, a reference to the ablest and minutest description of the same kind we have met with, and this is to be found in the missionary Kay's *Caffrarian Researches*, published last year in London, and republished here recently by the Harpers. The year 1828 was, in the Cape of Good Hope Colony, ushered in, it seems, by "immense swarms" of these insects, which "literally darkened the Heavens for several days." On the wing, he says, they appear like a black cloud at a distance, but when they arrived at hand, their density intercepts the solar rays in such a manner as to cause an awful gloom, like an eclipse, and a noise like that of a torrent. In some of the villages, they were spread on the ground so thickly that it was with the utmost difficulty the inhabitants could keep them out of their houses. The water conduits were filled; the rivers so contaminated that the waters were offensive to the smell: the herbage generally destroyed, the trees weighed down with them, and the vineyards laid waste. "Fields which the rising sun beheld covered with luxuries, are, before evening, a desert, for wherever they alight, not a leaf is left upon the trees, a blade of grass upon the pasture, nor an ear of corn in the field."

Mr. Kay speaks of the "frequent visits" of the locust as rendering the prospects of the *agriculturists* in that region extremely precarious. The antidote to the bane is found, to some extent, in the locust bird, which, according to a benevolent regulation of Providence, appears in myriads corresponding to the enemy it has to deal with, and makes great havoc among them. In 1332 their ravages were mostly prevented in this way.

Observations in that quarter of the world of which we have but spoken, add new illustrations to the reference made in Scripture to the ancient use of this insect for human food. In South Africa, not only do the cattle eat the locusts with avidity—perhaps, however, partly owing to the scarcity of better food which they occasion—but the Bushmen also, and other of the desert tribes, often gather them and lay them up for a winter store. The mode of curing and cooking is, to take off the wings and legs, then roast, then reduce the bodies to dust, and this is put up in bags like flour.

THE SERPENTS' BATH.—In the Bubbles from the Brunnens of Nassau, is the following account of the baths in that vicinity, said to be very efficacious in many diseases, and called the Schlangen-bad or Serpents' Bath:

"Once upon a time, it seems there was a heifer, with which every thing in nature seemed to disagree. The more she ate the thinner she grew—the more her mother licked her hide, the rougher and the more staring was her coat—not a fly in the forest would bite her—never was she seen to chew her cud—but, hide-bound and melancholy, her hips seemed actually to be protruding from her skin. What was the matter with her no one knew—what could cure her no one could divine—in short, deserted by her master and her species, she was, as the faculty would term it, given up.

In a few weeks, however, she suddenly re-appeared among the herd, with ribs covered with flesh—

eyes like a deer—skin sleek as a mole's—breath sweetly smelling of milk—saliva hanging in ringlets from her jaws! Every day seemed to confirm her health, and the phenomenon was so striking, that the herdsmen, having watched her, discovered that regularly every evening, she wormed her way in secret into the forest, until she reached and refreshed herself at a spring of water—haunted by harmless "serpents," when full grown, about four feet in length.

The circumstance, it seems, had been almost forgotten by the peasant, when a young Nassau lady began early to show exactly the symptoms of the heifer. Mother, sisters, father, friends, all tried to cure her—but in vain: and the physician actually

"Had taken his leave with sighs and sorrow,
Despairing of his fees tomorrow!"

When the herdsmen happening to hear of her case, prevailed upon her at last to try the heifer's secret remedy; she did so, and in a very short time, to the utter astonishment of her friends, she became one of the stoutest young women in the duchy. What had suddenly cured one sick lady, was soon deemed a proper prescription for others, and all cases meeting with success, the spring gradually rose into notice and repute."

Lieut. Drummond's Artificial Lights. *National Gallery of Practical Science.*—There was on Wednesday evening literally a most brilliant exhibition of Lieut. Drummond's intense lights, applicable to light-houses, telegraphic signals, geodetical operations, and all purposes which require such light to be visible at great distances. Many hundreds of the most distinguished patrons of science and eminent practical scientific men were present on this interesting occasion; and the series of experiments were conducted with extraordinary effect; Mr. Payne, the manager of the gallery, having made all the previous arrangements which were requisite with great skill and judgment.

About two years ago we gave an account of Lieut. Drummond's method of producing this powerful glare of light, by the action of oxygen and hydrogen gas in a state of combustion on a ball of lime. We now saw an Argand lamp, with parabolic reflectors of such prodigious splendour that, as it revolved, it has been visible forty-four miles off; but even this was incomparably excelled by one of the new combinations, so dazzling that no eye could bear to gaze upon it in the line of reflection; and it was stated to be visible at the distance of sixty-six miles!! The next experiment was, we rather think, made for the first time in public, and consisted of the emission of the electric spark, with a parabolic reflector, and so rapidly continued as to form a perfectly continuous light. This was beautiful; and a magneto-electric light, demonstrating the efficacy of galvanism in producing intensity, was not less so. Colored lights were also exhibited; and, altogether, a more gratifying display of admirable and useful science never came under our cognizance. The noble gallery was crowded; and every visitor expressed delight and astonishment at the splendid varieties presented to their view.

Crocodile Bird—Translated from Herodotus.—"Now as the crocodile lives much in the water, he has his mouth within quite covered with leeches.—All other birds and beasts shun the crocodile; but there is peace between him and the trochilus, inasmuch as he is benefited by that bird; for when the crocodile goes out from the water upon the land and opens his jaws, which he is wont to do, in order to receive the cool breeze, the trochilus then entering his mouth, devours the leeches; and he, delighted at the advantage he thus receives, never injures the trochilus."

Dromedaries.—The French are, it is stated, endeavoring to introduce dromedaries from Algiers into the *Landes* about Toulouse, where it is thought they may be very usefully employed.

THEY TELL ME LIFE, &c.

BY H. C. DRAKIN, ESQ.

They tell me life is like a dream, a bright, brief dream and o'er;
They tell me life is like a stream that seeks the ocean shore;
They tell me life is like a flower, that blooms but to decay;
If so, then life is only death, in holiday array!

But ah! I cannot think thy brow, my beautiful and bright,
Is but the seat where death enthroned feeds on thine eye of light;
Nor can I think that thy dear cheek, so redolent of bloom,
Is damasked only to attract the despot of the tomb.

For have not on thy brow, my love, my fond lips oft been prest?
And have I not in rapture oft, reclined upon thy breast?
And ah! how often have thy lips to thy betrothed's frown!
They tasted not of death, my love, I felt them but mine own!

Out on the withering thought that dooms such lustre to the grave!
I say 'tis false, for unto me, Heaven all thy beauty gave;
Away! away! I give to Death, to Despot Death, the lie,
For God himself in love has said, "the virtuous never die."

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J35.1f

RAILROAD CAR WHEELS, BOXES AND
AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J3 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT
MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin & Heartte.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m18

LATER FROM EUROPE.—By the packet ship *Canada*, Capt. Britten, from London, we have dates of the 1st of May, for which we are indebted to Messrs. *Grinnell & Minturn*. They came late to hand, and we are able only to give a few short extracts.

Mr. O'Connell's motion on the repeal of the Union was negatived, April 29, and Mr. Rice's Address to his Majesty, pledging opposition to the project, agreed to by a majority of 485 votes: the noes being 38. The Debate on the repeal of the Union still continued.

The Lord Chancellor has made an earnest appeal in the House of Lords, to the better feelings of the Trade's Unions, with what effect we shall see.

The sum of 400,000*l.* in silver, had been shipped by one capitalist to Calais in one week, and great quantities to other parts of the continent.

At Berlin a change of the ministry had taken place, which had give much offence to the liberals. The investigation of the late seditious movements were still being carried on, and several persons arrested.

The Journal des Debats of Tuesday, May 28th, says, intelligence has reached government of the taking of Almeida, an important place on the frontier of Portugal, by the troops of Donna Maria.—This news created no sensation at Paris, though it is generally allowed that the affairs of the Peninsular are fast approaching a crisis.

M. De Chateaubriand has announced his intention to offer himself as a candidate to the electors of Lille. He resigned his seat in the peerage on the accession of Louis Phillippe.

Some officers of the 36th regiment of the line, and others of the 4th and 9th cuirassiers have been arrested on suspicion of being connected with the republican associations.

The Spanish funds have arisen at Paris, in consequence of the convocation of the Cortez.

The city of Paris has been condemned to pay the damages and loss in several cases where gunsmiths and sword cutlers had sustained any, during the late revolutionary movements. Arrests are going on in France, and every means resorted to that can strengthen Louis Phillippe on his throne. M. de S. Romain, a legitimist, has been arrested, and also one M. Mathew, an advocate, in whose possession a number of papers were found. A debate had occurred in the Chamber respecting the relinquishment of Algiers. Several fine speeches. No decision.

Portugal.—The cause of Miguel was suffering severely by desertion, 1300 men having deserted since the 1st of March.

Pedro, together with his ministers, has been excommunicated by the Pope.

Admiral Napier has been created a Count.

General Cardozo has been so hotly pursued by the Duke de Terceira, that it was supposed he would be obliged to take refuge in Spain, where he would give up his arms.

The entire country to the northward of the Douro has been cleared of the Miguelites.

SPAIN.—Quesada is in Vittoria, his corps encamped in the environs. El Pastor is at Tolosa. Butron in command of St. Sebastian. Ziemallacarregery with his brigade, the best in the service, is between Urdech and Elisondo. Merino, with a troop of horse, was attempting to revolutionize old Castile, but met with no success. The Sentinelle of the Pyrenees speaks of a conspiracy to deliver up Tarragona to the Carlists.

The town of Almirda in Portugal, had declared for the Queen. Don Carlos was there and had to fly—public feeling having manifested itself against him—some of his baggage was interrupted containing letters, which are exhibited as specimens of ignorance, being incorrectly spelt, and in bad style. It was expected he had doubled on his pursuers and entered Spain, which has induced his partisans to raise the standard of revolt in Arrogan and Castile.

The Miguelites seem to be in bad plight in Portugal; and Don Carlos has been routed from his hiding place, by General Rodil and his command, who marched into Portugal in search of him. He is supposed to have gone into Spain.

The acknowledgment of Donna Maria by Spain, and the alliance offensive and defensive brought by last arrivals, is confirmed.

In consequence of the success of the Spanish troops in Portugal, under General Rodill, and the flight of Don Carlos, the Spanish funds at Madrid experienced a very great and sudden rise, which of course elevated them also at Paris.

The Ottoman fleet has arrived at Tripoli, and it is hoped will put an end to the civil war in that regency.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in city of Philadelphia, and shall receive prompt attention.

By order of the Company, **WILLIAM NORRIS, Secretary**

December 24, 1833.

For further information on this subject see No 43 772, Vol. 2, of Railroad Journal.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by **E. & G. W. BLUNT, 154 Water street, J31 St corner of Maidenlane.**

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.
In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later al angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.
Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.
Germantown, February, 1832.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY A. CAMPBELL, Eng. Philad.,
German and Norristown Railroad

TOWNSEND & DUFFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Duffee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Catbontale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, {
Janu 29, 1833. }

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 t RM & P

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named Factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by I. & J Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J23 lam

H. BURDEN.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in
200 do. 1 1/2 do. 1/2 do.	lengths of 14 to 16
40 do. 1 do. 1/2 do.	feet counter sunk
800 do. 2 do. 1/2 do.	holes, end cut at
800 do. 2 1/2 do. 1/2 do.	an angle of 45 de-
soon expected.	grees with splic-
	ing plates, nails
	to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, and 4 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON,
9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

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ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,
347 N. Market st. (opposite Post Office.)

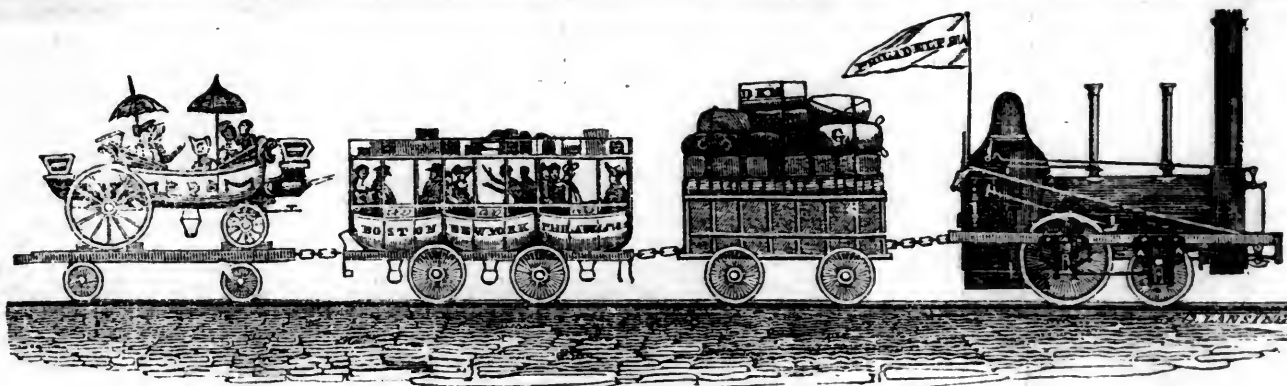
Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* * Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine.
MECHANIC'S MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either of all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, JUNE 14, 1834.

[VOLUME III.—No. 23.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 14, 1834.

Those subscribers who have paid in advance for the Journal, will please excuse any apparent want of attention in its selections for a few weeks past, as the deficiency, if any, arises from having had to devote the time which ought to be given to its columns to borrowing money, to pay its current expenses.

Those who have not paid for the current, but more especially for the previous years, will excuse us, we trust, for saying that unless they pay the amount due soon, we shall be compelled to strike their names from the list. It can no more be published without prompt pay, than a locomotive engine will ascend an inclined plane without steam. We shall forward their bills by mail, and desire them to remit by the same channel.

At a meeting of the stockholders of the Boston and Providence Railroad Corporation in Boston, on Wednesday the 4th instant, the following gentlemen were elected Directors for the ensuing year, viz.: Thomas B. Wales, Patrick T. Jackson, Joseph W. Revere, John F. Loring, of Boston; William W. Woolsey, Charles H. Russell, of New-York; Charles Potter, of Providence.

And subsequently the Board elected Thomas B. Wales, President; John F. Loring, Treasurer; Benjamin R. Nichols, Clerk.

In our Journal of the 31st ult. we briefly alluded to the charter which had been granted by the Rhode-Island Legislature for continuing this very important railroad from Massachusetts into the city of Providence, and the contemplated opening of that part of it which had been finished, for immediate use. We had not the pleasure of being present on that occasion, engagements having prevented our acceptance of the agent and engineer's invitation; but from some of the stockholders who went on from this city, we learn that they were met at Providence by the directors of the Company,

agreeably to appointment, and, together with a party of gentlemen from Providence, went over and examined the line of the road from the vicinity of India Point, near Providence, to its termination in Boston, and were highly satisfied with the whole appearance of the work. The Company's depot in Boston appears to have been very judiciously located near the foot of the Common, which is a central and convenient point for travellers, and the large building already erected, with its inclosure, affords ample accommodation for the purposes of the Company at that end of the road. The annual report of the directors, of which we expect shortly to obtain a printed copy, shows the whole work in a very favorable light, and there is every prospect that the entire route from Providence to Boston will be ready within twelve months from this time, for the transportation of passengers and goods. On Wednesday the 4th inst. the road was opened for about ten miles towards Dedham, and the directors, with their friends, in the handsome new cars belonging to the Company, were drawn over this part of the road by a locomotive engine, at the rate of more than twenty miles an hour, with apparent ease, and their return to Boston, after a collation at the Sprague Railroad House, politely tendered by the agent and engineers, was effected at a still more rapid rate, the company highly gratified by their excursion.

The following named gentlemen were, on the 2d inst., elected directors of the Utica and Schenectady Railroad Company:

Erastus Corning, Nicholas Devereaux, Alfred Munson, Henry Seymour, Nathaniel S. Benton, Tobias A. Stoutenburgh, Alonzo C. Paige, John Townsend, Lewis Benedict, James Porter, James Hooker, John L. Graham, Thomas W. Olcott. —[Albany Even. Jour.]

SCHENECTADY AND SARATOGA RAILROAD.—At an election for directors of the Saratoga and Schenectady Railroad Company, held on the 5th instant, the following gentlemen were chosen for the ensuing year: John Townsend, of Albany; John I. De Graff, of Schenectady; John Clarke, of Saratoga Springs; George W. Giles, Henry H. Lawrence, John B. Lasala, Bernard Graham, William Wright, John Ferguson, of New-York.

At a subsequent meeting of the directors, the following officers were elected for the ensuing year: Henry H. Lawrence, President; John Townsend, Vice President; John Ferguson, Secretary.

The following gentlemen were appointed Inspectors for the next annual election: Moses

Henriques, David Augustus Clarkson, Richard Lawrence. —[Albany Evening Journal.]

We trust our correspondent, C. O., will not suspect us of a design to suppress his communication, in consequence of his prediction that a neighboring city will ultimately take the lead of the "City of the Island," or of Gotham. Accident, not design, has had a hand in it.

We now give it a place with pleasure—and, in reply to his query at its commencement, will say that there is reason to apprehend that railroads will be, as certain as that canals have been, made where they will not be profitable to stockholders.

It is, as he says, desirable that the location of important lines of railroad should be made with great care, and with an eye to future, as well as to present, usefulness.

To the Editor of the Railroad Journal.

SIR,—Has it never occurred to you that the capital vested in many railroads and canals is likely, if not exceedingly profitable at the commencement, to be eventually lost, from the roads and canals being superseded by others which may be made afterwards. The great and ultimate object of these improvements is to facilitate exchanges—to cheapen and expedite transportation to and from market—as, between the great coal region, or between the great agricultural west and the best market, whether Philadelphia, New-York, or Boston. Now, if it be assumed that transportation by railroads, or by some better roads, steam being the impelling power, shall supersede, where practicable, all other modes of locomotion,—and I do not suspect myself of being alone in the opinion that there is no extravagance in such an assumption, particularly when we notice the progress of things in Europe—it is no more than reasonable to begin to contemplate, and try to foresee and act upon the natural and inevitable results which must follow, and to lay them before the public, that they may be fairly in view, and have proper consideration in the mind of every man, or company, when coming to a determination in regard to any proposed improvement, both as respects its location and the manner in which it shall be completed, or the amount of capital which may be safely invested in it.

The climate and productions of Europe and North America are so nearly alike, that as the state of science and the arts in these quarters of the world continues to come nearer to an equality, it is fair to conclude that the exchanges of merchandize will hardly keep pace with the increasing population of America. Still, as the condition of men is improving, and society

and nations are becoming more intimate and friendly in their relations, and curious in their inquiries, we may suppose that travel for gratification will greatly increase between the two—this is proved by the number and constant increase of fine ships as packets; and it fairly indicates, in connection with the extent to which steamboats are coming into use, and the long voyages which they occasionally make, that the time is not distant when the packet ships will be propelled by steam. No railroad can be laid across the Atlantic. It will be an object to have each of the two ports in Europe and America, for whence most of these ships may be expected to depart for the other, situated conveniently as it respects the interior parts of the country, and as near together as may be. The wearisomeness of a long sea voyage will render these considerations indispensable, and may lead to some changes not now much thought of.

But to leave this part of the subject for a while, and dwell more particularly on our own United States.

To attain the greatest rapidity of motion will always be an object of controlling importance, and therefore level regions will be greatly desirable for the location of the principal thoroughfares. The intercourse and exchanges between the north and the south must increase vastly beyond all precedent, and probably beyond all present anticipation of the most enthusiastic, for as speed of transportation increases, and the cost is reduced, the productions of each of the various climates will be vastly more consumed in the other climates; and the assumption is, that transportation by land will gradually take the place of water navigation, first, for persons travelling, and then for merchandise, and particularly on account of its expedition, safety, and regularity. This consideration is made stronger, from the fact that much of the interior, and the finest portion of North America, and that which will soon be the most productive and most densely settled, and of course require the greatest exchanges of this character, is already as near by land to the most important productions of southern climates, as it is to our eastern commercial ports. It is not too early, then, to begin the inquiry, where shall be our principal and leading roads? for it is plain that they are not yet located, and that they cannot be determined on judiciously without the most grand and enlarged views, and the most extensive and accurate surveys.

Without attempting to speak of details, which can of course be only determined by such surveys, it is pertinent, and may be profitable to notice, that the formation of the country and the condition and wants of the citizens, present and future, clearly indicate that the road already commenced at Albany must be continued without any regard to navigable waters, on the best and most level ground westward, indefinitely; That another road from Norfolk, or perhaps from Boston, must proceed southwardly over the level region, near the coast all the way, to some harbor where a town is yet to spring up near the south cape of East Florida, from whence there will be a busy steamboat intercourse with Havana; That a branch of this road will proceed, say from Savannah, to New-Orleans, and thence into Texas, and onward, onward; That another principal road will be from this new city on the Cape of Florida, into the great valley of the Mississippi. This brings me back to the thoughts which put me upon this essay, the errors likely to be made in the location of railroads. I perceive some are designed to communicate only between one inland water navigation and another. These may prosper long enough to refund their cost; but the day is not distant when they will have comparatively little value.

Finally, as your journal is likely to be extensively preserved for future reading and reference, and as I am an old man, and shall hardly trouble you many times more, I ask of you the further favor to record a few prophecies.

First, fresh water navigation, including that

of the Mississippi and all its tributaries, will be discontinued, probably within twenty years.

Secondly, New-Orleans, and all cities in unhealthy situations, will greatly decline, and new cities and towns spring up in more healthful and advantageous situations, and that the queen of these will be somewhere at a point not yet thought of in the great valley.

And thirdly, that either Boston or Halifax is destined to take the sceptre from the highly favored city of the island.

And, to conclude, again I would most respectfully hint to the men of Boston (and for this I hope they will remember my children) two things—first, to spare no pains, nor grudge any capital, either in the location or construction of their westward and southward railroads; and secondly, to turn their attention to European steam packets on a large scale. I beg pardon: Boston folks need no hint from me on their own affairs. C. O.

Deep Creek, Sept. 5, 1833.

On a General Mean of computing Descriptive Data of Ellipsoidal Arches, with a new Theorem, and Mechanical Description of their Working Drafts. By WM. M. CUSHMAN, C. E. To the Editor of the American Railroad Journal, &c.

SIR,—I am induced to send for the Journal the following theorem, and incidental observations, relating to the means of describing the working drafts of ellipsoidal arches, in consequence of the solution of that problem having frequently occupied the attention of the scientific engineer; and still being, I conceive, a desideratum: at least, *general* expressions possessing the simplicity desirable and even requisite for practical purposes, and furnishing rigorous results, have not yet been investigated for obtaining the pre-requisites to the description of this curve—which is perhaps the most useful and important of any which are used in the whole range of arcuation.

Although the problem is well known to be susceptible of rigorous solution, the length of the process of computation has been deemed so formidable, as to induce its supercedure by mechanical processes: the distinguished Corps de Ponts et Chaussées recommend a graphic solution. This solution is objectionable from its obvious want of rigor—a sufficient objection, I apprehend, when it is considered that, in far the greater number of instances, does this curve find its application to structures involving an expenditure of thousands, and having their elegance and *stability* materially affected thereby. The process which they would have chosen in the computation, it would seem, was, and must have been, quite formidable, to have induced this justly eminent Corps to recommend this course; but with the assistance of the theorem I am about to advance, a perfect estimation of all the pre-requisites for the description of this curve, for the greatest number of centres desirable in practice, and for arches of the largest dimensions, may be achieved in a lapse of an hour or two—an interval of time which I fancy the practical engineer will admit it is often necessary to exceed in the adjustment of much more trivial matters.

The peculiar appositeness of the semi-ellipsis, both in regard to equilibration and feasibility, when compared with the full centre, or its segment, or that of the ellipsis, as well as its elegance, will secure its adoption in preference in arches of considerable span, which are not liable to the condition of sustaining much pressure at the crown, or whose situation is not peculiarly favored by nature, at most of the localities which fall within the province of the civil engineer; for, in many places, the full centre, apart from its weakness, is absolutely inadmissible; and the segment of a circle can seldom be fortified with abutments sufficiently strong and massive to resist its stupendous thrust.

The ellipsoidal arch, or l'anse de panier, which answers the conditions of the ellipsis, has superseded it, and derives its importance chiefly from the fact of its mechanical description being

executed with great ease, and because it presents a ready mode of making the drafts for the voussures—of which it is a rigorous condition that the joints be normal to the curve.

It may perhaps be unnecessary to give a demonstration in detail: the mathematical reader, with the aid of a diagram, will readily comprehend and trace its successive steps. To avoid indetermination, it is however a necessary condition, that the transverse axis be the locus of the centre of the least arc, and the prolongation of the semi-conjugate be the locus of the centre of the greatest arc; that the distances from these two centres to the common centre bear a given ratio, as $\frac{m}{n}$; that the subdivisions

of these two lines, made by the intersections of the radii and their prolongations, bear, among themselves, a given ratio. It has further been conventionally determined that, in general, the subdivisions of m be in the ratio of the natural numbers 1, 2, 3, 4, &c., commencing at the least arc, and those of n be equal among themselves.

Let the subdivisions, or rather intersections, of m , by the radii, commencing with the least arc, be designated by b, c, d , &c., then the proposition is,—to find upon the transverse axis the position of the point b .

If the vertex be taken as the origin, the general equation of the abscissa for b will be

$$x = \frac{\lambda \cdot m - \gamma \cdot (S - n)}{\gamma - \lambda} \quad (1.)$$

in which, x = abscissa; λ = semi-minor axis; γ = semi-major axis; and S = sum of the sides of the polygon formed by lines joining the centres, b, c, d, e , &c.

It is plain, from inspection, that when S is known, the whole may be considered as known. The quantity S is that which it has been proposed to eliminate by construction, on account of the length and tedium of the process of computation.

If, however, b', c', d', e' , &c., represent the lesser angles formed at b, c, d, e , &c., by the radii of curvature with m , and C', D', E', F' , &c., be the angular values of each sector at C, D, E, F , &c., which are equal to the differences of the former set of angles, taken in order, then I affirm that, in general, the subsequent theorem is true, viz.

$$S = \frac{1 \cdot \sin. c'}{\sin. C'} - \frac{1 \cdot \sin. b'}{\sin. C'} + \frac{2 \cdot \sin. d'}{\sin. D'} - \frac{2 \cdot \sin. c'}{\sin. D'} + \frac{3 \cdot \sin. e'}{\sin. E'} - \frac{3 \cdot \sin. d'}{\sin. E'} + \frac{4 \cdot \sin. f'}{\sin. F'} - \frac{4 \cdot \sin. e'}{\sin. F'} + \frac{5 \cdot \sin. g'}{\sin. G'} - \frac{5 \cdot \sin. f'}{\sin. G'} + \text{&c.} \quad (2.)$$

an expression which, following a plain mathematical law, might obviously be extended, by inspection, to resolve S for an indefinite number of centres. It is a remarkable feature of this expression, that the law which it obeys is so simple and obvious as to be easily retained by the memory, and consequently the operator has only to write it out and apply the tables at any time occasion may require its application.

It is thus observable that the 1st term = S , for 3 centres; the algebraic sum of the 3 first terms = S , for 5 centres; of the 5 first terms = S , for 7 centres; and, in general, if v = number of centres, $(v-2)$ terms = S .

Also, if R_1, R_2, R_3 , &c. be the radii of each sector respectively, then $x = R_1$, = least radius; $x + 1$ term = R_2 ; $x + 3$ terms = R_3 ; . . . $x + (v-2)$ terms = $x + S = R \frac{(v+1)}{2}$ = greatest radius of curvature. It is

possible to construct the curve without knowing any radius but the greatest; but they, as well as the *negative terms taken separately*, will be found serviceable, as checks, in fixing the position of the centres, and are estimated

without any additional trouble; since being parts of S , it is only necessary to preserve the results of the separate terms in order to obtain them. Thus does a single simple expression afford all the data for tracing this important curve.

Although *speculatively* the expression might be simplified, in bringing the pairs of adjacent terms affected by contrary signs, to a common denominator, yet it would not be *practically* so, for it would not then be united to logarithmic computation, for which operation it has now the most convenient form. If the calculation be skillfully conducted, its valuation will be found brief and comprehensive. For eleven centres, the logs. of all the angles may be found by 10 references to the tables; and if the arithmetic complements of the logs. of their differences be taken, as also the logs. of 1, 2, . . . 5, the simple addition of these logs. agreeably to the prescribed formula, with the summing of the natural numbers answering thereto, will be the only subsequent operations.

Thus, if the span of arch be 120 feet, its rise 40 feet, the numbers of centres 11, and it be determined that the ratio $\frac{m}{n} = \frac{1}{3}$, then will the position of b be indicated by the division of the semi-span in the ratio 15: 18.71, or at 26.7 feet from the common centre; and $R \frac{(r+1)}{2} = 120$ feet = span.

Whence it is inferable, that the anse de panier of 11 centres, having the ratios $\frac{m}{n}$ & $\frac{\lambda}{2r}$ each $= \frac{1}{3}$, has its greatest radius equal to the span, or that $R \frac{(r+1)}{2} = 2\lambda$; and thence may it be constructed without any calculation, simply from the known span and rise.

Its Mechanical Description.—It has not, hitherto, I believe, been remarked that the anse de panier is an *involute*, the evolute of which and locus of the centres of curvature is the polygon b, C, D, E , &c., and x the radius of curvature for the vertex. Hence, the most elegant, ready, and perhaps the best, mode of describing it mechanically, after the requisite lines have been obtained as above, is,—to fix firmly, in the plane of the draft, pins at the vertices, and at each of the central points, upon either side of n , to attach a small but firm flexible wire to the centre lying upon the conjugate produced. After plying it about the polygon to b , and increasing its length by x , which will extend it to the vertex—its evolute will trace one half. In plying the wire upon the polygon lying upon the other side of n , the other half may be traced.

Or, take the wire $= R \frac{(r+1)}{2}$, and sweeping from the crown, ply the wire about the polygon as before, for one half; returning to the crown, ply it about the symmetrical polygon on the other side of n , for the other half.

As the wire in these movements is always in the direction of the radius of curvature, or the normal, the joints are readily constructed in this mode of description.

Very respectfully,

W. M. CUSHMAN, C. E.

Albany, May 29, 1834.

RAILROAD ON THE BANKS OF THE RHINE.—By the Hague Journal, we learn that the Prince of Orange had returned on the 27th from the head-quarters of the army to the Hague, and thus, we believe, has put an end to the apprehensions which had been entertained by the Belgians that his presence there was the forerunner of an attack. M. Dedel, also, had arrived from London at the Hague. We see that the Dutch are making a rapid progress with steam-carriages, and railroads. Messrs. Stratingh and Becker have tried a steam-carriage on the common road at Groningen, and it has run through the town without inconvenience. This was the first experiment. It is expected that the machine will be improved. A railroad

is to be laid down from Amsterdam, on the right bank of the Rhine, passing through Dusseldorf and Elberfeld to Duits, opposite to the harbor of Cologne, and preparations are making for carrying it into effect. The line is marked out, and Prussia is disposed to agree to the undertaking, the principal author of which is Lieutenant Colonel Bake. The capital necessary is estimated at eleven million florins, the annual expense at 70,000 florins, and the receipt at 1,300,000 florins. Such prospects are far more useful than those marchings and countermarchings of troops of which we have of late heard so much.—[London paper.]

THE NEW SCOTCH STEAM SHIP.—Yesterday considerable interest was created on the river by the arrival of the new and splendid steamship Dundee, from Scotland. She entered the pool with the colors of all nations flying from her rigging, about half-past ten o'clock, and at 11 o'clock was safely moored at the London Dock buoy, opposite the Wapping entrance. Three cheers greeted her first arrival in the Thames from the people in waiting. This large steamer measures 180 feet in length on the deck, and 51 feet in breadth over the paddles, makes up 107 berths for passengers, and her chief cabin, which is fitted up in a most splendid style, contains a library of books, and is capable of conveniently accommodating 100 passengers at dinner. Her engines are of 300 horse power, and are from the manufactory of Mr. Robert Napier. The Dundee was built at Port Glasgow, under the superintendence of Mr. John Wood, and made her first passage to London in 38 hours and a half, with a strong head wind against her more than two thirds of the voyage. With the exception of the Monarch, Edinburgh steam-ship, launched last summer, she is said to be the largest steamer yet built, and she will shortly be followed by the Perth, a twin vessel of the same size, belonging to the same Company.—[Engl. pap.]

MR. BETHUNE'S STEAMER.—We have examined the model of the boat now placed at the Exchange. It resembles, in the build of its hull, Mr. Burden's boat: but instead of two barrels, it has three, and the wheels revolve on each side of the middle barrel. The draft of water is very little, and undoubtedly the speed of the boat would be great. It has also some advantages over the other boats, in the arrangements above deck, offering a covered walk of 412 feet, &c. Upon the whole, Mr. Bethune's exertions deserve encouragement, and may lead to some real improvements. With the present overdone business in steamers, and the general depression of trade, it could hardly be expected that large investments would be made in a new scheme of this kind. What we want most, and what might afford some prospect of success, would be small boats, built as cheaply as possible, for passengers alone, and having great speed. Such improved boats run in several parts of Great Britain, and particularly on the Clyde in Scotland. Under present circumstances, such a speculation would also be very uncertain. But ultimately, our freight and passage steamers must be replaced by those for passage only; without, indeed, railroads take the place of all descriptions of water carriage, the latter being certainly less rapid and more expensive.

We copy Mr. Bethune's own statement of the dimensions and properties of his model:

Dimensions of the Model.—(Scale, $\frac{1}{4}$ inch to a foot.)—Centre tube, length 230 feet, side tubes, ed. 190, diameter 12 feet ed. at centre, and 2 feet at the ends; extreme length on deck, 244 feet; extreme breadth in centre, 72 feet; lower cabin, length 192 feet, centre breadth of the same 52, stern breadth 37; upper cabin, length 182, centre breadth 40, stern do. 29; height of both cabins, 7 $\frac{1}{2}$ feet; lower wings on deck, 10 feet, outside of cabin; fender outside of tubes, 5 feet on each side; upper piazza, breadth 8 feet, circumference or length of walk round which is 412 feet; promenade deck,

length 194 feet; spaces between the tubes, 13 feet; proposed diameter of two water wheels, 27 feet; total weight of the three tubes, superstructure, and two engines of 50 horse power each, on board, 275 $\frac{1}{2}$ tons, which will displace 9875 cubic feet of water. Draught of water, when light, 3 feet 9 inches; do. with 1500 passengers on board, 4 feet 6 inches. Cargo required to sink the tubes to their centre, or to six feet draught of water, 336 tons.—[Quebec Gazette.]

We extract the following interesting account of the first application of steam to vessels, from the April number of the Military and Naval Magazine. The statement appears to be well vouched for, and there is little doubt of its correctness.

STEAM NAVIGATION.—It appears from a late publication, a very valuable one by the by, "Navarette's Collection of Spanish Voyages and Discoveries," that the first known experiment of propelling a vessel by steam was made at Barcelona, more than eighty-five years before the idea of procuring motion by it was first promulgated by Brancas, in Italy—more than a century before this agent was applied to any useful purpose by the Marquis of Worcester, in England—and nearly three centuries before our own Fulton, adapting and combining the invention of a number of contemporary mechanics, successfully solved the same wonderful problem. Curious as this fact may appear, it is completely established by various documents lately found in the archives of Salamancas; and is so circumstantially stated as to be incontrovertible. From these it appears that, in 1543, Blasco de Garay, a sea officer, offered to exhibit before the emperor Charles V., a machine by means of which a vessel should be made to move without the assistance of sail or oars. Though the proposal seemed extravagant, yet the man appeared to be so confident of success that the emperor ordered a commission to witness and report upon the experiment. It consisted of Don Eurique de Toledo, Don Pedro Cardona, the Treasurer Ravago, the Vice Chancellor Gralla, and many experienced seamen. The experiment was made on the 17th day of June, 1543, on board a vessel called "Trinidad," of two hundred barrels burden, which had lately arrived, laden with wheat, from Colibre. At a given moment this vessel was seen to move forward and turn about at pleasure, without sail or oar, or human agency, and without any visible mechanism except a huge boiler of hot water, and a complicated combination of wheels and paddles. The harbor of Barcelona resounded with plaudits, and the commissioners, who shared in the general enthusiasm, all made favorable reports to the emperor, except the treasurer Ravago. This man, from some unknown cause, was prejudiced against the inventor and his machine. He took great pains to undervalue it, stating, amongst other objections, that it could be of little use, since it only propelled a vessel two leagues in two hours—that it must be vastly expensive, as it was very complicated, and that there was great danger of the boiler's bursting frequently. The experiment over, Garay collected his machinery, and having deposited the wooden part in the royal arsenal, carried the remainder to his own house.

In my reading I have somewhere met with the above, which you may deem worthy of a place in your Magazine. The details may be relied on, as I made a note of them at the time in the JOURNAL OF A REEFER.

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the month of April, 1834—(Lat. 31.10 N., Long. 91.59 W. nearly.)

<i>Date.</i>		<i>Thermometer.</i>			<i>Wind.</i>	<i>Weather, Remarks, &c.</i>
<i>1834.</i>		<i>Morn'g.</i>	<i>Noon.</i>	<i>Night.</i>		
April	1	64	78	76	s	clear—even'g cl'dy—planted sweet potatoes—R. Riv. rising, below h. w. m.
"	2	63	83	62	calm	" " severe storm, and rain from north—R. Riv. at a stand [2 f. 9 i.]
"	3	58	61	59	"	cloudy—light showers all day—night clear
"	4	50	72	66	"	clear all day and night
"	5	54	72	65	"	" " "
"	6	49	71	63	"	" " "
"	7	48	71	70	"	" " —planted S. E. field corn
"	8	52	72	68	s	cloudy all day—Red River falling
"	9	65	71	70	"	" —rain and heavy thunder from 11 A. M. and all night
"	10	60	76	72	calm	clear
"	11	61	74	61	"	"
"	12	51	75	65	"	"
"	13	56	68	62	s	cloudy—rain in the morning—evening clear
"	14	57	72	64	calm	clear all day
"	15	54	74	70	"	" " "
"	16	64	80	70	s	cloudy—rain in the morning—clear day
"	17	62	79	76	"	clear all day—commenced mowing red clover field for hay
"	18	70	82	68	"	" —evening severe gale—rain and thunder from south-west
"	19	64	74	74	calm	cloudy—evening clear—Irish potatoes, new crop, large and fine
"	20	65	80	72	s	foggy morning—clear day
"	21	70	80	76	s—high	cloudy all day
"	22	73	80	73	"	" " —heavy thunder and rain all night
"	23	66	81	76	s—light	" —rain in morning—clear day—night calm and cloudy
"	24	70	72	69	n w	" all day—rain all night, and calm
"	25	63	63	64	n e to n	" —rain and showers all day and night
"	26	55	60	59	calm	clear—foggy morning—snap beans and peas for use
"	27	57	74	70	"	" all day
"	28	56	72	69	"	" " —planted leaved field over the river
"	29	55	80	71	"	" " "
"	30	69	84	73	s	" " "

Red River fell this month 1 foot 2 inches—below high water, 3 feet 11 inches.

AVOYLLÉ FERRY, on Red River, La.)

May 7, 1834.

To the Editor of the American Railroad Journal.

SIR,—You herewith receive the meteorological table for the month of April, 1834, regularly entered. I regret to see in the Railroad Journal, vol. 3, No. 12, that you have not received my letter of 3d January last. I now inclose you a copy of that; also, extracts from 6th December last: as they were both sent by the same mail I presume they shared the same fate. Copies of the meteorological tables for November and December are also inclosed.

Most respectfully, your obedient servant,

P. G. V.

On the Dip and Declination of the Needle. By
P. G. V. To the Editor of the Railroad
Journal.

Avoylle Ferry, May 7, 1834.

DEAR SIR,—The application of a manufacturer of compasses, in Birmingham, (Railroad Journal, Vol. III, No. 11, calling for information of the dip and declination of the needle, and its *variations*, I think a very important inquiry. In my letter to you, (I think in November, 1832, no copy before me,) I made a similar request, which was, no doubt, overlooked, or thought chimerical. I now wish to add to the manufacturer's inquiry, that the latitude and longitude of the different places be given, and say take the variation from June to December in each year, throughout America, and bring them together: in a few years that long sought problem will be settled. With the observations and actual experiments of Capt. Ross, of the *variation of the Magnetic Needle*, every practical surveyor in the United States can, at any time, give the variation of the needle, and mariners at all times and places wherever they may happen to be.

I have made these hasty remarks since closing my letter of to-day, to give you some idea of my opinions, that you may, if you choose, make some remarks from them.

Your friend and servant,

P. G. V.

We ask the attention of those of our readers who have the means and the inclination to investigate the subject of the above communication. The result of their inquiries, when attained, will always find a place in the *Journal and Mechanics' Magazine*. P. G. V. will please accept our thanks especially for his duplicates.

We are informed that the speed of the locomotive, on several trips during the present week, has been a mile in two minutes. The distance on which the cars are now running is about 20 miles, and is traversed by the locomotive both ways, including all stoppages, in three hours and a half.

The responsible department of engineer is ably sustained by Mr. Lawson, an English gentleman, under whose superintendence the locomotive has been put in operation, and by whom it is now conducted. It may be deemed fortunate that the Company were able to procure the services of a gentleman to fill this essential station, who combines both the mechanical and practical knowledge of the art.

It has been suggested to us that persons should be cautioned from travelling on the track of the railroad. Indeed, from personal observation, we are convinced that such travelling is attended with considerable inconvenience, if not actual danger; horses become frightened when passing the locomotive, and sometimes quite unmanageable.—[North Albanian.]

Delaware and Raritan Canal.—We learn that the water has been let into the Delaware and Raritan Canal, and that in a few weeks it will be in full operation. On Tuesday evening last, the Directors made up a party, and took an excursion a few miles upon its waters. The Canal commences in front of the town of New Brunswick, and communicates with the Delaware at Bordentown. It is about 43 miles long, 75 feet wide, and 7 feet deep. It has two tow paths, and is so constructed as to admit the passage of sloops of 50 to 100 tons burden, affording a complete and safe water communication between the two cities of New York and Philadelphia, greatly facilitating the conveyance of merchandize, and producing a very considerable saving in the amount of insurance.

By an inscription on a marble tablet which is inserted in the stone work of the lock at the city of New Brunswick, it appears that the Canal was commenced in January, 1831, and completed in May, 1834. It has 14 locks—13 are 24 by 110 feet,—the other is still larger. The feeder which supplies the Western division, is 24 miles long.—[Jour. Com.]

*Proceedings of the Royal Institution, London,
Feb. 14, 1834—Evening Meeting. [From
the London Repertory of Arts, &c.]*

Dr. Faraday gave a conversation on Ericsson's Caloric Engine. He commenced by stating that he felt himself placed in a position of considerable difficulty, in bringing forward a subject on which such difference of opinion existed; yet the object of this institution was

the philosophy of a question, not to decide on the probable result in a mercantile point of view, of any invention or engine which might be brought forward, and in explaining the principles of Captain Ericsson's invention, he trusted that he should not be held responsible for the correctness of the various propositions which he would have to make ; at the same time, he was bound to state that, prior to the construction of the engine, one part of the invention was submitted to his opinion, and he had reported favorably ; and this was the possibility of transferring the heat contained in a current of air passing in one direction to another current of air passing in an opposite direction (separated only by metallic surfaces) ; but how far this might be usefully and economically employed in obtaining an engine of power, it was not for him to determine ; this question would be brought to a fair test when an engine of 50 horse power, now constructing, shall be set to work. Dr. Faraday then described the manner of transferring heat from one current of air to another by working models, and afterwards, by the aid of working diagrams, he explained the construction of Captain Ericsson's engine. Our having given a full account of this engine at page 42 of the present volume,* will render it unnecessary again to describe the principles on which this invention is proposed to work. Dr. Faraday having explained the various bearings of the question, concluded by observing that he was bound, in justice to his own character, to make a remark, which he regretted the more that it was possible and probable, had he been able to see Captain Ericsson prior to his entering into this explanation, he would have been able to remove a doubt and difficulty which he (Dr. Faraday) must confess he could not clear up to his satisfaction ; this had been prevented by the serious illness of Capt. Ericsson. What he referred to was, that he could not clearly see how the difference of pressure, stated by the inventor to exist, could be maintained in the different parts of the apparatus.

INSTITUTION OF CIVIL ENGINEERS.—The following are the subjects which have been under discussion at the Tuesday evening meetings :

"What are the advantages to be derived from the application of undulating railroads?"

After a full discussion (lasting two evenings), in which many of our best and most talented men took part, this question was dismissed with a general expression, that there were no advantages to be derived, but, on the contrary, a decided loss.

"Heating power of coal and other kinds of fuel: Have any experiments been made, or data collected, from which can be calculated the number of cubic feet of atmospheric air which one pound of good Newcastle coal will raise 1° of Fahrenheit?"

This subject has called forward considerable information, but nothing final has been determined on; but so far as we are able to judge, Tredgold's calculations may be depended on for their correctness.

"Velocity of currents of air: Is there any instrument for measuring correctly the velocity of air in motion; and if so, upon what principle does its action depend?"

Mr. Barwise explained an instrument constructed by him for this purpose, and promised to construct one for the institution.

The following are the subjects which stand next for discussion:

"Grouting masonry and brickwork: The application of it—how and when it ought to be used—the materials for it."

"The worm in the timber of piles, &c.: Driven in salt water, and the means of preventing it."

"Lock gates and sluices: With any late improvements in the materials or construction."

"Steam: Any substitute for it—Ericsson's
caloric engine."

* For notices of this engine, see pages 147 and 194, vol. iii., of this Journal.

View of a Cotton Scutching and Lapping Engine, on the most improved plan, the first one invented, by N. SNODGRASS, of Glasgow, in 1806. [Communicated by the Inventor for the Mechanics' Magazine and Register of Inventions and Improvements.]

EXPLANATION.

- 1, 1, Feeding table, with cotton weighed and spread upon it.
- 2, 2, Scutcher cylinders, 11 inches diameter, to run 1500 revolutions per minute, with covers of iron.
- 3, 3, Wire gauze cylinders, with covers, to spread the cotton, and let off the air generated by the scutcher cylinders.
- 4, 4, Feeding cloths and moving wooden rollers, to carry the cotton under the wire cylinders from scutcher to scutcher.
- 5, 5, Two cast iron rollers, 4 inches diameter, to compress the cotton before it is lapped up on roller No. 6, for the cards.
- 6, Cotton roller, for the carding engine.
- 7, An iron or wooden cylinder, about 15 inches diameter, under cotton roller, for winding up the same.
- 10, 10, A view of one side of the cast iron framing.
- 11, 11, Triangle ribbed hecker, for extracting the gins, &c. from the cotton, and allowed in Europe to be an important part of the scutching engine.
- 12, 12, Air apertures, for letting the generated air escape through the gauze wire covered cylinders.

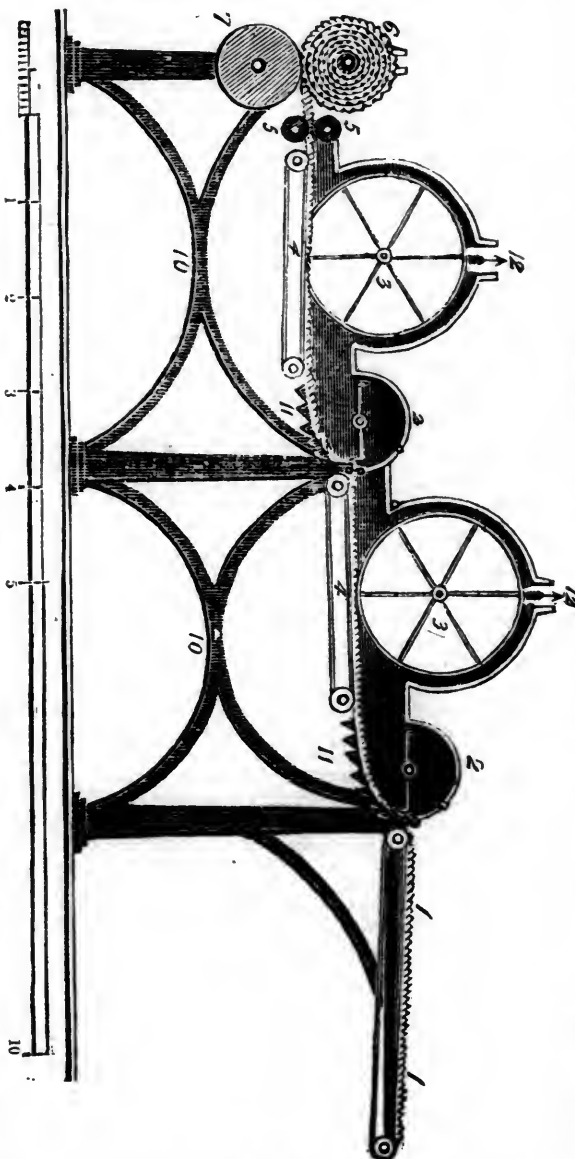
————— This represents the cotton in process.

New-York, May 14, 1834.

TO THE EDITOR :

Sir,—A few weeks ago I took the liberty of sending you a plan (not mine) for blasting iron ore furnaces with hot air,* successfully in use in Scotland, whereby thirty-three per cent. of fuel is said to be saved; also, a plan of mine for heating factories on the best principles, by steam: in hopes these might benefit this rising country. From the same motive, I again send you another plan of a scutching (batting) machine, for opening, cleaning, and, in one operation, preparing it to be applied to the carding engines; the first one invented by me, in Messrs. G. Houston & Co.'s large spinning factories in the town of Johnstone, Scotland, in 1806, and successfully introduced to the spinning trade in Britain, and, *I believe*, never before in any publication.

The section plan annexed is drawn on a necessarily small scale, to suit the limits of magazines, and is only calculated to suit the understanding of the first rate cotton machine makers, such as Mr. Rodgers, &c. at Paterson. The plan shows all the essential working parts: the various complicated movements, &c. will be easily arranged by these gentlemen, and almost impossible to be exhibited in yours, or any other similar publication. All that I have to observe, in addition to the explanation accompanying the drawing, for the practical working of the machine, in cotton factories, is, that this machine should be made the same breadth of the carding engines, so that the finished lap, No. 6, would suit on applying it. Also, the first feeding cloth, Nos. 1, 1, should be divided into such parts as the manager of the work may think proper, then causing the person that attends the machine to weigh a certain weight of cotton, and carefully spread that weight on each of these parts, which has the effect of enabling the small scutching cylinders to open the cotton more regularly; and, finally, finish the lap, for carding, in the



most perfect manner, doing as much work, and better, with one person, than if more were employed, which is the case with those cotton factories I have been permitted to examine in this country. Also, from twenty-eight years' experience, I decidedly recommend, in no case, to make the scutcher cylinders more than *twelve* inches in diameter, and only with two blades. In the mean time, I am, Sir, yours, &c.,

NEIL SNODGRASS, 87 Pearl st.

THE NEW PIN.—There are few things which more strikingly exemplify the high point of civilization to which this country has attained than the amount of capital continually expended, the inventive talent exercised, and the powerful agencies employed, as the remedy of exceedingly small evils, and the attainment of equally minute objects of convenience. This remark cannot perhaps find a better illustration than in "The New Pin with an Immoveable Solid Head." The defect in the old pin, which it is the object of the present improvement to remedy, is that the head of the pin being separately spun and then put on, was liable to be detached by the pressure of the thumb. The principle of the improvement consists in this: that the head being formed of the

same piece with the body of the pin, the inconvenience attending its slipping is effectually prevented. This is the minute improvement in a minute article, the accomplishment of which has cost the patentees several years of attentive application, and the expenditure of a large capital, according to their own statement, which, when the extent and character of the machinery employed are considered, there can be no reason to doubt. At the same time, it must be taken in connection with this improvement, that the patent pin is altogether produced by machinery, instead of partly by hand processes. "The Patent Solid-headed Pin Works" are situated about a mile from Stroud, on the Bath and Birmingham road. The principal building consists of five floors, each of them one hundred feet in length, and completely filled with machinery. A large iron water-wheel, on which a stream acts with a power equal to that of forty horses, gives motion to all the mechanical apparatus, which is so ingeniously constructed as to perform every essential operation for converting a coil of wire into the perfect pin with scarcely any noise and little apparent effort. Upon the old system, this comparatively insignificant article had to go through fifteen or sixteen hands before it was finished; but this curious machine effects the whole without manual assistance, or any extraneous aid whatever; for the wire being placed on a reel, and the machine set in motion, all the mechanical combinations, so numerous and dissimilar in their movements, are simultaneously performing their various functions with a rapidity and precision truly surprising. While one portion of the apparatus is drawing out and straightening the wire, and cutting it off at the required length, another combination is pointing and polishing the pin, and another compressing a portion of the wire into dies to form a perfect and neat round solid head. The various movements are completely at command, and susceptible of instant alteration and adjustment to pins of any length, and heads of any form, while the machine is working at its ordinary speed. Each machine operates on four wires at once, and from forty to fifty pins are with facility produced in a minute by each of the 100 machines which are completed, and in constant operation at the works. As a more particular detail of the process would not be well understood without engravings, we shall only further state that the works, with the present number of machines, are capable of producing upwards of two tons of pins weekly, or, stating the amount numerically, 3,240,000 pins daily, 19,440,000 weekly, supposing all the machines to be in operation twelve hours daily. It is stated that altogether twenty millions of pins are daily manufactured in this country for home consumption and for the foreign market.—[Penny Magazine.]

A new locomotive of great power and masterly machinery has been constructed for the Newcastle and Frenchtown Railroad, by Mr. E. A. G. Young, of Norfolk. The Beacon states that on the first trial of the engine, notwithstanding the stiffness of the machinery, and without any headway being given to it, it ascended the inclined plane at Frenchtown, (the grade of which is 42 feet to the mile,) with a load of 55½ tons, at the rate of 12 miles per hour.—[Balt. American.]

The receipts of the Charleston rail-road for the month of May amounted to \$18,300—passage money \$10,070—freight \$8230.

* Which will be inserted shortly.—[Ed. M. M.]

ILLUMINATED PRINTING.—In many of the old printed books, the initial letters, and occasionally other parts, were printed in red. This was done by two workings at press, and was an imitation of the earlier fashion of *illuminating* manuscripts. The practice is still followed in some almanacs, the saints' days and holy-days being "red-letter days." Some ingenious contrivances have been devised for working in various colors; and a few years since, a curious book was written and published on the subject by Mr. Savage. Still more recently, printing in gold and other metals has been practised. This is done by printing with a sort of size, and afterwards applying the metal leaf. Some very handsome specimens of this have been produced by Messrs. Howlett and Brimmer, of London; but, of course, the process is too costly and too tedious ever to enter into competition with common printing, or to be used for other than purposes of luxury.

VALUABLE DISCOVERY IN THE FINE ARTS.—Mr. Mudie, well known as an able literary compiler, has brought out a popular work on "the feathered tribes of the British Island," in which, amongst other attractive features, the vignettes on the title pages are novelties, being the first successful specimen (says Mr. Mudie) of what may be called Polychromatic printing, or printing in many colors from wooden blocks.

"By this method," he adds, "every shade of color, every breath of tint, every delicacy of hatching, and every degree of evanescence in the outline, can be obtained; and fifty thousand fac similes of a painting may be produced with perfect uniformity and at moderate expense. The advantages to books, of which a large number is to be sold, will be very great, not only as removing the cost of tinging by hand, which is the same for the last thousand as the first, but by making the copies more alike and more durable, and rising more above the reach of the ignoble pecus of imitators. In these vignettes, Mr. Baxter had no colored copy but the birds, which are from nature. I made him work from mere scratches in outline, in order to test his metal; and I feel confident that the public will agree with me in thinking it sterling. In carrying this very beautiful branch of the typographical art successfully into effect, Mr. B. has, I believe, completed what was the last project of the great Bewick, but which that truly original and admirable genius did not live to accomplish."

THE PULSE.—Every one knows that among the numerous inquiries and examinations which precede the prescription of a careful physician, the state of the pulse is never omitted; yet, as it is probable that few of our readers are acquainted with the reasons for this inquiry, or, what is the same thing, with the facts to be learned from it, we think it may not be uninteresting if we enumerate some of the more prominent ones.

It is almost unnecessary to premise that by the pulse is meant the beat of an artery, and that the one commonly chosen for examination is the radial artery, which beats at the wrist. The first point generally attended to is the number of the beats; and since in this, as in all other medical questions, it is necessary to be acquainted with the state of health, in order to recognize any deviation from it, we must mention the ordinary frequency of the pulse at different ages. In the new-born infant, it is from 130 to 140 in a minute; but decreases in frequency as life advances; so that, in a middle-aged adult in perfect health, it is from 72 to 75. In the decline of life, it is slower than this, and falls to about 60. It is obvious that if we could suppose a practitioner ignorant of these plain facts, he would be liable to make the most absurd blunders, and might imagine a boy of ten to be laboring under some grievous disease, because his pulse had not the slow sobriety of his grandfather's. A more likely error is to mistake the influence of some temporary cause for the effect of a more permanent disease; thus,

in a nervous patient, the doctor's knock at the door will quicken the pulse some 15 or 20 beats in a minute. This fact did not escape the notice of the sagacious Celsus, who says, "The pulse will be altered by the approach of the physician, and the anxiety of the patient doubting what his opinion of the case may be. For this reason, a skilful physician will not feel the pulse as soon as he comes; but he will first sit down with a cheerful countenance, and ask how the patient is,—soothing him, if he be timorous, by the kindness of his conversation, and afterwards applying his hand to the patient's arm."—(De Medica, lib. iii. cap. 7.)*

Granting, however, that these sources of error are avoided, the quickness of the pulse will afford most important information. If in a person, for example, whose pulse is usually 72, the beats rise in number to 98, some alarming disease is certainly present; or, on the other hand, should it have permanently sunk to 50, it is but too probable that the source of the circulation, the heart itself, is laboring under incurable disease, or that some other of the great springs of life is irremediably injured.

Supposing, again, the pulse to be 72, each beat ought to occur at an interval of five-sixths of a second; but should any deviation from this rhythm be perceived, the pulse is then said to be irregular. The varieties of irregularity are infinite; but there is one so remarkable as to deserve particular mention. It will happen sometimes that the interval between the two beats is so much longer than was expected, that it would seem that one beat had been omitted: in this case the pulse is said to be an intermittent one. When the action of the heart is irregular, the beat of the pulse is so likewise; but it will occasionally happen that the latter irregularity takes place without the former one, from some morbid cause existing between the heart and the wrist. It is hardly necessary to observe, that, in all doubtful cases, the physician examines the pulsation of the heart as well as that of the wrist,—just as the diligent student, discontented with the narrow limits of provincial information, repairs to the metropolis to pursue his scientific inquiries.

The strength or feebleness of the pulse, its hardness or softness, and innumerable other qualities, might be discussed here; but, from the great difficulty attending any examination of these points, and the technical niceties involved in any thing more than a bare mention of them, we omit them. There is one point, however, which it would be unpardonable to pass over in silence: sometimes no pulsation can be felt at the usual part of the wrist. This may proceed from so great a languor of the circulation, that it is imperceptible at the extremities; or from the radial artery (the one usually felt) being ossified; or from an irregular distribution of the arteries of the fore-arm.

TO INCREASE THE STRENGTH AND FIRMNESS OF THREAD AND COARSE CLOTH.—The lixivium of oak has been employed for scarcely any other purpose than that of the tanner, and yet it is applicable to a great variety of uses. If thread, cords, nets, coarse linen, &c. be steeped in it, they acquire greater firmness and durability. Fishermen have long resorted to this. Nothing is more apt to spoil than skins, and yet this preserves them. It is the same with hempen and linen cloth: they contain much gummy and resinous matter, which, with tannin, forms an envelope, and thus adds to their durability. Linen ought not to steep more than eight or ten days in this solution: it acquires a very brown color. When this color fades, the operation may be repeated.

The best method of preserving nets and cordage is the following: Dissolve two pounds of Flemish glue in fifteen gallons of water, dip the nets, &c. into this solution, and then

* The lapse of eighteen centuries has not destroyed the utility, much less the beauty, of the eight books on Medicine bequeathed by Celsus to posterity; they are unrivalled for perspicuous elegance and laconic good sense. Celsus is one of the writers of the Augustan age, and is worthy of the times in which he flourished.

steep them in a strong solution of oak or chestnut bark,—the tannin combines with the gelatine, and forms, between the fibres of the hemp, a solid net work, which adds great strength to the cords. Any bark which contains tannin may be employed in making a decoction; so bones, parings of skin, remains of fish, &c. and generally all substances containing gelatine, may be used in making a gelatinous solution. Fishermen, who often throw away on the shore gelatinous fish, may use them for this purpose.—[Jour. des Connais. Usuelles.]

EFFECT OF OIL ON WATER.—The following is a secret worth knowing: In rough weather they (the fishermen of the Bosphorus) spread a few drops of oil on the surface, which permits them to see clearly to a great depth. I was aware that oil would calm the surface of the sea; but until recently I did not know that it rendered objects more distinct beneath the surface. A trinket of some value had been dropped out of one of the upper windows of our palace into the Bosphorus, which at this place was 10 or 12 feet deep. It was so small that dragging for it would have been perfectly useless, and it was accordingly given up for lost, when one of the servants proposed to drop a little oil on the surface. This was acceded to, with, however, but faint hopes of success. To our astonishment, the trinket immediately appeared in sight, and was eventually recovered.—[Dr. Dekay.]

SPONGE.—This well known marine production has been in use from very early times, and naturalists were long embarrassed whether to assign it a place in the animal or vegetable kingdom. Most authorities now agree in putting the sponges in the lowest scale of animal life. There are about fifty different species of sponges, of which nine or ten belong to this country. They are found in the Mediterranean and those seas in warm and temperate latitudes, diminishing in number and becoming of inferior quality on the approach to cold regions. They adhere to rocks in places the least exposed to the action of currents and waves, which the ebbing tide does not leave uncovered. The best sponges known to us are those which come from the Archipelago, where they abound near many of the islands, whose inhabitants may be said to subsist by the sponge-fishery, if we may so call it. At the Cyclades, for instance, sponge-diving forms the chief employment of the population. The sea is at all times extremely clear, and the experienced divers are capable of distinguishing from the surface the points to which the sponge is attached below, when an unpractised eye could but dimly discern the bottom. Each boat is furnished with a large stone attached to a rope, and this the diver seizes in his hand on plunging head foremost from the stern. He does this in order to increase the velocity of his descent; thus economizing his stock of breath, as well as to facilitate his ascent when exhausted at the bottom, being then quickly hauled up by his companions. Few men can remain longer than about two minutes below; and, as the process of detaching the sponge is very tedious, three, and sometimes four divers descend successively to secure a particularly fine specimen.

The best sponge is that which is the palest and lightest, has small holes, and is soft to the touch. By the old physicians, sponge was regarded as a cure for a long list of maladies; this last is now much abridged, though burned sponge, in which form only it is used, still has a place in the materia medica.—[Penny Magazine.]

PRESERVATION OF SKINS.—J. Stegard, tanner at Tyman, in Hungary, completely preserves raw hides from putrefaction, and restores those that are tainted, by applying to them, with a brush, a layer of pyroligneous acid. They absorb it very speedily, and it occasions no injury nor diminution of their value.—[Receuil Industrielle.]

AGRICULTURE, &c.

NOTHING MADE IN VAIN.—We have this week received the following communication, accompanied with a quantity of seeds, as referred to, for which we return the donor our thanks. From the date, we have no doubt but they were intended to have reached us earlier. The discovery of this way of procuring maple seeds is not only a matter of curiosity, but of economy; as we venture to say that it would have required the labor of one man at least one week, to have taken the shells from a quantity of seeds equal to those sent to us. We shall endeavor to have them planted, and will hereafter give the result.—[Goodsell's Genesee Farmer.]

Cultivation of the Sugar Maple and manner of procuring the Seed.

Mr. Goodsell,—Every one is delighted to see our native forests thickly planted by the hand of nature with this valuable and beautiful tree; valuable, because for cabinet work some varieties of this wood are superior to that brought from distant climes; first rate for fire wood, and as good for the manufacture of sugar as the cane plant. And who does not regret the destruction of the ax-man amongst them. Occupying the best soil, they are usually the first victims. But he who destroys should endeavor to produce anew. No native tree can be more easily cultivated than this, the seed being abundant and easily procured. It grows rapidly from the seed in open cultivated grounds, attaining the height of six feet in three years, and in twelve years the stems will measure from six to nine inches diameter. I send you a quantity of seed as a specimen; they are ready prepared for sowing, and are divested of the shell and wings; in their natural state, being connected together in pairs, they are usually called maple keys. About a peck is sufficient for seeding three acres of ground. Nature would seem to dictate the fall of the year to be the proper time for sowing the seed in their natural form, as the effects of the frost would be to soften the shell. At this season they are scattered abroad by the winds in infinite profusion. But divested of the shell and sown in the spring they will grow as surely as peas, and make their appearance at the time the forest trees put forth. They should be sown, or rather scattered upon the furrows of dry land, and harrowed in, and grass seed should be sown for future pasture. Hogs, calves, sheep, horses, &c., may be pastured among them, but no cattle, till they are out of danger. The third year, either fall or spring, they should be taken up, where too thick, and transplanted in vacancies. One thousand may commence growing upon an acre. In twelve years, an enterprising farmer, who wishes for the future prosperity of our country, as well as to enhance the present value of his lands, would walk five miles barefooted before sunrise in the month of June, to view the "sugar bush" of our climate, in full foliage, situated near the residence of the owner, sheltering his fruit trees and habitation from storms, and the resort of the songsters of the air. The leaves of the grove might be collected for the barn-yard. At the age of twenty-five years, the trees might be tapped. I was bred upon a farm, in a deep valley of the mountains, on the eastern border of this state, and have witnessed the growth of the sugar maple in groves from the seed, and also standing singly in fields, where they have stood for more than half a century, presenting a more beautiful appearance than the trees of

any land or clime. My occupation now is farming. As to the manner of procuring seed: I send you about one-fourth part of the winter store of a buck or wood-land mouse, which was deposited in a living hollow beach tree, 15 inches diameter; the whole of his store, being about one bushel, one half beach nuts, with a few other seeds, all shelled, and neatly put up for winter provision, and a nest within, lined with down, the residence of the family. A boy found another store-house the same day, which was 25th of December last, containing half a bushel of maple seeds, with others. Boys are skillful in such kind of hunting. In this way seed stores might be furnished with them from the maple forests of the west, in quantities sufficient to plant out territories and kingdoms. The buck mouse enters his habitation through a smooth hole an inch or less in diameter, into the hollow of the tree, sometimes nearer and sometimes further from the ground. At the commencement of cold weather and snow, the red squirrel visits the place daily, and endeavors with much chattering to gnaw through, to rob the mouse of his store. By this recent gnawing around the hole, and by tracking in the snow, the habitation of the mouse may be discovered. This little animal, also deposits vast quantities of elm seeds, in hollows of the branches and trunks of that stately tree. In the night season, when all his enemies sleep, except the owl, he is busily employed during the fall months, in running up and down the tree, and laying up his winter store. The habitation of the mouse is frequently occupied afterwards by the honey bee. Whenever the maple bears seeds, the mouse, in maple forests, is sure to have a proportion of them for his food. S. H.

Clarendon, Jan. 25th, 1834.

CAPITAL REQUISITE IN FARMING.—Mr. Editor: Among the many causes assigned for ill success in agricultural pursuits, of which farmers are often reminded, there is one but rarely adverted to, and I suspect by many farmers has never been considered at all. And that is the absolute necessity of a loose capital to enable a farmer to cultivate his farm to any advantage. The amount of this capital should be nearly equal to the entire annual product of his farm, after deducting his annual gain, if there be any.

Suppose the entire annual product of a farm to be \$1000

Deduct suppose annual profit . \$150

Deduct also such portion of the milk, butter, grain, potatoes, and sauce generally, as is used in the family during the same season of their production, . 50

230

Leaving to be expended in living and working farm before receiving returns of produce of farm, . \$770

Now if the farmer himself is both able and willing to perform the labor of one good hired hand, it will be equal to about 200 dollars of this sum, leaving 570 dollars the least amount of loose capital that will suffice to carry him through the year, without being pinched or obliged to slight his work. The amount of wool, flax and provisions, reserved for the consumption of the family from year to year, is included in this sum.

As this is a subject of importance, and as I wish to be clearly understood, I will proceed a little further. Farmers who live so far from market as to find it impossible, or inconvenient to get the produce of their farms to market before winter (and these constitute a very large majority), it will be seen at once, must incur the entire expense of working their farms and providing for their families for the year, before they realize any thing worth naming from the produce of their farms. Their hired hands must be paid in autumn, if not sooner, and if they expect to get store goods and mechanics'

work at reasonable rate, they must pay as they go along. A farmer sells his pork, butter, cheese, grain, &c. from January to April. The cost of producing all these was paid, (or ought to have been,) the summer and autumn before. His sheep are sheared in May, and should he be able to convert their fleeces immediately into money, (which he cannot always do,) still the whole expense of producing this wool, excepting about two months spring pasturing, was paid the year before, a considerable portion of it the August before.

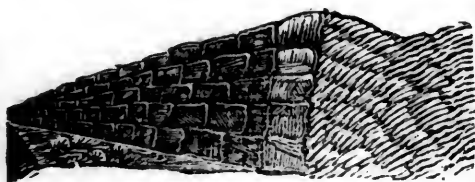
It cannot be denied that a farmer can get along after a fashion, with little or no capital, because it is done by thousands every year. Some may inquire how this can be possible if the foregoing statement be correct. A farmer without capital, in the first place, will not perhaps hire more than half as much labor as his farm requires; of course all his work is slighted, and all done out of season, and half crops is the consequence. When the time arrives for paying his laborers, perhaps he will get some things out of the store for them on trust, or borrow a little money to pay them in part, and put off paying the remainder until winter or spring, to the no small injury of his credit, otherwise he must force the sale of some of his scanty produce at a reduced price, to make out the pay. In the next place, he buys of the store-keeper wholly on a long credit, and pays a price accordingly, say twenty to thirty per cent. more than the cash price. His dealings with the blacksmith, shoemaker, and mechanics in general, are after the same fashion. And thus he passes his life continually pinched for the want of a little money, incessantly harassed by duns, and once in a while is appalled by a tap upon the shoulder, though gentle it may be, of the practised hand of a constable. And for this he must pay the latter, and his co-worker the lawyer, a sum of money for which he has never received any equivalent. And thus he brings the year about—no, properly speaking, he never brings the year about. He is forever toiling to bring up the arrangements of the last year. Time has got the start of him by one year, and he in vain attempts to overtake it.

It is a common remark that small farms are more profitable than large ones; this in the abstract is not true. Though it is doubtless true that multitudes of farmers greatly injure themselves by enlarging their farms *without an adequate increase of capital*. How often do we see farmers who have in the course of years accumulated a little money from small farms, barely enough to enable them to cultivate their present farms to the best advantage, invest the whole of this very capital in more land. Thus making an increase of capital necessary by the very act which deprives them of the little they already possessed. Could farmers who are without a loose capital be persuaded to pursue a precisely contrary course to this, to wit, sell off so much of the land they already possess as will raise a sufficient loose capital to enable them to cultivate the remainder in a proper manner, it would increase both their profits and comfort.

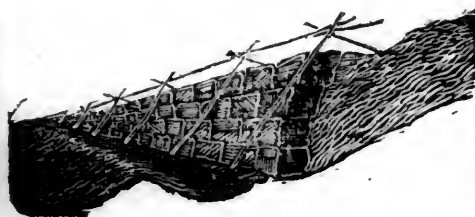
If any thing will excuse a farmer for mortgaging his farm, it is the hiring of money to work that farm. Though he ought in this case to be very certain that he is possessed of so much resolution and discretion, as to be in no danger of ever appropriating money so raised to any other use; so long as it is applied to this use only, it is not so very hazardous a plan. Before a mortgage can press heavily upon his farm, the money can be repaid, and at the worst he has only to return to his former method of farming by the halves, and without either satisfaction or profit. I do not wish to be understood as recommending to farmers the practice of raising money on mortgage. It is better with rare exceptions, where money must be raised, to sell off a portion of the farm, and preserve the remainder free from incumbrance.—H. W.—[N. England Farmer.]

A Cheap Method of making Fence of a Durable Character. By L. M. T. [From the New-York Farmer.]

If the ground be inclined in a direction opposite to that of the fence, begin by turning three or four furrows with a side-hill plough down hill; let them be thrown by the spade up the hill; plough three or four more on the same ground, and let them be thrown above the others; the ground will then present this shape—



Pick up your paving stones, if you have no better, or quarry about half as many as are requisite to make an ordinary $3\frac{1}{2}$ feet wall, and place them against the bank formed until you have a fence four feet high, and from nine to fifteen inches thick, and what is better, one which will not fall down, and which has been tested by the writer of this article to resist the frost, when all other methods of making stone walls have failed. The bank must incline one foot in the four, or four and a half, of height. This fence is made at less expense by one-half of stone, and one-third of ordinary wall in the price of laying. If designed to stop sheep, it must be staked and sided in this shape—

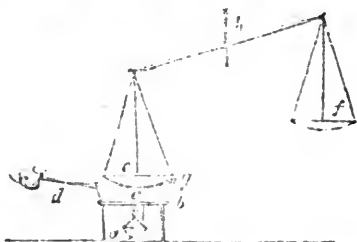


The same fence can be made on level ground, and has been by myself, when it will present nearly the above profile, staked and sided, and is effective against both sheep and cattle.

L. M. T.

Hoosick, Rensselaer co., March 21, 1831.

*** TESTS OF THE TEXTURE OF SOILS.**—One of the best methods of ascertaining the capability of any soil to take up and retain moisture is that described by Mr. C. Johnson, for which purpose he employs the following apparatus.



a, is a small lamp; b, a stool, with a hole in the seat for receiving c, a shallow tin vessel, closely covered, but having a pipe, d, for the escape of steam; h is a pair of accurate scales, such as are used by apothecaries and goldsmiths. In order to employ this apparatus, put a small quantity of the soil to be tried upon the top of the tin vessel, in which water is kept briskly boiling for about half an hour, so as to thoroughly dry the soil by expelling its moisture. Take ten grains accurately weighed of this dried soil,

and add to it, by means of a quill, a drop or two of pure water; if distilled water can be had, so much the better. Weigh the whole a second time, which will now be a few grains above ten. Take out the weight of the water from the scale, leaving in the weights of the dried soil, and suspend the beam, so that the scale may rest on the lid of the tin vessel, the water in which it is still kept boiling; then with a stop-watch note the exact time which the added water takes to evaporate, as will be shown by the beam of the balance becoming level. Mr. Johnson found, that soils requiring less than twenty-five, or more than fifty minutes, to evaporate the added water, and bring the balance to a level, were always proportionally unproductive; the first, from having too much flinty sand, and consequently too few interstices to allow the water to escape.

Rich soil, treated in this way, required thirty-two minutes to bring the beam to a level; chalk, twenty-nine minutes; poor flinty soil, twenty-three minutes; and gypsum, only eighteen minutes.

A very fertile soil from Ormiston, Haddingtonshire, containing, in 1000 parts, more than half of finely-divided materials, among which were eleven parts of limestone soil, and nine parts of vegetable principles, when dried in a similar way, gained eighteen grains in an hour, by exposure to moist air, at the heat of sixty-eight degrees Fahrenheit; while 1000 parts of a barren soil, from Bagshot Heath, gained only three grains in the same time.

Mr. Johnson farther found that one hundred parts of burnt clay, when exposed in a dry state for three hours to air saturated with moisture at sixty-eight degrees, took up twenty-nine parts of water; that gypsum, in similar circumstances, took up only nine parts, and chalk only four parts.

Another method of testing the texture of soils is by taking what is termed their specific gravity; that is, comparing what they weigh in air with what they weigh in water. Sufficient accuracy for practical purposes may be obtained by drying two different soils, at an equal distance from a fire, or in an oven, at the same time, and then weighing in the air a pound of each in a thin bladder with a few holes near its top, or neck. When the weight has thus been obtained in the air, the bladder may be put into water, letting it sink low enough to permit the water to enter through the holes in the neck, in order to mix with the dried specimen of the soil. The weight in water, divided by the difference of the two weights, will be the specific gravity, and the less this is, the greater will be the capacity of the soil to take up and retain water. Muschenbroek thus found rich garden mould to be 1630 compared to 1000 of water, and Fabroni found a barren sand to be 2210 compared to 1000 of water.

Or fill a wide necked pint or quart bottle half full with water, and add the soil to be tried till the water rises to the brim. Then if the bottle can contain one pound of water, and gains half a pound additional when filled in this way, half with water and half with soil, the soil thus tried will be twice as heavy as water, and its specific gravity will be two. If it only gain a quarter of a pound, its specific gravity will only be one.

M. Giobert ascertained that a pound of fertile soil contained, of flinty sand, about 4,400 grains, of clay about 600 grains, of lime about 400, besides seventy of water, and about twenty-five grains of inflammable materials, chiefly carbon. On a comparative trial of a barren soil, M. Giobert found that a pound weight contained about 600 grains of clay, about 400 grains of lime, and little or no inflammable materials. Mr. Grisenthwaite directs an equal portion of two soils, perfectly dry, to be introduced into two tall glasses, in the midst of each of which a glass funnel has been previously placed. The soils are to be put in so as to retain, as nearly as possible, their natural state when in the ground, and are consequently not to be too much pressed down. When this has been done, water is to be poured very gradually into each of the

funnels, and it will rise up as it does in a piece of lump sugar into the dry soil, as may be seen through the glass. The more rapidly the water is seen to rise, the better will be the texture of the soils.—[Professor Rennie.]

WHITE MULBERRY.—Experience and observation have demonstrated that the shade of mulberry trees is not injurious to the growth of grass, grain, or any other vegetable. This is an important discovery, and argues powerfully in favor of the means of raising silk.

I would advise, with humble deference, that every farmer procure mulberry seed, form a nursery, transform all his fences into mulberry hedges, and plant standard mulberry trees along all those hedges half a rod distant from each other. A farm of a hundred acres, fenced as above advised, would in a few years yield from the fences a crop worth several hundred dollars! These fences would be as cheap as any other a farmer could erect, would require no repairs, no renewal, so that all the produce arising from the leaves would be a clear profit. One hundred pounds of leaves would produce, in this country, one pound of reeled silk, if judiciously fed, worth from four to seven dollars—the price being governed by the good or bad reeling. A single tree will produce from thirty to sixty pounds of leaves, depending on the growth of the tree, soil, &c.—[Village Record.]

On Hussey's Reaping Machine. By CYRUS H. M'CORMICK. To the Editor of the *Mechanics' Magazine*, and Register of Inventions and Improvements.

ROCKBRIDGE, Va., May 20, 1834.

DEAR SIR,—Having seen in the April number of your "*Mechanics' Magazine*," a cut and description of a reaping machine, said to have been invented by Mr. Obed Hussey, of Ohio, last summer, I would ask the favor of you to inform Mr. Hussey, and the public, through your columns, that that principle, viz., cutting grain by means of a toothed instrument, receiving a rotatory motion from a crank, with the iron teeth projecting before the edge of the cutter for the purpose of preventing the grain from partaking of its motion, is a part of the principle of my machine, and was invented by me, and operated on wheat and oats in July, 1831. This can be attested to the entire satisfaction of the public and Mr. Hussey, as it was witnessed by many persons: consequently, I would warn all persons against the use of the aforesaid principle, as I regard and treat the use of it, in any way, as an infringement of my right.

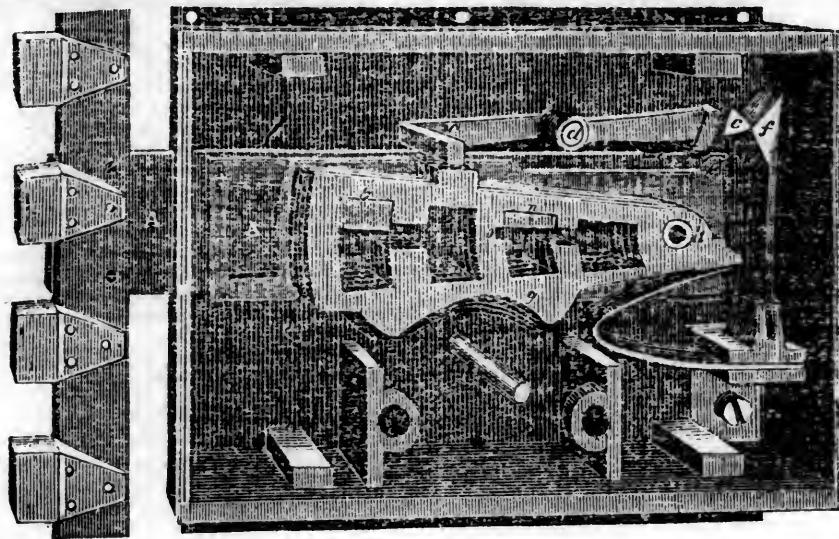
Since the first experiment was made of the performance of my machine, I have, for the mutual interests of the public and myself, been laboring to bring it to as much perfection as the principle admitted of, before offering it to the public. I now expect to be able, in a very short time, to give such an account of its simplicity, utility and durability, as will give general, if not universal satisfaction. The revolving reel, as I conceive, constitutes a very important, in fact, indispensable part of my machine, which has the effect, in all cases, whether the grain be tangled or leaning, unless below an angle of 45° to the ground, to bring it back to the cutter, and deliver it on the apron when cut. Very respectfully, yours, &c.,

CYRUS H. M'CORMICK.

* For description and cut of this machine, see page 223 of this Journal.

EXPORTS FROM NEW-ORLEANS.—The Governor of Louisiana, in his late message to the Legislature, estimates the exports of New-Orleans for the year 1831, at \$31,700,000, as follows:

Cotton	450,000 bales at \$55	\$31,640,000
Tobacco	30,000 hhd. at \$10	1,200,000
Sugar	70,000 hhd. at \$65	4,550,000
Molasses	3,500,000 gallons at 20 cts.	700,000
And for western produce		5,500,000
from the sum of which he deducts		\$22,000,000
for home consumption—leaving the aggregate		as above.



[From the Mechanics' Magazine.]

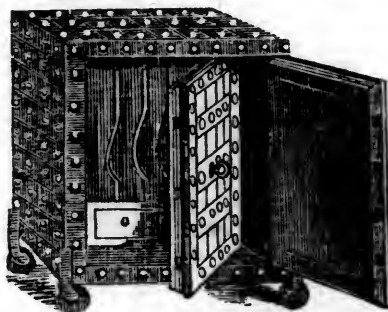
CHUBB'S PATENT LOCK.—The lock made by C. J. Gayler, of 102 Water street, New-York, of which a drawing is annexed, affords more security than any other yet invented, as it cannot be picked or opened with any false instrument; and its combinations are so extensive that tens of thousands may be made without making two alike.

Description.—A A a, the bolt; b, the square pin of the bolt; c c, the detector, moving on the centre d; f, the detector spring; g, four tumblers, moving separately on the centre h, shown lifted by the key to the exact position for the square pin b of the bolt to pass, in unlocking. Should one or more of the tumblers be lifted by a pick or false key, in the least degree beyond their present position, the detector, c c, being thus overlifted, will, by the angle of the spring, f, pressing on the opposite side of the angle of the detector, force its hook into the notch a of the bolt, and be firmly held so, until disengaged by the regulating slide K k; in which case, by the introduction of the key, the tumblers are lifted to the regulating combination, and admit the stud n, affixed to the regulating slide, to enter the several grooves, o, in them; the bevelled end k of this slide, by the same movement, pressing against the hook of the detector, disengages it from the notch a of the bolt.

It possesses the four principal requisites of a good lock, namely, security, simplicity, strength, and durability; its security, particularly, is increased beyond calculation, by an improvement (the detector) which not only renders it impossible to be picked, but also detects the first attempt to do so, thereby preventing those repeated efforts to which all other locks are exposed: at the same time it will be noticed that the thief, in making the attempt, renders the lock more secure, for if the detector is (as it must be in such cases) overlifted, it will force its hook into the bolt, and will there remain until it is disengaged, which can only be done with the true key, in the following manner: the key must be turned half way round in the lock in the same way as in locking; then turn back again, and then turn round in the usual way to unlock. If an attempt has been made to pick the lock, the detector will be overlifted, and catch in the bolt; this circumstance will at once be known, when the true key will not open the lock until the detector is disengaged in the way above

mentioned. As to its durability, it is not liable to be injured by constant use; this has been fully ascertained by a lock having been locked and unlocked by steam power four hundred and sixty thousand times without receiving the least injury.

Mr. Gayler makes use of this lock in all his Double Fire Proof Chests, of which the annexed engraving is a correct representa-



tion. They have been several times tested by fire, and have afforded perfect security to valuable books and papers. They are now in use in upwards of fifty banks in the United States, as well as in record and other public offices, and for such purposes are preferred to vaults, as they are equally safe against fire, are free from damp, and can be removed from one building to another with little trouble or expense.

NEW-YORK AMERICAN.

JUNE 7—13, 1834.

LITERARY NOTICES.

THE FROLICS OF PUCK, 2 vols. N. Y.—Harper & Brothers.—A re-publication from an English work. There is much cleverness in these tales; and the evidence, both of good writing and considerable powers of invention—all which, in our judgment, would have told better, and been more consonant with the taste of this matter of fact age, by the omission of the goblin machinery altogether.

Puck, having offended Queen Titania, is banished from fairy land till he should be able to solve the riddle "what pleases woman most." The answer, according to Frolic the First is, that "it is her lover." This answer, the termination of Frolic the Second, renders rather doubtful in Puck's eyes. The third implies love for her husband to be the chief passion: but the riddle in the fourth, is finally thus solved by Puck:

Be she young or be she old,
Warped, or formed in beauty's mould;
Be she widow, wife or maid,

By whatever temper swayed,
Woman's master passion still
Is—to have her sovereign will.

PAPER AGAINST GOLD, or the history and mystery of the Bank of England—by Wm. Cobbett. 1 vol. N. Y.: JOHN DOYLE.—There is no living writer of more power than Wm. Cobbett, whatever be the subject he handles. In the papers embodied in this vol.,—and which were written 20 years ago when he was a State prisoner in Newgate, for having attempted to excite the hatred of the British nation against the German soldiery, then incorporated with the British army, and a portion of whom had been just employed in putting down a mutiny in a British regiment—the danger, and fraud indeed, of a paper circulation irredeemable in specie, are set forth with admirable clearness and effect. In this country, where the tendency—by multiplying banks and straining to their utmost their issues—is to induce many of the evils of a paper circulation unsustained by a specie basis, these essays should be read, and may be productive of good—though as long as the restraining law of this State exists, and the right to grant bank monopolies is held and exercised as a political instrument, there will be little room for the operation of mere reason.

THIRTEEN SERMONS, by Wm. Cobbett, M. P.; 1 vol: New York, John Doyle.—We have here the same vigorous and lucid pen applied to various subjects, and in the guise of a teacher of morals and religion. A single extract upon Gambling will exemplify the style and manner of these sermons, so called:

Gaming is sometimes called *play*; but, what is it in reality? What is the object of every gamester? It is to gain by the loss of another. The object is not to effect an exchange of one thing for another. It is not to render value for value, in any way or under any form. The object of every gamester is, to get by doing injury to his neighbor. It is to get his money or his goods from him without yielding him any thing in return; and this, disguise it under what name we may, is *extortion* and *fraud*.

This is not less its character because it as often fails of success as it succeeds in its purpose. The thief is not less a thief when he fails than when he succeeds. It is the intention in both cases that constitutes the crime; and, as to the chance that you give your neighbor, you think that it is not so good as your chance; for, this is the very principle upon which you proceed. This thought must necessarily exist in your mind, or you are destitute of motive altogether. You conceal from your neighbor the fact, that you have reason for expecting to get his money from him. You practice deceit from the first to the last; and your sole object is your own private gain to be effected by his loss.

Pretenders to religion, who are at the same time gamesters, are by no means few in number. If, instead of persecuting their neighbors for difference of opinion on points of doctrine, they were themselves to pay attention to the uniform language of Scripture on the subject of *deceit*, and especially of *deceit practised for the purpose of unjustly extorting from our neighbor his money or goods*, they would, perhaps, cease both to game and persecute. In Leviticus, ch. iv. the law is clearly laid down.—We are in no case to deceive our neighbor; and, if we have gotten any thing from him *deceitfully*, we are to restore it with the fifth part in addition; and then, *atonement* being made, forgiveness is to be obtained.

Now, the very essence of gaming is *deceit*. It is impossible to gain, except *deceitfully*; for there is deceit in the motive. And, as to the manner of accomplishing the end, it presents, perhaps, the strongest possible proof of meanness and baseness of mind. Feigned pleasure, feigned sorrow, feigned applause and feigned reproof: all is false: looks that lie, the lies being too refined to be trusted to the tongue. And all this for the base purpose of gain at your neighbor's expense, and possibly by means of his ruin! From such a school, who is to expect sincerity, uprightness, or even common humanity? Accordingly, it is invariably found, that gamesters are amongst the most *unfeeling* as well as the most *fraudulent* of mankind. In Virginia and the slave-states of America, nothing is more common than to see the gamester whose purse has been emptied, call in a domestic slave, man,

woman, or child, as a stake to be played for against a sum of money. Thus the drawing of a card, or the turning of a die, may, and frequently does, separate instantly, and for ever, wife from husband, and child from parents! Look at the poor creature that stands trembling by, awaiting the result of the game; and then find, if you can, words to express your abhorrence of those who can give to a deed like this the appellation of *play*!

LA REVUE FRANÇAISE for May. New York: HOSKIN & SNOWDEN.

THE KNICKERBOCKER for June. New York, J. Disturnell.

THE UNITED STATES MILITARY AND NAVAL MAGAZINE for June. Washington, D. C.: BENJAMIN HOMANS.

MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS, for May. Edited by JOHN KNIGHT. N. York: D. K. MINOR & J. E. CHALLIN.

These are the only periodicals on our table at present. The first named is a good number. Its leading article, upon the financial administration of this country, though written by a *Freuchman*, will, we suspect, impart information to a great many *Americans*, well-informed though they be. It reproduces and re-examines the statements of the controversy respecting the relative expenses of the French and American governments, between M. Saulnier on the one side, and Gen. Lafayette, Gen. Bernard, and J. Fenimore Cooper on the other.

The *Knickerböcker* for this month is good merely. The conclusion of the paper on *Talleyran*, if authentic, is very interesting. From the article on Peace Societies, we make an extract, exemplifying the contradiction and inconsistencies of war by a striking incident connected with the battle of Navarino.

Another trait of mad incongruity, and, seen its true light, of disgusting contradiction, ensues. While the fight lasted, mercy and humanity would have been crimes. The only duty, the only heroism and perfection of military attainment, is to kill. But the moment the battle is over, the point of honor is reversed; and the perfection of bravery and honor is to expose life, and manifest an intrepid recklessness to danger to save the very victims, which, but a few moments before, it was duty in every possible way to attempt to destroy. A recorded incident, after the battle of Navarino, will show how this incongruity impressed a race whom we are accustomed to consider as barbarians. After the firing had ceased, Sir Edward Codrington, the English admiral, sent a lieutenant on board Moharem Bey's ship, to offer any medical or other assistance they might want. This vessel, probably with a crew of more than a thousand men, had but one medical officer on board, and he, unfortunately, had been killed among the first in the action. Her loss had been immense, and they had not thrown the dead overboard, nor removed their wounded to the cockpit; and the deck presented a most horrible scene of gore and mangled bodies. Amidst this frightful spectacle, about a dozen of the Turkish officers, superbly dressed, sat in the cabin upon crimson ottomans, smoking with inconceivable apathy, while slaves were handing them their coffee. The English officers presented their Admiral's compliments, and offered any assistance. The chief Turkish officer replied with frigid composure, 'that they stood in no need of any assistance whatever.' 'Shall not our surgeon attend to your wounded?' 'No,' gravely replied the Turk. 'Wounded men need no assistance. They soon die.' Returning to the Asia, Sir Edward Codrington's ship, and communicating the result of their mission, they were ordered back to bring with them the Turkish admiral's secretary, and some other officers, with whom the English Admiral held a long conference. When it was closed, the English lieutenant was ordered to land the Turks wherever they chose. Rowing them ashore about day-break, they saw the wreck of a mast, on which a score of wounded or exhausted Turks were endeavoring to save themselves. 'I must rescue these poor fellows,' anxiously exclaimed the lieutenant. 'They are only common soldiers, and will soon die. Never mind them,' said the Turkish secretary, with the utmost composure. 'But it is my duty to mind them; and should I not attempt to relieve them, the Admiral would reprove me and I should disgrace the service.' Having said this, the boat was ordered to pull towards the mast, and the lieutenant succeeded in saving about a dozen of these unhappy wretches. As soon as they were stowed in the bottom of the boat, the Turkish

officer, after a short but apparently profound meditation, burst into an immoderate fit of laughter. 'What is the matter?' exclaimed the astonished lieutenant. 'What, in the name of heaven, is there to laugh at in saving these poor fellows?' 'What to laugh at?' replied the Turk in a tone of the bitterest sarcasm. 'Laugh! by Allah! Are not you English a consistent people? Yesterday, while we were quietly taking our coffee, you opened upon us your cannon, and knocked our ships to pieces, and killed or mangled our men, until the fleet is one vast slaughter-house; and this morning you have suddenly become so humane, that you cannot pass a score of wounded soldiers without putting yourself out of the way to save them!'

The *United States Military and Naval Magazine* continues—we cannot say to flourish; for the Editor says in this number, that the encouragement he has hitherto received, scarcely pays the expenses even of printing—but to appear regularly, and to furnish evidence that it deserves to live, even though it should die. We hope better for it, however; for it is a publication in which the pride of both services should be enlisted, to make it what they can make it, if they choose, a valuable and useful miscellany.

The *Mechanics' Magazine* is full, as usual, of all sorts of information respecting inventions for the benefit, convenience or safety of the human race. There is, among other curious things, in this number, a scheme for raising vessels or goods sunk in deep water, by means of air buoys sent down by a diving bell in a collapsed state, and then inflated under water by means of a tube communicating with the air forced from above into the diving bell. In this way, a number of balloons, for so they become, are to fly upward with their freight. If there be a spark of mechanical ingenuity in the mind, it seems to us impossible that this magazine can be even casually glanced at, without awakening it into full energy.

PLAN OF THE CITY OF NEW YORK IN 1738; by J. Hayward, Courtlandt street.—This, in the present state of the city, is quite a curiosity. It is lithographed from the original in possession of G. B. Smith, the Street Commissioner, and gives a view of the city when Dey street was about its northern extremity on that side. As a point of comparison from which to measure our onward march, this is quite striking.

NURSE'S MANUAL AND YOUNG MOTHER'S GUIDE, by RICH'D S. KISSAM, M. D.; Hartford, (Ct.) CROKER & Co.—A useful little volume for those to whose use it is dedicated. It is plainly and sensibly written, free from hard words, technical terms, or the affectation of science, and will do good extensively, if read and followed.

NEW MUSIC.—Of this we have, for the week, the following pieces from JAS. L. HEWITT:

"Not worlds on worlds in Phalanx deep," a sacred song; the words by Cowper; music by W. A. King.

"The old oak tree," a ballad, by Haynes Bailey; music by C. Herbert Rodwell.

"May you be happy;" words by Chas. Jeffreys; music by C. A. Hodson.

"L'esperance," a Waltz for the Piano; by Geo. B. Cogdell, of S. C.

"Zitti Nessun que ve," and "Ah come Nascondere," both from *Matilde Corradino*, and arranged for two performers on the Piano; by M. C. Mortelari.

"The Crusader's Bride," a cavatina, sung by Mr. Wood; music by C. A. Hodson.

We conclude the Review today, which, by reason of other indispensable occupations, we have been prevented from making more comprehensive this week, with the following curious paper on

INQUIRIES respecting the Weight of Man at different Ages. By M. Quetelet.

The Statistical Researches of M. Quetelet are well known to the public. They possess the rare merit

of at once being very exact and well arranged, even in the most minute details, and in investigating certain very important scientific and philosophical questions. Accordingly, in estimating, with more precision than had been done, the weight and the average stature of the male and the female, at different ages, (or different periods of life) and among different nations, M. Quetelet, as well as M. Villermé and other savans, have not been desirous to satisfy a vain and trifling curiosity; they have deduced principles relating to the health of man in different circumstances, to Hygiene, to the laws of conscription, and even to the fine arts. Under the last relation, which appears a little foreign, this is the manner in which M. Quetelet expresses himself in the preamble of the work of which we speak.

"In order to produce a work which may be truly capable of touching us, and of affecting our passions, we must know man, and above all, the man whom we would represent. To take a single example, the artist, who has studied only the type of the Greek physiognomies, however admirable in other respects this type may appear to us, if he reproduces it in modern subjects, it will be cold and ineffectual upon the spectator, who will perhaps admire the art and composition, but will not be deeply affected. The Greek figures, however varied they may be, on account of age, passion, and sex—have, notwithstanding, an air of family, which carries us back towards antiquity, in spite of ourselves, and withdraws our attention from the subject which we would represent.

"If one endeavors to make them, the anachronism will become more sensible. Artists at the commencement have comprehended this necessity of painting what they had under their eyes, and it is in this way that they have produced effects so magical. The noble and severe figure of Christ has nothing in common with that of Apollo nor of Jupiter of the ancient mythology. A virgin Mary of Raphael has an enchanting grace which yields to nothing in the most beautiful ancient forms, and they exert on the imagination a greater influence, because they are more conformable to nature by which we are surrounded, and because they act more immediately upon us. We ourselves in climates more remote, perceive the need, in retracing our national actions, not to present Greek or Italian figures in the midst of a battle, in which we find men, almost all of the same age, all alike covered with warlike apparel, our eye seeks to recognize, from the features and expressions of the physiognomies, the Frenchman or the Englishman, the German or the Russian. Even in the French army, the soldier of the Old Guard had a physiognomy which had become classic, and which was identified in some measure with the remembrances of the empire.

"It is certainly to the little attention that has been given to the study of the shades, by which the physical and moral qualities of man pass among different nations and in different ages, which gives rise to that monotony and coldness of the greater part of the works of the imagination. We have, indeed, perceived the necessity of studying nature, and of being true; but, I think we have not remarked sufficiently that nature is not invariable. The ancients have represented, with infinite skill, physical and moral man, such as he existed then; and the greater number of the moderns, struck with the perfection of their works, have believed that they can do nothing better than servilely imitate them; and they have not considered that the type had changed, and that, in imitating for the perfection of the art, they had another nature to study. Hence this universal cry, 'Who will deliver us from the Greeks and Romans?' hence this violent schism between the classics and the *romantique*; hence in fine, the need of a literature which would truly be the expression of society. This great revolution is accomplished, and it furnishes a proof the most unexceptionable of the variability of the human type, of *Phonème moyen*, among different nations and different ages.

"Thus the determination of average man is not useless, even for the fine arts and letters, and he who would arrive at this determination, will have no difficulty to make artists and litterati listen to him. He would teach them to know, in a more precise manner, things which they already know vaguely; he would teach them other things of which they are ignorant, or at least he would rectify their judgment concerning a multitude of prejudices. They would receive these, in the same manner as a painter learns perspective, which, under its geometrical form, is far from being picturesque also. Moreover, they have received the researches of Gall and Lavater, with more eagerness, perhaps, than the savans themselves; it is even to their care that we owe, in a

great measure, the knowledge of the proportions of the different parts of the human body as respects age and sex."

In the little work in which we find these general considerations with others which we are compelled to omit, the author investigates what concerns the development of the weight of man in the same manner as he has determined his growth, his inclination to crime, the succession of generations, &c. Afterwards he will publish new inquiries concerning the strength, swiftness, and other qualities of the human species; inquiries which, in order to be exact, must be made by many associated observers, and upon a great number of individuals. Physicians and engineers have been sometimes led to estimate the weight of men arrived at maturity, and considered, for example, as burdens placed upon a building, or as weights acting on a machine. La Hire has made very remarkable researches of this nature. On the other hand, the legal practitioner must often be occupied with this subject, for one of the most frequent problems is to determine after death, the probable age of an individual, from the assemblage of physical qualities. On this grave question, we are generally reduced to the estimation of practitioners more or less vague; but if, in a case of infanticide, for example, we stated in the process-verbal the weight and stature of the infant, as well as those physical characters susceptible of measure, and as we might have by the side of that, well constructed tables, which would give us for the different ages, the values of these physical qualities and their mean variations, we would have terms of comparison which would be better than the appreciation of practitioners, or which would serve at least to control their assertions. We see from these examples, that the inquiries concerning the weight of man, have more than one application.

The observations of M. Quetelet were made at Brussels in the Maternal Hospice of St. Peter; he compares them with those made at Moscow and Paris, in similar hospices; and he finds little difference between the means obtained. Unfortunately the Russian and French practitioners have not distinguished, with as much care as M. Quetelet, the sex, the stature, and the weight of children observed at their birth. This renders the results less capable of comparison. M. Quetelet found for sixty-three male children, and fifty-six female, newly born, the following quantities,

	Weights.	Stature.
Male children	7.057536 lb. Avoird.	1.62732 feet.
Female do.	6.4179468	1.58467

The extremes are—

Boys.	Girls.
Minimum, 5.1608232 lb. Avoird.	2.4701376 lb. Av.
Maximum, 9.92466	9.36329

The mean weight without distinction of sex, is 6.7377414 lb. Avoird. It has been found at Paris on 20,000 observations, 6.74656332 lb. Avoird.

M. Quetelet has made similar inquiries concerning children from four to twelve years of age, in the schools of Brussels, and in the orphan hospital—concerning young people in the colleges and in the medical school—finally, concerning old men in the magnificent hospice which has been constructed in the same city for a period of four years. The results have been completed by observations made upon isolated individuals, taken by chance from the mean of all these data. The author has been able to construct tables, which shows the mean stature, the mean weight, as well as the minimum and maximum, at each age, and for both sexes. These tables show that there exists at each age, and for each sex, a constant relation between the mean weight and the mean stature, from which the author has constructed another table, more exact than those which result directly from observations on the weights. It follows, from the mean stature formerly observed by the author, for the whole population, or at least from a number of individuals much more considerable than in these last inquiries, and gives the mean weight corresponding to each stature, according to the observations which make the subject of this memoir.*

The following is a table, which we may consider as exact for the whole population of Brussels, and which, for want of a table of this sort, calculated for other countries, may serve, at least, as an approximation.

*The author cannot consider the results obtained in hospitals and public schools as very exact as to the mean stature of the population, because inquiries made by him concerning a great number of individuals have proved to him that the mean stature is a little more among individuals in easy circumstances than in the indigent population, who have recourse to hospitals, hospitals, and gratuitous schools,

mation for the Caucasian race, and in a temperate climate.

A TABLE of the Development of the Stature and Weight.

Years.	MALES.		FEMALES.	
	Stature. Imp. Ft.	Weight. lb. Avoird.	Stature. Imp. Ft.	Weight. lb. Avoird.
0	1.64045	7.05736	1.60764	6.4179468
1	2.29007	20.841786	2.26382	19.3861692
2	2.59519	25.010432	2.56238	23.5324716
3	2.83469	27.5023356	2.79352	26.0426092
4	3.04468	31.3539804	3.00102	28.67124
5	3.24153	34.7604194	3.19559	31.6706928
6	3.42511	38.768752	3.38261	35.282768
7	3.62539	42.984168	3.56251	38.6841192
8	3.81940	47.7857648	3.73251	42.0805384
9	3.99042	49.054122	3.92067	47.1045392
10	4.18314	54.0783096	4.09457	51.8738900
11	4.2636	59.768508	4.26180	56.570562
12	4.54040	65.7674136	4.43905	65.7674136
13	4.73192	75.8244024	4.60310	72.6425112
14	4.89838	85.4844048	4.76714	80.941116
15	5.07227	88.69745824	4.91807	89.032576
16	5.29275	109.5461916	5.03618	96.0927636
17	5.36090	116.550618	5.10179	104.3412588
18	5.43973	127.587013	5.13132	112.5456444
19	5.49322	132.4611298	5.15757	115.3024946
20	5.51911	138.7909564	5.17398	117.5077944
25	5.52503	140.378802	5.18054	119.8327284
30	5.52503	140.378802	5.18054	121.8666064
40	5.52503	140.378802	5.18054	123.8997568
50	5.52503	140.378802	5.18054	119.757564
60	5.37740	136.074312	4.97384	113.6042748
70	5.32490	131.2701606	4.96728	108.848576
80	5.29219	127.5429084	4.84103	108.8183632
90	5.29219	127.5429084	4.83775	

We see, from this table, 1st. That, at an equality of age, the male is generally heavier than the female; towards the age of twelve years only, an individual of either sex has the same weight. 2dly. That the male attains the maximum weight about the age of forty years, and that he begins to lose, in a very insensible manner, towards his sixtieth year; that, at the age of eighty years, he has lost about 13.23288 lb. Avoird., the stature being also diminished 2.75604 inches. 3dly. That the female attains the maximum weight later than the male, towards the fiftieth year. 4thly. That when the male and the female have assumed their complete development, they weigh almost exactly twenty times as much as at the moment of their birth, while their stature is only about 3 1/4 times beyond what it was at the same period.

Children lose weight during the three first days after their birth; at the age of a week they begin sensibly to increase; after one year they have tripled their weight;—then they require six years to double the weight of one year, then thirteen to quadruple it.

To calculate the burden of an edifice, or a bridge covered with a crowd, it is well to know that the mean weight of an individual, whatever is the age or sex, is about 98.584956 lb., that is, 103.65756 lb. Avoird. for the males, and 93.7328 lb. Avoird. for the females.

During the development of individuals of both sexes, we may regard the squares of the numbers representing the weights, at the different ages, as proportional to the fifth powers of the statures.—After the complete development of individuals of both sexes, the weights are almost the squares of the statures.

The weights have varied, in the extremes, among individuals regularly conformed, from 1 to 2, whilst the stature has varied only from 1 to 1 1/3.

The inferior parts of the body are developed more than the superior. In a child, the head is equal to a fifth part; and in a full grown man, to an eighth of the whole height of the individual. It appears from a note at the end, that these proportions, vary a little among different nations; but M. Quetelet, who, in his preliminary observations, explains very well the importance of these inquiries to the fine arts does not appear to have written this work purposely for them. The activity which he has exhibited in his researches, make us believe and hope that he will resume them at another time.

This little interesting work is terminated by data concerning the weight of human bones, which be longed to individuals of different ages, a very important subject in certain cases of legal medicine.

LATE FOREIGN NEWS.—The *Sylvanus Jenkins*, packet, from Liverpool, of 8th ult., brings intelligence that may be deemed decisive of the struggles in Portugal and Spain, in favor of Donna Maria and the young Queen.

The strong places in Portugal which held out for Miguel, have almost all fallen, and Don Carlos, the pretender to the Spanish throne, had embarked, it was said, or was about to do so, for England; thus leaving the Queen Regent free to make such terms with the liberal party in Spain, as they may have the strength to exact; for we believe not much in the voluntary concessions of legitimacy to liberty.

We are concerned to find the following paragraph

from the London Times, indicating as it does, most criminal negligence on the part of one of our frigates:

The London Times of the 10th contains, the following extract of a letter from Toulon, dated May 1.—“On the celebration of the King's fête, the following melancholy accident occurred.—At 12 o'clock, all the batteries and the ships in the roadstead fired salutes. Two American frigates here also paid the same compliment to the day, but unfortunately the gunners of the Constellation forgot that some of their guns were loaded with shot, and firing within pistol shot of the Suffern, one of the balls entered a port hole, killed one of the sailors, and carried away the leg of another. Some of the shot entered the hull, and five or six men were wounded by splinters, and obliged to be sent to the Hospital.

The London Globe of the 8th, says—We have great satisfaction in stating that a telegraph despatch has been received at Paris from Bayonne dated the 6th inst. announcing that Don Carlos had embarked for England, and that the affairs of Portugal had been arranged between Don Miguel and Don Pedro. The intelligence was brought to Bayonne by the French Secretary of Embassy, who left Madrid, on the 3d.

The Liverpool Journal of the 1th May says, We have great pleasure in announcing the probable cessation of hostilities in the peninsula. The Lord Nelson, in five days from Lisbon, has arrived at Dartmouth, with news that the Pedroites had taken Figuera,—that Coimbra had declared for Donna Maria,—that the whole of the road from Oporto to Lisbon was open to the Pedroites—and that Don Miguel and Don Pedro had come to a settlement, an armistice having been agreed to. Nor is this all, a telegraph despatch was received at Paris on the 6th instant stating that Don Carlos had embarked for England; it also corroborates what we have above mentioned respecting Portugal, for the Despatch says, “The affairs of Portugal have been arranged between Don Miguel and Don Pedro.” These letters by the Lord Nelson confirm the fact respecting Don Carlos and say that he had placed himself under the protection of the English.

The news reached Paris from Bayonne, whither it had been brought by the French secretary of legation, who had left Madrid on the 3d instant. Coming to us, from two sources, besides its extreme probability, we are inclined to give it every credence. We understand that the ratification of the convention between the four powers would be immediately and finally executed.

The Irish Tithes Bill as it is called, came up for discussion in Parliament on the 6th, and on deciding for a second reading the vote stood 288 to 52, majority in favor 196.

The letters from Paris, of Tuesday's date, bring the prices of the French funds very firm, the five per cent. Rentes having closed at 105f. 45c and the three per cents, at 79, 25c. Spanish Cortes bonds, which closed at 30 8/4. The Portuguese Regency were at 77.

Reduction of the four per cents.

Public announcement has at length been made of the plan for the reduction of the four per cents.

Of this plan, in the form now proposed, a favorable opinion is generally expressed in the city, as a plain straightforward measure, manifesting a proper confidence in the resources of the country, and not threatened with any serious objections or difficulties in the course of its execution. It is obviously indispensable to its success that the 3 1/2 per cents. should raise to par at the least, as all persons would otherwise be dissenters to the conversion, and in this there are some persons certainly who anticipate difficulty, but we suspect the measure has been prepared with too much foresight to leave any probability of it, and that a command of money is in reserve far greater than there are likely to be dissentients to call for. At present there is an actual advantage to be made in the sale of the four per cents., and by investing the money in the existing 3 1/2 per cents., of about 5.8 per cents.; but a few operations of this kind would soon do away with that advantage, and bring the stocks to the same level. The union of the new stock with the large mass of the existing 3 1/2 per cents., though the dividends are at a different quarter of the year, is held to be a judicious feature of the measure, and has been adopted, without doubt, because the other class of 3 1/2 per cents. are redeemable at the will of the government; while the others, with the four per cent now converted, are not redeemable till the year 1840. A further conversion therefore, and on a much larger scale than this, is looked for early in the next year.—[Times.]

The death of *Lander*, the latest adventurer in Africa, has been before mentioned in this paper; annexed are the particulars of that death. It is grateful to be able to add, that the British Government have conferred a pension of £70 on his widow, and one of £50 on his infant daughter.

AFRICAN EXPEDITION.—Death of Mr. Lander.—We regret to learn that intelligence has been received of the death of the enterprising African traveller, Richard Lander. He was fired upon and severely wounded by the natives on the Nunn river, where he had gone for the purpose of trade, early in the month of January, and he died at Fernando Po. on the 2d of February. The following extract of a letter from Captain Fuge, of the Crown, contains all the particulars of this melancholy event that are yet known. Mr. Lander was buried by Capt. Fuge on the day he died.

"Mr. Richard Lander expired at Fernando Po. on Sunday, the 2d of February, on his way up into the interior with a schooner boat, loaded with goods for trade, and two canoes which were towed from Cape Coast by the cutter Crown. He was attacked on all sides by bushmen, all armed with musketry. One white and two black men were killed; one woman and child, with a boy were taken prisoners. Mr. Lander and the remainder fortunately managed to get into one of the canoes and pull for their lives. Mr. Lander received a shot in his hip; a seaman and two Kroomen were also severely wounded.—They left the Crown to proceed up the river on the 13th, and returned to the cutter on the 21st of January. They lost every thing belonging to them, excepting what clothes they had on. Mr. Lander lost all his papers, not one remains to be shown.—The Crown got under weigh, and arrived at Fernando Po, on Sunday the 26th. Mr. Lander's wound had mortified, but he died quite composed."

Lt. Allen, R. N. who had been exploring the Niger, arrived at Plymouth on Tuesday last, in the Talbot, 28. Lieut. Allen has completed his surveys, and immediately set off for London, with the interesting results of his expedition.

ENGLISH ABSENTEEISM.—"It is most lamentable," says the January number of the London Quarterly, "to observe the extent to which aristocratic emigration is at this particular time going on. We happen to know that the letters of credit granted to English continental travellers by the two principal banking houses in the West End of London, exceed this year, both in number and value, by more than a half those of any preceding year."

MONK LEWIS.—Not many readers, probably, of the present generation, know aught of the work whence *Lewis* received this title, and it is quite as well they never should. In a recent number, however, of the London Quarterly Review, we find a notice of a posthumous work of his, which exhibits both his character and understanding in a more favorable light than his early living publications. It is called "The Journal of a West India Proprietor," and is, in fact, his own journal, he having inherited large estates in the island of Jamaica, on returning from a second voyage to which, in 1818, he died at sea: a sacrifice, according to report, "to a very strange whim, that of persisting, in spite of all advice, to take emetics as a preventive against sea-sickness." The descriptive talent, the playful humor, and the humane and considerate temper in the treatment of his numerous slaves, exhibited in this Journal, together with numerous poetical pieces interspersed through its pages render it quite agreeable reading. We subjoin a short poem written at sea:

THE HELMSMAN.

'Hark! the bell! it sounds midnight!—all hail, thou new heaven!
How soft sleep the stars on their borom of night!
While o'er the full moon, as they gently are driven,
Slowly floating the clouds bathe their fleeces in light.
The warm feeble breeze scarcely ripples the ocean,
And all seems so hush'd, all so happy to feel!
So smooth glides the bark, I perceive not her motion,
While low sings the sailor who watches the wheel.
'Tis so sad—'tis so sweet—and some tones come so swelling,
So right from the heart, and so pure to the ear,
That sure at this moment his thoughts must be dwelling
On one who is absent, most kind and most dear.
Oh may she, who now dictates that ballad so tender,
Diffuse o'er your days the heart's solace and ease,
As yon lovely moon, with a gleam of mild splendor,
Pure, tranquil, and bright, over-silvers the seas!

A BRITISH AMBASSADOR.—From an account of "The Transactions of the British Mission at the Court of Persia in 1810-11, by H. Jones Brydges, the Ambassador, the following scene is copied:

In the preliminary treaty, there was one article left indefinite; but it was well understood between the plenipotentiaries in what manner, on the ratification of the treaty, that article was to be made definite by his majesty's government; and I had, throughout the whole of the negotiation, insisted on maintaining as a *sine qua non*, that this article should, in this respect, be left to the decision of his majesty's government. I had delivered to Meerza Sheffee, as the principal Persian plenipotentiary, the treaty signed by me, and he had in his hand the counterpart signed by the Persian ministers, apparently ready to deliver me. But all at once he laid it down on the carpet, and took it in his head to begin talking on the indefinite article, and insisted on its being made definite, before the treaty was sent to England for the ratification of his majesty's government. A little debate ensued, which, of course ought not to have been the case, and which, as may be easily imagined, I was anxious to put an end to; when most unexpectedly, and perhaps fortunately for me, he so far forgot himself as to say—"Do you come here to cheat us?" The terms of this speech are in Persian so dreadfully gross, that they cannot be rendered into English by any decent words; on hearing which, I snatched up the counterpart treaty lying on the carpet, gave it to Mr. Morier, rose up, and addressed the old minister:—"You stupid old blockhead, do you dare to use these words to me, who in this room represent the King of England?—If it were not for the respect I bear your master, the King of Persia, I would knock your brains out, if you have any, against the wall!" and, suiting the action to the word, I pushed him with a slight degree of violence against the wall which was behind him, kicked over the candles on the floor, left the room in darkness, and rode home, without any one of the Persians daring to impede my passage. The instant I arrived at my lodgings, I retired to my private apartments, which were in a small court separate from those of the gentlemen, and caused the outer-door to be shut. I was scarcely seated, before several persons came thundering at that door; I went to it, and asked them who they were, and what they wanted; they answered they came from Meerza Sheffee and the Ameen-ed-dowlah, that they had brought with them the treaty, with my signature, and were ordered to demand from me the counterpart, signed by those ministers. To this I answered, 'I cannot be disturbed now; go and tell your masters this is a matter which will keep till morning very well, and by that time, perhaps, Meerza Sheffee will recollect himself.' They became extremely loud and importunate, and said, 'it was as much as their heads were worth to return without the treaty.' I said, 'I will tell you what it is, my worthy friends; by G—d, if you stay here making a noise and riot, I shall soon make that as much as your heads are worth.' After a little pause, I heard them, on going away, very distinctly say, 'by G—d, this Fringee is either drunk or mad.' I requested the next morning to be admitted to a private audience of the King of Persia; my request was granted, and as soon as I had made my obeisance, his majesty said, 'so Etchee! I suppose you are come to make an apology for your unheard-of behavior last night to my vizier.' 'I am come,' replied I, 'as my duty requires me to do, to explain my conduct to your majesty; and that done, if you judge I have acted wrong, I am willing, as a private person, to submit to any censure your majesty may esteem proper; but I must declare to your majesty, the King of England does not allow his representative to apologize without his royal and special orders; and I need not tell your majesty, that in this room, and in your presence, I am representing that great and powerful sovereign.' I then repeated to the King of Persia the words the minister had made use of to me; and added, 'Suppose I had so far forgotten myself as to have made use of such words to any person deputed to the high honor of representing your majesty, would you have been well pleased if that person had been base enough not to have noticed them in the way they deserved?' The King of Persia laughed, and said, 'Hak daree, you have right on your side; the old man should have recollected what Meerza Bozurg told him about Europeans, and especially about yourself; that in his conversation with them he must take care not to use words to them which he frequently uses to persons of great rank here; but I must call my old minister in, and you must make it up.' Meerza Sheffee soon

appeared, and the king said, 'Meerza Sheffee! *asof ud-dowlah*, (i. e. vizier of the empire,) here is the English ambassador, come to say he is sorry for what has happened.' 'Stop there, please your majesty; I come to say I am sorry for the occasion of it; but further I will not say.' 'Well, well,' said the king; 'it is for the advantage of my service that you two should be friends; and now, ambassador, I tell you I am well pleased with the treaty as it stands, since I am sure, from what I see of you, that whatever you have held out to us will be performed by your government.' I shortly afterwards left the palace, and in the evening I made a point of appearing at Meerza Sheffee's *meglis*, or levee; and from his politeness and attention, it appeared he thought no more of what had happened."

Only conceive, says the London Literary Gazette, such a scene in London! Talleyrand kicking Lord Palmerston, and calling him a stupid old blockhead, &c.; or Prince Esterhazy bestowing a caning on Lord Althorp or Lord Grey, and swearing, he'd be d—d if they kicked up a row, but he would wollop them! Different countries require different manners, perhaps? and different ministers, different treatment? Our Meerzas and Ameen-ed-dow-dahs might not like it.

From the *Bubbles of Brunner*—a fantastic title to a very agreeable and sprightly account of the mineral springs of the Duchy of Nassau—we make some extracts to-day, that will be relished, we hope, by our readers.

ENGLISH TRAVELLERS ON THE CONTINENT, AS DESCRIBED BY AN ENGLISHMAN.

"Our *compagnons de voyage* [the party were ascending the Rhine in a steamboat] were tri-colored, Dutch, German, and French, and, excepting always ourselves, there was nothing English—nothing, at least, but a board, which sufficiently explained the hungry insatiable inquisitiveness of our travelers.—The black thing hung near the tiller, and upon it there was painted in white letters the following sentence, which I copied literatim—

"*Enfering any conversation with the Steersman and Pilot is deemed to be forbidden.*"

"As the vessel proceeded towards Coblenz, it continually paused in its fair course, apparently to barter and traffic in the prisoners it contained—sometimes, stopping off one little village, it exchanged an infirm old man for two country girls, and then, as if laughing at its bargain, gaily proceeding, it paused before another picturesque hamlet, to give three Prussian soldiers of the 36th regiment for a husband, a mother, and a child—once it delivered an old woman and got nothing, then luckily it received two carriages for a horse, and next it stooped a second to take up a tall thin man, who turned out to be an itinerant poet, and who, as soon as he had collected from every passenger a small contribution for having recited two or three little pieces, was dropt at the next village, ready to board the steam-vessel coming down from Mayence.

"In one of these cartels, or exchanges of prisoners, we received on board Sir — and Lady —, a young fashionable English couple, who, having had occasion a fortnight ago, to go together to St. George's church, had (like dogs suffering from hydrophobia, or tin canisters) been running straight forwards almost ever since. As hard as they could drive, they had posted to Dover, hurried across to Calais, thence to Brussels, snapt a glance at the ripe corn waving on the field of Waterloo, stared at the relics of that great *saint*, old Charlemagne, on the high altar of Aix-la-Chapelle, and at last sought for rest and connubial refuge at Cologne; but the celebrated water of that town having in its manufacture evidently abstracted all perfume from the atmosphere, they could not endure the dirt and smell of the place, and therefore had proceeded by land to Coblenz; but as they were changing horses at a small village, seeing our steam-boat cantering through the glassy waves, they ordered a party of peasants to draw their carriage to the banks of the river, and as soon as the vessel came smoking alongside, their rosy, fresh-colored French maid, their chocolate-colored chariot, and their brown ill-looking Italian courier, were all on board.

"As soon as this young London couple lightly stepped on deck, we saw at one glance that, without at all priding themselves on their abilities, they fancied, and justly fancied, that they belonged to that class of society which in England exclusively, and so modestly calls itself—*good*. That it was not healthy society, that its victims were exposed to

late hours, crowded rooms, and impure air, was evident enough from the contrast which existed between their complexions and that of their healthy country attendant; however, they seemed not only to be perfectly satisfied with themselves and the clique which they had left behind, them, but to have a distaste for every thing else which they saw.—Towards some German ladies, who had slightly bowed to them, they looked with a vacant haughty stare, as if they conceived there must be some mistake, and as if it at all events would be necessary to keep such people off.

Yet, after all, there was no great harm in these two young people. Their heads were lanterns illuminated with no more brains than barely sufficient to light them on their way, and so, like the babes in the wood, they sat together hand in hand, regardless of everything in creation but themselves.

For running their carriage down to the shore, the brown confidential courier, whose maxim was of course to pay little and charge much, offered the gang of peasants some kreutzers, which amounted in English currency to about sixpence. This they refused, and the captain of the party, while arguing with the flint-skinning courier, was actually carried off by our steamboat, which, like time and tide, waited for no man. The poor fellow, finding that the Italian was immovable, came aft to the English couple, who were still leaning towards each other like the Siamose twins. He pleaded his case, and in a manly tone of voice prayed for redress. The dandy listened, looked at his boots which were evidently pinching him,—passed four white fingers through the long curls of his jet-black hair—showed the point of a tongue gently playing with a front tooth—and when the whole story was completely at an end, without moving a muscle in his countenance, in a sickly tone of voice, he pronounced his verdict as follows—“Alley!”

The creditor tried again, but the debtor sat inanimate as a corpse. However, all this time the steamboat dragging the poor peasant out of his way, he protested in a few angry exclamations against the injustice with which he had been treated, (a sentiment we were very sorry to hear more than once mildly whispered by many a quiet-looking German;) and, descending the vessel's side into a small boat which had just brought us a new captive, he landed at a village from which he had about eight miles to walk to join his comrades.

It is with no satirical feeling that I have related this little occurrence. To hurt the feelings of “gay beings born to flutter but a day”—to break such a pair of young, flimsy butterflies upon the wheel—affords me neither amusement nor delight; but the every-day occurrence of English travellers committing our well-earned national character for justice and liberality to the base, slave-driving hand of a courier, as well as the bad taste of acting the part of London dandy on the great theatre of Europe, ought to be checked.—*Bubbles*, pp. 26, 29.

The following paragraph, taken from a Frankfort paper of April 13th, 1834, is going the rounds under the head of “German opinions of American character.”

“We have recent news from our emigrants to America. All of them indicate that the hopes that were entertained have proved fallacious; though none of the emigrants will plainly confess that he has entirely thrown away a happier way of life. Proud and covetous merchants and speculators inhabit the towns on the coast of America and the banks of the rivers; they are of English origin, and look down with an eye of contempt on the good-natured German who seeks only an ideal liberty in a foreign country, and finds a miserable existence; who is plundered if he brings money with him, and repulsed if he appears as a stranger seeking assistance and friendship. But in the interior of the country, none can subsist but the man who has a frame hardened against every kind of privation, who can sleep on straw and dry leaves as well as on a soft feather bed, who is willing to exchange the elastic sofa for a hard seat on a block of wood; in a word, who has courage to fall back from a life of luxury to the rude state of nature.”

This certainly betrays great ignorance of the condition of our country generally, but hardly more than may be found in some sections of the Union, in relation to others a few hundred miles off. The Kentuckian at home will ask the New Yorker whether he has any woods or hills in his State; while the New Yorker watches for some outbreaking of the Colonel Wildfire in a man from whom, whatever

may have been his own advantages, he may yet take lessons in politeness. The East Tennessean will speak of Boston and London as if side by side with each other, and equally far from his mountain home. The Western Virginian will talk about the “Yankee peddlers” from *Pennsylvania*, and the Bostonian and Pennsylvanian will know about as much of the Hoosiers of Indiana, as does a West Georgian of fresh codfish and anthracite coal. Step but once from the great highways of travel through which our commercial population are thronging from one end of the Union to the other at all seasons, and it appears that among residents of the middle classes, it is on the frontiers alone where the enterprising and adventurous, from all parts of the Union, from each quarter of the world, are collected, that the geographical features of our broad country, and the mode of living in different sections of it, are clearly understood. Canals and railroads have a great deal to do in making the people of different parts of the Union acquainted with each other, and dispelling the almost incredible ignorance which reigns in some districts, of the pursuits and habits of others, by no means remote. In the meantime, however, much might be effected by a portion of the numerous educated young men, who now, upon leaving college, transfer themselves at once to Europe, after viewing but very little of their own country. It is such as these—men of leisure and accomplishment, who could deviate from the usual routes taken by hurried business men and mere-collecting agents, and stir up the good people in old stagnated neighborhoods to something like an aspiration for intelligence and improvement. They too, in their turn, would learn, while catching the tone of a hundred secluded little communities in various parts of the country, what a small portion of public opinion comparatively is manufactured in that well-known circle, which, with them, comprehends “the world.”

In a condition of society like ours, where ninety-nine men out of a hundred are bound down to regular pursuits by the trammels of business, the roving freedom of a happy, careless few, assimilates them in some points to those classes of water-fowl, which, though they neither build nests on the strange shores to which they wander, nor enrich the woods with music at home, still bear on their journeyings, and scatter for casual production, the seeds of a thousand fruits and flowers.

SUMMARY.

[From the *Baltimore Patriot* of Tuesday.]

We learn that Col. EDWARD LLOYD, formerly Governor of Maryland, and more recently a member of the U. S. Senate, died yesterday at Annapolis, aged 56.

The deceased was a favorite son of his native state—was elected when very young to the House of Delegates, and successively to all the highest stations under government. He bore a conspicuous part on all political occasions of extraordinary interest—and was as remarkable for the munificence of his private hospitality as for his public spirit.—There are few whose death will be heard with more regret by the public; none could be more deeply lamented by those who knew his fine social qualities and peculiar accomplishments.

SUGAR REFINERY.—The New Orleans (La.) Advertiser of the 27th May, says—“There are now loading at the Sugar Refinery of Messrs. Forestall & Co. four vessels for the Mediterranean. The Refinery is situated about two miles below the city. One hundred and thirty men are employed in it, and the quantity of sugar refined amounts annually to about 12,000,000 of pounds. The whole process is done by steam, and it is said to be, without exception, the most extensive and complete establishment of the kind in the whole world.”

A Sloop Burnt!—The sloop *Levant*, owned by Messrs. Fitch & Losee, of this city, loaded with Lumber, took fire last night, while lying on the Over-lough, and burnt to the waters edge. We understand there was no insurance, and that the loss was about \$3000.

EXPLOSION.—On the morning of the 6th instant, soon after commencing their work, Edward Oates and John Cooke were together unfortunately killed, by an explosion of one of the buildings attached to the Orange Powder Mills, near Newburgh.

The only operation required to be performed in that building, is simply passing the grains through parchment sieves, and a silk reel, by hand. The cause of the misfortune is, therefore, mysterious.

The New Orleans Bulletin of the 24th ult. says “The weather for several days past, has been exceedingly cold and disagreeable. There has been more or less Cholera in the city all the winter and spring; but latterly cases have increased, and there is reason to fear that it may prevail epidemically again as it did last June.”

Wheat Crops.—The prospects for the wheat crops in this county have greatly improved during the last three weeks. The wheat fields generally have an uncommonly fine appearance, and promise the farmers an abundant harvest. The crop of grass also promises to be very abundant.—[*Poughkeepsie Eagle*.]

A passenger in the ship *Gulnare*, from Havre, at Baltimore, states that when he sailed, (April 30th) it was currently reported that Louis Philippe had pledged his private fortune to pay the American Claims, should the Chamber of Deputies again refuse. This says the *Gazette*, must be an error, as our advices by the *Sylvanus Jenkins* are to the 7th May from Paris, and no mention is made of the fact.

The State Loan.—The State Loan of \$600,000 was on Thursday last taken by E. Chancery, Esq. of Philadelphia, at a premium of two dollars and fifty-eight cents, i. e. he agreeing to pay one hundred and two dollars and fifty cents in money, for every hundred dollars of stock. The loan of \$1,665,400 remains in the market until Thursday, the 10th July.—[*Philadelphia Nat. Gaz.*]

The venerable Bishop CHASE, says the *Detroit Journal*, arrived in our city some days since; he preached on Sunday last at the Episcopal Church. This estimable man resides in the St. Joseph county, he appears to enjoy excellent health, and amid the cares and employments of a new farm in a new country, he finds leisure for intellectual labors. The occasion of his visit to our city is in part to superintend the publication of a pamphlet he has prepared for the Press.

[From the *Commercial Advertiser*.]

ECONOMICAL PENMAN.—A treatise and samples have been shewn us, entitled “The economical and expeditious Penman, or an easy method by which a free, legible and elegant style of writing may be readily acquired by a system altogether novel, and hitherto unattempted.” It is for sale by the author, Mr. William Jones, late of London, at his Writing Academy, 202 Broadway. We have witnessed the best test of improvement in writing—the proficiency attained by one of his pupils, and the book referred to is the adaptation of his system to the eye. Its object is, without the aid of a master to enable the purchaser to acquire a style of writing, suited alike to the men of business and the general correspondent. Editors have special reasons for wishing that the art of legible penmanship may be more universally diffused.

A greedy Sheep.—On Thursday last, on a farm in the Aird, a ewe ate the tails of her two lambs completely to the stump! This unnatural preference of mutton to hay and turnips, was witnessed by the farmer and his servants, who interfered to save the lambs from the woolly cannibal, but without effect, as she returned to the charge when unobserved, and accomplished her purpose.—[*Inverness Courier*.]

A Persian Fable.—I was walking in a beautiful meadow with a friend, where I saw a man, who I knew to be a villain, sleeping in great comfort and tranquility. “Good heavens,” exclaimed I, “the evils which this man has committed do not break his repose!” “God,” said my friend, “suffers villains to sleep, that honest men may live undisturbed.”

From Rio Grande.—By the brig *John Alexander*, Capt. Berry, arrived yesterday from the above port, we learn that Capt. Baker of the brig *Ganges*, from Boston, having arrived at Rio in March, when the authorities suspecting that he had false coin on board seized the brig and took out all her cargo. Finding however, that it was all entered on the manifest, but among other things there were entered 25 boxes of soap, and as it was not entered as *shaving soap*, they fined the Captain 300 milreas, and confined him one week in prison.—[*Gaz.*]

Our readers will, we think, be interested by the spirited account in this day's paper of the reception, by the Pawnees, of the United States Commissioner, Mr. Ellsworth, on a mission to effect a treaty with them. We are obliged by the communication of a narrative so graphic and well sustained.

Reception of the United States Commissioner by the Pawnee Indians, October 2, 1833.

The night previous to our arrival at the Pawnee Village was spent by us upon the borders of the Platte River, at about nine miles distance from the town. During the evening, several half breeds who had been sent out by the Commissioner, to gain information of the probable reception which awaited us, came dropping in, and all bearing with them promises of a friendly welcome from the different Pawnee Chiefs. At sunrise the next morning the tents were struck and placed in the heavy baggage wagons; and a more than usual bustle and note of preparation was heard in the camp, (if two tents accommodating ten persons deserve that name.) The soldiers were seated around upon the grass, examining and preparing their arms for service, in case such service might be required; and about twenty Ojib Indians, who had accompanied us across the prairies, a hundred miles from their village, either from motives of curiosity, or from sheer listlessness, caring little where or how they spent their time, were now busily engaged in ornamenting themselves for the meeting. Some had spread their blankets out upon the prairie, and were anxiously employed in tracing out various figures in vermilion upon their woolly surfaces: some were eagerly bending over the small pools of still water, which were left in the dry bed of the River, painting their faces with the vermilion which they had obtained from the whites, and manifesting all the interest and anxiety in the choice of the ornaments, which in civilized life might be expected from a young girl in preparing for her first ball. Paint was placed on and rubbed off; faces were striped first in one direction, then in another; and the advice of those who were sitting around was asked and given with all the gravity befitting so important an operation. In the meantime, two or three who had finished their toilets, seated themselves off at a short distance to serve as models for the rest; and several who had acquired some reputation for their skill in this art, were busily engaged in painting up the less gifted of their companions. Whilst this was going on in one quarter, in another, five or six Indians, who either had no paint, or cared not about the opinion of those whom they intended to visit, had stretched themselves at full length in the grass, and were keeping up an incessant drumming upon their breasts with their two fists in exact time to a chant, which they were letting out at the top of their lungs, and which they always wound up with a loud yell, by way of chorus.

But there must be an end of all things, and in due time there was an end of the preparations. The tents were packed; the Indians were painted and striped to resemble any thing but men; the soldiers had examined their arms; the horses were saddled; the oxen were secured before the heavy baggage wagons, and the party commenced slowly moving onward towards the village.

It was a fine sunny morning in October, the clumps of trees which clustered on the low banks of the river, the numberless small islands which dotted the surface of its broad shallow water, were alive with woodpeckers of every size and hue, who were darting among the tall dead trees which overhung the dark and muddy stream, and making their trunks resound with the incessant hammering of their small but powerful beaks; large flocks of gaily plumed parrots whirled screaming past us with a surprising velocity, darting like lightning among the branches of the trees which skirted the banks of the river.

At ten o'clock the party had travelled several miles across the prairie, and our vicinity to the village was becoming more perceptible. Mounted Indians, who had been sent out to watch for our approach, were seen here and there flying across the hills in the direction of the village, to give notice of the arrival to their Chiefs. At a distance we could perceive several bands of Indians in pursuit of large droves of their wild and fiery horses, which they were urging forward at a headlong speed in the direction of the town, and in another quarter, on the tops of a ridge of small hills, groups of five or six were standing, intently watching the motions of the party, which, from the jaded state of the oxen, were necessarily slow. The soldiers who had been lazily lounging along across the prairie, were now called in and formed in a compact body around the baggage

wagons in case of danger; and an hour more brought us in sight of the village.

Upon our nearer approach, we could perceive that the hills which surrounded the place were black with the living mass of mounted warriors which swarmed upon their tops to the number of several thousands, and who now stood silently watching the approach of the Mission. At length a single horseman detached himself from the mass, and came galloping down the hill and over the prairie to meet us. As he approached nearer, the wild free air of the rider, and the ease with which he governed his gigantic black horse, could not but raise the thought that, if the rest of these warriors were of the same mould, any resistance of our band, however desperate, would have availed but little against the attack of these proud rulers of the prairie.

Upon reaching the party, he sprang from his horse, and after shaking hands with Mr. E—, he gave directions (through the Interpreter), that the band should be drawn up in as small a compass as possible, to avoid all contact with his warriors, and after spending some time in completing his arrangements, he galloped back and gave the signal to the rest.

In an instant, the hills were deserted, and the whole mass of warriors were rushing towards us across the broad bosom of the prairie. It was a moment of intense and fearful expectation. On, on, they came, each mad horse with erect mane and blazing eye, urged forward by the bloody spur of an Indian master, and that master a being who acknowledged no superior but the Great Spirit, and no ruler save his own wild will.

They had reached within two hundred yards of the party, but still the speed of their horses was unchecked; the powerful tramp of their hoofs rung like thunder upon the sod of the prairie, and the wild forms of their riders were still urging them onward towards us, when at a signal from the Chief, the band separated to the right and left, and commenced circling around the party, in one dark, dense flood of human beings, while the whoops and yells which rung shrilly around us, and the furious and menacing manner in which they brandished their bows and tomahawks, would have led a person unacquainted with their habits to have looked upon this reception as any thing but friendly; and there is something in the fierce, shrill scream of a band of Indian warriors, which rings through the brain, and sends the blood curdling back to the heart.

Their ornaments, though wild, were many of them beautiful: the closely shaven heads of some were adorned with the plumage of different birds; others wore an ornament of deer's hair, bound up in a form resembling the cone of an ancient helmet, and a plume of the bald eagle floated from the long scalp locks of the principal warriors.

Some few wore necklaces of the claws of the grizzly bear, which hung down upon their breasts, and the bodies of some were covered with buffalo robes, or the skin of the white wolf; but the most of them wore no covering, save a thick coat of paint, which they had profusely smeared over their bodies and arms, and which many had even bestowed upon the heads and limbs of their horses. After dashing around us for some time, the chief waved his hand, and the turmoil ceased: the warriors sprang from their horses, and seating themselves around in a large circle, awaited the arrival of the Chief of the Grand Pawnees, who in a few moments advanced to meet Mr. E—, accompanied by the different chiefs of Tappay Pawnee, Pawnee Republican, and Pawnee Loup villages.

He was a tall powerful Indian; a fillet made from the skin of the grizzly bear, and ornamented with feathers, was bound around his head: over his shoulders was thrown a large mantle, made from the skin of the white wolf, also adorned with feathers: his legs were cased in black leggings of dressed buffalo hide, worked with beads, and fringed with long locks of human hair, which he had taken from the scalps of those who had fallen beneath his arms in his various war expeditions, and which now hung down over his knees, and trailed upon the ground as he strode up to the party.

He first advanced and welcomed Mr. E. and afterwards the rest. The chiefs of the three different villages were then introduced, and repeated the words of welcome uttered by the first.

This ceremony was scarcely finished, when a movement was observed among the crowd, and in a moment after, a powerful roan horse, mounted by an armed Indian, bounded forward to the middle of the circle, where the rider sprang from his back.—He was a stranger among the tribe, and spoke not their language; a Cayway Indian from the borders of Mexico, a member of those wild tribes, the Arabs

of the West, who are continually on the wing, sweeping those immense plains, and carrying destruction to all who are not strong enough to resist them, having no home but the prairie, no trade but war, no property save the horse that bears them, the arms which they wield, and the plunder which they strip from their victims. After pausing and looking around him for a moment, with a glance that seemed to challenge any opposition from the assembled warriors, he walked up to Mr. E. He was a slight and beautifully formed Indian, but there was a fire in his eye, a swell of the nostril, and a proud curve of the lip, which showed a spirit that brooked no opposition, stunned no danger, and which could only be quenched by the chill of the grave.*

His long black hair, which trailed behind him upon the ground, was platted together, and ornamented with about twenty plates of massive silver; a band of silver was fastened around his throat, and several large medals of the same metal hung down upon his breast; upon his arms were several bands of silver, and rings of the same upon his fingers; his leggings, though more finely wrought, like those of the other chiefs, were fringed with scalps; and a scalp, consisting of the entire upper part of a human head, hung from the bit of his fiery horse.

Upon coming up he offered his hand to Mr. E—, and in succession to the rest; and after pausing and gazing upon us for a short time, with some curiosity, he sprang upon his horse, and riding through the circle, was lost behind the more distant crowd of warriors.

After the introduction of the various Chiefs had been performed, from among the mass of grim beings which hemmed us in, and who were now seated upon the ground like so many dark forms of statuary, without voice and without motion, several arose, and coming towards Mr. E—, and Major D—, the United States Agent for the Pawnee Indians, extended the stem of their pipes to the lips of each, and instantly retiring, resumed their station in the crowd. By this action, we afterwards learned, that each had pledged himself to present a horse to the person to whom he had extended his pipe. In the meanwhile, two old men, who had assembled with the rest, and had no horses to lose by the free indulgence of liberal feelings, rose up, and by loud and vehement harangues endeavored to excite the liberality of the rest by boasting of the number they would bestow, if they had them, and recounting the acts of generosity which they had performed in their youth, and which, as that youth ran far back beyond the memory of the eldest inhabitant, there was but little possibility of contradicting.

After they had finished, the Wild Horse, (I do not recollect his Indian name) the principal warrior of the nation, stood up and harangued the assembled multitude, launching out in a long panegyric upon the whites, which was delivered with a warmth of expression no doubt greatly increased by the sight of the wagons loaded with presents, which accompanied the party, and which are always necessary to the successful accomplishment of an Indian treaty.

This warrior was one of the most singular, as well as ferocious of the tribe; and many were the tales of his war expeditions, afterwards related to us by the trappers, when we assembled around our night fires after a long day's travel across the prairies. His height could have been but little short of seven feet and every limb of his frame was proportioned in size and strength to his giant height. Unlike the rest of his tribe, his hair remained unshaven, and hung in long tangled locks which reached nearly to his waist, and were profusely smeared with red ochre. His low retreating forehead was almost buried in wrinkles; and deep set in his head were two eyes which glowed like living coals. His nose was large and prominent, and the size of an enormous mouth was not at all diminished by two streaks of vermilion which he had drawn from each corner to his ears. He wore neither covering nor ornament, unless the profusion of black clay and red ochre which covered his body, deserved that name; but he stood out in his naked proportions, a giant among those who sur-

* We afterwards learned that this Indian had become attached to a young girl of his own tribe, who was the wife of another, but her husband having started upon some expedition she had taken advantage of his absence to leave her nation with her lover, and together they had fled to the Pawnee village which they had reached a week previous to our arrival. We were afterwards so fortunate as to see the girl, and it was admitted by all that she was one of the most elegant Indian women they had ever beheld, and that her beauty went far in extenuation of the act of her Indian lover.

rounded him, whilst the wild energy of his gesticulation as he delivered his harangue, served to show the prodigious strength which lay hidden in that form, and which only required an occasion to bring it into action. From his youth upward, he had been the leading warrior of the nation, and his deeds had spread a terror of his name through all the hostile tribes. Though no chief, his influence with the nation was equal to theirs, rendering him as much an object of jealousy to them as of dread to their enemies.

When he had finished his address, the Chief arose and spoke to his men; after which, the circle opened and forming into two lines, one on each side, prepared to escort the party into their village.

MICHIGAN.

This portion of our country is very justly attracting a very large share of public attention. To the farmer it is interesting on account of its luxuriant soil and healthful climate; to the merchant for its immense facilities for trade, being intersected in all directions by fine rivers, penetrated by deep bays, and surrounded by magnificent lakes; to the statesman and philanthropist, it is interesting, as destined to be the speedy home of hundreds of thousands of enterprising emigrants who will exercise an important influence in the affairs of the nation, and whose heterogeneous character will afford a curious subject of observation. The character of the interior of Michigan is much misunderstood. Instead of being a cold, wet region, there is no country more dry, rolling and pleasant, after you get out 15 or 20 miles from the Lakes and their connecting rivers. The innumerable little lakes interspersed through the country, serve to drain it perfectly; and one can scarce imagine a more pleasing sight than the gently rolling hills, covered with the orchard-like woods, which constitute the *Oak Openings*, surrounding one of those deep, clear and crystal-like pools, abounding in fish.

It is a matter of surprise that this region is not more visited by those who travel so much every summer for health or amusement. Travelling has been rendered so convenient that it has lost all its terrors even to the most delicate. Starting from New York, for instance, in a few days we may find ourselves, after a delightful tour up the Hudson, and through the beautiful villages and cultivated fields of the interior of New York, at the Falls of Niagara, where no man can live without becoming a poet, such is the inspiring influence of the scenery. Near this too are the scenes of several of the most interesting military operations of the last war. Embarking at Buffalo, we find ourselves on board a steam ship far superior in safety and comfort to any thing of the kind to be found on the North River; and in 30 to 36 hours we find ourselves at Detroit, where we may see a most thriving city of five or six thousand inhabitants, and where we will meet an active and intelligent people, than whom none in the Union are more hospitable and liberal. Here, too, if we are so fortunate as to have a good reference, we will find a comfortable home at the house of Mrs. Snelling, widow of the late gallant Col. Snelling of the army. This lady occupies the former residence of old Gov. Hull, the only house in the city well adapted for a boarding house, where she combines the elegant taste of our eastern cities with the ease, frankness, and conviviality of the West.

After enjoying the hospitality of Detroit, and viewing the interesting region around, some of whose scenes have become truly classic, we may step on board the splendid steamboat Michigan, and wend our way to Macinac, Saut de Ste. Marie, Green Bay and Chicago; and return in the same boat, or cross the Peninsula by land, or travel eighty miles across the prairie to the falls of the Illinois, where we can take a steamboat twice a week to St. Louis, and return by way of the Ohio. Either of these routes may be travelled with much ease, little expense, and great pleasure. The whole tour from New York to Chicago and back would not occupy more than four weeks; and how much better it would be to make this tour than to idle four weeks away at Saratoga, I leave those interested to judge. The fine new steamboat Michigan will leave Buffalo on the 10th July and 1st August on this tour, and goes expressly to accommodate passengers wishing to see the regions of the Upper Lakes.

[From the Journal of Commerce of yesterday.]

DEPARTURE OF THE MORRISON.—The ship Morrison, Captain Lavender, left us yesterday, bound to Canton. She has on board as passenger, the Rev. Peter Parker, late of Framingham, Mass., who goes out as missionary to China. This gentleman, during the two or three weeks he has been in this city, has

gained the affectionate confidence of all who have had intercourse with him. Sunday before last, we had the pleasure of hearing him preach, and again last Sunday evening, of listening to a Farewell Address which he delivered in the Bleecker st. Church. On the latter occasion, notwithstanding the rain, the house was crowded to excess. Every aisle and corner where a person could find footing, even to the pulpit stairs, was occupied, and many went away, from the impossibility of gaining admittance. A delightful impression was left upon the minds of the audience by the various exercises of the evening, among which was the communication of Instructions by the Rev. Dr. Wisner, as Secretary of the American Board of Missions, and an address by the Rev. Dr. Spring.

Yesterday morning, at six o'clock, a meeting was held at the house of Abijah Fisher, Bleecker street, for the purpose of commending both the Missionary and the Missionary cause to the care of Omnipotence. Some of our friends who were present, tell us that it was a scene of rare and peculiar interest. After singing the first two verses of the 496th of the Village Hymns, "Go, messenger of love," &c., prayer was offered by the Rev. Elihu W. Baldwin. Then were sung the 1st and last two verses of Heber's missionary hymn,

"From Greenland's icy mountains."

Next a prayer was offered by the Rev. O. Eastman—after which was read the 91st Psalm—"He that dwelleth in the secret place of the Most High," &c. Prayer by the Rev. Erskine Mason. Address, by the Rev. Dr. Wisner. Parting address and prayer, by the Rev. Peter Parker. Next were read the last three verses of the Gospel of Matthew, containing the commission of our Saviour, "Go ye therefore and teach all nations." Mr. Parker then read the following hymn, and added, addressing himself to the little assembly, "I want you to sing it, for I cannot."

THE MISSIONARY'S FAREWELL.

Kindred, and friends, and native land,
How shall we say farewell?
How, when our swelling sails expand,
How will our bosoms swell?
Yes, nature, all thy soft delights
And tender ties we know;
But love, more strong than death, unites
To Him that bids us go.
Thus, when our ev'ry passion mov'd,
The gushing tear drop starts;
The cause of Jesus more lov'd,
Shall glow within our hearts.
The sighs we breathe for precious souls,
Where He is yet unknown,
Might wait us to the distant poles,
Or to the burning zone.
With the warm wish our bosoms swell,
Our glowing pow'rs expand;
Farewell,—then we can say,—Farewell,
Our friends, our native land!

The exercises were concluded with prayer, and the benediction by Rev. Dr. Wisner.

At 9 o'clock, or soon after, Mr. Parker, accompanied by a number of missionary friends, went on board the steamboat Rufus King, and proceeded to the ship, then lying off Bedlow's Island. While towing the ship to sea, religious services were held on board the steamboat.

Mr. Parker is both a clergyman and a physician. His design is, we understand, to associate himself in labors and travels with the celebrated missionary Gutzlaff. He knows full well that the service he has undertaken is full of peril; but he has counted the cost. He leaves his home and country, (never expecting to see either again,) not only with cheerfulness, but with a glow of pious feeling which makes him a truly happy man. Possibly some of our readers may deem our language strong; but we know that those who have been present during the scenes to which we have alluded, will think it tame and cold, in comparison with the reality.

Mr. Parker is accompanied by a Chinese youth, 19 years of age, who, by some means or other, found his way to this country, and has acquired considerable knowledge of our language. Mr. P. hopes to derive much assistance from him, during the voyage, in learning the Chinese. "I no like my country's religion," said the young man, on being conversed with by Mr. Parker: "I like your religion better." "Then what do you go back to China for?" asked Mr. Parker. "To get more money," was the reply. We fan would hope, that by his intercourse with that excellent man, he may gain, with the blessing of God, what is more valuable than money, or worlds.

The owners of the Morrison, Messrs. Talbot, Olyphant & Co. have been extremely kind to Mr. Parker, and among other tokens of their interest in him and the cause he goes to plead, they give him his passage gratis. Mr. Olyphant has himself gone passenger in the Morrison, together with his eldest son

and a daughter. He expects to be absent about two years.

The Morrison got to sea about half past 12 o'clock on Wednesday, and was well off, probably, before the blow during the night.

[From the London Literary Gazette, of Apr. 19.]

"THE VOICE OF THE WAVES."

(Written near the Scene of a recent Shipwreck.)

"Answer, ye chiming waves,
That now in sunshine sweep;
Speak to me from thy hidden caves,
Voice of the solemn deep!
Hath man's lone spirit here
With storms in battle striven?
Where all is now so calmly clear,
Hath anguish cried to Heaven?
Then the sea's voice arose,
Like an earthquake's under-tone—
'Mortal, the strife of human woes
Where hath not nature known?
Here to the quivering mast
Despair hath wildly clung;
The shriek upon the wind hath past,
The midnight sky hath rung.
And the youthful and the brave
With their beauty and renown,
To the hollow chambers of the wave
In darkness have gone down.
They are vanished from their place
Let their homes and hearths make moan!
But the rolling waters keep no trace
Of pang or conflict gone.
Alas! thou haughty deep!
The strong, the sounding far!
My heart before thee dies.—I weep
To think on what we are!
To think that so we pass,
High hope, and thought, and mind,
E'en as the breath stain from the glass,
Leaving no sign behind!
Saw'st thou nought else, thou main,
Thou and the midnight sky—
Nought, save the struggle, brief and vain,
The parting agony?
And the sea's voice replied—
'Here nobler things have been!
Power with the valiant when they died,
To sanctify the scene:
Courage, in fragile form,
Faith, trusting to the last,
Prayer, breathing heavenwards through the storm,—
But all alike have passed.
Sound on, thou haughty sea!
These have not passed in vain;
My soul awakes, my hope springs free
On victor wings again.
Thou, from thine empire driven,
May'st vanish with thy powers:
But, by the hearts that have been striven,
A loftier doom is ours!"

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.



The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,

347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine. MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them; by calling at 347 North Market street, Albany.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails and square points. This machine will make about sixty 6d with square points. This machine will make about sixty 6d with square points, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833.

A29tf RM & F

It is stated in the St. Augustine Herald, that the Savannah and Florida Steam Boat Company propose, in connexion with the boat now running between Savannah and St. Johns, to carry their operations across the Peninsula and even to New Orleans. Peter Mitchel, Esq. of Savannah, (lately of Florida, where he is known as an enterprising and talented gentleman, and also as extensively acquainted with their geography, resources and capabilities,) was recently commissioned by the company to examine the country between the navigable waters of Black Creek and those of the Santafe river, with a view to the facilities of this communication. It is proposed by the company to make an establishment on Black Creek, and another on the Staunton, and to communicate between these two points by a line of stages, it being but about sixty miles from one to the other. To their location on the latter river, steamboats will be accessible, and from it to New Orleans, with which they will be enabled to communicate in about two days. It is calculated, that by this route and with no other facilities over land than the usual accommodation stages and steamboats on the Atlantic and Gulf, an easy correspondence may be maintained between New York, via Charleston and Savannah, and New Orleans in eight days.

Railroads in England.—There is now building in England what they term "The great Western Railroad," which is to connect London and Bristol. Another is building between London and Southampton; another from London to Greenwich; another from London to Birmingham; another from Hull to Shelby; and the Northern Union Railroad.

An Otaheitan Bride.

"The bride, Miss Kingatara Oruruth, an Otaheitan, is the daughter of Demstrfgwomdianmr, one of the chiefs of the island, and is connected with most of the noble families of the kingdom. She is about sixteen years of age, of a bright mahogany color, with her cheeks tattooed in the most lovely manner, and her ears slit in a style peculiarly fascinating. Her eyes are large, and of a greenish color. Her lovely form, which was almost six feet six inches tall, was gracefully enveloped in an old blanket, and during the performance of the matrimonial rites, the fair bride stood before her happy lover modestly masticating a sugar cane. The young lady is said to be highly accomplished, and delighted the company assembled on this solemn occasion, by an exhibition of her superior skill in swimming. The bridegroom is a hearty mariner of Newport."

The body of a man six feet in height, without coat or hat, a cloth vest, satinet pantaloons, white cotton socks and brogans, with a stone of fifty pounds weight tied to his legs, was found near the bank of the river, five miles below St. Stephen's, Alabama.

[From the Village Post.]

LAND-BREEZE BETWEEN THE TROPICS.

"The forests of Brazil are filled with aromatic plants, whose perfumes are often wafted many leagues to sea."
To the hill-borne pilgrim; alone on the seas,
How sweet comes the perfume of land with the breeze!
'Tis the breath of a summer, eternal in prime;
The kindest fragrance of sun-gladdened clime!
Those wanderings of sweetest, how welcome they are!
That tell of a country unseen and afar.
Like the morning, their advent aye ushers a smile;
And the rover's heart dances in joyance the while.
To cheer his lone vigil at midnight, they tell
Of meadow and mountain, of forest and dell—
'Till his eye o'er the ocean forgetteth to roam,
And he walks in his slumber the fields of his home.
Thus oft on life's billow, with bark tempest driven,
The voyager fancies the breathings of Heaven!
The past and the present remembering no more,
He greets in his vision the world that's before. C.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of *Duffee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. E. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon Dale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, {
Janu 29, 1833.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street,
J31 St corner of Maidenlane.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine-wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,
WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in lengths of 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. do.	
40 do. 1 1/2 do. do.	
800 do. 2 do. do.	
800 do. 2 1/2 do. do.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 2 1/2, 3, 3 1/2, 3 3/4, and 4 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.
Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.
For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Germantown, and Norristown, Railroad.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J 25 1f

RAILROAD CAR WHEELS, BOXES AND AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscriber at Paterson, or 60 Wall street, New-York, will be promptly attended to.
Also, CAR SPRINGS.

Also, Flange Tires turned complete.

ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Watt's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
m19



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

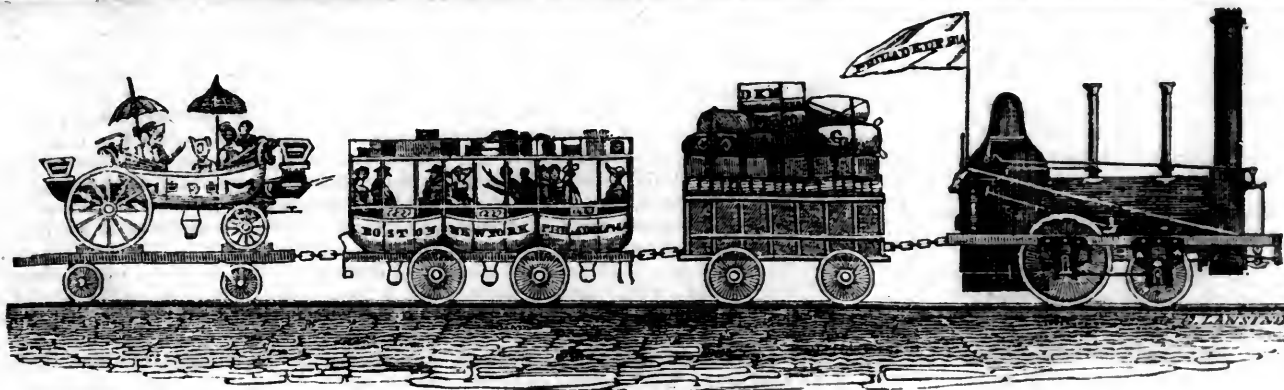
Baltimore, May 1st, 1833.

To Messrs Ewing & Heartte.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by my self, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, JUNE 21, 1834.

[VOLUME III.—No. 24.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 21, 1834.

Should this number of the Journal fall into the hands of any gentleman who is not a subscriber, he is desired to consider it a *modest* invitation to *become so*, and to remit a \$5 bank note, and in return he shall receive the Journal commencing *either* with the 1st, 2d, or 3d vol., or at the *middle* of the 3d volume, which will be on the 1st July, and a receipt for the money. Let him look at the contents of this number, and then ask where he can get more practical and useful information for 6d. ? or where he can find a work that contains the *same kind* and amount of information for \$3 a year ?

Are the people in his neighborhood engaged in constructing railroads or canals, or M^d Adam roads ? then in the Journal will they find something to aid and promote the cause. Does any new plan or method of constructing make its appearance, or excite action, some account of it may be found in the Journal. Allow me then to urge every one who reads this, that is not a *subscriber* already, to send his order at once, and it shall be supplied, either for *past, present, or future* volumes.

Bound volumes, in two parts, \$4—in one part \$3.50; stitched in paper cover \$3.25; forwarded by mail as published once a week, \$3.

The attention of our readers is called to the article on the Chesapeake and Ohio Canal, and to that on Steam, and Steamboats. They are both interesting.

HARLAEM RAILROAD.—The Harlaem Railroad commences at Prince street, in the Bowery, and follows the line of the 4th Avenue to Harlaem, $7\frac{1}{2}$ miles, 5 miles of which, to

Yorkville, are completed. The first part of it, or to 14th street, has a single track, laid in the most substantial manner on granite sleepers; from 14th to 23d street, there is a double track, also on granite sleepers; from 23d to 84th street, wooden sleepers are used, and a double track nearly all the way.

There has been much deep cutting; in some places to the depth of 30 feet, through solid rock. Also some high embankments, especially a little south of Murray Hill.

This road was chartered in 1831, with a capital of \$350,000. Cars were first used on a part of it—to Murray's Hill—in June, 1833; they now run every half hour to Yorkville. Probably 150,000 passengers have rode upon it. The cars are elegant and commodious, drawn by horses. The fare for each passenger is 12 $\frac{1}{2}$ cents. When the road shall have been brought down to Wall street, as it should, and will be—when the citizens become satisfied that it is not only easier, cheaper, and far less dangerous than the omnibuses—thousands will ride where there are now only hundreds; and thousands will ride out and take the fresh air, and a view of the green fields, who now never, or seldom, enjoy that luxury. It *must* and will be extended to Wall street, if not to the Battery, short of which it ought never to stop, so that those living at the extremes may interchange civilities without the expense of a hack, or the inconvenience of being jammed into an omnibus, and the risk of a race in Broadway with a rival line.

This road will, I have no doubt, great as the expense is, be a good investment, when completed, for passengers alone.

BURDEN'S BOAT.

Mr. Burden's Boat has been out twice since the drawing (see page 373) was taken, and each time has acquired a greater velocity than on its previous trial. It acquired yesterday a velocity of *twenty-five* revolutions of its wheel, of 30 feet diameter, per minute, or more than 20 miles per hour.

Not having been able to accept of Mr. Burden's invitation to accompany him on his excursion on Thursday, we avail ourselves of the following from a gentleman who was on board:

Another excursion was made yesterday on

the Hudson River, and the result fully bears you out in what you have before stated, "that Mr. BURDEN will accomplish all that he has professed to do." The boat went at the rate of more than 20 miles per hour. I will venture to assert that if a person was blindfolded, and put into the cabin, he could not possibly distinguish that he was on board any vessel, even if going at its greatest speed—no noise is heard from the working of the machinery—the entire absence of that tremulous motion so unpleasant in other steamboats, is a sufficient test of its improvement. Another advantage, and a very important one, will not fail to attract the notice of every reflecting mind—it causes no swell whatever in the river; the smallest wherry can come alongside without inconvenience. It will be obvious how useful vessels similarly constructed will be on canals and narrow rivers. No injury will be done to the banks, which hitherto has been the chief obstacle to their introduction. And when it is taken into consideration, the extraordinary speed which can be accomplished by such a boat, we must come to the conclusion that it will confer great benefit on this country.

Mr. Burden is very sanguine of accomplishing all that he has promised. He is sole owner of the boat and of the patent. The contemplated arrangement with the Hudson river company last fall having been abandoned.

METEOROLOGICAL STONE.—A Finland journal gives an account of a singular stone in the north of Finland, where it answers the purpose of a public barometer. On the approach of rain, this stone assumes a black or dark grey color, and when the weather is inclined to be fair, it is covered all over with white specks. This stone is, in all probability, an argillous rock, containing a portion of rock-salt, ammonia, or salt-petre, and absorbing more or less humidity in proportion as the atmosphere is more or less charged with it. In the latter case, the saline particles, becoming crystallized, are visible to the eye as white specks.

FOSSIL HORNS.—In excavating the Lancaster Lateral Canal, near a place called the "Deep Cut," bones of extraordinary dimensions have been discovered. Among the curiosities found is a horn six feet in length, weighing 44 lbs., and measuring at the butt end sixteen inches. Also, a tooth weighing 6 $\frac{1}{2}$ lbs.

CHESAPEAKE AND OHIO CANAL.—The following interesting and valuable communication was duly received, but it has been detained for the purpose of publishing it in another form at the same time, to accompany the forthcoming *Railroad and Canal Map*—with which we hope to be able to give some particulars relative to other canals, as well as railroads, in the United States. The apology will, we trust, be satisfactory to our correspondent, and our readers also—who is particularly requested to continue his favors, as he may find leisure. Such communications will be found interesting and useful, not only in this country but also in Europe, where they will find their way if they are to be found in the Journal—(we say this without boasting.)

We may now, we think, again call upon engineers and other gentlemen, connected with railroads and canals in different parts of the country, to furnish us with similar statements of the works under their charge, or with which they are familiar, that we may be able to give a condensed account of them. It is that with which the public cannot be too familiar—nothing tends more to promote a useful object than familiarity with its details.

Statistical Facts in relation to the Chesapeake and Ohio Canal. To the Editor of the American Railroad Journal.

WASHINGTON, April 11, 1834.

SIR,—The following statistical facts, in relation to the Chesapeake and Ohio Canal, I have collected from the mass of documents which have been printed by Congress and the Company, and which amount in bulk to several octavo volumes. I have not, either, all of their reports to refer to, as the price of an entire copy of the proceedings of the board of directors and engineers costs now \$20 to \$25, and many of the papers are very scarce. Such as are given below will, I hope, answer your purpose. Alter them and change them as may best suit your views.

The general convention of Delegates from Pennsylvania, Maryland, Virginia, the District of Columbia, and one or two of the Western States interested, first met at Washington, D. C., in November, 1823, to determine on the proper measures to be adopted in reference to the successful prosecution of this great work of internal improvement. The first charter was granted by Virginia, in January, 1824, which was confirmed by Maryland in January, 1825, and by Congress in March of the same year. Pennsylvania granted her charter with some restrictions, (relative to portions of the appropriations of Congress being applied to the construction of the western section, &c.) in February, 1826. All four of these legislative bodies have since passed various acts, extending and restricting the powers of the Company.

SUBSCRIPTIONS.—Books were opened in 1826, after the confirmation of the charter by the several states.

Private subscriptions, - - - \$610,000
By Maryland, in March, 1826, - 500,000
Maryland, in 1834, granted \$50,000 additional: \$25,000 cash, and the remainder when a further subscription was made by Congress.

By Virginia, in 1833, - - - 250,000
Virginia had subscribed, in 1826, her interest in the Potomac Canal Company, which was then valued at 2 or \$300,000.

By Corporation of Washington, - 1,000,000
By Corporation of Alexandria, - 250,000
By Corporation of Georgetown, - 250,000
By Congress, - - - 1,000,000

The cost, as estimated by the U. S. Engineers

on the first surveys, was \$22,375,427.69; and, by Geddes and Roberts, the company's engineers, since that time, was \$9,347,408.69.

The projected route, (and in its location, thus far, it has deviated very little from the line originally laid out,) was up the valley of the Potomac river, as far as Cumberland; thence it follows the valley of Wills' creek, as far up as the mouth of Bowman's run, from which place it is to cross the summit ridge by a tunnel, railway, or inclined plane, as the company may see fit, the privilege of selecting being granted by their charter. (It is most probable that the company will adopt a railway with stationary power, as it will in the end prove the cheapest and most convenient.) The western course is thence down Castleman's river and the Youghagany, and the Monongahela, to Pittsburgh. (It is doubtful, I think, whether this line, the western section, will be adopted, as the United States have been projecting improvements on the Monongahela river, so as to render it navigable as far as Brownsville, 55 miles by the course of the river above Pittsburgh, and it will be shorter and more convenient to end at Brownsville than its present projected termination.) The total length of this projected route is 341 miles, 676 yards, and is divided into the eastern, the middle or mountain, and the western sections, the former extending from Georgetown to Cumberland, 185 miles, 1078 yards; the middle section, thence to the mouth of Castleman's river, 70 miles, 1,010 yards; and the latter thence to Pittsburgh, 85 miles, 348 yards.

DIMENSIONS OF THE CANAL.—The size of the Erie canal was at first adopted as sufficient for the Chesapeake and Ohio Canal. But this idea was soon abandoned, and the following size determined on: 60 feet wide at surface, 42 feet at bottom, and 6 feet deep,

giving a cross section of 366 feet. But for the purpose of giving sufficient water for manufacturing purposes, the first two miles above Georgetown were widened to 70 feet, with a depth of 7 feet, and the succeeding two miles have a width of 80 feet, and 7 feet depth. Between Harper's Ferry and the Point of Rocks, in some few places, and for short distances, it has been narrowed to 50 feet, and above Harper's Ferry it has been widened to 90, 100, 120, and even 150 feet, in several places. The locks are 100 feet long by 15 wide, in the chamber, and 6 feet deep. The tow paths are 12 feet wide, and the berm bank 8 feet. All the culverts, aqueducts, and locks, are built of solid stone masonry, laid in hydraulic lime. Many of the locks are so constructed, by lengthening the side culverts and multiplying their outlets, as to be filled in one half the usual time.

In November, 1830, the sections extending from the Seneca feeder to the termination of the old canal, around the Little Falls of the Potomac, (a distance of 17 miles and 774 yards,) were finished and opened for use. The sections in Georgetown were finished in August, 1831. The sections from the Seneca feeder to the Point of Rocks, (a distance of 26 miles and 363 yards,) were open for use in the spring of 1832, and by the end of 1833 it was completed as far as Shepherdstown, (72½ miles from Rock Creek Basin, Georgetown.)

Between the Georgetown Basin and the Point of Rocks, a distance of 48 miles, 118 yards, is a rise of 217 feet, overcome by 27 locks: for the lift and distribution of which see table given below. Between the Point of Rocks and Williamsport, (to which the canal will be open from Shepherdstown this spring or summer,) a distance of 66 miles and 762 yards, is a rise of 136 feet, overcome by 17 locks: see table.

No. of lock.	Lift.	Construction.	Distance from lock to lock.	Total distance from tide lock.	Remarks.
			m. yds.	m. yds.	
Tide l.	at l. wal.				
No. 1	3 ft.	Cut stone. Free stone.	661	601	In the locks of 8 feet lift, there are about 1,084 perches of masonry; each 4,426 superficial feet of ashlar (excluding coping and hollow quoins); 436 lineal feet of coping, 1 foot thick by 3 feet wide, making 4 feet of cut work for every foot lineal; and 61½ feet rise of hollow quoins: where the cut stone are exactly of the size required by the specifications, there are 384 perches of cut stone and 700 perches of backing. The quantity of cement for each lock of 8 feet lift, has varied from 3,000 to 3,300 bushels.
2	8	Same as tide lock.	814	742	
3	8	Same.	1001	843	
4	8	Same.	98	941	
5	8	Partly of hammered and partly of cut stone.	4 909	5 90	
6	8	Same. Free stone.	637	5 727	
7	8	Cut, granite, and free stone.	1 1075	7 42	
8	8	Red sand stone. Cut.	1 594	8 636	
9	8	Granite and free stone. Cut.	604	8 1240	
10	8	Cut stone. Granite.	153	8 1393	
11	8	Cut. Red sand stone.	319	8 1712	
12	8	Cut stone. Granite.	545	9 497	
13	8	Same.	148	9 645	
14	8	Granite. Cut.	148	9 793	
15	8	Red sand stone. Cut.	3 1740	13 773	
16	8	Same.	311	13 1084	
17	8	Same.	618	13 1702	
18	8	Same.	178	14 1880	
19	8	Same.	134	14 2252	
20	8	Same.	198	14 452	
21	8	Same.	2 623	16 1075	
22	7	Same.	2 1544	19 859	
23	8½	Same.	2 856	21 1715	
24	8½	Same.	1174	22 1139	The masonry of lock No. 24 is connected with the lower abutment of the Seneca aqueduct.
25	8	Same.	8 23	30 1152	
26	8	Same.	8 1127	39 529	
27	8	Same.	2 20	41 549	From lock No. 27 to the Monocacy aqueduct is 1,156 yards—the aqueduct, 173 yards long—thence to the Pivot bridge at the Point of Rocks is 6 miles 1 yard.
28	6	(Granite transported on Balt. & O. Railroad, and flint (hard white) stone from neighborhood. Cut stone.	1337	48 1415	
29	7	3 Balt. granite. 1 hard white flint. Cut.	1 1597	50 1292	
30	8	Palapsoo granite 1-7 & red sand stone. Cut.	4 143	54 1435	
31	8	Granite and flint from neighborhood.	3 121	57 1556	
32	8	Granite & lime stone from neighborhood. Cut.	2 332	60 128	The foot of lock No. 32 is connected with the abutment of the bridge over the Potomac at Harper's Ferry.
33	8	Lime stone. Cut work.	760	60 888	
34	8	Same.	1556	61 684	The cost of lock No. 35, as well as that of 36, 37, 38, 39, 40, 43 and 44, (8 in number,) was at the rate of \$1,190 per foot lift. This was including gates and foundations.
35	8	Same.	1267	62 191	
36	8	Same.	173	62 364	
37	9	Same.	4 909	66 1273	
38	5	Same.	5 1426	72 939	
39	6	Same.	1 267	73 1226	
40	9	Same.	6 447	85 940	The two locks, Nos. 41 and 42, are constructed of Lawrence dressed lime stone; were built for \$800 per foot lift, including gates and foundations.
41	10	Hammered stone. Lime stone.	6 1740	92 920	
42	9	Same.	200	92 1120	
43	9	Lime stone. 3 miles transported. Cut stone.	200	92 1320	
44	10	Same.	6 1020	99 580	Total lockage, 353 feet, from the Georgetown basin.

Besides the above 44 lift locks, a communication with the river Potomac is to be effected through the guard locks at the entrance of the feeders from the Potomac, and also through the several lift locks designed for the Virginia trade, and constructed in compliance with the Virginia charter. Four of these locks are required to be constructed similar in size and construction to the other lift locks of the canal, viz.:

one opposite the mouth of Goose creek, which enters the Potomac, opposite the foot of lock No. 25; another at the Point of Rocks; another opposite Shepherdstown; and the 4th, near the mouth of Opequon. The latter has since, however, been dispensed with, as its purposes are subserved by the transfer of locks Nos. 41

and 42, (which were located 2 miles above the mouth of Opequon,) to 2 miles below the mouth of that river. (This transfer reduced the slack water navigation, between guard lock No. 3 and lift lock No. 41, from 7 to 3 miles, and increased the expense \$100,000. There is also a lift lock in addition to the above constructed, connecting with the Potomac opposite the junction of the Shenandoah with the Potomac at Harper's Ferry, 637 yards above lock No. 32. It has 10 feet lift, and is, in other respects, similar to the other locks.

Culverts.—Below the Point of Rocks there are, inclusive of roadways, 59 culverts, of which the total cost was \$110,000. Three of these culverts are of 12 feet span each, 2 of 16 feet span each, (one over the Tuscarora, 2 miles above the Monocacy aqueduct, and the other 1 mile below the Point of Rocks,) and 1 of 2 arches of 16 feet span each over the Little Monocacy river: the total number of perches of masonry in these 59 culverts amounts to —, costing \$51,872—32 culverts, nearest Point of Rocks, 11,357, \$50,000. Between the Point of Rocks and Harper's Ferry the number of culverts is 19, containing in all 6,839 perches of masonry, and the total span of which was 158 feet. There are, also, above Harper's Ferry, 41 culverts, the estimated price of which was \$44,300. The culverts below Harper's Ferry are generally 110 feet long; while above, owing to the contraction in the width of the canal, they do not exceed 100 feet.

Aqueducts.—No. 1. Seneca aqueduct, built of red sand stone from the immediate neighborhood, is 114 feet long between the abutments, which, with the 2 piers, rest on a solid foundation. There are 3 arches of 33 feet each. Cost \$22,784.

Aqueduct No. 2. Monocacy aqueduct, built of a white granite stone, (obtained within 3 miles of the site of the aqueduct,) is 438 feet in length between the abutments, and is 516 feet from end to end of the wing walls which project from them. There are 7 arches of 54 feet span each, and 9 feet rise, (segments of circles,) the radius of intrados of which is 45 feet. It contains 9,788 perches of masonry, (exclusive of the rough walls in which the cut masonry of the wings terminates.) Cost, \$125,000.

Aqueduct No. 3 crosses the Catoclin, a tributary to the Potomac; it has 3 arches, a semi-circular, of 20 feet span each, and the third a semi-ellipse of 40 feet span and 10 feet rise, supported on piers, 6 feet wide by 33 feet long, while the parts under water (7 feet in depth,) are 8 by 35, and founded on solid rock. Total cost, \$33,500.

Aqueduct No. 4 is over the Antietam, a branch of the Potomac, entering 3 miles above the Government dam above Harper's Ferry. The abutments are 9 feet thick, and 108 feet apart. It has 3 semi-elliptical arches, 2 of 28 feet span, and the 3d of 40 feet span, with a rise of 10 feet each. The foundations of the piers and abutments are on solid rock. Greater portions of them are of cut stone masonry and expensively built. Lime stone from the neighborhood used. The towing path parapet is 7 feet thick at bottom and 6 at top. The berm parapet is 5 feet thick at bottom, and 4 at top. Width of track is 20 feet at bottom and 22 at top. Cost, \$22,850.

Aqueduct No. 5 is over the Conococheague, which enters the Potomac at Williamsport. It has 3 arches of 60 feet span each; two piers and two abutments. The piers are 12 feet thick at the base. The arches are 32 feet wide and 15 feet rise.

Tow-path parapet, 7 feet thick at bottom, 6½ at top; **berm parapet**, 5 feet thick at bottom, 4½ at top.

The walls are raised 7 feet above the bottom of the canal.

Estimated cost, \$40,260. Not quite finished in December last.

Feeders.—No. 1. The Little Falls feeder supplies 4½ miles of canal. An arched stone dam is thrown across the Potomac, and the admission of water into the canal is regulated by a

single guard gate, and enters at the foot of lock No. 5. Length of the dam, 1750 feet, height 4 feet. Cost —. The feeder is a part of the old canal around the Little Falls, constructed previous to 1800.

No. 2. The Seneca feeder supplies 17 miles, although at the foot of lock No. 18, at the Great Falls, an additional supply is received from the Potomac, through a small arch under the towing path. The dam across the Potomac for this feeder is — feet high, and 25,000 feet in length, and cost —. The water is admitted into the canal through guard lock No. 1. The dam is of stone and arched.

No. 3. The canal for the next 40 miles depends almost entirely for water on the supply it receives from the Potomac at the head of Harper's Ferry Falls. The dam constructed by the Government for the use of the United States army at Harper's Ferry answers all necessary purposes here, and no more water is drawn off than was formerly used by the old canal, which has been closed since the opening of the main canal. (A small feeder from the Tuscarora, which enters the canal 17 miles below the head of Harper's Ferry Falls, also assists towards supplying this section.) The water from the Harper's Ferry feeder is admitted through guard lock No. 2, situated near lift lock No. 35. This dam is — feet high, and — feet long. Cost of company's works here —.

No. 4 supplies 23½ miles of canal. The dam across the Potomac is near —, and is 20 feet high, and 810 feet long, and 60 feet base. The water is admitted into the canal through guard lock No. 3, which is 1 mile 320 yards above the dam. Cost of dam, lock, and other works connected with the feeder, —.

No. 5 feeds 19 miles of canal, and is situated 8 miles above Williamsport. The dam across the Potomac is at —, and is 20 feet high, 706 feet long, and 20 feet base. The water is admitted through guard lock No. 4, 320 yards above the dam. Cost —.

Some facts I have not here been able to find out, but which I hope you will be able to obtain, should they be of any service.*

COSTS.—The following work, done between the Point of Rocks and the Georgetown Basin:—Common excavation, 1,893,666 cubic yards; Hard pan do., 439,071 do.; Quarry rock do., 75,472 do.; Rock blasted, 395,524 do.; Embankment, 1,533,850 do.; Puddling, 96,092 do.; Walling, 231,034 cubic perches. Costing \$1,032,161; for grubbing, \$12,892; extras, \$40,800.

Extra on this section:—Pier, basin, and tide lock, at Georgetown, \$78,943; Locks, \$232,642; Lockhouses, \$16,315; Bridges, \$32,925; Aqueducts, \$23,444; Culverts, \$51,872; Waste weirs, \$8,619; Dams, \$30,491; Guard locks and feeders, \$15,404; Improvements, \$22,002.

The masonry on the dams, locks, aqueducts, pay for engineers, officers of the company, &c. are not included in the above. Items given separate.

Work done and to be done from the Point of Rocks to Williamsport—all under contract, and a great portion finished:—Common excavation, 2,733,905 cubic yards; Rock do., 433,752 do.; Slate do., 8,140 do.; Embankment, 1,350,149 do.; Puddling, 37,617 do.; Walling Stone, 181,029 cubic perches. Actual and estimated cost of the above, \$936,735.74; for grubbing, \$9,653; extras, \$8,564.13. Total, \$954,952.87, besides the masonry on locks, aqueducts, culverts, bridges, &c. &c.

I have not been able to obtain a full aggregate amount of the expenditures of the company, nor an actual statement of the entire cost of the canal. It has had to meet enormous law expenses on account of its difficulties with the Baltimore and Ohio Railroad Company; besides being subjected to very large losses in the delay occasioned by the injunction of the Chancellor of Maryland in the above case. The right of passage, too, over the various lands of private individuals has cost immense sums.

* We have not been able to fill the blanks.—Ed. A. R. J.

The pass at the Point of Rocks, held in dispute between the two companies, was \$11,153 feet long, or 2½ miles. The distance from Harper's Ferry to Cumberland, according to Geddes and Roberts' report, is 127 miles, and the amount of all the narrow passes where the works would come in collision would amount in all to 45 miles.

The reports of the united engineers, who have been at various times invited by the company to inspect the different portions of the work, are all declaratory of the perfect and substantial manner in which the work has been constructed throughout. These reports, have been called for by Congress, and, on being submitted, have been ordered to be printed. They contain a great deal of information relative to this grand work, and are worthy of perusal. This spring, notwithstanding the many delays and difficulties of the most arduous and imposing nature the company have had to contend with, will see the canal opened some distance above Williamsport, a distance of 102 miles of canal, and 14½ slack water navigation, fully complying with the charter, which required upwards of 100 miles to be completed within 5 years from its commencement, or rather from October, 1828. Some report I have just got hold of, says the entire cost of this construction was \$3,650,000, of which \$450,000 was expended from Little Falls down.

I can add that the prospects of the canal are truly encouraging. Having command of an extensive coal region, and passing through a highly cultivated valley, where there are also numerous grist and other mills, and abundant mineral resources besides the coal, they can never be at a loss for means of rendering the canal profitable. They cannot experience much competition, either from the Baltimore and Ohio Railroad, on account of the heavy weight of the produce to be conveyed, and cheapness of conveyance on the canal. The Washington city branch of the Chesapeake and Ohio canal extends from the Rock Creek Basin on the western borders of the city to the mouth of Tiber Creek, following the bend of the river Potomac, (being constructed along the bank of that river, and in some few places encroaching on the river itself,) a distance of 1 mile and 373 yards. A tide lock at the eastern termination brings it to the level of the Potomac. The cost of this branch was \$25,978.47.

Very little has yet been done on the Alexandria branch of the canal. Congress has made an appropriation of \$60,000, I believe, for the construction of an aqueduct at Georgetown, across the Potomac, for the transfer of the canal to the Virginia shore. The length of this branch is 7 miles and 416 yards, and the estimated cost \$372,204.55. The aqueduct has been contracted for some time since, and is now in progress of construction under the superintendence of Capt. Turnbull, U. S. topographical engineer. It is 1714 feet long; the canal way is to be 16 feet wide at bottom, 18 feet at top, and 5 feet deep, and thence, to Four Mile run, the size of the canal is to be 32 feet wide at bottom, 50 feet at top, and 6 feet deep. At the embankment, at Four Mile run, it is to be 18 feet wide at bottom, 36 feet at surface, and 6 feet deep. Thence to Alexandria it is to be enlarged to the established dimensions of the Chesapeake and Ohio Canal.

H. N. C.

P. S.—We have received the communication promised, giving the rates of toll on the canal, which will be given in our next.

The Undulating Railway—Final Reply of Mr. Badnall to Mr. Cheverton. [From the London Mechanics' Magazine.]

Sir,—Mr. Cheverton's dreadful inflection—HIS ROD—hath, at last, fallen upon me, without his own character, or the good taste of your readers being, in the slightest degree, "ill-consulted"—without the most distant apparent inclination to render your pages the medium of a personal quarrel between himself and me! He

will not descend to imitate my dull, vituperative style! He would shudder to characterize an opponent as "a coarse practitioner from the *abattoir*!"—"a mere hacker of flesh and bones!" He is a man of more gentlemanlike bearing than to flume out false accusations! No, Sir, he stands upon too lofty an eminence! His philosophic and refined understanding could not possibly stoop to mere personal abuse, or controversial subterfuge! No, he is the very prototype of wisdom!—an immortal emblem of refinement!—a breathing picture of urbanity and peace!—gentle as a lamb—sweet as honey—mild as new milk—"parfuite amour" in toto! He is not the cur who, when he meets with an unflinching antagonist, flies growling and barking to his kennel! He is not the tame-hearted pugilist who swears that a blow is false because he cannot parry it!—nor is he slippery as the eel, which, by its twistings, and its twinings, and its slime, evades the grasp of its pursuer, and buries itself in its native mud! No, Sir, Mr. Cheverton is a being of far different stamp!—his mental qualifications—his scientific reputation—his temper—his writings—his sentiments—will all bear the test of the most rigid scrutiny! His theories will all be established by practical results! The halo round his head will brighten as each opinion becomes confirmed by experiment! In a word, his letters on "the undulating railway," while they will immortalize the fame of the *Mechanics' Magazine*, will become never dying monuments of sterling talent and correct observation, from the hour when that trial takes place, which a Dalton* has been indiscreet enough to recommend! Till that hour arrives, I almost feel inclined to "leave him alone in his glory," in order that I might, with double effect, magnify his transcendent name, and prostrate myself before his living monument of wisdom! But—I cannot resist the inclination which his letter has excited, to pay him some passing homage; for neither the "war-whoop of the Mohawk," nor the "inspiring blast of the clarion," shall be compared to the sounding of his brass, or the tinkling of his cymbals!

Yet how shall I, to whom "nature has been so niggardly," sufficiently extol the praise of one who, declining to quarry all ignoble game, is able to defend himself against a weapon capable of dividing "soul from body," the very "marrow from the bones?"

Immortal champion! inspired philosopher! tender and kind-hearted victor! may this humble panegyric be a memento of my deference to thy fame, as long as the *Mechanics' Magazine* may survive the wreck of time—and may that be for ages!

Having thus, Mr. Editor, in sincere good humor, squared one part of my account with Mr. Cheverton, I beg to acknowledge, like him, the gratification which I feel at the prospect of this too lengthened controversy being terminated. The venom which he thought it prudent, in the first instance, to cast on me, I good-humoredly endeavored to throw back; but his last effusion was of so different a nature—so characteristic of a noble and unoffending disposition, that I have met, as it deserved, with an unbounded expression of veneration. As you have admitted, in your valuable columns, his unmeasured declamations, I trust that equal justice may be done to me; and that you will, by publishing this reply, permit me the opportunity of proving that he who cannot, by fair and manly argument, defeat a literary or scientific opponent, stands little chance of doing so by an opposite course of conduct.

Such was my object in noticing Mr. Cheverton's extraordinary letter (vol. xx. p. 73). Had it been otherwise, my silence should have shown my contempt for the vulgar sneers and false accusations with which that document abounded. But it is passed, and I congratulate Mr. Cheverton on the victorious result of his attack.

As no unnecessary time will now be lost in trying, by ample experiment, on some line or other, the merits of the undulating question, I would propose, to your readers in general, that all further controversy should rest until the experiment be made. Practice can alone determine whether I or my opponents have been right or wrong in our anticipations, and whether Mr. Cheverton's arguments or mine will be creditably substantiated. The note which you have attached to my last communication leads me to hope that you may concur in my present opinion;* and if so, while Mr. Cheverton may try at his leisure any further experiments he may please at the National Gallery of Practical Science, I will direct my attention to the means of elucidating the problem in a far more satisfactory way. If, on a trial being made, I find myself in error, I will frankly confess my incompetency to argue this subject, and my folly at having so warmly and so boldly espoused it—if otherwise, I trust there are many of your readers who will give me credit for some patience, and for some intellectual capabilities beyond the *canaille* sphere in which Mr. Cheverton has been so anxious to place me.

The test shall not be less difficult than I originally proposed. Whether the experimental railway be 6, 8 or 10 miles in length, I maintain that *any locomotive engine will traverse an undulating line, with a load which is its maximum load on a level, in half the time which it will occupy in traversing the same distance with the same load on a dead level railway, and without greater waste or consumption of fuel.* And I, moreover, say, that *any locomotive engine will traverse an undulating line at a great velocity with a load which that same engine cannot move upon a level line.*

Whenever this trial may take place, your readers shall have ample notice of it; and if you, Sir, will undertake the office of umpire, I shall cheerfully abide by your decision.

In the meantime, it would be mere repetition, and an unnecessary prolongation of our arguments, were I to reply at length to the more solid parts of Mr. Cheverton's last letter. One or two points, however, I cannot help touching upon. First, as to "*locomotive duty*," which he so frequently harps upon. All my arguments, of late, have been almost confined to the practical consideration of locomotive duty. I do say that by employing gravity as an auxiliary force, we save locomotive power. What! Mr. Cheverton exclaims, can you take advantage of gravity without being obliged to repay what you borrow? Yes, is my reply—and yet *no perpetual motion*, Mr. Cheverton! How? Mr. Cheverton would ask. My answer is simply this, and whether it be true or false, *experience will prove—velocity is gained* by taking advantage of gravity. Friction on railways is, in my humble opinion, *not as the spaces*, but as the *times or velocities*. If this be true—and if a *greater velocity* be attainable on an undulating than on a level railway, there is, (exclusive of any difference in friction arising from the particular inclination of the plane,) *less friction on an undulating than on a level railway*. Locomotive steam power is therefore saved.

The next point I wish to allude to, is Mr. Cheverton's observations about a lecture given to me, or some of my acquaintances, by Professor ***** in the National Gallery. Does he mean Professor Ritchie?—if so, I was not present. That gentleman and Mr. Locke had, I know, a conversation together; but the only time that I have had an opportunity of conversing with Professor Ritchie on the subject, was

* We do perfectly; but it must be with reservation to the claims of Mr. Whitehead and Mr. McKinnon, to whose papers, in opposition to the undulating system, (now many months in hand,) we stand pledged to give insertion. We shall be glad to have their assent to the proposed postponement in the text.—Ed. M. M.

† It will occur to your readers that I have frequently stated as my opinion, that an engine would convey, on an undulating line, at least twice the load which the same engine could move on a level, at the same velocity. Such is my opinion now; but the test which is above proposed will, I am sure, be deemed sufficient to decide the question at issue, and it will be found to accord with the terms of my original challenge.

recently, when he did me the honor to spend part of the day with me in Liverpool. In a word, the only individuals whom I can call to mind as having expressed a decided opinion in my presence, when in London, adverse to the undulating railway, were Mr. Saxton and a friend of his, whom I begin to think was Mr. Cheverton; and as to any acquaintance of mine then present being afraid of their "*badgering*," I rather think Mr. Cheverton has imbibed an erroneous impression. If it were necessary, I could publish, in this letter, a list of persons who are advocates of the undulating railway, amply sufficient to out-balance the strongest testimony which Mr. Cheverton and his friends can advance against it,—but the best testimony is *practice*, and upon that I throw the merits of the case.

Lastly, Mr. Cheverton offers some important practical objections, which I confess to be more worthy of notice than any points which he has hitherto advanced. But, serious as they appear, they will not, on consideration, be found of any real weight. In the first place, we have to determine what is a *safe velocity*—that being determined, how can it be attained on a level railway with heavy loads? Unless gravity be employed at starting, as an auxiliary force, a much more powerful engine would be requisite to move a heavy load from a state of rest, than to continue it at a given maximum velocity; and if gravity be employed at starting, the engine and load must ascend again to a like summit, in order to maintain the starting advantage; and if so, what is this but an undulating railway? Does Mr. Cheverton imagine that a perfect cycloid, or a perfect arc, alone constitute my idea of an undulation? Far from it—he may descend a hill, run four miles on a level, and ascend to an equal elevation; and by doing this would realize a system of undulation which might, probably, be adopted with advantage in some cases; for, with heavy loads, a velocity might be generated by the first descent which could not, with the same engine, be generated on a dead level; and this being maintained on the level, would enable the load to ascend to a like elevation. But supposing the undulations to be a series of regular segments of circles, wherein consists the difficulty of sustaining an average velocity of 20 or 30 miles per hour, without an increase of speed? Is it necessary to work the engine down every descent? One of the leading advantages which I anticipate is the great saving of that steam expenditure which is now necessarily incurred in maintaining high velocities on a level. Again, it will require very powerful engines to attain high velocities, with heavy loads, on level railways; whereas, such powerful engines will not be so necessary on undulating railways, and for the reasons previously stated.

I now, Sir, unless again attacked by Mr. Cheverton, close with pleasure this twelve-month's warfare, anxiously awaiting the result of practical trials; and sincerely hoping, although a few waspish observations have occasionally intermingled with a subject to which they should have been altogether foreign, that some information and benefit may have been derived from the discussion.

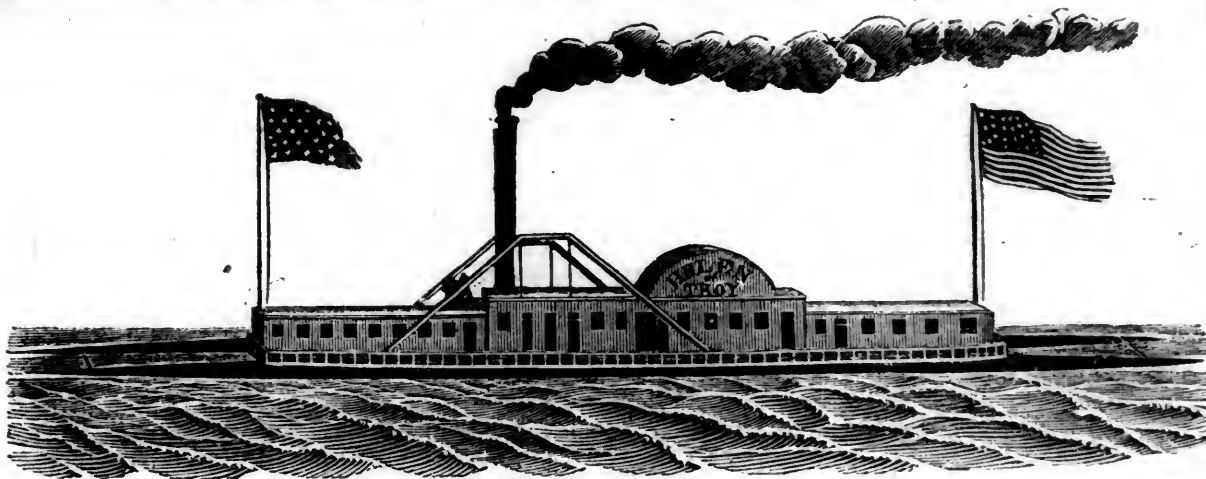
I am, Sir, with great respect, your very obedient servant,

R. BADNALL.

Douglas, March 27, 1834.

P. S.—S. Y. and I have, in one respect, misunderstood each other. He is certainly right in believing that the pressure upon an inclined plane, (alluding to the force necessary to draw a body up,) is as the base to the length: therefore, at an angle of 45°, my statement appeared erroneous; but, taking into consideration the resolution of the forces—that at an angle of 45° the length of the base is equal to the perpendicular elevation—and that taking the length of the plane as the entire force of gravity, it forms the diagonal to two equal sides of a square; the oblique forces are therefore equal—that is, at an angle of 45°, the force of gravity which urges a body down a plane, or retards its ascent, is exactly equal to the force of pressure on the

* Alluding to the trial of the undulating railway, which Drs. Dalton and Lardner have recommended to be instituted on the London and Birmingham line.



plane. For instance, if L be the length, B the base, and E the elevation, at an angle of 45° E is equal to B ; and although the pressure on the plane is $\frac{B}{L} \times L$, yet the tendency to descend is $\frac{E}{L} \times L$; the one force, therefore, is equal to the other. I close my discussion with S. Y. with every feeling of respect.

[See page 384.]

MACHINE FOR EXCAVATING EARTH.—Mr. G. V. Palmer, of Worcester, has been ten years and upwards engaged in constructing an extraordinary engine to excavate earth, &c. for which he has taken out a patent. This engine works by steam, and is particularly adapted for cutting canals, levelling hills for railways, and removing large masses of earth. The engine cuts, at a single blow, six feet in width and three feet in depth—delivering on either side, or into carts, one ton and upwards per minute: it also cuts and sifts gravel in the same proportion for road-making. We understand it is of great simplicity of construction, and the weight of the engine does not exceed three tons.—[Manchester Courier.]

We copy the following from the forthcoming number of the *Mechanics' Magazine*:

BURDEN'S BOAT.—This "wonder of the age" made its second trial on Wednesday last, June 10th. We have all along expressed our conviction that Mr. Burden has stated nothing that he will not accomplish; we think so still, and so does every practical man we have conversed with on the subject. But we do hope, that Mr. B. will not allow his anxiety to realize his promises interfere with his judgment, or in any way prevent his doing that which he has promised to accomplish, WELL. We insert the annexed engraving as a correct representation of it, and take this opportunity of introducing to the notice of our readers a condensed account of steam engines and their inventors, compiled from authentic sources. In a few days she will make her first trip to Troy.—[ED. MECH. MAG.]

The Great American Steam-Raft of English Origin. By ALFRED CANNING. [From the *London Mechanics' Magazine*.]

SIR,—Having noticed in your Magazine for Saturday, 22d ult., an account of a raft propelled by steam, considered to be the invention of a Mr. Burden, in America, I think it due to myself to state, that in 1817 I conceived the idea of constructing a raft

similar to that attributed to Mr. Burden, with this difference, that the bows of my floaters were to be considerably more elevated than those of Mr. Burden's raft. The following year, being in Paris, and foreseeing the probability of being detained there for a considerable time, I set about constructing my raft. I took two deal planks, of 30 feet long each, 12 inches wide by 6 inches thick, and having fashioned each like a canoe, I placed them on edge, parallel with each other, about 5 feet asunder, and connected them together at about 3 feet from the surface of the water, by a decking resting upon 4 stanchions, of about 7 feet long, which rose nearly 4 feet above the deck, and served to support a handrail, as well as to maintain in square the whole frame-work, by diagonal ropes, which passed through holes in the tops of the stanchions and holes in the deck. I tried this little model raft, both with oars, a sail, and paddle wheels (worked by the feet), and found that I was not deceived in my expectations of its speed, which was astonishing. I had a rudder of sheet iron, in the shape of a fish tail, adapted to each side-piece or floater, which were connected together and acted upon by diagonal cords and a cross-bar. Prince Joseph de Chimay, his sons, and several other persons of high rank, witnessed my trials. Finding it succeeded so well, and possess so many advantages over every description of boat, as it was not liable to sink or upset, &c. &c. I determined to construct a much larger raft, and propel it by steam; but owing to the jealous spirit of the boat owners on the Seine, particularly Prosper-Colin, and Daguet, who had great influence with the Prefect, I was not able to procure a permission to place it upon the river. Being immediately afterwards obliged to absent myself from Paris upon urgent business, I left my model raft afloat, in the care of a waterman, who lived in his barge upon the Seine, at the foot of the Pont Royal, directly under the windows of the royal palace of the Tuileries, one of the greatest thoroughfares in Paris, where it remained for five months. Upon my return, the waterman (Laporte) informed me that several foreigners, particularly Americans, had made repeated inquiries respecting the nature of the raft, and that two American gentlemen had made drawings of the raft; and had observed, "that rafts constructed upon the same principle would suit well the lake navigation in the United States."

Should you, Sir, or any of your readers, feel desirous of seeing a sketch of my sail

or steam raft, and further particulars respecting that, and four others which I constructed subsequently, having varied the dimensions of the floaters, and the substance of which they were composed, I will furnish them with pleasure. I remain, sir, your most obedient servant,

ALFRED CANNING.

Crown Coffee-House, Holborn, March 18, 1834.

[We shall be glad to hear again from Mr. Canning on the subject, with drawings, not only of his original model, but of his more matured plans of construction, and all illustrative particulars.—Ed.]

NOTE.—Since the article in our present number, on the great American steam-raft was in type, we have received a letter from an esteemed correspondent, from which the following is an extract: "The velocity attained was in still water. The vessel draws only 7 inches water. They expect, with another that is completing, to perform twenty-seven miles an hour."

Account of Steam Engines and their Inventors.

[Compiled from authentic sources.]

The elegant toys of Hero, the beautiful experiments of Porta and Decaus, the modifications of the Greek machine by the unknown Italian, the practical merit of the "water-commanding engine," the ingenious ideas of Hautefeuille, and their masterly extension and development by Papin, contain all the rudiments required for a perfect machine, waiting only to be touched by the wand of some mechanical magician, to form a structure of surpassing ingenuity and semi-omnipotent power.

The total neglect with which these individual schemes were regarded is not the least extraordinary circumstance in the history of the steam engine, and, above all, the oblivion which followed that of Lord Worcester, whose unconquerable perseverance, at the lowest ebb of his fortune, found means to carry his splendid ideas into practice. It appears improbable, but that his mechanism, whatever it was, was forced upon the attention of many parties connected with the draining of mines; and from the character of the Marquess, it is equally remote from belief that he would fetter the introduction of his invention into general use, by a high price asked for his permission to use it. The utter novelty of the nature and power of the agent, an ignorant and absurd idea of its danger, and the total want, probably, of any mechanical means, except that of mere strength of parts to guard against accidents,

may have been the real causes of its neglect, and exclusion from practice.

Thirty years after Lord Worcester's death, a brilliant ray of improvement suddenly bursts into the history of the steam-engine, from the consummation of the labors of a Captain Thomas Savery, who had been silently employed in combining a mechanism, in which elastic vapor was the motive power.

Of the history of this distinguished man little is known. * * *

He is first presented to our observation as an author of a scheme for rowing ships in a calm, for which, after obtaining a patent, he in vain endeavored to procure the patronage of Government. "The trial of my scheme was unjustly thwarted by one man's humor," said Savery. "A regard to my duty, as well as place, will not permit me to give a biased opinion," said the umpire. "But I have tried it," replied the projector, "on a small scale, and it answered completely." "So have we," said the servants of Government, "and in our trial it failed completely."

Savery afterwards remarked: "I was necessitated to write my book; for after I had racked my brains to find out that which a great many have spent several years in vain in the pursuit of, when I had brought it to a draught on paper, and found it approved by those commonly reputed ingenious, and receiving applause, with promises of great reward from court, if the thing would answer the end for which I proposed it; after I had, with great charge and several experiments, brought it to do beyond what I ever promised or expected myself, at last one man's humor, and more than a humor, totally obstructed the use of my engine, to my no small loss; but it is the nature of some people to decry all inventions, how serviceable soever to the public, that are not the product of their own brains."

He gave an account of it to secretary Trenchard. "A few days after, the secretary told me that the king had seen my proposals, and that I need not fear, for that the king had promised me a very considerable reward, and that I must go to the lords of the admiralty to put it in practice; but that first I must make a model of it in a wherry, which I did, and found it to answer my expectations. Then I showed a draft of it to the lords of the admiralty, who all seemed to like it, and one amongst them was pleased to say that it was the best proposal of the kind he ever saw; so I was referred from them to the commissioners of the navy, who all seemed to like it, but told me that the model must be surveyed by Mr. D—, the surveyor of the navy, whose opinion I asked; but he was very reserved, and said, 'that a wherry was too small a thing to show it in, there being no working at a capstan in a wherry;' but he told me 'it was a thing of moment, and required some time to consider on; for should I,' said he, 'give a rash judgment against it, I should injure you; or for it, the charge of putting it in practice must prove a loss to the king, and endanger my employ.'"

After four months' consideration, Dummer gave his opinion against Savery. It was neither a new nor a practicable invention, being similar to one used at Chatham, in 1682, which was abandoned, and he designated, though rather disingenuously, the capstan and its trundle as "*clock-work*," and although Savery "exhibited his wherry on the Thames, and thousands of people were

eye-witnesses, and all people seemed to like it, the public newspapers speaking very largely of it, yet all to no purpose." (p. 18.) The inexorable lords of the admiralty were "so much altered that, from commending the thing, they would not hear one word in its defence." (p. 15.) Savery, notwithstanding, "being informed by Sir Martin Beckman, the greatest engineer in the Christian world, that the thing was good, got a noble lord to show a draft of it to the king a second time, who ordered me," says Savery, "again to the admiralty, who never ordered me in before them, but, after waiting two or three days, the doorkeeper told me that my business lay before the navy. Upon which, next day, I desired a friend of mine to go with me to the navy office, that he, being a man of extraordinary judgment, and no less reputation, might be an evidence to what discourse might happen; but coming to the navy office, we found the board was rose. However, in the hall I found Mr. D—; I asked him whether any thing was come before the board concerning my business. 'No,' said he, 'not since the objections sent to the lords of the admiralty;' on which he could not but fall into an argument. I asked him some questions in relation to his objections, and in a very little time we had a great pother about superambient air and water. I found that my sailor ran himself fast aground, as men commonly do when out of their knowledge; this, indeed, made me pity him again, although I was willing to come at the plain truth of the matter, and asked him whether or no he could not bring one hundred and fifty men to work at this engine, he answered yes; then, said I, will they not have as much power to give a ship motion as one hundred and fifty men would have on shore, at a hawser fastened to the ship; this he likewise answered in the affirmative. Then, said I, it will do more than oars, or any thing but a gale of wind, and fully answer my proposals. Well, said he, with a smile, and putting off his hat as taking leave, 'We are all submission to the lords of the admiralty.'

"Not long after, a friend of mine met a commissioner of the navy, and my friend, being perfectly acquainted with my contrivance, asked the commissioner why it was not put in use by them? The gentleman offered several objections, which were, by sound reason, fully answered by my friend, that he had only this hole to creep out at. 'Sir,' said he, 'have we not a parcel of ingenious gentlemen at the board?' 'Yes,' said my friend, 'I hope so, or five hundred pounds per annum is paid them to a fine purpose.' 'Is not Mr. D—,' said the commissioner, 'one of them, and an ingenious man?' 'I hope so,' continued my friend. 'Then,' said he, 'what have interloping people, that have no concern with us, to pretend to contrive or invent any thing for us?'"

Savery, whose bluntness, probably, was no recommendation to his application, has several flings at the "boards," and his statement is wound up by a dexterous one at the contents of courtly Dummer's wig. "Whoever is angry with truth for appearing in mean language, may as well be angry with a wise and honest man for his plain habit; for, indeed, it is as common for lies and nonsense to be disguised by a jingle of words, as a blockhead to be hid by abundance of peruke."—[Navigation Improved, p. 33.]

In the pamphlet in which Savery appeals from their judgment to that of the public, he pays less attention to the reasons urged against its novelty, as well as practicability, than they were fairly entitled to receive.* In his resentment he says, that "not a tittle will he disclose of two other inventions of his until he has justice done him on account of his rowing engine." The first of these was "a gin of fourteen inches square, portable by one man, and by which one man may lift the largest cannon into her carriage." The second contrivance was a method whereby he could fight any ship, "using charge and discharge as often as six do now, and to as much purpose, without any manner of incommutation, more than by the common way, so that one half of the men need not be exposed that now are, and the rest may be kept as a reserve for boarding; the benefit of this I leave to the ingenious sailor."†

The enthusiasm of the projector was softened in Captain Savery by the experience of a practical mechanic; and he early appears to have acquired that personal consideration which usually follows a man of genius and enterprize, when his habits are those of a man of business.

At the first announcement of his machine for raising water, he had so matured his ideas, and was so well versed in the nature and power of the motive agent, that his masterly combination has left but minor objects for improvement to succeeding engineers. His mode also of introducing his invention to the notice of the public was totally different from that which had been followed by former projectors. They enveloped every thing in mystery, and endeavored to attract attention by exaggerated statements of power or economy. His first step was to explain to every one the principles, as well as construction, of his apparatus: he showed why

* *Navigation Improved*, or the art of rowing ships of all rates, in calms, with a more easy, swift, and steady motion than oars can, by *Tho. Savery*, gent. London, 1698. In 1693 a M. Duquet made several experiments at Marseilles, at the expense of the King of France, to navigate a vessel by revolving paddles, or wheels, instead of oars. The results of these trials were very satisfactory, and strongly directed the attention of philosophers, as well as mechanics, to the practicability of this application of water-wheels.—[Machines Approuvees, tome i. p. 173.]

† Sir Isaac Newton, in a report (dated Leicesterfield, January 27, 1718,) which he made to the government, on the practicability of an invention for measuring a ship's way at sea, mentions Savery as the inventor of this machine, and notices another of his contrivances. "Mr. Savery, who invented the raising of water by fire, told me about six years ago, that he had invented an instrument to measure the distance sailed, and by his description that instrument was much like this, (the one submitted for his opinion,) the sea water driving round the lowest and swiftest wheel thereof, and that wheel driving round other wheels, the highest and lowest of which turn about an index to show the length of the way sailed."

Savery complained of one of his inventions being neglected, from its resembling a mechanism with which he was unacquainted; but Savery's one, which is now mentioned, was itself only a copy from another described by Bourne, in his inventions as produced by a Humphrey Cole. De Saumarez complains, in his turn, of Savery's scheme being remembered by Sir Isaac only to get rid of his claim. The picture he draws of his pursuits and projects is an excellent likeness of a large but harmless class—can it be named?—of simple schemers.

"He was the son of De Saumarez, chaplain to Charles II.; although he was bred in Holland to learn commerce, he never applied himself to any trade or profession, but in an easy and quiet enjoyment of his small estate, in the island of Guernsey, he took his diversion in the experimental part of mathematics, his genius or inclination being that way for machines and inventions, wherein he spent about 22 years last past, confining himself to a retired sort of life, within his little laboratory; and of late he fixed his projects upon a particular invention, towards the improvement of navigation, which he could not bring forth to effect in the island, for want of able workmen; but he came to London on purpose, and he hath actually begun, and hopes, with the blessing of God, to bring it to some perfection."—[Memorial, p. 4.]

it was a cheaper power than that of horses or men; and he invited practical men to judge for themselves of the value of his assertions and statements, by an inspection of the machine itself in operation.

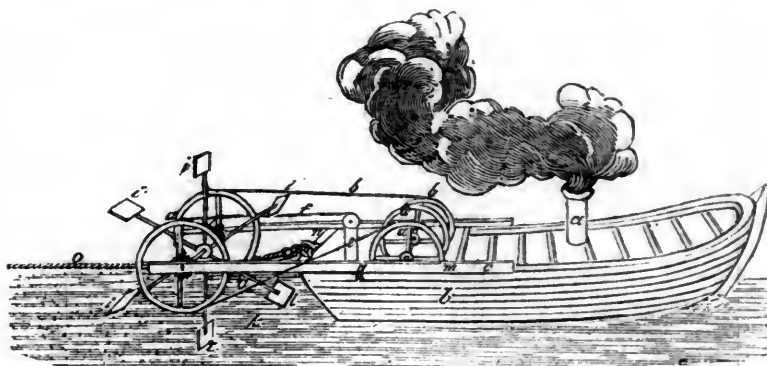
The influence of the court was at this period considered to be essential to the success of any speculation which required the aid of a monopoly. The profits might be diminished or overthrown by the obstacles which avarice and intrigue could then interpose in that quarter to its further progress; and from this circumstance, considerable importance was attached to having the countenance of those in power to any project in which the pecuniary risk required to be extensive; and Captain Savery might be said to be conforming to an almost common practice, when he exhibited a working model of his fire engine before King William, at Hampton court. That monarch, who himself had a mechanical turn, was so pleased with its ingenious construction and effective action, that he took a warm interest in its success, and permitted its author to inscribe to him the account which he published of his contrivance, under the title of "The Miner's Friend."

The great fame of the Royal Society, then adorned by the presidency of Sir Isaac Newton, made its opinion to be listened to with profound respect in matters of science and mechanics. To that body also Captain Savery carried his invention; and in their transactions for that year is a record of his successful experiment, made in their apartment, and a view and description of the machine forms the subject of an engraving in their annual volume.

For more perfectly illustrating the mode in which steam operates, we will suppose the vessel, represented in the following figure, to be filled with water up to the line A, and the space E occupied with air, and having a plug or piston fitting it at C, and an aperture at D; now, if the aperture D be closed, and heat applied to the water, as at F, steam will be generated, and by its expansive force will raise the piston C upwards; then, if the heat be withdrawn, and the vessel suddenly cooled, condensation will take place, the steam, re-assuming the form of water, will again occupy the space below the line A, and the piston C will return to its place.

In this experiment the expansive force of the steam compressed the air in the space E, and forced the plug C upwards, we will suppose, to H; but C, in travelling to H, displaced so much of the atmosphere as occupied the tube from C to H; consequently, the portion so displaced will seek to resume its natural position, and when the force of the steam is withdrawn by condensation, the weight of that portion of the atmosphere will again return the plug C to its place; by which it is obvious that the raising of the plug was the direct action of the steam, and the returning its consequent action, or the action of the atmosphere, in consequence of its having been displaced by the force of the steam.

Again, if we suppose the plug to be in its first situation, as at C, and we open the aperture at D, and apply heat, the steam will rise into the space E, and expel the air through the aperture D, which being closed, and condensation caused, the space E will



be left a vacuum, and the atmosphere seeking to occupy that space will force the plug C down to the line A; here the movement of the plug C was solely caused by the atmosphere exerting itself to regain the position whence it had been expelled by the force of the steam through D, and this effect is performed by the consequent power of steam alone.

It has been found by experiments, that the pressure of the atmosphere is equal to about 14 pounds weight upon every square inch, so that supposing the superficies of the aperture of the vessel, to contain one square inch, the power exerted by the steam in raising C to H will be tantamount to raising 14 pounds weight that height, together with the power necessary to overcome the friction and weight of the piston C, in the cylinder; and that the power exerted by the steam in expelling the atmosphere from the space E, and obtaining its consequent pressure to the raising of 14 pounds from A to C; and that the disposable power, obtained by the return of the piston from H, will, in the first instance, be equal to the raising of 14 pounds weight from C to H, less the amount of the friction of the piston C; and, in the second, will be equal to the raising of 14 pounds weight from C to A, less the amount of the friction as before. In both these instances the expansive or direct force of the steam has only been considered as equal to the displacing of the atmosphere, or what will be equal to 14 pounds pressure on each superficial inch; but if the piston C be loaded with any weight, the steam will, if urged with sufficient heat, raise it, always premising that the vessel is strong enough to resist the increased pressure. Suppose C to be loaded with 10 pounds of weight, the steam must be urged until its pressure is equal to 24 pounds, 10 pounds more, 14 pounds the pressure of the atmosphere on each square inch, and the resulting disposable force will be equal to 24 pounds more, the weight of C, less its friction returning to the place from where C was raised; so that, in this case, the pressure on the internal sides of the vessel, tending to burst it, will be equal to 10 pounds per square inch of the internal superficies, the remaining 14 pounds being counteracted by the pressure of the atmosphere on the external surface, which is equal to 14 pounds of the internal pressure. By this, it is evident that the direct force of steam may be increased without limits, whereas the resulting force or pressure of the atmosphere is manifestly bounded to 14 or 15 pounds on the square inch, according as its density varies.

A mode of applying the power of a steam-engine to navigate a vessel was suggested by Jonathan Hulls in 1737.* But the scheme,

although a nearer approach to the present form of the steamboat, can neither be considered as the first suggestion for moving wheels by steam, nor any improvement on the idea which emanated from another—nor even any specimen of mechanical skill, for it is awkward, clumsy, and inartificial; but, as his claims have been put forth to a higher place than is here assigned him, they will be better understood by a reference to the engraving, (see following page,) and the description of it, which follows nearly in his own words. It is doubtful whether Hulls ever proceeded beyond printing a description of his project.

"a, chimney coming from the furnace; b, tow-boat; c, c, two pieces of timber framed together to carry the machine; d, x, y, z, three wheels on one axis to receive ropes, s, t, u; t, being rope that goes into cylinder; m, n, two wheels on same axis with the fans, i, i, i; u, is a rope going from wheel, n, to z; that, when the wheels, x, y, z, move forward, moves wheel, n, forward, and the fans along with it; s, a rope going from wheel, m, to the wheel x, so that when the wheels, x, y, z, move forward, the wheel, m, draws the rope, s, and raises the weight, g, at the same time as the wheel, n, brings the fans forward.

"When the weight, g, is so raised, while the wheels, x, y, z, are moving backward, the rope, s, gives way, and the power of the weight, g, brings the wheel, m, forward, and the fans with it, so that the fans always keep going forward, notwithstanding the wheels, x, y, z, move backwards and forwards as the piston moves up and down in the cylinder: o, c, teeth for a catch to drop in from the axis, and are so contrived that they catch in an alternate manner, to cause the fans to move always forward; for the wheel, m, by the power of the weight, g, is performing its office while the other wheel, n, goes back, in order to fetch another stroke. The weight, g, must contain but half the weight of the pillar of air pressing on the piston, because the weight is raised at the same time as the wheel, n, performs its office; so that it is, in effect, two machines acting alternately by the weight of one pillar, of such a diameter as the diameter of the cylinder is." Hulls, aware that objections might be urged against its want of originality, endeavors to anticipate them: "if it should be said," says he, "that this is not a new invention, because I make use of the same power to drive my machine that others have made use of to drive theirs for other purposes, I answer, the application

* A description and draught of a new-invented machine for carrying vessels or ships out of or into any harbor, port, or river, against wind or tide; or in a calm. London, 1737. It is a pamphlet, by no means scarce, containing forty-eight pages, about eight of which have any reference to his invention. Hulls took out a patent.

of this power is no more than the application of any common and known instrument used in mechanism for new invented purposes."

It may, however, be observed, that he considers that it would not be practicable to place his apparatus on board of the ship which it is required should be moved—but that a separate vessel should be appropriated to its reception, and that this should be used as a tow-vessel; and he urges several economical reasons in favor of his *Tow-Boat*. The manner of converting the rectilinear motion of his piston into a rotary one, is very ingenious.*

Next in order we must place the experiments of the immortal James Watt.

From results, he saw that, in order to make the best use of steam, it was necessary that the *cylinder should always be as hot as the steam which entered it*. And also, that all the water that was formed by the condensed steam, and the injection-water likewise, should be cooled down to 100 degrees, or lower, where that was possible.

In looking to what had been done, or suggested by others, he had little to guide him in this inquiry. A rude help to his ingenuity might have been derived from some of the most common experiments with the air-pump; but at the moment when his sagacity had pointed out the direction of the path, his imagination did not enable him to follow it.

He had yielded to the difficulty, when, early in 1765, "in one of those moments when the heavenly spark of genius shone with brightness in his mind, the idea broke in upon him," that if a *communication were opened between a cylinder containing steam and another vessel which was exhausted of air, the steam would immediately rush into the empty vessel, and if that were kept very cool, by an injection or otherwise, the steam would continue to enter until the whole was condensed. And if an air-tight cover were placed on the cylinder, steam might be admitted to depress the piston in a vacuum instead of the atmosphere*. ADMIRABLE INVENTION!

When once the idea of separate condensation was started, minor improvements followed in quick succession. He imagined that the orifice for the piston-rod could be kept air-tight by means of a stuffing-box; and as it was obvious water could not be introduced to make the piston steam-tight, for if any of it found its way into a hot cylinder it would be converted into vapor, (as in some of his experiments,) he should employ wax and tallow as lubricating substances. He also thought that, by surrounding his cylinder with a casing of some substance which would prevent its heat from being abstracted by the circumambient air, and the air which was disengaged from the water, or found its way into the cylinder, he could extract by a pump, and by the same means he might employ the condensing vessel of the water which was produced by the injection and the condensation of the steam, or he would allow it to fall through a pipe thirty-four feet long into a pump or well, as practised by Newcomen and others. Thus, step by step, in the course of one or two days, in the eye of his mind, the exquisite conception was complete.

"About the time that Mr. Watt was en-

gaged in bringing forward the improvement of the engine, it occurred to Mr. Gainsborough, the pastor of a dissenting congregation at Henley-upon-Thames, and brother to the painter of that name, that it would be a great improvement to condense the steam in a vessel distinct from the cylinder, where the vacuum was formed, and he undertook a set of experiments to apply the principle he had established, which he did by placing a small vessel by the side of the cylinder, which was to receive just so much steam from the boiler as would discharge the air and condensing water, in the same manner as was the practice from the cylinder itself, in the Newcomenian method—that is, by the snifting valve and sinking pipe. In this manner he used no more steam than was just necessary for that particular purpose, which, at the instant of discharging, was entirely uncommunicated with the main cylinder, so that the cylinder was kept constantly as hot as the steam could make it. Whether he closed the cylinder as Mr. Watt does, is uncertain; but his model succeeded so well, as to induce some of the Cornish adventurers to send their engineers to examine it; and their report was so favorable as to induce an intention of adopting it. This, however, was soon after Mr. Watt had his act of parliament passed for the extension of his term; and he had about the same time made proposals to the Cornish gentlemen to send his engine into that country. This necessarily brought on a competition, in which Mr. Watt succeeded; but it was asserted by Mr. Gainsborough, that the mode of condensing out of the cylinder was communicated to Mr. Watt by the officious folly of an acquaintance, who was fully informed of what Mr. Gainsborough had in hand. This circumstance, as here related, receives some confirmation by a declaration of Mr. Gainsborough, the painter, to Mr. T. More, late secretary to the Society for the Encouragement of the Arts, who gave the writer of this article the information; and it is well known that Mr. Gainsborough opposed the petition to parliament through the interest of General Conway." [Hornblower, in Gregory's Mechanics, p. 362, vol ii., first edition.]—On this statement, a writer in the Edinburgh Review observes, "We believe and hope, for the sake of the memory of a very respectable man, that the conversation is not accurately represented. It remains upon record that Mr. T. More was examined as a witness on the trial of a cause of Bolton vs. Bull, in 1792, at which time Mr. Hornblower himself was also examined as a witness, but on the opposite side from Mr. More. Mr. M., on this occasion, was asked, whether he had read the specification of Mr. Watt's invention, and whether, in his opinion, it contained a disclosure of the principles of the steam-engine? To this question he answered, 'I am fully of opinion that it contains the principles entirely, clearly, and demonstratively.' He was then asked, 'Did you ever meet with the application of these principles before you knew of Mr. Watt's engine?' His answer was, 'I do declare I never saw the principles laid down in Mr. Watt's specification, either applied to the steam-engine previous to his taking it up, or ever read of any such thing whatever.' It is not easy to reconcile these two answers given by that gentleman on his oath, with the words that Mr. Hornblower has put into his mouth. Mr. Gainsborough's idea, whatever it was, was posterior by more than twenty years." (?)

[P. 328, vol. xiii.]—We know not if the claim which is put forth in the above extract is the same as that alluded to by the late venerable Professor Jardine. "I happened," says he, "to be tutor to Dr. Roebuck's sons at that time (when Watt was at Kinneil); I had then the pleasure of seeing the experiments on a great scale, which were carrying on. This accidental circumstance, and this opportunity, connected me so much with what was going on, that when they were completed I was asked by Mr. Watt to go with him to Berwick, when he went to give in a specification of his invention before a Master in Chancery, previous to the obtaining of a patent. And many years afterwards, when a groundless and frivolous charge was brought against Mr. Watt, *by a person who claimed a share in the invention*, I was called to give evidence of what I knew of this in Chancery. It is needless to add, Mr. Watt was triumphantly victorious."

The failure of both Fitch and Rumsey to carry their schemes into practice, as it had previously been done in another, settled the dispute as to priority of invention in America.

Oliver Evans, about the same period, had been maturing a plan for using steam of an elasticity ten times greater than that employed in the condensing and atmospheric engines. And his proposal was further remarkable, as embracing a device to propel waggons on common roads, by a steam-engine instead of horses. "But all united," says he, "in condemning the scheme, except two gentlemen, (one of whom was a projector himself,) and indeed one, who has the name of a celebrated engineer, continued to oppose them for a long time after they were fully in operation."

One of his adversaries was a Mr. Latrobe, who uniformly opposed steamboat projects, as well as those for steam carriages. Fifteen years after this period, and three years before they were finally established, (unfortunately for his reputation,) he printed a report against their practicability. We quote it as containing some facts respecting steam navigation. "After the American Revolution, a sort of mania began to prevail, which, indeed, has not yet entirely subsided, for impelling boats by steam-engines. Dr. Franklin proposed to force forward the boat by the immediate action of the steam upon the water. Many attempts to simplify the working of the engine, and more to employ a means of dispensing with the beam in converting the libratory into a rotary motion were made. For a short time a passage-boat, rowed by a steam-engine, was established between Bordentown and Philadelphia, but it was soon laid aside. The best and most powerful steam-engine which has been employed for this purpose, (excepting, perhaps, one constructed by Dr. Kinsey, with the performance of which I am not sufficiently acquainted,) belonged to a few gentlemen of New-York. It was made to act by way of experiment upon oars, upon paddles, and upon flutter wheels; nothing in the success of these experiments appeared to be sufficient compensation for the expense, and extreme inconvenience of the steam-engine in the vessel.

"There are, indeed, general objections to the use of the steam-engine for impelling boats, from which no particular mode of application can be free. These are—1st, the weight of the engine and the fuel; 2d, The large space it occupies; 3d, The tendency of its action to rack the vessel and render it

* About this period three fire-engines were in operation in France, one at Fresnoe, near Coude; one at a coal mine at Sars, near Charleroi; a third at a lead mine near Namur.—[Geneanne, p. 300, vol ii., Machines Approuvees.]

leaky; 4th, The expense of maintenance; 5th, The irregularity of its motion, and the motion of the water in the boiler and cistern, and of the fuel vessel in rough water; 6th, The difficulty arising from the liability of the paddles or oars to break, if light, and from the weight, if made strong. Nor have I ever heard of an instance verified by other testimony than that of the inventor, of a speedy and agreeable voyage having been performed in a steamboat of any construction."

In 1786, when Evans applied to the legislature of Pennsylvania, for an exclusive right to move land-carriages by steam, "they conceived me to be deranged," says he, "because I spoke of what they thought impossible, and they refused to grant the privilege I prayed for." The authorities of Maryland, to whom he next applied, with more wisdom than their neighbors, granted his petition, on the principle that what he asked for could injure no man, and might cause him to produce something useful." But with all his perseverance, his reputation for practical knowledge, and his privilege to boot, Evans could not persuade any person of substance to think so favorably of his steam-waggon, as to furnish him with the means to try one on a common road. And the drawings and descriptions of his scheme which he sent to England, to find a patron there, produced no better result.

The history of the result of another attempt to navigate by steam, which was made in Scotland, by Mr. Patrick Miller, of Dalswinton, has been lately given to the public by his son.* Mr. Miller, in 1787, had published a description and drawings of a triple vessel, moved with wheels, and gave a short account of the properties and advantages of the invention. "In the course of his explanations, he suggested that the power of a steam-engine may be applied to move the wheels so as to give them a quicker motion, and consequently to increase that of the ship. It may readily be believed, that this hint of his intention to apply the power of steam to the wheels of his double and triple vessels was not hastily thrown out. In the course of his various experiments on the comparative velocity of his vessels, with those propelled by sails, or by ordinary oars, which had given occasion to several interesting and animating contests for superiority, he had strongly felt the necessity of employing a higher force than that of the human arm, aided as it might be by the ordinary mechanical contrivances; and in this view, various suggestions were successively adopted, and in their turn laid aside. Thus, at one time, it occurred to him that the power of horses might be usefully employed; while, at another, the aid of wind itself seemed to furnish the means of counteracting its own direct and ordinary operation. But among all the possible varieties of force, that of steam presented itself to his mind, as at once the most potent, the most certain, and the most manageable."

"In Miller's family there was at this time, as tutor to his younger children, Mr. James Taylor, who had bestowed much attention on the steam-engine, and who was in the custom of assisting Miller in his experiments on naval architecture, and the sailing of boats.*

* A short narrative of facts relative to the invention and practice of steam-navigation, by the late Patrick Miller, Esq., of Dalswinton, drawn up by his eldest son."—[Edinburgh Philosophical Journal, 1824.]

One day, in the very heat of a keen and breathless contest, in which they were engaged with a boat on the Leith establishment, this individual called out to his patron, "that they only wanted the assistance of a steam-engine to beat their opponents;" for the power of the wheels did not move the boat faster than five miles per hour. This was not lost on Miller, and it led to many discussions on the subject; and it was under very confident belief in its success, that the allusion was made to it in the book already mentioned.

"In making his first experiments, Miller deemed it advisable, in every point of view, to begin upon a small scale; yet a scale quite sufficient to determine the problem which it was his object to solve. He had constructed a very handsome double vessel, with wheels, to be used as a pleasure boat on his lake at Dalswinton, and in this little vessel he resolved to try the application of steam." On looking round for a practical engineer to execute the work, Taylor recommended a Mr. William Symington to his attention, whom he had known at school, and who had recently contrived a mode of applying the force of steam to wheel carriages; and he accompanied Miller to the house of a Mr. Gilbert Meason, in Edinburgh, to see the model. Pleased with this specimen of Symington's ingenuity, he employed him, in conjunction with his friend Taylor, to superintend the construction of a small steam-engine, to work a double or twin boat. And in the autumn of the same year, the engine, which had brass cylinders of four inches in diameter, was fixed in the pleasure-boat on Dalswinton Loch. "Nothing could be more gratifying or complete than the success of this first trial, and while for several weeks it continued to delight Miller and his numerous visitors, it afforded him the fullest assurance of the justness of his own anticipation, of the possibility of applying to the propulsion of his vessels the unlimitable power of steam. On the approach of winter, the apparatus was removed from the boat and placed as a sort of trophy in his library at Dalswinton, and is still preserved by his family as a monument of the earliest instance of actual navigation by steam" in Great Britain.

Symington, in the succeeding year, was again commissioned by his patron to try the experiment on a greater scale; a double vessel, sixty feet long, was to be fitted with an engine and revolving paddles, suited to the supposed exigencies of the case. The engine and machinery were constructed at Carron, and in the course of six months the vessel was ready to be put in motion. In December, 1789, it was taken into the Forth and Clyde Canal, and in the presence of a vast number of spectators, the machinery was put in motion. "This second trial promised to be every way as prosperous as the first. It happened, unluckily, however, that the revolving paddles had not been made of sufficient strength, and when they were brought

* Mr. Miller, at various periods of his life, had embarked in many great schemes of improvement, and, among others, had expended large sums in experiments on the improvement of artillery and naval architecture. It was in the course of his speculations and experiments on the latter subject, that he was led to think of devising some mode of constructing or propelling vessels in circumstances where the ordinary resources of the nautical art were insufficient or unavailing; among these, the construction of double and triple vessels, to be moved by wheels placed in proper situations, had occurred to him, as calculated to prove of essential service, and he accordingly built and equipped several vessels of this description.

into full action, several of the float-boards were carried away, and a very vexatious stop was, for that day, put to the voyage. The damage was repaired, and on the 25th of December the steamboat was again put in motion, and carried along the canal at the rate of seven miles an hour, without any untoward accident, although it appeared evident that the weight of the engine was an overburden for the vessel, (her planking being only three quarters of an inch thick,) and that under such a strain it would have been imprudent to venture to sea. The experiment, however, was again repeated on the two following days; and having thus satisfied himself of the practicability of his scheme, he gave orders for unshipping the apparatus, and laying it up in the storehouses of the Carron Company."

"It may naturally occasion surprise and disappointment," continues his son, "that I should have to terminate here this account of my father's experiments on steam navigation; that he did not follow up these prosperous and decisive trials of its efficacy, with the same spirit and perseverance, which had been so conspicuous in many other instances, must for ever be matter of regret to his family, as it was to himself in the latter years of his life." The fact, however, was, "that he had to complain of the enormous expense in which he had been involved; and I may be permitted to add," continues his son, "that by this time my father, in the prosecution of his various schemes of a purely public nature, and without the slightest chance or expectation of reimbursement, had expended upwards of thirty thousand pounds." And, being by this time ardently engaged in agricultural pursuits, his attention was more easily turned from the objects of his former speculations, than those acquainted with his character would have been prepared to anticipate.

"Be that as it may, it cannot be anticipated that in point of fact he had fully established the practicability of propelling vessels of any size, by means of wheels or revolving paddles, and of adapting to these the powers of the steam engine, although, in the subordinate details of execution, great room remained for minor improvements.

"Of my father's peculiar and undoubted merits as an inventor, I have," continues his son, with a pardonable partiality, "endeavored to give a fair and unvarnished account; and of the reality of that invention, as carried into actual practice in the years 1788 and 1789, no demonstration more unequivocal can be desired than that, with his few but most satisfactory experiments, the prosecution of this momentous discovery remained suspended for many years, in a state of inactivity and neglect, till, at a period comparatively recent, it was revived in America, and in this country, by persons who can be proved to have derived their first lights from the experiments at Dalswinton and at Carron. But I have felt no other desire than to record the facts immediately connected with my father's operations, and to establish the priority of his claims to the credit of having originated, and carried into practical execution, an improvement in the nautical art, by far the most important of which the present age has to boast; and the ultimate effects of which, on the future intercourse of mankind, the most sanguine imagination would attempt in vain to predict."

The narrative which Mr. Miller gave of

his father's attempt to construct a steamboat, and from which we have made some copious extracts, agrees with an account of the same experiments which was given in a sketch of navigation by steam, inserted in the Supplement to the Encyclopedia Britannica.

Symington, who appears to have been more sanguine than his first patron, of the practicability of navigating vessels by steam, nearly twelve years after his experiments at Dalswinton Loch, found an opportunity to bring his scheme under the notice of a nobleman, who was zealous to encourage projects which had for their object the improvement of inland navigation. Symington, who imagined that a boat moved by wheels could be introduced with great economy, as a substitute for horses, in towing boats on canals, succeeded in inducing Lord Dundas, of Kerse, to assist him to make an experiment, on a great scale, on the Forth and Clyde Canal, with machinery, resembling in its principle that of the Dalswinton model, but modified to suit the purpose which he had more immediately in contemplation.

The result of this application, and the character of his patron, may here be noticed with reference to Symington on another account, besides its connection with a history of his experiment. From an expression in Miller's narrative, that his father was discouraged from proceeding farther from a feeling of disgust at having been involved in unnecessary expenses, an inference might be drawn unfavorable to the memory of an ingenious and worthy man.

But Miller's complaint is, in truth, a very common one; and the estimates even of the most experienced mechanics will probably continue to differ widely from the final outlay, even although those artists have been experimenting on their own means.

"Mr. Miller," says Symington, in his narrative, "being very much engaged in improving his estate in Dumfriesshire, and I also employed in constructing large machinery, for the lead mines at Wanlockhead, the idea of carrying the experiments at that time any further was entirely given up, till meeting with the late Thomas Lord Dundas, of Kerse, who wished that I would construct a steamboat for dragging vessels on the Forth and Clyde Canal, instead of horses. Agreeably to his Lordship's request, a series of experiments, which cost nearly three thousand pounds, were set on foot in 1801, and ending in 1802, upon a larger scale (than those on Dalswinton Loch) and more improved plan, having a steam cylinder twenty-two inches diameter, and four feet stroke, which proved itself very much adapted for the intended purposes. Having previously made various experiments in March, 1802, on the Forth and Clyde Canal, Lord Dundas and several other gentlemen being on board, the steam packet took in tow two loaded vessels, each of seventy tons burden, and moved with great ease through the canal, a distance of nineteen and a half miles in six hours, although the whole time it blew a strong breeze right a-head of us, so much so, that no other vessels could move to windward in the canal that day but those we had in tow, which put beyond the possibility of a doubt the utility of the scheme in canals and rivers, and ultimately in open seas. Though in this state of forwardness, it was opposed by some narrow-minded proprietors of the canal, under a very mistaken idea that the undulation of the water, occasioned by the

motion of the wheel, would wash and injure its banks. In consequence, it was with great reluctance laid up in a creek of the canal, exposed for years to public view, where Henry Bell from Glasgow, who also frequently inspected the steamboat at Carron, in 1789, did also particularly examine this."

During the time that he was engaged in this experiment, Symington received a visit from a Mr. Fulton, "who," says he, "politely made himself known, and candidly told me he was lately from North America, and intended to return thither in a few months; but having heard of our steamboat operations, he could not think of leaving the country without first waiting upon me, in expectation of seeing the boat, and procuring such information regarding it as I might be pleased to communicate. He at the same time mentioned, however advantageous such an invention might be to Great Britain, it would certainly be more so to North America, on account of the many extensive navigable rivers in that country. And as timber of the first quality for building the vessels, as also for fuel to the engines, could be purchased there at a small expense, he was decidedly of opinion it could hardly fail, in a few years, to become very beneficial to trade in that part of the world; and that his carrying the plan to North America could not turn out otherwise than to my advantage, as if I were inclined to do it, both the making and superintending of such vessels would naturally fall upon me, provided my engagements with steamboats at home did not occupy so much of my time, as to prevent me from paying any attention to those which might afterwards be constructed abroad. In compliance with his earnest request, I caused the engine fire to be lighted up, and in a short time thereafter put the steamboat in motion, and carrying him four miles on the canal, returned to the place of starting, to the great astonishment of Fulton and several gentlemen, who at our request came on board. During the above trip, Fulton asked me, 'if I had any objections to his taking notes respecting the steamboat?' to which question, I said 'none;' and after putting several pointed questions respecting the general construction and effect of the machine, which I answered in a most explicit manner, he jotted down, particularly, every thing then described, with his own remarks upon the boat;" "but he seems," says Symington, "to have been altogether forgetful of this, as, notwithstanding his fair promises, I never heard any thing more of him till reading in a newspaper an account of his death."

From these facts, the author of the sketch thinks it is very evident Symington was the first person who had the merit of successfully applying the power of the steam engine to the propulsion of vessels, and that there can be but one opinion, that, in its influence on the fate of a most ingenious man, there existed not enterprise enough in Scotland to encourage this excellent artisan to repeat his interesting and important experiments on the river Clyde.

About the time Symington had abandoned his experiments, M. Des Blanc, a watchmaker at Trevoux, had built a steamboat, and made some experiments with it on the river Soane. The first attempts were so successful as to bring forth the Marquis de Jouffroi, with his prior claim; the final result, however, was as hapless as the Marquis's.

NEW-YORK AMERICAN.

JUNE 14—20, 1834.

LITERARY NOTICES.

LETTER XXXI.*

Lexington, Kentucky, April 6th.

It was a beautiful day, that on which I left Cincinnati; and when, after crossing the Ohio at noon, I found myself upon the Kentucky bank of the river, and checked my horse to look back for a moment upon the noble town and the fair stream that bathed its walls, I could not but admit that the amphitheatre of green hills opposite to me did really shut in "The Pride of the West," if not the most beautiful city in the Union. But I confess I was not sorry to escape from its elegant and profuse hospitalities, and to find myself once more on horseback and alone, free to rove wherever fancy or caprice should lead me.—The "voice of Spring" had long been abroad in the land, and the perfume of blossoms and flowers that met my senses as I rode by the scattered gardens in the little town of Covington, seemed to rebuke the taste which had kept me so long within a city's walls. From a green knoll on the edge of the village I took my last look of the beautiful Ohio, and then pausing vainly a moment to catch the words of a song which a young girl was warbling to her piano in a pretty cottage near, I struck down the side of a grassy slope, and crossing a brook, soon found myself riding through a tall wood on the high road to Lexington. The evening soon after closing in, left me but little opportunity of observing the country, which appeared to be generally heavily wooded, and broken up into undulations so short and frequent, as to make the office of ploughing the hill-sides no sinecure. The aspect of a broken country was so agreeable to me, however, after being so long upon the prairies, that I was not sorry to find but little alteration in the scenery, when I arose and advanced upon my journey the next morning. But for the present I was no longer solitary. I had not got a hundred yards from the house where I passed the night, before I heard a voice from an enclosure near the road, calling out, "Hallo, stranger; I reckon you and I are cutting out for the same place; so hold on a bit, and you shall have some company." But before this considerate traveller could gain the road, I was overtaken by a young man of genteel appearance, who at once drew up by my side and entered into easy conversation, according to the custom of the country. After riding a mile or two together, he asked me if I would eat an apple, and, upon expressing assent, instead of drawing the fruit from his pocket, or saddlebags, as I expected, I was not a little surprised to see him stop in front of a respectable looking house, and halloo till a half a dozen negroes made their appearance from the log cabins around the door. "I say, Aunty," cried my companion to an active looking wench, who advanced before the rest, "has your master got any apples in the house." "Only a few barrels left, young master." "Well, then, bring us a dozen." A large basket containing as many of the finest pippins as we could stow about our persons, was, a moment after, brought to the road side and held up to us, as we sat on horseback; and, after dividing the contents between us, I was very naturally about to pay for them, but the young gentleman told me that I would only insult a decent farmer's family, (not a soul of whom was known to him,) by paying for what "no Kentuckian would be brute enough to refuse a stranger."

My companion soon after parted from me, and entering a deep wood, I was so much engaged in listening to the mellow whistle of the red-bird and marking the shrubs and flowers that were putting forth their virgin blossoms around me, that I insensibly deviated from the turnpike (so called) and took a road which after an hour's riding through a romantic forest, brought me up at last by a mill, where I learnt how many miles I had wandered from the way. The beautifully secluded dell through which my path now led in recovering the main road, left me nothing to regret in having thus added to my journey. It was watered by a deep brook, along whose steep banks the red-bud and the wild plum put forth their delicate blossoms in rich profusion, and the various singing birds, which the glare of noon had driven from the

* The publication of "A Winter in the West" having been determined upon, the four intervening letters, describing the city of St. Louis, the sail up the Ohio, and the various points of interest around Cincinnati, with a sketch of the society in that beautiful town, have been reserved for publication in a more compact form.

road side and open fields far into the forest, kept here the woods alive with music.

My path, at first but little more than an Indian trail, widened at last into something like a wagon road; and I came finally to a number of log cabins, scattered along the road at some distance from each other. Near one of one, I was not a little struck at seeing an old gray-headed negro ploughing the few acres which surrounded the miserable shantee, while a stout, hale looking fellow of forty was lounging indolently in his rude and dirty doorway. It was the first object I had seen to remind me unpleasantly that I was now in a slave State.

A pretty cottage, with some shrubbery around it, stood near the spot where I regained the highway toward sunset; and near at hand was a small grave yard, protected from the road by a slight fence, with a rank growth of weeds along its border. Pausing a moment to observe the various rude memorials to the dead that reared their gray heads in the yellow sunlight, my attention was fixed by a young fair-haired girl of sixteen, kneeling by the side of a new made grave, and bending her head toward the recent sod, apparently in an attitude of prayer. Upon looking more narrowly, however, I discovered that she was only engaged in planting flowers around a spot which was probably hallowed in her affections. Her bonnet was thrown back upon her shoulders; and there was nothing to screen her features from view except the long hair, which waved in locks of gold on either side of her pensive countenance, which—so intently was she bent upon her graceful task—was only completely exposed when she raised her head, as if startled by the sound of my horse's hoofs, as I moved from the spot.

The evening had completely settled in upon the lower grounds as I looked from an eminence down into the little valley whence rose the white chimneys of the house where I was to pass the night. It stood in straggling and broken form, one story in height, on the margin of a lively brook, which rattled along the base of the hill; the various buildings comprehended in the mansion making quite an imposing appearance as they extended their low and irregular front along the road side. There was a fence of rough slabs, whitewashed, about ten feet in front of the porch, with a number of different lengths placed upright near it, to answer the double purpose of a horse block to mount from and a stile to cross the fence with. A limping gray-headed negro received my horse at the door, while the landlord took my saddle-bags, and ushered me into a wainscotted and white-washed chamber, where another traveler, who had arrived but a few minutes before me, was comforting himself with the contents of a pitcher of cider, which stood at his elbow. "Come, sir, come," he exclaimed, upon my entrance—"Come, sir, take a drink; this cider goes very well after an evening ride." "Help yourself, stranger," added the landlord, "while I tote your plunder into the other room." Then, while I joined the cider drinker in his thin positions, the landlord soon returned, and finding that my immediate destination was Lexington, he told me, with an air of great satisfaction, that "I would have company all the way, for that that gentleman was going on in the morning." The other, a plain farmer, with whom I had now exchanged some common-places about agriculture, which nearly exhausted my stock of information on that subject, rejoined with animation that he was very glad I was going his way, as "he allowed the gentleman to be right good company, and he did not mistrust but what we'd have a tip-top time of it."

The faintest streakings of dawn were hardly perceptible in the east when our horses were brought to the door the next morning; and mounting by the light of the young moon, which showed like a mere gash in the blue vesture of heaven, we moved in a brisk trot from the door of the hostelry. The twilight seemed to be losing its sombreness as we gained the top of the opposite hill; and then entering a wood of ancient beeches, the chirp of the grey squirrel, and the grating call of the ma-ma-twa, or cat-bird, impatient to commence his morning song, rivalling in sweetness the finest music of the woods, foretold the approach of day; and, indeed, the sun was already up, and the wild bee humming around the blossoms of a majestic tulip tree, as we emerged from the forest beneath its gnarled branches that extended across the road, and framed in a miniature view of cultivated country below us, whose aspect beneath the uprising sun was perfectly delicious. "Save your praises, stranger, until you get twenty miles nearer to Lexington," cried my companion, as I gave loose to my admiration and delight in no measured terms. The scenery of this part of Kentucky reminded me much of that in the eastern section of

Putnam county in the State of New York. There were the same abrupt hills, cultivated apparently to the utmost, wherever their inclination was not too great for the plough, and having all their steep places covered with a vigorous growth of forest trees, while at every interval between their bases some saucy brook would make its presence known as it capered along over the stones that paved its path to some more majestic and tranquil stream.

It was high noon when I approached the environs of Georgetown, and looked down from an eminence on the banks of the Elkhorn—a pretty winding stream about fifty yards wide—upon its beautiful race-course. It was an immense meadow of the finest and firmest turf, studded here and there with noble elms and sycamores the original growth of the forest and having two sides bounded by the river, while thickly inclosed grounds, scattered copses, or sunny slopes, waving with new wheat, gave repose to the eye upon the remaining two. The town itself looked very flourishing, and appeared to be well built, chiefly of brick; but wishing to reach Lexington early in the evening, I rode directly through it.

The country now became much more level, and the soil richer than any I had seen since crossing the Ohio. The inclosures, too, were all in better order, and I now, for the first time, saw some of those beautiful wooded pastures, which, as they are the pride of Kentucky, are peculiar, I believe, to this State. An occasional villa, embosomed in trees and shrubbery, was soon after observable. The distance at which they stood from the road indicating the taste of their proprietors in one essential point, while it left one to guess how it had displayed itself in others. The frequency of these tasteful residences continued increasing, until the collection at last assumed the appearance of a village, and finally, after travelling a few hundred yards on a Macadamized road, I found myself riding over paved streets through the beautiful town of Lexington, the various gardens and shrubbery around the doors of the houses leading one so insensible into the business parts of the town, that you are in the heart of the place before becoming aware that you have passed the suburbs. The town, which is regularly laid out upon a level plot of ground, is well built of brick and wood, and has the sidewalks of its broad streets almost invariably lined with ornamental trees; so that, with the numerous vacant lots cultivated as gardens, and in which even thus early, the song of the mocking-bird may be heard, Lexington approaches nearer to the *rus in urbe* than any town of its size that I have seen.

Soon after entering the town, my fellow traveller drew up his horse by my side, and mentioning that "we must part here, perhaps never to meet again, stranger," he, for the first time, enquired my address with some interest, and took a very kind farewell of me. He was a plain and unpretending man, in very moderate circumstances, and spoke upon few other subjects besides religion, slavery, and the state of agriculture in Kentucky; but the attention with which I listened to the exposition of his views, while studying him as a fair representative of one of the most important classes in the community, seemed sufficiently to have won his good opinion; and I must say, that if the farmers of Kentucky are generally gifted with the same conscientiousness and moderation, with equal liberality and desire for improvement, they will compare to advantage with the cultivators of the soil in any part of the Union. Nor have I as yet, since crossing the Ohio, met with any of those "half-horse and half-alligator" characters, which flourishing for a few years on the banks of the Mississippi, have now for the most part withdrawn themselves beyond the frontiers, or live chiefly in the imagination of those who confound the wild boatmen of the western waters with the far different people who dwell upon their borders.

I am now established for a few days at Postlethwaite's Hotel in the centre of the city of Lexington, and will give you, in my next, the result of various excursions which I meditate in the neighborhood.

THE EARTHQUAKE IN SOUTH AMERICA.—A newspaper, brought by the Orbit, Captain Moncrieff, from Jamaica, contains some additional particulars of this dreadful calamity.

PASTO, 22d Feb. 1834.—I have to inform you that the town of Santiago, adjoining the parish of Sibundoi, situated to the east, and at the distance of 12 or 14 leagues, was built over a hidden volcano, which burst on the 20th ult. at 7 o'clock in the morning. The

earth shook so violently, that that alone ruined the ancient Rio Bamba, which may afford you some means of drawing a comparison. A run of land about 3 leagues long and 2 broad, sunk, with the forest which covered it; and its superfluous presents now the aspect of a savanna, covered with stones and sand. Although the trees which covered the spot were as old as the world, there has not a root of them remained, nor even a leaf to indicate the place where they stood.

During 24 hours that the earth shook without ceasing for one instant, the town and environs were rendered a heap of ruins; the cottages of the peasants were swallowed up by the earth which yawned at every point, and the churches of Santiago and Sabundoi were ruined, and also my house, under the ruins of which I was buried. But, as if by a miracle I escaped from my sepulchre; for the same convulsion which swallowed up my house, threw it up afterwards upon the superficies of the earth, and I then managed to get out, although I was dreadfully crippled. The waves which the earth formed, rolled, in every sense of the word, similar to those of the sea, and to as great a height as happens when the ocean is enraged by a tempest. Eighty persons were swallowed up by them, with all their live stock; and the only ones that could escape were those of us who were able to run up a hill, which, although it shook as well as the rest, did not sink, neither did the waving of the earth affect it. PEDRO LEON Y LOPEZ.

FROM CANTON.—By the fast sailing ship Horatio, Capt. Howland, which sailed on the 2d of March, Canton papers have been received here dating only three and a half months back. They contain, however, but little news. The paper of the latest date says, "We hear from native authority that another disturbance has broken out amongst the hill tribes on the borders of Canton Province, near Leen-chow. Troops, it is said, have been ordered to the spot for the purpose of reducing them to submission."

The expulsion of the Catholic missionaries from Macao, appears to have been founded upon an old claim set up by the king of Portugal to permit no Roman Catholic missionaries to visit Asia, without his royal license being first obtained.

The last week has been prolific in arrivals, consisting of no less than three American vessels from England; one of them Amanda, sailed so lately as the 18th October, from London, brings only three news papers, which contain nothing of interest. The other ships are the Alert, sailed 15th September from London and the Philip 1st from Liverpool, 30th September; the packets of neither of which are yet delivered.

Report states that a leading house in London had sent off a courier in July last, with despatches for Canton, by the overland route through Russia and Siberia, in the hope of arriving before the ships then sailing. We think it difficult to believe, however, that an undertaking so unlikely to accomplish the object in view, should have been seriously contemplated, far less attempted.

We learn that the Russian State Councillor, Fasse, Secretary to the Russian Academy of Sciences, was about to set out from St. Petersburg to Peking, through the eastern Siberia, and had determined to devote three years to the journey.

Steam Communication with Suez.—We are happy to observe that effectual measures have been at length resolved upon to establish a steam communication with Suez, not only from Bombay, but also from Bengal.

The intention appears to be that four quarterly trips shall be made in the year, two by the government steamer Hugh Lindsay from Bombay, and two by the private steamer Forbes, from Calcutta.

FROM JAMAICA.—The ship Orbit, from Kingston, has brought files of papers to the 21st ult. Nothing important can be gathered from them in regard to the complexion of affairs in the English islands.

"Our accounts" says a Kingston paper of May 16th, "from the country by yesterday's post are neither flattering nor disheartening. Some correspondents dread the approach of the first of August, while others anticipate happier times. We hope the latter will not prove false prophets. It is pleasant to hear that the Police force is organizing with a greater rapidity than was expected: yet some complain of pay, &c. When the House meets, their first duty will be to settle this question.

The Despatch states, that the Marquis of Sligo was much indisposed.

H. M. ship *Forte* arrived at Kingston on the 14th from Barbadoes, with £90,000 sterling, all in shillings and sixpences, which had been transhipped from H. M. ship *Belvidera*. A Kingston paper of the 20th says: "The quantity of specie issued on Saturday by the Receiver General, appears to have given new life to the city. Change now being afforded, complaints will necessarily cease."

There has been a total failure of the plantain crop in Demarara.

The Legislature of Tortola have adopted resolutions expressive of their entire disapprobation of the Emancipation Act, and of the arrangements of the Government for the distribution of the compensation money.

KINGSTON, APRIL 28 TO MAY 29.—Mr. Christie, and his boy, are supposed to have been drowned near Green Bay, as the boat, paddle, &c. had been found.

SPANISH-TOWN, April 25.—A party of gentlemen, consisting of eight, headed by John Sterling, Esq. proceeded about one o'clock this morning, from this Town to the wood above Tulloch's Estate, and adjoining Keith Hall, the property of J. G. Vidal, Esq. in St. Thomas in the Vale, for the purpose of breaking up the haunt of a band of desperate runaways, located in the midst of that extensive wood, who have been for some time committing depredations on the adjoining properties to a very great extent, especially among the cattle. These gentlemen, after a very fatiguing search in the woods, discovered their haunt, surrounded their huts, and after a desperate resistance, succeeded in capturing ten of the gang, among whom was (by her allegation) a free woman. Several shots were fired by these brigands, and they resisted, with sword in hand, their assailants; the latter, however, as above stated, mastered them, not without being unavoidably obliged to inflict some wounds upon three or four of them. They then searched their huts and found the carcasses of four beeves cut up, and a quantity of arms, ammunition, &c. The gallant little corps having fired their huts, brought them and their booty into town.

Mr. Joseph Tyrell, has commenced an action against the Editor of the Jamaica Despatch, and laid his damages at 5000*l*; Mr. T. having been accused in said paper of ill-treating Mr. John Scott.

The Jamaica Advertiser of May 20, says—The quantity of Specie issued by the Receiver-General on Saturday, appears to have given new life to the city. Change being now afforded, complaints will necessarily cease.

Hector Mitchell, Esq. Mayor of Kingston, had been upset in his carriage, and considerably but not dangerously hurt.

The Ship of war *Forte*, Com. Pell, had arrived at Kingston from Barbadoes, with 90,000*l*. in silver, which sum arrived there in the *Belvidere* from England.

LATEST FROM EUROPE.—By the packet ship *Orpheus*, arrived at this port on Saturday, we have received our files of English papers to May the 16th. The foreign news contained in them is of trifling amount, and not very interesting in its quality.

The Cotton Market continues to disappoint mercantile expectation, and to rise under the pressure of great arrivals. The sales continued large.

A great meeting has been held in London by the dissenters, for the purpose of petitioning Parliament for an entire separation of Church and State.

Paris, it is stated, cannot be said to be tranquil.

Accident at Toulon.—In the Chamber of Deputies on Wednesday, M. Eschesseriaux begged leave to remind the Chamber of an unfortunate event which took place at Toulon the day of the King's fête, when an American frigate in that port fired seven times upon a French vessel called *Le Sulfren*, and killed two of the crew. He was inclined to think that this misfortune must have been the result of mistake or accident. As a proof of this, I shall read a letter written by the captain of the American frigate to the Maritime Prefect. It is as follows:—"Sir, It is with the profoundest regret, that on my arrival from Marseilles I learned the sad accident occasioned by the salute given by my frigate in honor of the King's fête. It is impossible for me to express what I feel upon this occasion. To understand it, I beg of you to put yourself for a moment in my situation, and I beg of you to except the most positive assurance I can give you of the profound grief of all the officers and crews of the American vessels who were at Toulon when this fatal accident happened." The letter then states, that the man whose malignity had

caused the accident had been put under arrest, and should be brought to a court martial. The captain terminates his letter by entreating, that as a testimony of the regret felt for the accident, a sum of 5,000*fr.*, which had been subscribed by the officers and crews of both the American vessels, should be given to the families of the sufferers.

"Accounts from Alexandria give the most gratifying details respecting Egypt. Mehmet Ali continues forwarding with unremitting energy the work of this interesting country's regeneration, and adopting measures to increase his revenues, and to improve his army and navy. Egypt's prosperity being entirely regulated by the Nile's foundation, and this being very irregular, the Pacha has taken the wise determination of establishing, at the point of the Delta, locks, which, by commanding the river's waters, will insure their annual rise. The beneficial results of this important undertaking are incalculable. A Polytechnic school for the formation of officers, has by his orders been established at Boulac. The Professors of Mathematics, Drawing, Natural Philosophy, &c. are Europeans.

The establishment of Railways across the Isthmus of Suez is in contemplation. A report, stating the probably advantageous results of this undertaking, has been, after his own request, submitted to the Pacha's consideration.

The Sultan seeing himself, contrary to the most formal assurances, not only abandoned by his pretended friends—the English and French—but hearing them unblushingly express the high satisfaction the conduct of the Emperor towards him had given them, has reluctantly ratified the treaty of St. Petersburg. In remuneration of the important services which, as he is taught to believe, Achmet Pacha has conferred upon his country, his Highness has granted him, for life, the revenues of the district of Bolou and Gaistamboli, in Asia Minor.

FRANCE.

"Conflicts between the students who frequent the *Guinguettes* (tea-gardens,) in the quarter of Mont Parnasse, and the police, and between the populace and some soldiers of the 35th regiment, took place on Thursday last, outside the barriers, and appear, indeed, to be of hourly occurrence. Great numbers of arrests and domiciliary visits continue in Paris and throughout France. On the other hand, the Chamber of Peers daily discharge scores of prisoners against whom no evidence appears on the investigation of their cases. Dr. Gervais and the Editor of the *Messenger* having refused to go to trial on Saturday, they were condemned respectively to fines of 1000 francs, and to imprisonment for an alleged libel on the police. A new trial will be the consequence of this curious proceeding. We regret to learn that very serious apprehensions are entertained for the consequences of the first public discussion of the late melancholy events in Paris."

The late affair at Lyons.—Official returns from the Arsenal of the quantity of ammunition consumed during the six days of fighting:—2,204 cannon shot—360,000 cartridges (presumed musket)—580 kilogrammes, or nearly 1,200 English pounds of gunpowder, for mines and petards.

The National Guard of Tarbes and of twenty districts in the neighborhood of Lyons, have been dissolved.

The *Courrier de Lyons* of Tuesday states, that on Sunday last a numerous body of working-dyers assembled at a public house on the Quai de Bon Rencontée, for the purpose as it was presumed, for forming a combination for an increase of wages.—They were, however, immediately surrounded by the police, aided by strong detachments of troops, and 22 of them seized and taken to prison. A powerful sensation was created in that quarter of the town, but it does not appear that any excesses were committed.

PARIS, May 11.—The budget was voted yesterday *en masse*, by a majority of 241 against 70. The amount fixed for the general expenses, is 1,030,090,547 francs, and for the special credit allotted to public works, 27,590,000 francs, not including the supplementary credit, which Soult has demanded, and will obtain, of thirty-six millions, to increase the effective army to 420,000 men in these piping times of peace.

Cholera in Paris.—Some of the French medical journals state a certain number of cases of cholera have been met with in Paris during the last month; it does not appear, however, that they have been of great severity; indeed, from those which are given in detail, they should be disposed to say that the disease was no more than is usually met with when the weather becomes warm, and such as would not have attracted the slightest notice anterior to the irruption of the more formidable disease from the east.

GERMANY.

AMSTERDAM, MAY 6.—According to intelligence from Frankfort, dated 3d May, which we have received to-day, some disturbances took place there on the night of the 2d. Some students confined in the guard-house broke out, the soldiers fired on them, and the report having caused a great multitude to collect, many citizens fell victims to the fury of the soldiers. Ten innocent persons, it is said, were killed in this manner. Three students lost their lives, and two escaped.

LONDON, MAY 14.—A fatal affray took place at Frankfort on the 6th instant, between the populace and the armed force of the city. Three soldiers were killed, and it became necessary that the Prussian and Austrian troops should occupy the city to prevent further effusion of blood.

Extract of a letter of the 6th inst. from Frankfort:—"The unfortunate occurrences of the 3d instant have created great ferment here. The Senate, the Legislative body, the burghers, and the armed force of the town, particularly the Company of Chasseurs, cry out against one another with daily increasing acrimony. Yesterday morning, at 7 o'clock, the funeral of Frederick Schreiner, a blacksmith, who was killed before the constable's guard house, was followed to the burying-ground, which is about half a league from the town, by a very great crowd of people. In the course of the day several serious disturbances occurred at the public houses in the suburbs, in which two men were killed and several seriously wounded. Similar disorders arose in the commune of Bornheim, where also blood was shed. At nightfall a large body of Austrians entered the Zeil, the central street, and succeeded in clearing away the multitude which surrounded the guard-house, uttering desperate threats. An assembly of the burghers of Frankfort have agreed upon a petition to the Senate and Legislative body, complaining of the police, the officer of the guard, and the soldiers, who fired upon the people. It is said to have been signed by 800 of the wealthy citizens, and there is every reason to apprehend that the irritation will continue to increase until satisfaction is granted."

SPAIN AND PORTUGAL.

LONDON, 12th May.—It now turns out that the account of the embarkation of Don Carlos for England, at least at the time and in the manner described, is a fabrication. From the quarter, however, in which it was circulated, there can be no doubt that such a piece of intelligence was transmitted by the telegraph to Paris, and that the opprobrium therefore of such an infamous deception does not rest on this side of the Channel. At present the whole affair is involved in so much mystery that it is impossible even to form a conjecture of the exact origin of it, but every one in any way connected with Spain, is highly indignant at the imputation, and will not spare any trouble to bring the authors of it to light.

ARANJUEZ, MAY 5.—The treaty of alliance between England and France and the two kingdoms of the Peninsula has, probably, been already laid before the House of Commons. The details have not yet been published in this country, although some ill-defined rumors have got into circulation on the subject.

The Portuguese question may now be said to be settled, and the affairs of the Peninsula generally must henceforth lose much of the interest which has hitherto attached to them. It is true there are croakers at Aranjuez who make themselves heard as loudly as in other places, and who seem to take a perverse delight in anticipating the horrors of a general war. The departure of M. Liebermann, the Minister of Prussia, from Madrid, without leaving behind him a *Chargé d'Affaires*, as the Neapolitan Minister had done, has served to give some color to these alarms. Among better informed people, however, it is not doubted that the northern alliance will acquiesce very quietly in the new arrangements, and, like certain ill-tempered curs, however much they may growl for a little, will only fawn the more they are beaten.

In pursuance of a new arrangement, a strong Spanish force has marched to the relief of the Portuguese General, the Baron Bernordo de Sa. Boats of draught and burden and every sort of wheel carriage to be found near the frontier has been pressed into the service of the expedition, so that we may daily expect to hear that a blow has been struck in Portugal, which if promptly followed up, will not only decide the fate of the Usurper, but with him the hopes of the pretender to the Spanish throne.

In the mean time, it is too evident that these more vigorous measure have not been begun a single day too soon. The latest intelligence from the

seat of war in the northern provinces is far from being of a flattering description. The despatch of Quesada is understood by those who are best acquainted with the subject as little better than an apology for a very serious defeat.

LATEST FROM EUROPE.—By the Sovereign, Capt. Griswold; the Eagle, Captain Lyon; and the Henri IV., Captain Castoff,—we have received European papers to the 20th ult. With much speculation upon the affairs of the continent, they contain hardly a fact of interest enough to copy.

The dates from Paris are to May 15th. Arrests, particularly of editors, continued to be frequent.

Two extraordinary votes or credit for the War Department, amounting to about £890,000 sterling, were agreed to by the Chamber of Deputies on Tuesday; one portion of it, however, by a majority of 54 only.

Paris May 15.—The King has granted from his privy purse the sum of 10,000fr. to be distributed at Lyons amongst the innocent victims at the late riots.

The Bill introduced into the House of Commons for the repeal of the Septennial Act has been lost, but the minority was so respectable in numbers, that the passage of a similar measure at no distant day is very probable. Ministers opposed the measure.—On the subject of Portuguese affairs, Lord Palmerston stated, in answer to some questions that were put to him in the House, "that a treaty which related to the affairs of the Peninsula had been signed by the Plenipotentiaries of England, France, Spain, and Portugal, and that as soon as it should be ratified it would be laid on the table of the house; that the ratifications of three of the parties had been received in London; that the approaching arrival of the ratification of Portugal had been officially announced, and that it might be confidently expected that the vessel bearing it would reach England in a few days.

At the levee of the King of England, on the 7th ult., Captain R. F. Stockton and Lieut. Alex. Slidell, of the United States Navy, were presented by Mr. Vail, the United States Chargé d'Affaires.

The cotton market continued in a very animated state, with a gradual advance in prices.

FROM EUROPE.—By the packet ship Silas Richards, Capt. Nye, which sailed from Liverpool on the 24th ult. we have received our files of English papers up to that date.

The only news of especial interest is the decease of the true patriot and friend of liberty, General Lafayette, of which our readers will find an account on page 384.

LIVERPOOL, MAY 24.—On Thursday week the annual debate on the septennial act took place, on the motion of Mr. Tennyson. After a sharp discussion—distinguished for very little argument and very many words—the motion was lost by a majority of 50.

It is generally rumored that ministers and Mr. O'Connell have come, or are coming, to some sort of a compromise on the Irish tithe bill. It is pretty certain that Sir Francis Burdett and Lord Ebrington have communicated with the member for Dublin on this point; and it is said that Sir Henry Parnell has been employed by ministers to negotiate the matter. It is supposed that if the appropriation clause be not adopted this session, it will be left over for subsequent consideration, which, no doubt, would end in its adoption. Mr. O'Connell has just addressed a letter to the editor of the *Dublin Pilot*. Speaking of ministers, he says:—

"They have solemnly pledged the Parliament to remove 'the just complaints' of the people of Ireland. A cabinet minister—one of the first in rank, and one of the highest in talent—has publicly and unequivocally declared that the tithe system in Ireland, as it relates to the established church in its present form, 'is a just complaint.' Shall it be redressed? Alas! I fear not. But why should I fear either alternative? If this 'just complaint' be redressed, then the people of Ireland will have obtained a great, a solid, a permanent advantage. If it be not redressed, then the honest, the undismayed repealers, will, with me, point to the falsification of the Address, and, exclaiming against 'the living lie,' feel more deeply how impossible it will be to expect justice from any other than a domestic legislature. * * * For my part, I am ready to make every sacrifice to obtain the fulfilment of that promise."

The newspapers say that Mr. O'Connell is to be made Master of the Rolls in Ireland. At present, we suspect that this is a premature announcement.

If ministers will stop "agitation" by doing justice to Ireland, we do not see why the best lawyer in Ireland—which O'Connell is—should not be placed on that bench which Curran occupied.

[From the *National*, May 20.]

SPAIN.—A letter from Madrid, of the 17th, says: "Our President of the Council has just transmitted an official note to the Representatives of the Powers which have not yet recognized our Queen, inviting them to do so immediately, because, since the death of King Ferdinand, the Sovereigns have had ample time to convince themselves that the Spanish nation considers Isabella as Queen both *de facto* and *de jure*, and that the weak minority which is fighting in Navarre in the name of Don Carlos, is not a party, but a faction. Should this recognition not be immediately made, the President of the Council intimates to those that may refuse, that they may apply for their passports in 24 hours.

"The Foreign Ministers, doubtless, after concerting together, replied, that they expected the orders of their Cabinet on the communication which had just been addressed to them, at the same time as a copy of the Royal Statute. The Papal Nuncio, who received a similar communication, has answered to the same effect. This act of our Ministry is not public, but you may consider it as certain that it was previously discussed with the Plenipotentiaries of France and England.

"Since the treaty of offensive and defensive alliance between France, England and Portugal, has been made known here, our troops no longer content themselves with seeking in Portugal after a grotesque Pretender; they combat the Miguelites in concert with the Generals of Don Pedro.

"General Quesada, greatly mortified by his late defeat near Vittoria, has taken the field with 6,300 men, to combat Zumalacarreay. The Government has just given orders to all the columns in Old Castile, on the banks of the Douro, and in part of Aragon, to proceed by forced marches to his assistance. Part of our garrison is gone to take up positions on the road to Burgos, and to cover the points which the other troops have left."

A courier arrived yesterday from Constantinople with the answer of Admiral Roussin to the despatch announcing his appointment as Minister of Marine.—The Admiral entreats his Majesty to permit him to retain the Embassy at Constantinople. In consequence Admiral Jacob has been appointed Minister of the Marine and the Colonies, and last night took the oath in the presence of the King. The Ordinance by which the above appointment is made appears in the *Moniteur* of this morning.

VIENNA, MAY 6.—We know for certain that the Poles are to leave Switzerland. It seems that the measures adopted by the adjacent states have rendered the Confederation much more disposed to listen to the well-founded remonstrances that have been addressed to it. In this case it acts conformably to its own interest; for what would become of its foreign commerce if all the issues were closed against it. Interest is paramount to principles, and whatever attachment to the cause of the Poles may exist even at Berne in a certain party, it must give way to necessity.

BRUSSELS, May 19.—The Court will go into mourning for a month, on account of the death of the Prince Royal.

The remains of the Prince will be embalmed, and deposited in the Church of St. Gudule, in the sepulchral vault of the Dukes of Brabant. It is supposed that the funeral will not take place for several days. It was at first contemplated to inter the remains of the Prince in the Cathedral of Malines, but it has been decided that they shall be transferred to Brussels.

Their Majesties saw nobody the day before yesterday. We are told it would be found difficult to form an idea of the profound affliction which they feel at the loss of the first fruit of their union. The King was obliged to make a great effort to sign some of the letters of notification laid before him by Minister for Foreign Affairs. The Ministers and several persons high in office went to Laken, but could not be admitted. The Theatres will be closed for three days.

The sepulchral vault of the Dukes of Brabant, in the chancel of the church of St. Gudule, was opened on the 19th. Several tombs and numerous epitaphs of the ancient Dukes of Brabant were found; one in particular, of the date of 1380, in a perfect state of preservation. On the tomb was deposited an enormous silver sword, with the arms of Brabant chased on it; on another tomb is a gold vase, with the arms of Austria, containing the heart of the Archduke Er-

nest, who died Governor-General of the Netherlands at the end of the 16th century.

SUMMARY.

Dr. JONES, in a letter to Professor SILLIMAN, states that there is a colony of Gipsies in Louisiana. They were brought over by the French at an early period, and colonized. They have lost, however, their wandering gipsy habits, and attend to regular business. Their complexion is darker than the French, and they still call themselves gipsies or Egyptians.

A new Muzzle.—In the Select Council on Thursday evening last, as we learn from the Philadelphia Gazette, Mr. Meredith introduced an ordinance, calculated more effectually than those now in existence, to secure our citizens against the dangers apprehended from dogs in the summer season. It provides that after the first of July next, instead of the leather strap now used, all dogs shall be muzzled with a substantial wire basket, placed so as effectually to enclose the mouth, and prevent snapping or biting. This muzzle is believed to be much easier for the animal than the strap now used, while at the same time it is more effectual. A dog with a strap is not prevented from biting, but with the wire basket, this will be impossible, as the whole mouth is enclosed. The apertures between the wires will enable him to drink with as much facility as if he were without a muzzle. The ordinance was adopted without opposition, and promptly concurred in by the Common Council.

Some persons lately employed in quarrying stones at Guernsey, Ohio, came across the body of an Indian child completely petrified. This extraordinary specimen was found imbedded in a solid mass of rock, and has the appearance of a stone image, somewhat imperfect, to be sure, yet on the whole, a very fair outline of a young Indian—done in limestone. A small row of Indian beads (too hard originally to need petrification, we suppose) was found in the same cavity.

Large and Valuable Cargo.—The fine new ship Solon, Captain Lambert, of Portsmouth, (N. H.) for Liverpool, being her first voyage, was cleared this morning by L. Trapmann, with a cargo of 1900 bales of Cotton, weighing 618,607 pounds, and valued at \$101,151 89.—[Charleston Patriot, June 14.]

INTERESTING MEETING.—It is intended that the Jupiter shall sail for Liberia on Wednesday. Among the passengers will be the Rev. Mr. Skinner, Missionary and Physician; Mr. Searl, a graduate of Amherst College, and Mr. Finley, a graduate of Princeton, Teachers, under the patronage of the Ladies' Association of this city. Mr. Searl is also the Vice-Agent of the New York City Colonization Society, charged with selecting a suitable place for locating the proposed new Colony.—Dr. Webb, from Washington, D. C. and Dr. McDowell, from Edinburgh, Physicians, in the employ of the Parent Society, will also sail in the Jupiter—together with Eunice Sharp, a colored woman of education and piety, from Vermont, who goes forth of her own accord and notion, to devote herself to the cause of education in Africa. Preparatory to the embarkation of this self-devoted band, appropriate religious services were last evening celebrated in the Brick Church, in which the congregation of the late Cedar street Church united.—An admirable address for the occasion was pronounced by the Rev. Cyrus Mason, and the concluding prayer by Rev. Dr. Young.—[Com. Advertiser of yesterday.]

Liberia Herald.—Several gentlemen connected with the type, printing, and paper business, have thought it time that the Herald should appear in a new dress. Some of the donations are as follows: E. White, 100lbs. small pica; Connor & Cooke, 100lbs. pica and a small font two line do., G. & D. Bruce, job type, flowers, &c. Hoe & Co. three pair cases, brass rules; printing office furniture, &c. Gracie, Prime & Co. six reams medium paper; Editors Observer, two reams imperial do.—[Jour. of Com.]

Le Reparatour. of Lyons, gives the following characteristic anecdote of the behavior of a French soldier during the late riots in that city:—"In the Quartier du College, just at the termination of the disastrous struggle between soldiers and citizens, one of the insurgents suddenly rushed forward, and putting his musket almost to the face of a soldier, pulled the trigger. The musket missed fire, upon which the man throwing off his jacket, knelt down, and addressing the soldier, said, 'It is now your turn—here is my breast; I am a Republican.' The soldier did not move from his ranks, nor did he offer to raise his musket, but coolly said, 'I don't know how to fire so close,' and allowed the man to depart."

The 29th Annual Report of the Trustees of the Public Schools of this City has been published, and shows gratifying results of their extensive and faithful operations. The advantage conferred upon the city by these invaluable institutions can hardly be too highly prized, or too carefully guarded and perpetuated. So excellent and efficient is the system of this Society, that its adoption, on proper modifications, may be confidently recommended to other cities and indeed to many smaller towns.

Extract from the Report of the Trustees. In the report of last year, it was stated that there were on the registers of the 26 schools, contained in the 11 buildings belonging to the society, and in the school at the Alma-house, 7,034
And of 6 primary schools, 792

Making a total of 7826

at that time under the instruction in the schools of the society. Since that period, there have been 14,214 received into, and 10,774 have left the day schools; and there are now attending them the greatly increased number, which is classed as follows:

On Registers of 11 Boys' Schools, 3354	
Do. 11 Girls' do.	2795
Do. 3 Boys' and Girls' Schools	450 227
viz. No. 1, 6, and 9,	
7 primary departments,	1412 1412
17 Schools,	745 870

Boys, 5961, G's, 5304

Showing a total of 11,255 children now belonging to the public schools in this city.

There are at this time in the employ of the public school society, 49 teachers, 28 assistant teachers, and 75 monitors—the aggregate of whose salaries for a year amount to 35,650 dollars.

The following account of the employment and improvement of the children during the past year, is too interesting not to deserve a place in every newspaper in the land.

The first class learn the alphabet, and the ninth is the highest reading class.

2259 have been promoted from 1st to 2d Class.	
2343 do do 2d to 3d do	
2546 do do 3d to 4th do	
2525 do do 4th to 5th do	
1557 do do 5th to 6th do	
1621 do do 6th to 7th do	
1303 do do 7th to 8th do	
562 do do 8th to 9th do	
1820 do to writing on paper.	
3291 do to addition and subtraction.	
2375 do to multiplication and division.	
1143 do to the compound of 1st four rules.	
714 do to reduction.	
497 do to rule of three.	
963 do to practice.	

Of the 6826 children in the Schools, as distinguished from those that are primary, and the primary departments, there are—

1838 studying Geography.	
874 do Grammar.	
93 do Book-Keeping.	
281 do History.	
523 do Astronomy.	
126 do Algebra.	

[The report was signed by Peter A. Jay, President, Robert C. Cornell, Vice President, George T. Trimble, Treasurer, Lindley Murray, Secretary, and 79 Trustees.]

Sudden Death.—CHARLES BALDWIN, Esq., an eminent legal practitioner, and a highly respectable citizen, was yesterday struck by the hand of death in a manner awfully sudden and impressive. He lodged at the City Hotel, and had just seated himself, without any indication of indisposition, at the large dinner table of that establishment, when, on reaching out his hand to receive a plate that was handed to him, he fell back lifeless. The vital spark was, as if in the twinkling of an eye, totally extinct.—[Courier & Enquirer.]

More Shipwrecks!—A few days since, we published a list of ten square rigged vessels, bound from the old country to Quebec, which have been cast away this season, accompanied by the loss of 456 lives, besides all on board a bark unknown. The Montreal Gazette received last evening, adds eight more to the number of vessels, accompanied with the loss of 248 lives, making a total of eighteen vessels, and 704 lives lost!! It does seem to us, that after making all due allowances for difficult navigation, such a constant succession of disastrous shipwrecks indicates that crazy ships are employed, or

that they are commanded by incompetent men. The latest date of the loss of any of the vessels mentioned is May 10th. And yet the number lost up to that date, was nearly one-eleventh of the whole number (205) arrived prior to the 27th, (17 days later) The eight additional vessels lost are as follows:

A vessel, believed to be from Cork, and to have been wrecked near the Magdalen Islands, about the 9th May, said to have 250 emigrants on board, of whom two, the only survivors, had arrived at Charlottetown, Prince Edward Island.

Brig Patriot, Anderson, from Aberdeen for Quebec, lost at Cape Rosier, Gaspé, May 7, on lives lost.

Bark Diadem, Shears, from—, wrecked on Cape Gaspé, 7th May, all saved.

Brig Scarborough, Castle, Moey, from Hull, abandoned at sea in long. 41, 30th April, all saved by the Retreat, from Alloa.

Brig Cherup, Welsh, from Greenock, struck on Goose Island, river St. Lawrence, 5th April, crew and passengers saved, vessel condemned and sold.

Brig Trafalgar, from St. Johns, N. B. struck on a piece of ice in the Gut of Causo, no lives lost—vessel since lowered into Arichat.

Brig Robert William Harris, Ferrie, from Liverpool, for Newfoundland and Quebec, struck on a piece of ice, 25th April and sunk in twenty minutes—crew saved after being five days in the boats.

Brig Isabella, Simpson, from Leith, went on shore at Cape Chat, in a snow storm, passengers and crew, 97 in number, all saved except the mate.

THE FUNERAL OF A GERMAN STUDENT.—I was one dark January night occupied at my writing desk, weaving a woof of historical events, crossed with a warp of fiction—or sketching some light profile of national portraiture—or endeavoring to rouse a spark of English feeling for the trampled-on country in which I could not live without being interested for it—but whether it was a volume, or a monthly or daily "article" at which I worked is of small matter to the event by which my labors were interrupted.

A low, moaning melody was borne on the gusts which swept down the valley of the Neckar, at the opening of which the town of Heidelberg is situated. Its main street, running for a mile between the river and the mountains, formed a channel for the free passage of the dirge, for such I soon ascertained it to be. Looking from my window, I observed a lurid glow rising above the house tops and throwing its red reflection upon the snow which covered them. A waving cloud of thick smoke marked the line of the procession, the leaders of which soon appeared coming round a slight curve in the long narrow street.

I immediately knew it to be a student's funeral which thus roused with lugubrious harmony the snow enveloped dulness of the place, and sent out a crowd of youths to parade the town, many of them in costumes incongruous with the season, and not quite consistent with the scene; but the whole solemnity showing an arrangement of martial discipline which made it more than commonly impressive.

The six leaders were wrapped in dark cloaks, and stalked on some paces before the band, composed of horns, bugles, and bass instruments, whose wailing tones swelled out as the procession approached, in a strain of mingled depth and wildness. Next appeared a young man of almost gigantic height, dressed in a suit of black, with large military boots and spurs, a huge cocked hat, trimmed with white feathers, a colored scarf across the shoulders, a long white cavalry gauntlet reaching nearly to his elbows, and a drawn rapier in his hand. He was the director of the various manœuvres, and his motions of command were obeyed along the whole moving column, whose double files, of some hundreds in number, stretched down the entire length of the main street.

All the men thus forming the living hedge at both sides carried torches, which were flourished in irregular movements, some dashing the blazing ends against the frozen snow on which they walked, producing by the mixture of flame and smoke, a strangely solemn effect of brilliancy of gloom. There were a couple of dozen of the youths dressed in the same grotesque mixture of civil and military costume as the chief captain, and who followed his comrades in regulating the march. But not a word was spoken aloud, no sound was heard throughout the peopled streets save the oppressive harmony of the dead march, in strains indescribably plaintive and original, the slow tramp of hundreds of feet, and the heavy tolling of the church bell, as the procession approached the burial ground, which was a short distance from, but not in sight of, the house I occupied.

The coffin bearers wore suitable cloaks, sombre and fitted to protect the wearer from the frosty air

and flakes of snow which were hurried on by the east wind. But at each side of the bier walked six or eight chief mourners, all bareheaded, dressed in full suits of black, with silk stockings, thin shoes, and *chapeaux de bras* under the arm! How civilization and refinement lose themselves in burlesque, thought I; and what a chance there is of those foolish followers of an absurd fashion falling victims in their turn, but to a death less glorious even than that which had sent this one to his last account!

A concentrated blaze of light, rising far above the tall and leafless trees, soon marked the spot where the mortal remains of the young duellist were lowered into the earth, while his hundred of former companions stood round in serried circles, doing honor to his obsequies. I could not withdraw from the contemplation of the scene, although it was only through the mind's eye it was evident. The whole procession had passed out of sight, with the straggling citizens of both sexes, young and old, by whom it was accompanied in solemn silence. The long street was quite abandoned, and the rays from the lamps which swung at wide intervals across, fell heavily upon the snow and the dark buildings at either side. Suddenly a loud burst of song rose upon the air. The deep harmony of hundreds of male voices was joined in the requiem, and quite overpowered the instrumental accompaniment. It was sad and solemn beyond all description. No female notes lightened the full throated harmony. Never did sorrow find a more fitting tone than in the chorus of that deep lament.

I could no longer resist the desire to mingle with the throng. An impulse of sadness hurried me resistlessly along, as the swell of the sea heaves a vessel on its silent course. I was soon at the door of the grave yard. But all was once more still. The death dirge had ceased, and the earth heap was loosely piled over the body which had taken its dark berth below. The crowd quickly began to hurry forth. In a moment or two the band appeared outside, and it struck up a new, but a not less solemn strain than before. It was one of those fine martial airs to which men move to battle, which thrill through the nerves, and call the dull or stagnant feelings to arms. Every one present seemed to feel the inspiration. The procession which was now formed had all the appearance of a military train. There was no coffin, no bier, and apparently no mourners. A tone of excited, of desperate ardor pervaded those whose measured steps so lately kept time with the melancholy music of the dirge. The horns echoed along the wood-covered hill, at the foot of which the procession now moved back towards the building of the University, and the majestic ruins of the castle above returned the bugle's notes in wild and unearthly mimicry. The grotesque diversity of costumes worn by the students, their countenances varying from beardless animation to hair-covered ferocity, the gestures with which each man tossed his flaring torch above his head, the glittering of the sword blades here and there, the wintry harshness of the scene, the wind gusts heard at intervals in the skeleton branches of the trees, all formed a whole of combinations, each one in fierce keeping with the rest.

We,—for I had joined the crowd and felt myself identified with the ceremony—arrived at the large square of the university. Here the leaders halted the torch bearers in double ranks, at each of the four sides; and at a signal given, every one advanced towards the centre, and flung his flambeau on the earth. In a few minutes the accumulation of fiery brands formed a considerable pile; and, while a thick volume of smoke and flame rose up, and was carried rapidly down the wind, the whole assembly once more shouted a chorus of almost stunning harmony. Every one knows how the German youths are trained up to vocal music! and the effect of several hundreds, on such an occasion as this, singing in parts and without a note of discord, one of their grandest national hymns, baffles imagination and defies the pen.

It requires but little strength of fancy to believe that the spirit of patriotism rose on this union of incense and melody. It seemed emblematic of that holy desire for freedom which swells and glows in the German heart. A people imbued with a strong passion so developed cannot, I thought, be doomed to perpetual thralldom. There is a longing after a liberty that must some time find a vent and secure a triumph.

BEETHOVEN.—From La Revue Francaise.

When Beethoven was young, at the age of twenty eight, as every one knows, he was struck with deafness. But it is not equally well known that this infirmity rendered him unhappy, mortified and irritable. "O my friends," he would say in his energetic lan-

guage, "you who believe me to be obstinate, ill-natured and misanthropical, and who represent me as such; you do me great injustice. You are not aware of the secret but powerful reasons which cause me to appear such in your eyes." Beethoven declared that from his childhood he always strongly felt sentiments of benevolence towards the human race.—But having become deaf, he bade adieu to the world; or if he ever mingled with his fellow men, it was to suffer—for he could not bring himself to say "Speak louder—I am deaf." He could not resolve to acknowledge the imperfection of a sense, perhaps more important to him than to any other individual, and which he once possessed in a rare state of perfection.

"I," said Beethoven, "am altogether cut off from society. I cannot listen to the conversation of my friends—to me is denied all the happiness which is usually derived from social intercourse—and when I struggle to overcome my repugnance to mingle with society, you can hardly conceive of the agony of my feelings, when some one near me listens with apparent delight to the sounds of distant music, which I cannot hear. At such times I am almost tempted to commit suicide. One thing only binds me to life. It is my extreme devotion to the art of Music. I cannot quit the world until I have produced all which I am capable of producing."

EDINBURGH—*Strange Bed-fellow*.—About a week since, an old woman, residing in a house on the Castle-hill, was unexpectably surprized, on awaking from her night's rest, to find a strange animal lying at her back, with one of its paws laid over her shoulder. Screaming with affright, she left her bed, and seizing a towel, she beat it with all her might, when, with one bound, it sprang to the furthest corner of the room, and at length took refuge in another bed which stood in the same apartment. When the poor woman had a little recovered from her alarm, and had dissipated the idea that it was a visitor from the nether regions, she remembered that a collection of wild beasts were at present exhibiting on the Mound, and began to suspect that her lodger belonged to the number. It was discovered that one of the kangaroos had made its escape during the night, and going up to the Castle-hill, had found this poor woman's door open, and, upon examination, finding that it might be as completely accommodated beside her as in its own den in the menagerie, betook itself to rest, which, however, was broken in upon in the morning in the manner we have mentioned.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without aplice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. B. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon date, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, }
Jan 27 29, 1833.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised in perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,
347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine.
MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J35 tf

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTIE, at the sign of the Quadrant, No. 33 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartie.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except on the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

To Messrs Ewing and Heartie.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.
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LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, plugwood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,
WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch.	Flat Bars in length of 14 to 16 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. do.	
40 do. 1 1/2 do. do.	
800 do. 2 do. do.	
800 do. 2 1/2 do. do.	
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 2 1/2, 3, 3 1/2, 4, and 4 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON,
9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.
d71 meowr

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.
In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information.

The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later all angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Germantown, and Norrist. Railroad

THE UNDULATING RAILWAY.

(Continued from page 373.)

The Editor of the London Mechanics' Magazine afterwards states, that

"An Attentive Reader of the Undulating Controversy" proposes that a sum of money should be staked on the result of a trial of an undulating line. He requests us to ask, 'Whether Mr. Badnall and Mr. Cheverton have confidence enough in their respective opinions to come forward singly, or supported by their friends and advocates, and stake a sum of money on the event?' He, for one, he adds, 'would be happy to back Mr. Badnall.' The wager, our correspondent suggests, might be laid so that 'the winner should pay for the expense of the trial; which expense, in case of failure, would be merely that of laying down the rails and taking them up again, on any projected line.' The sum he names is from £1,000 to £2,000."

This challenge has brought Mr. Badnall out again, and we presume for the last time. The controversy has been conducted with good feeling on both sides. The result we shall soon know, and our readers shall very speedily be made acquainted with it.

WAGER OF £1,000.—Sir: In your "Notes and Notices" of last week, I observe a correspondent suggests that a wager might be laid between Mr. Cheverton and myself, or our friends, on the result of a trial on an undulating line. Individually, I am not in the habit of offering or accepting bets, but if Mr. Cheverton feel inclined to adopt the recommendation of your correspondent, I shall be happy, on the part of my advocates, to enter, (through the medium of your Magazine,) into an agreement with him, and if he be similarly inclined, to stake £1,000 on the result of a trial on five or ten miles of road. The stakes to be lodged in a banker's hands. I trust that the memorial which has been presented to the London and Birmingham Railway Directors may induce them and their engineer, Mr. Stephenson, to institute, as I anxiously anticipate, an impartial trial on that line of road, *on their own account*; in which case, if Mr. Cheverton be the winner, he will gain £1,000 without deductions. Should he prefer betting a greater sum, I shall be happy to submit his offer to those of my friends who may feel inclined to speculate.

The only sum that I, in conjunction with my partner, Mr. Stephenson, should feel disposed to win or lose, (which may be added to the stakes,) would be the expense of a dinner and wine, at the Albion Hotel, Aldersgate street, for all who have written on the subject, *pro or con*, in the Mechanics' Magazine—your worthy self, Sir, being President.

Yours, very obediently,
RICHARD BADNALL.

Manchester, April 7, 1834.

Riots and Murder on the Washington Rail Road.—The riot among the labourers employed on the Washington Rail road, of which we made brief mention in yesterday's *American*, it seems first assumed an appearance that attracted notice, on Sunday evening. The parties arrayed against each other are known as the *Fardowns* and the *Corkonians*. On Monday morning a body of militia hastily collected in the neighborhood, succeeded for a time in restoring apparent quietness by the arrest of a number of the rioters, but they afterwards congregated in great numbers and came to open collision. Some of the shanties, or temporary houses of the laborers, were destroyed, but the injury on that day seems to have been confined to themselves.

Yesterday morning Gen. Ch. S. Ridgely having transmitted a requisition to this city for a re-inforcement of troops, a detachment of Infantry and Riflemen, under the command of Major Finley, proceeded to the scene of the disturbance. It was composed of Captains Hickman's, Branson's and Cheves' corps of Infantry, and Captains Cook's and Maguire's corps of Riflemen. The troop of horse commanded by captain Bouldin also marched on the same service.—[Baltimore American.]

Postscript.—At half past eight, last night, we

saw one of the members of the troop of horse, who had just returned to the city. He informs us that the troop arrived at the place of riot yesterday morning, in advance of Major Finley's command, and that they found the rioters pretty well tranquilized, although in the early part of the day there had been some violent passes between them. One of the rioters, who had fired at Gen. Ridgely, was shot in the mouth, and this, our informant states, was the only occasion on which fire arms were used. Major Finley's detachment arrived on the ground in the afternoon, and when our informant left, matters were apparently quiet. In the course of the contests which had already taken place, a number of shanties were burnt. Four persons, it appears, were killed in the affrays, one of whom was a female. The rioters arrested will, it is supposed, be escorted to Annapolis jail to-day.

Iron Case.—United States District Court, June 17 and 18—Judge Betts presided. The United States vs. John F. Sarchet. This was an action to recover the amount of a bond passed by the defendant to the Collector for 750 dollars, being the duty claimed at three cents per lb. on iron studs or stays, and links, imported by the defendant, but which he contended was illegal, and should have been but one cent. per lb. on the stays as castings of iron not otherwise specified, and that the links should have been admitted duty free as a non enumerated article, or at most that they were only subject to a duty of 25 per cent. ad valorem as a manufacture of iron. The Collector claimed duty on both articles as parts of iron chains, partly manufactured, and as such subject to 3 cents per lb.

Verdict.—That the links were subject only to a duty of 25 per cent. ad valorem as a manufacture of iron, and the studs to one cent. per lb., as castings of iron not otherwise specified. This verdict reduces the amount of duty claimed by the Collector nearly 75 per cent.

For the United States, Mr. Price, the District Attorney, and Mr. Philip Hamilton.

For the Defendant, Messrs. Charles Walker and D. Prescott Hall.—[Jour. Com.]

DEATH OF GENERAL LA FAYETTE.

LAFAYETTE IS NO MORE. This true patriot—this noble philanthropist—this patriarch of liberty, in many lands, weighed down with years and honors, has yielded up his valuable life, and left a place that no man breathing can be made to fill. He died in the 77th year of his age, in the full possession, up to the last moment of his existence, of all his mental faculties. He died, as we learn from an English paper, on Tuesday, the 22d of May. "During the last fifteen years of his life, he was the only individual alive who had taken a leading part, and figured in a conspicuous manner, in the event of the first revolution. His political career is so well known, that it would be hardly necessary to enter into any thing like an account of it here. Up to his last hour he retained the fullest possession of his mental faculties.—The infirmities of age had only visited his physical frame. Both he and his intimate friends had perceived many months ago that he had begun to sink. The decay of nature, however, was more rapid with him than it had threatened when its first decided symptoms became visible. The venerable General was born on the 1st of September, 1757, and consequently wanted little more than three months to complete the age of 77. The wondrous scenes in both the New World and the Old, in which the name of Lafayette was prominently distinguished, are among the most remarkable in the annals of mankind; and we may safely aver, that history does not in all her records possess a name which has passed through the searching ordeal of public opinion, even in the darkest and most tempestuous times, more pure and unsullied than his whose death we are called upon to deplore."

The English papers generally, in speaking of this event, mention it with a due sensibility to the manifold public and private virtues of the illustrious deceased. They speak of him always, however, as "good" rather than "great;" the mere appendage of great events, not the moving spirit among them—a view of his

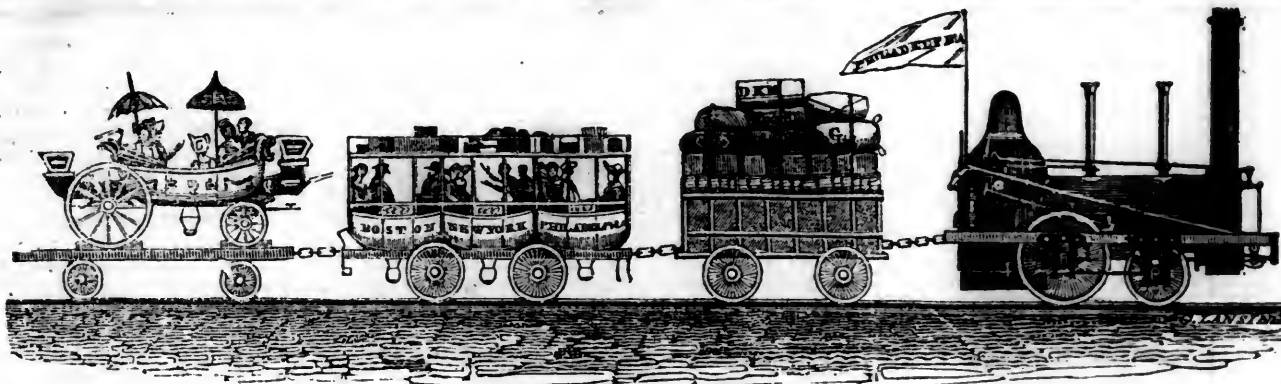
character, which will unquestionably be concurred in by the mass of mankind; for the majority of men estimate the superiority of their fellows solely by the indications of power—of power, under whatever shape it may present itself; no matter how unequal may be its developments, or how destructive its display. What mind does not shrink before the blazing intellect of Byron—the iron ambition of Napoleon. But how few can appreciate the moral grandeur—the wonderful assemblage—the just balancing and development of good and great qualities in the character of Washington! and yet that character was as much a *phenomenon*, as singular a departure from the wonted exhibitions of human nature under its most glorious aspects as ever had a place upon the annals of mankind.—Unhappily for the best interests of the human race men always connect the idea of extravagance with ability, and moderation is ever considered the sure indication of mediocrity. The justness of Lafayette's life, the singular devotion to principle under all circumstances which marked the career of the pupil of Washington, is, viewed by this light, sufficient to abnegate his title to greatness, who was great in every thing but crime. Who rushed foremost wherever the good were up and doing in the service of mankind, and sunk into obscurity when evil men were the popular idols. The chivalric champion of Liberty, where Washington led the way: the unheard of exile when Marat and Robespierre had triumphed: the lonely recluse when the splendors of Napoleon's reign made despotism popular: and the first assertor of the people's rights when Bourbon stupidity had uncovered the chains his victories successfully gilded.

But he was not great! Why? Because he did not place the crown of Louis Philippe upon his own temples! Because after turning king-maker, and choosing that man for the head of the government he deemed most worthy, expectation has been disappointed in the pseudo-republican Bourbon? Because he was so true to his principles as to refuse a throne, or because he selected the wrong person to place upon it? By such reasoning thrones make men great, and the unworthiness of those in whom we trust is fatal to our own superiority of character. Lafayette was great—great in the only true sense of the term;—for real greatness, like a noble edifice or a perfect poem, does not exist in the eccentric display of grandeur or brilliancy in some of the details, but in the due proportion, the perfect adjustment, and consummate glory of the majestic whole.

For our own part, we can never listen with patience to those who delight in depreciating—to intimate the want of intellectual power, always does depreciate—the few nobly great men who live on the pages of the world, to teach us, when despairing of the onward destiny of our race, that there have been some who have dared to be honest, under all circumstances, and who have retained their benignity and love of mankind, when philanthropy became a reproach, and a byword. History will regard Lafayette as one of those immortal benefactors of our race, who have stretched their arms beyond one generation to embrace the children of centuries in advance—a living model of goodness in every age. There the honesty that rose to the dignity of heroism, and the moderation which in classic story would be dignified as the loftiest philosophy, will leave unquestioned the greatness of Lafayette.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 if R M & F



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, JUNE 28, 1834.

[VOLUME III.—No. 25.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 28, 1834.

CHESAPEAKE AND OHIO CANAL.—The following communication gives the rates of tolls on this canal, which may be interesting to many readers of the Journal, as well as a document for future reference. We ask a similar statement for every canal and railroad in the country, and we desire it may be forwarded with the least possible delay. We promise to give an account of *five*, and perhaps more, to every gentleman who furnishes us with *one*, and to pay the *postage* into the bargain.

CITY OF WASHINGTON, May 27, 1834.

To the Editor of the Railroad Journal :

SIR,—I forwarded, some time since, by a private conveyance, an answer to your letter asking for information relative to the Chesapeake and Ohio Canal, which gave you such statistical information respecting that grand work as I could collect. I am not aware that it has yet reached you, though it has been nearly a month, if not more, since I wrote it. I could not then get a copy of the rate of tolls demanded on the canal, but having since succeeded, I forward them to you. This rate is only temporarily established, and it is probable, ere long, that a more favorable change will take place. Should you determine on publishing the inclosed, you will be pleased to notice the fact that this arrangement in respect to the tolls is only temporary.

Boats or scows, either empty or having cargoes, the tolls on which shall not pay 5 cents per mile, shall be charged at the rate of 5 cents per mile, and 3 per mile cents for any additional

distance, which shall be considered as in lieu of the tolls on such cargoes.

Boats used chiefly for the transportation of passengers shall pay 10 cents per mile for the first 15 miles, and 8 cents per mile for any additional distance, which shall include the toll on passengers and their customary baggage; but all other merchandize transported therein shall pay the established rate of toll.

Articles.	Quantities.	Per mile for first 15 miles.	Per mile under 15 miles.
Tobacco, - - -	per ton of 2 bbls.	2 cents	2 cents
Wheat, - - -	" 40 bushels	2	2
Flour, - - -	" 10 bbls.	2	2
Offals, - - -	" 100 bushels	2	2
Corn Meal & Rye chop, - - -	" 40 "	2	2
Oats, - - -	" 80 "	2	2
Flax and Clover Seeds, - - -	" 40 "	2	2
Hemp and Flax, - - -	" 2240 lbs.	2	2
Potatoes, - - -	" 25 bushels	2	2
Hay and Straw, - - -	" 2240 lbs.	1	1
Wood, - - -	per cord of 128 c. ft.	1	1
Bark (Tanner's), - - -	" "	3	3
Lumber, Plank, - - -	per 1000 ft. bd. mea.		
" Square timber	70 cubic feet		
" Shingles, - - -	3000	2	1 cent
" Laths, - - -	5000	2	or in
" Barrel Staves, - - -	1000	2	rafs 2
" & Headings, - - -			cents
" Hhd. Staves, - - -	500		
" & Headings, - - -			
Charcoal and Coke, - - -	per ton of 56 bushels	2	1 cent
Coal, - - -	" 28 "	1	
Apples, - - -	" 12 bbls.	2	2
Cider Ale and Beer, - - -	" 8 "	2	2
Whiskey and Pork, - - -	" 7 barrels	2	2
Wine & Foreign Spirits, - - -	per ton of 220 galls.	2	2
Live Stock, Cattle, - - -	4 to the ton	2	2
" Sheep, - - -	30 "	2	2
" Hogs, - - -	15 "	2	2
Lime, - - -	per ton of 24 bushels	2	1
Plaster, Stone, - - -	" 2240 lbs.	2	1
" Ground, - - -	" 24 bushels	1	
Stone, Rough, - - -	per ton of 15 cub. ft.	2	2
" Cut or Wrought, - - -	" "	2	2
" Grind and - - -	" "	2	2
" Mill Stones, - - -	" "	2	2
Iron, Pig, Castings, and Bars, - - -	per ton of 2240 lbs.	2	2
Salt, - - -	" 35 bushels	2	2
Fish, - - -	" 7 barrels	2	1
All other articles - - -	" 2240 lbs.	2	2

The above rates are established for the present for the use of the canal between the city of Washington and Harper's Ferry Falls; and the same rates per mile will be demanded for the use of any portion of the river between the Little Falls and the Harper's Ferry Falls; for the use of the river above Harper's Ferry Falls, the tolls established by the late Potomac Company will be demanded.

The canal is now in active operation, and will soon, I believe, be opened for several miles above Williamsport, where the slack water navigation of the Potomac is used, (for a distance, I think, of upwards of 7 miles,) making in all a distance, from the Georgetown basin, of upwards of 110 miles.

I have used some exertions to obtain you subscribers, and have had the promises of several

to write for your Journal. I hope the patronage of this year will be such as not only to warrant its continuance for years to come, but, at the same time also, a continued improvement in its appearance and contents, such as has marked its progress from its first establishment.

I should like you to have a copy of Dr. Wm. Howard's report on the improvement of the Monongahela River, which is, at present, a favorite project in the western part of Pennsylvania, and one which, if executed, will tend as much as any other work of internal improvement to add to the resources of that region of country, so rich in mineral and agricultural products, and where the arts have attained such perfection. Your obedient servant,

H. N. C.

INTERNAL IMPROVEMENTS.—The Richmond Enquirer states that "the following resolution has been unanimously adopted by the Common Council of this city. They open again the great subject in which the interests of the city and of the whole State are so deeply concerned.

"The act of the Virginia Assembly, which passed the 14th February, 1834, entitled 'An act further to amend the act, entitled 'An act incorporating the Stockholders of the James River and Kanawha Company,' having continued the books of subscription for the stock of said Company open until the 31st December next, and having declared that the payment of one dollar upon each share subscribed by individuals or corporate bodies, at any time before the said 31st December, shall render such subscription valid.

"Resolved, That the Cashier of the Bank of Virginia be, and he is hereby, authorized, to draw on the Chamberlain of this city for the sum of four thousand dollars, payable the first day of November next—it being for one dollar per share on 4000 shares of stock subscribed by the Corporation of Richmond to the James River and Kanawha Company; and that the Chamberlain be directed to accept said draft, and to furnish the Second Auditor with a copy of this preamble and resolution."

A new locomotive Engine has been built at Schenectady, at the workshop of the Mohawk Railroad Company, which bids fair to excel even those of Mr. Stevenson.—[Albany Daily Advertiser.]

A COTTON FACTORY has been established at Greensborough, N. C. It has five hundred and twenty-eight spindles in operation, and is capable of manufacturing between two and three hundred pounds of thread per day.

ON THE DIP AND DECLINATION OF THE NEEDLE.

To the Editor of the American Railroad Journal:

SIR,—P. G. V., in your last number, appears anxious that the variations of the compass should be taken by practical surveyors in the United States in June and December, so that in a few years the long sought for problem may be settled. He may in a short time learn, from some observations which have been made in the city of Philadelphia, with great care, several times in the day, for nearly a year past, much of what he wishes to know; and further, that the irregular and disjointed observations of surveyors through the country, giving what they might suppose to be the correct variation of a place, could not be relied on, as it has been known to vary as much as ten minutes in half an hour. To obtain the correct variation, a number of regular observations daily for a length of time would be required, and then a few observers through the country would answer all necessary purposes.

W.

If the writer of the following communication thinks he has reason to complain that it has not sooner appeared, he will please recollect that we too have some cause to complain—not of his communication, for we like that, and should be pleased to receive others upon the same subject, giving a complete history of the process of *railroad making*—but that he has no name or signature by which he may be known. We like to know our friends, and therefore desire that each should have a “handle” by which we can take hold of him, especially when we have occasion to “handle” him without gloves; he will, therefore, in his next, please to choose one to suit himself, or we shall have to call him the gentleman, not the “fellow,” “with the claret-colored coat,” or some other distinguished no-party man. He will also please pardon the long delay of his favor, and let us hear from him again soon.

[For the American Railroad Journal.]

In the last, having conducted our exploring party from the head-quarters, Hopeful Town, we left them, along with some of the Directors of the road, enjoying a well provided dinner at Mr. Willis' cottage.

Having finished their rustic feast, the chief, after giving Mr. Wilder his last and particular instructions, summoned the carriage, and with the former occupants, (together with Wilder,) set off at a good speed for the summit of the hills upon which they then were. Here determining the important “point de depart,” and setting down W., the chief, (Mr. Safeside,) took an affectionate leave of him, wishing, as usual, all success, &c. &c., from thence continuing on the journey to his “other railroad,” which by this time wanted his presence. Mr. Policy, the co-assistant, having had, as the sailors say, “sailed before,” knew well enough that he was losing little by being of the party that continued on. One might have almost read in the smirking looks he cast back toward Wilder, they were so expressive, embodied in words like the following: “Now, my boy, you have honor before you—amuse yourself to your heart's content—a pleasant introduction to the hemlock swamp!”

The whole party, or rather, as it was for the present, parties, had been dismissed early on the afternoon of Mr. Safeside's departure, for the purpose of giving them an opportunity to make some transitory residence sure, but at the same time with strict injunctions to appear at head-quarters early the ensuing morning.

The sun was scarcely peering from behind the thickly foliaged hills in front of Mr. Willis' cottage, its beams yet playing among the

misty scuds around them in the valley, as the young engineer in vice-command rose from his cot, and summoned his aid, Moyston, to arrange the several forces as they were coming in along different paths to the quarters. The bustle of presenting themselves, the ringing of the chains, resounding blows from the axes and hatchets in trying them, and now and then the merry peels of laughter among the men, was an amusing and novel sight to the cottagers, as well also to the little paradise of nature around.

The well provided breakfast over, commenced the final disposition of axes, hatchets, levelling rods, pike staffs, chains, stretchers, (for the chief never would have these left behind, even though measuring in mire waist deep,) tripods, and, although mentioned last, of the most importance to old Hardy, the surveyor—the dinner basket: all these to their respective and jealous bearers.

First in the procession, as it turned in a shrubbed lane leading down in the valley, was the short and rough looking Hardy, (you well remember his grotesque squab figure, and merry Hogarth face,) with his white staff and glittering brass circumference, or “compa's,” as he termed it, followed by two or three flag-men, with bright hatchets, tastefully slung in leathern belts, nicknamed by their facetious leader “knights of the red,” of the “yellow,” or of the “white,” according to the tints of their several flags. Next were four stout and heavy built chain bearers, with their new shining (for this day) chains, borne by the “hind-men,” and the “pins” and vermeil colored tallies by the “fore-men,” with hatchets also slung by their sides; after these followed some six or seven “axe-men,” with ponderous and new axes thrown across their brawny shoulders; and immediately joining, the “rod-men,” with their long white and graduated rods, with bright brass ends, and tastefully colored vanes—these the most important characters of the “force employed.” The rear was brought up by Wynn, who, by some unknown means, had contrived to get a hatchet, and not being equally successful in obtaining a belt, he had rigged across his side a sheath made from a purloined end of Mrs. Willis' clothes line. Ambitious also of an honorary badge, we had folded up two or three sheets of paper and tied them around his neck with a piece of red tape; to look as near as possible like the field-books of Moyston, Mr. Wilder, and his surveyor, Hardy. Hardy, who was famed for his knowledge of “blazed faces,” of old decayed and antiquated “line trees,” and highly conversant in determining overgrown and illegible “line letters,” was to appearance the greatest character in the whole party. Intimately acquainted with the country to be explored, and having made his appearance strongly backed by one of the most influential directors, he came with peculiar grace into the party; and surely, we cannot covet him his feelings of “elevatedness,” (his own words)—they were innocent; his sudden dignity was inspiring; it was harmless, too, for it was the very summit of his hitherto ambitious dreams; and we were about to say, of course—his happiness was complete. Moving on, as was observed, at a quick pace, Hardy soon found the spot that had been described to him, and was just setting his staff in rest as Mr. Wilder commenced the work of the day. Returning after a short examination of the swamp, (for it was a dense hemlock morass through which they were to run their lines,) he began by directing Hardy where to place his compass, arranged the chain-men, and placing his level upon the tripod, made some few more hasty observations; then, taking the flag-men with him, plunged boldly into the dark marsh, having previously given some instruction to Moyston, who remained by the level, respecting the men that were left behind to cut “stakes,” &c. Wynn following, was shown, as they proceeded, where to station the axe-

men, at a certain number of paces from the beginning,—if, indeed, paces could be determined in striding thus ridiculously through the mire. Following the course of a little rivulet, that struggled along murmuring through the roots of the giant trees, the young engineer came to the point he had marked out the preceding afternoon, as the most feasible course for the all-important “main line.” Stationing a flag at the point for direction, he gave the remaining force orders to transpose themselves at about equal distances apart, as near as possible in a line with each other, stretching in a direction toward the “white” and “yellow” (flags), that were now to be placed by him intermediately between the places mentioned, which at last, by dint of much noise, bruised shins, (we would really not have this terming considered a vulgarism, but must absolutely confess we know of no other word by which we could express this tender and important, not to mention prominent, feature of the human frame, and as we would speak feelingly when adverting to it, must remain our only claim to justification,) endangered necks, and great hal-loo-oo-ing, he placed the flags as near the line as circumstances would allow. Then dropping the axe-men in such a manner as to give present satisfaction, orders were given to “clear the way.” “Hal-loo men, sweep clean the underbrush.” “I'll take this tree.” “You fall, too, upon that pine,” and like observations. Hardy, incensed at some one for not chopping exactly as he wished, fell to, himself, so lustily and so furiously, that, unluckily, by a slant blow, nearly severed one of the chain-men's arms off. A momentary confusion succeeded, but soon all were busy again; and as the lusty axe-men spent their full efforts in vigorous blows upon the deep resounding hemlocks, the high hills and impending rocks along the valley echoed back the fast falling strokes, which in their turn were again sent back—and on—and back—and back—fainter—fainter—till beyond the power of hearing. Then the loud, deep, lengthened crash of some giant tree, falling beneath united efforts, and adding its own resilience to the elastic earth, would shake around, the noise sweeping like the pealing of thunder along the echoing mountains, reverberating from cliff to cliff.

Thus having made the first bold stroke, returning to the compass he directed the view toward the far distant flag, then setting down the bearing of the line, notwithstanding Hardy's desire to dispute with the assistant about a second or two, or something still nicer in the point; and after giving a few necessary but here unimportant orders, he requested the surveyor to keep just ahead of the level, and exactly upon the same course, till further orders: at the same time pointing out some objects to be observed, &c. &c. Thus far having suited his mind, he commenced levelling over the cleared way. Here, if you had approached the opening that was made through the thick trees, and as you directed your view down the narrow vista, you would see, at perhaps a considerable distance off, a flag-man standing upon a prostrate trunk of tree, or some other elevated spot, with a soon observed red, or white, perhaps yellow flag, dwindled to a mere spot, moving above his head; again, if attentive, you would catch a glimpse, and now lose it; then, perhaps, in the same line, you would see a different color resting upon the dark green foliage, will-o'-wisp like also, caused by the waving motion of some heavy intervening tree, at whose base the resolute and destructive axe was busy: perhaps as the rays of the sun, now approaching the meridian, found their way through the opening foliage, a gleam of reflected radiance would circle upon the polished plates of the instruments, or, may be, like a bright star upon the brass tipped levelling rod. Here you would see some lusty fellow drawing his midly chaining course through the expressly termed “bad spots” in the swamp:

no way, as Cooper's scout says, "to carcument the evil," for the line must be measured, and the line *must* be cleared, every one's road sooner or later leads over the same way.

Do you see those fellows following just after little Hardy with his compass? That unfortunate one, (a fore chain-man,) throwing his arm about, (especially as he is out of hearing of the level,) is venting his curses at some innocent root that his chain has got "locked" into: now twitching it with a broad and vigorous sweep, he calls down upon his head the imprecations of the "hind-man," for pulling "his end" into a worse state than the fore-man had just unlocked his own from. Then again, as you saw the flags dancing and dodging among the trees, keeping motion with their bearer's gait, you might hear Mr. Hardy's loud clear voice, "Lo-oo the red—fifty feet e-e-ast"—"way ten more;" then in a louder and more agitated manner, "where the d—l are you going; ba-a-ck twenty!" "Hold, you gander—ho-o-o-ld there!" "Steady so!" and then came the deep collected "down!" This was followed by the mid-man's "east-er," and "we-est-er," and "taut! down! on!" The axe-men's incessant blows, Mr. Hardy and his hind-man's "Lo-oo-os" and "wa-a-a-ys," and the runoing to and fro of men, gave the scene you beheld quite an animated appearance. It was seldom that you heard the young assistant's voice among the din of the scene; sometimes, however, as he looked far up the line, an undue jerk of the chain, or the chilling sound of an axe falling upon a stone, (none, however, who know not the *value* of a good axe, can comprehend that *chilling* sensation,) would call forth the sharp and clear "hal-lo there, you Jones, or you Stephen!" (addressing the person,) "Moyston, that man must be remembered." These words, although slight, were perfectly intelligible to whom they were meant for. To be sure, you would also hear the "up!" for dinner, and the more gratefully sounding "put up!" at night.

RAILROAD ACROSS THE ISTHMUS OF DARIEN.—We perceive, by the following extract from a Panama paper, that this great enterprize is likely to be undertaken under highly favorable auspices. The results to commerce, from the establishment of a land carriage of this description, between the two great oceans, cannot fail to be of a highly important character.

"To the Deputies of the Provincial Assembly of Panama:

"Gentlemen,—The opening of a carriage road or railway from the Atlantic to the Pacific, has for a long time engrossed the minds of many persons, not only in this capital, but in far distant countries; for knowing the important situation of this province, it is impossible not to conceive the advantages that would accrue, should this new path be opened to general commerce. Such a flattering idea had given rise to various projects to carry this grand work into execution, which have not been realized, perhaps from the lack of a perfect knowledge of the localities, or from a want of sufficient funds, or may be from the political vicissitudes that the country has been subjected to of late. But now that we have fortunately acquired the re-establishment of the empire of the law, and tranquillity has been pretty well secured, I believe that an impulse ought to be given to this interesting undertaking, upon which depends almost the absolute vitality of this declining province.

"With such an object in view, I take the liberty of soliciting that there be granted to me an exclusive privilege, on the same terms that the old chamber of the district granted to Mr. Malcolm McGregor, that I might endeavor to get this project put into execution, not doubting that the honorable chamber will receive and protect my request; and being penetrated with

its justice and public convenience, will decree favorably.

"JUSTO PAREDES.

"Panama, October 2, 1833."

Some days ago, we published an extract from the "Constitucional de Cundinamarca," concerning a project to open a more secure and speedy commercial communication across the Isthmus of Panama. Since then a Panama paper has fallen into our hands, from which we have derived more authentic information regarding this most interesting enterprize. From it we have translated the memorial of Mr. Paredes, which is prefixed to this article. In the same paper, the provincial decree, granting the privilege to that gentleman, also appears, along with a copy of the former one granted to Mr. McGregor. The new decree contains some slight modifications of the articles of the old; one of them is, that the road shall reach to the city of Panama, and another, that Mr. Paredes is not bound by the old decree, which only allows two years to carry the project into execution from the day of its passing, otherwise it becomes null and void, but that the new patentee is not bound, nor does he enter into the enjoyment of the privilege until the day that the Governor of the province shall communicate to him that the decree has been approved of by the National Congress.

We feel a considerable degree of pleasure in giving publicity to the Memorial which Mr. Paredes presented to the Provincial Chamber, and which is submitted for approval to the National Congress of New Granada, now sitting, and we cannot for a moment doubt that body will receive kindly a project upon which depends the future happiness, not only of the Isthmus, but also of this Island; for when once such an expeditious communication between the Atlantic and the Pacific shall be opened, will the navigation round Cape Horn be risked, which causes so many dangers and loss of time? Certainly not: for the general deposit will be in this island, from whence will be dispatched the cargoes for the ports in the Pacific, which are now supplied by vessels round the Cape.

It has been also very satisfactory to us to learn that some of the respectable merchants of this city have offered their support to Mr. Paredes, to carry this great work into operation, assuring him that in London a great many more will purchase shares in the company, which, added to those in Jamaica and Panama, will form a sufficient number for the execution of the project, without even counting upon the capitalists of France and the U. States.

We understand that the concessions in favor of the Memorialists could not have been more munificent, whether we consider the extending the privilege to the long period of forty years, or whether we consider the permitting of the exclusive transport of all kinds of merchandize, produce or metals, in carriages belonging to the company. These are truly powerful stimulants, to induce the European and American capitalists to take a considerable share in an enterprize which offers such incalculable advantages. The most authentic accounts that have reached us state that the distance from Porto Bello to Panama is only 14 leagues, and that the expense of putting the plan into active operation will cost nearly half a million of dollars.

The good reputation of Mr. Paredes, his commercial relations with this city, the facility with which he expresses himself in different languages, added to his honorable character and personal activity, incline us to augur well of the undertaking, whilst the grandeur of the enterprize makes us quite sensible of his patriotism, his judgment, and the knowledge which he possesses of the important situation of his country. If every Colombian thought as he does, that country would soon prosper, and instead of civil war and intestine quarrels, peace, good order and tranquillity, and industry, would be established upon the firmest basis.—[Kingston, Jam. Chronicle.]

On the subject of the proposed communication by steamboats between Calcutta and England, the Calcutta Courier of the 23d January has the following paragraph:

STEAM COMMUNICATION WITH ENGLAND.—Capt. Ross has proceeded to Socotra in the pilot brig Henry Meriton, taking with him Capt. Jump, who, we believe, will return in charge of the vessel. Capt. Jump is spoken of as likely to be the future commander of the Forbes on her trips to the Red Sea, for which he has tendered his services. In the mean time, arrangements are making to forward coal to the several depots. The Fette Salem is now receiving 500 tons of English coal for Judda, at the freight of 27 rupees per ton,—a very low rate compared with the terms on which the Red Sea depots were provided for the Hugh Lindsay. A suggestion of Capt. Ross is now under the consideration of the committee, to anticipate the departure of the Forbes on the first trip, by altering the date to the 20th April instead of the 1st May, as lately announced. The motive for the alteration is, that starting on the 20th of April, it is believed that the steamer will be able to get down the bay and clear of Ceylon before the earliest period at which storms are to be apprehended.

We understand that the Merchants' Steam Committee have given in a plan to government, offering to undertake to keep up a quarterly communication with England by the Suez route, both from Calcutta and Bombay, with four large steamers of 800 tons burthen, each of them furnished with a pair of 100-horse engines—one of the steamers to run from Bombay, two from Calcutta, and one between Alexandria and the British Channel,—provided government will give them five lakhs annually in compensation for carrying the mail and all public dispatches.

NATURALIZATION OF FISHES.—At a late meeting of the Zoological Society, were read two letters from Mr. J. B. Arnold of Guernsey, detailing his experiments in the naturalization of sea fishes in a lake chiefly supplied with fresh water. The area of the lake is about five acres; its depth various; and its bottom also various, being muddy, gravelly, and rocky. The water is, during nine months of the year, drinkable for cattle, but in consequence of a supply which it receives through a tunnel communicating with the sea, is rather salt in summer, at which season the fishes do not come down so plentifully as at other times. The fishes introduced into the lake have been the grey mullet, sole, turbot, brill, plaice, basse, smelt, and grey loach. All of these have thriven well, and are believed to have increased in numbers; the grey mullet especially is known to have bred as freely as in the sea itself. A single whiting having been caught for three successive years, was found to have grown considerably; a pilchard also thrived well. All the above-mentioned fishes were placed in the lake, except perhaps the brill; but others, as the silver bream, appear to have introduced themselves. It is even suspected that hybrid fishes have been produced, as several have been caught which were unknown to persons well acquainted with the species usually met with on the coast of Guernsey. Mr. Arnold adds that sea fishes, after having been naturalized in his lake, have been transferred to ponds of spring water, where they have not only lived, but done well; and that such naturalized fishes have been carried to a long distance, being much more tenacious of life than those caught in the sea.—[Proc. Zool. Society.]

QUIETUDE.—Happy, indeed, would be the condition of mankind, were all disposed to cultivate that harmony and friendship so desirable and necessary to the welfare and prosperity of society—the world would be similar to a paradise, and the people, if not angels, would approach the character ascribed to them—man kind, as they ought to be considered, would present a band of brothers, happy, quiet and

content. Our citizens, from the highest to the lowest, would be satisfied with their respective stations, and the agitation which now pervades society would rest in quiet and repose.

If there is any quiet on earth, the farmer may be said to enjoy it: with a competence in store, the honest fruits of his industry, he thrives secure from the turmoils of those who pursue other avocations for subsistence. The mechanic, the professional man, and all who support themselves by speculative measures, must expect to contend against the current of disappointment, and prop their sinking hopes by anticipating future prospects, and although their situation may appear enviable to the unscrutinizing eye; on the contrary, they have abundant reason to envy those who live on the fat of the land, enjoying the bounties dealt out by Nature with a liberal hand.

To JOHN O. N. RUTTER, *Wine Merchant, for his Invention of an improved Process for generating Heat, applicable to the heating of Boilers and Retorts, and to other Purposes for which Heat is required. Sealed March 30, 1833.*

The subject of this patent is the employment of bituminous, resinous, or oily matters, in connection with water as a combustible material, which, it is said, will produce a fuel for furnaces, boilers, &c. capable of giving out a very intense heat. Strange as the suggestion of applying water as a combustible material may appear, it is reported to have been found extremely advantageous, economical, and convenient. We of our own knowledge can say nothing upon the subject, but merely give the patentee's views and recommendations in reference to the manner in which he proposes to employ those materials for the production of heat.

Bituminous, oleaginous, resinous, waxy, or fatty substances, are to be employed: as coal tar, which is to be combined with water in certain proportions. It is proposed that a stream of coal tar shall be allowed to flow from a reservoir through a pipe with a stop-cock, and likewise a stream of water from another reservoir through a similar pipe; that the two streams shall meet, and fall into one general receiver with a funnel tube, by which they may be together delivered into the furnace.

The proportions are recommended to be one gallon of coal tar to one gallon and a half of water, the flow of the two liquors to be regulated by suitable apertures or stop-cock. These quantities of materials are to be slowly discharged from the funnels that the whole shall occupy from two to three hours in its delivery into the furnace; and where the furnace is of such magnitude as to require it, several of these funnel tubes may be employed, each delivering its supply of materials in the proportions and times stated.

It is not necessary to use water in a pure state, to be mixed with the coal tar, as foul water will answer the purpose equally well; and on ship-board, where the invention may be usefully applied to steam navigation, the bilge-water from below, or sea-water, may be pumped up and employed for the purpose, and on land the ammoniacal liquor from gas works will also suit as well as fresh water.—[London Journal.]

STEAMBOAT TRAVELLING.—The cabins of western steamboats present peculiar aspects. They possess all the splendor and comforts of an eastern boat, and afford other pleasures which we meet with no where else. A per-

son embarking on a steamboat generally expects to remain on board for a longer time than is necessary to perform the trips elsewhere. He prepares himself for the formation of new acquaintances. The boat gets under way, and no one holds himself aloof from the advances of his fellow voyager. A feeling of general interest is soon acknowledged and felt. Intimacies are entered into, and each one contributes from his own resources to the general fund of amusement. By this means the hours are beguiled of their weariness, and that, which under other auspices would be tedious, becomes a source of pleasure.

But the most inveterate talkers will tire. Recourse must be had to other resources. If the voyager has been considerate, and supplied himself with those mute, yet ever interesting companions, agreeable books, he is at no loss. But if he have not prepared himself with a shield against the attacks of enemies he is in a pitiful condition. He lounges about the cabin—promenades the guards—gazes at the sublime scenery of the river hills—and eventually, in a fit of desperation, throws himself into his berth, and seeks in the oblivion of sleep, to forget that he is a bore to himself. Perhaps an ingenious companion who is similarly conquered by dullness, devises an expedient for relief. Gaming, we are sorry to say, is much too common; and no one must consider a proposition to have recourse to that dernier resort of dullness, as any other than a genteel proposition. A proposition is made that the tedium of the hours be lost in the excitement of the card-table. Such propositions are frequently acceded to.

Now, we believe many can date the commencement of their sinning in this way from a vacant hour of steamboat travelling. A taste for such excitements has thus been originated, which has eventuated in the moral degradation of its victims. If any expedients can be adopted to guard against such occurrences, they should be entered into by such as are desirous for the welfare of their fellows with alacrity.

An interesting book, by affording agreeable entertainment, would preserve the mind from the dreary inaction of lassitude. The sickly feeling of satiety is exceedingly propitious for the advances of vice. No man when under the influence of a healthy intellectual activity wishes for change. It is in those moments when that by which we are surrounded fails to yield us pleasure, that we sigh for change, and are most liable to listen to the voice of the tempter. The seductions of vice are yielded to, and inroads are made on our moral principles. The enemy once having got possession of our bulwarks, our condition is exceedingly precarious.

Under the weight of such considerations, we plainly discover the great utility of healthy excitement. If each steamboat possessed a small library of well selected works, a pleasant resource would be afforded. The expense would be but small. The advantages would be great. A steamboat with a library on board, would be preferred by every sensible man, to one which was unprovided with books. We commend the consideration of these suggestions to those engaged in fitting up steamboat cabins, and who are disposed to lessen the evils of humanity.—[Cincinnati Mirror.]

SHEET IRON GIGS.—These gigs are continuing to grow as rapidly numerous as they are increasing in public estimation. A very beautifully fitted up one was this week finished by Messrs. Reid and Hanna, and Messrs. Walker, for the Paisley Canal. Two others are in a state of great forwardness for Dublin; and several others, for various canals, are also in preparation. This business of gig making has extended to Johnstone, also, where there are six or seven of them getting forward for various canals both in Ireland and Scotland. Steam-coaches will find in these gigs most powerful competitors to contend with.

The increase of trade upon all the canals on which they have been introduced is quite astonishing. The bustle at the basin here and at Port Eglinton, by the hourly departure, is quite enlivening, and we understand the travelling by the Forth and Clyde Canal is increased in a most astonishing degree. Indeed, from the speed they have attained, and the low prices charged to Edinburgh, Stirling, Alloa, &c. no other result could be expected.—[Paisley Advertiser.]

MONTHS.—This division of the year appears to have been used before the flood; and as it is naturally framed by the revolutions of the moon, the months of all nations were originally *lunar*, that is, from one new moon to another. In a more enlightened period, the revolutions of the moon were compared with those of the sun, and the limits of the months, as the component parts of a year, were fixed with greater precision. The Romans divided each month into *Calends*, *Nones*, and *Ides*; the *Calends* were the first day of the month, the *Nones* were the seventh, and the *Ides* the fifteenth of March, May, July, and October; in the other months the *Nones* fell on the fifth, and the *Ides* on the thirteenth. The days of each month, according to this form, were counted backwards; thus, the 18th of October was called the 15th day before the *Calends of November, &c.* In the year 1793, the French Government had a new calendar constructed, in which they adopted the following fanciful designations for each month:

	French.	Signification.	English.
AUTUMN—			
1.	Vindemaire,	Vintage month,	from Sept. 22
2.	Brumaire,	Foggy month,	Oct. 22
3.	Frimaire,	Frosty or sleety month,	Nov. 21
WINTER—			
4.	Nivose,	Snowy month,	Dec. 21
5.	Pluviose,	Rainy month,	Jan. 20
6.	Ventose,	Windy month,	Feb. 19
SPRING—			
7.	Germinal,	Springing or budding mo.	Mar. 21
8.	Floreal,	Flowering month,	April 20
9.	Prairial,	Hay harvest month,	May 20
SUMMER—			
10.	Messidor,	Corn harvest month,	June 19
11.	Thermidor,	Heat month,	July 19
12.	Fructidor,	Fruit month,	Aug. 19

This new calendar, which, after all, was only a plagiarism, or copy of one used in Holland from time immemorial, like many of the absurd institutions which sprang from the French Revolution, was laid aside in a few years, from the circumstance of its utter unfitness for the seasons, even as they occur in the several provinces of France itself; how much less applicable, therefore, must they have been to other countries, where the climates and seasons vary so much from each other! A calendar, to be worthy of universal adoption, must be capable of universal application. Not so that of the French *Philosophers*, which, independently of its discordance with those of all civil-

* Noah, as we find it recorded in the Bible, reckoned by months of thirty days each; and from him that mode of computing the year is supposed to have been adopted by the Chaldeans, Egyptians, and other Oriental nations.

ized nations, had not even the merit of indicating those very seasons from which it professed to derive its character. The late Mr. Grifford ridiculed this new-fangled method of registering time by the following ludicrous but happy translation of the republican months and seasons:

AUTUMN . . . Wheezy, sneezy, freezy;
WINTER . . . Slippy, drippy, nippy;
SPRING . . . Showery, flowery, bowery,
SUMMER . . . Hoppy, croppy, poppy.

MACHINE FOR MAKING BRICKS.—Messrs. Harkness, Sawyer, and Freelove, have now in successful operation a machine which has excited the admiration of all who have witnessed its operation. It produces twenty bricks in a minute, and these too, not the unshapely and rough masses of mud, which we usually call bricks, but a square and smooth body of clay, so hard, when they leave the press, that they are fit to set immediately into the kiln for burning.

The moulds (four in number) in which they are pressed are made of polished steel plates— which plates are set in a cast iron box; and the whole banded with strong wrought iron bands. The machinery is so constructed that the mould is fixed in a solid stationary frame; and after the pressure is made upon the clay in the mould, the bottom of the mould rises, and throws the brick to the top, so that it may be conveniently taken off. It is found by experience, that not less than 50 tons pressure upon each brick will answer the purpose. This amount of pressure is, of course, wanted only at the very last moment of the impression; or, in other words, can be pressed with very little effort into a space within, say, one-fourth of an inch of the proper thickness. After it is thus far pressed, it then requires at least 50 tons to bring it to a proper degree of density. The machine in question is so constructed as to give this great pressure at the time it is wanted, and no other. In fact, it would be difficult to find, in all the mechanical operations now in use, a more perfect adaptation of the means to the end. And it is thought by many scientific gentlemen, who have examined the matter, that no other application of the mechanical powers will ever be made to effect the same object.

It is only necessary that the utility of this machine should be known, in order to introduce it into general use. The beauty and durability which it will impart to the brick buildings of the country must make it an object of great public interest. Add to this, the reduction of expense which must ultimately follow, and I cannot but regard the improvement of the gentlemen above named as of equal importance to any which has been introduced for the last 20 years.

The following practical statement, which has been obtained from the patentees, will no doubt interest such of your readers as are engaged, or may feel disposed to engage, in brick making.

A brick press can be put in operation for about \$6.

The expense of carrying on the business for a month is as follows:

1st. 6 hands at \$10 per month . . . \$60.00
Boarding same at \$1.25 per week, . . . 30.00
2d. 3 boys at \$6 per month . . . 18.00
3d. 2 horses at \$15 per month, . . . 15.00
4th. 60 cords of wood at 90 cts. per cord, . . . 54.00
The setting and burning of 180,000 bricks, at 40 cts. per 1,000, . . . 72.00

\$249.00

The above are the regular expenses per month of carrying on a horse power press. The press, when in operation, makes 20 bricks in a minute, or 9,600 in 8 hours. Deducting, however, for loss of time and other contingencies, 1-4th for every day's work, leaves the amount of 7,500 bricks per day, or 180,000 per month; which, at \$3.50 per 1,000, are worth \$630.00. Deduct the expense of making which is 249.00 and there remains a clear profit to the owner of \$381.00,

per month; or, \$1,905.00 for 5 months, the time that could be conveniently occupied each season in brick making.

The above estimate is based upon the price of brick, of labor, and of boarding at Mount Vernon. In many places, labor and boarding would doubtless be more expensive. But in such places, the price of brick would probably be increased in proportion.—X. Y. Mount Vernon, May 15, 1834.—[Ohio State Journal.]

AMERICAN TONNAGE.—From the Report of the Secretary of the Treasury recently made to Congress, the Registered, Enrolled, and Licensed Tonnage of the United States amounts to 1,439,450 21.95 tons, divided among the States and Territories as follows:

	Tons.
Maine,	192,714 63.95ths
New-Hampshire,	17,126 54 "
Massachusetts,	395,924 23 "
Rhode-Island,	40,907 22 "
Connecticut,	52,878 79 "
Vermont,	1,531 4 "
New-York,	319,209 80 "
New-Jersey,	33,143 53 "
Pennsylvania,	88,162 11 "
Delaware,	13,265 64 "
Maryland,	80,705 70 "
District of Columbia,	17,225 3 "
Virginia,	43,877 55 "
North Carolina,	32,112 17 "
South Carolina,	15,560 75 "
Georgia,	8,651 45 "
Ohio,	9,683 72 "
Tennessee,	3,047 1 "
Michigan,	1,753 74 "
Alabama,	7,210 31 "
Mississippi,	925 43 "
Louisiana,	61,171 73 "
Florida,	1,911 28 "
Key West,	1,091 72 "

It will be seen that New-England owns nearly one half of the whole tonnage of the country. Massachusetts owns more than one-quarter, and has the largest amount of tonnage of any State in the Union, having upwards of twenty-six thousand tons more than the State of New-York.

We give from the same Report a view of the tonnage for each year from 1815 to 1832 inclusive. It will be seen that from 1828, the date of the Tariff law, to 1830, there was a very extraordinary falling off of the shipping interest; and that in 1831 and 1832, after the opening of the West India Trade, and the settling of the tariff question, there has been a gradual increase.

	Tons.
1815,	1,368,127 78.95ths
1816,	1,372,218 53 "
1817,	1,399,911 41 "
1818,	1,225,184 20 "
1819,	1,260,751 61 "
1820,	1,250,166 24 "
1821,	2,208,958 70 "
1822,	1,324,699 17 "
1823,	1,335,565 68 "
1824,	1,389,163 2 "
1825,	1,423,111 77 "
1826,	1,534,190 83 "
1827,	1,620,607 78 "
1828,	1,741,391 87 "
1829,	1,260,977 81 "
1830,	1,181,776 43 "
1831,	1,267,846 29 "
1832,	1,439,450 21 "

[Boston Post.]

TEXAS—Brazoria.—This town is located upon a wooden elevation of peach-land, as it is termed. The spot was chosen as the most commanding and healthful, besides commanding other advantages. One street stretches along the river Brazos, and one parallel with it further back, while other streets, with trees still standing, are laid out to intersect these at right angles, to be cleared as the wants of the citizens may hereafter require. A speedy settlement is calculated upon with perfect cer-

tainity. The first tree was cut in the year 1828, and the town now contains several hundred inhabitants. Such is the increase of population, that some families are obliged to camp out, for want of better accommodations. Mrs. Holley, in her interesting "Letters" from Texas, written two years since, says there is a great want of mechanics, none being there except carpenters. The town is thirty miles from the mouth of the river above mentioned. It contains a good boarding house, the proprietors of which are from New-York. A gentleman, graduated at Yale College, has opened a school, in which the higher branches of education are taught.

Honey Tree.—By this is meant hollow trees, in which the bees deposite their honey. They are very abundant, and honey of an excellent quality, and in any quantity, may be obtained from them. The employment is very profitable. The wax thus obtained is a valuable article of commerce in Mexico. The hunters frequently throw aside the honey, and save only the wax.

Texas is divided into three distinct tracts—the level, the undulating, the mountainous or hilly. The whole coast is level, but free from marsh. A belt of prairie, about ten miles wide, extends along the coast. Back from the prairie the land is heavily timbered with pine, ash, cedar, cypress, and other forest-trees. The alluvial bottom lands of the Brazos, San Bernard, and Colorado, are from three to twenty miles wide. They are heavily timbered with various kinds of oaks, cedar, pecan, elm, mulberry, and other forest trees common in the alluvions of the Mississippi.

There is an immense cane-brake, as it is termed, extending along the Cane-brake creek seventy-five miles, and in width is from one to three miles. The Colorado and Brazos rivers, which were swollen by the spring and autumnal freshets, are of a deep red and very turbid. Three thousand pounds of seed cotton and seventy-five bushels of Indian corn are an average crop on the alluvions, which are easily cultivated. One of the branches of the Brazos river is salt, and the land bordering on this river has a fertility (owing to this circumstance) which is truly extraordinary. The alternate deposits of the salt and fresh branches form a soil of a light reddish brown color, impregnated with salt and nitre. The whole valley of the Brazos is what is called mulatto soil, and is the best in Texas. The earth, when brought up to the surface from a depth of twenty feet, will yield as good crops as the surface itself.

Ten miles from the town of Bolivar there is a tree which measures 19 feet in circumference. The country between the rivers and creeks is open, level, rich, and elevated prairie, colored with luxuriant grass, and nothing can surpass these vast natural meadows. Even in the winter season, the pasturage is sufficient to dispense with feeding live stock. On many accounts the prairies are deemed more valuable than the alluvial bottoms for cultivation. The soil of the prairies is a deep black mould, mixed with sand in various proportions.

Of the settlements, besides Brazoria, a town has been laid off at the mouth of the Colorado, called Matagorda, and is destined to become the depot of the Colorado, and of an extensive fertile country.

Above the level region, the country becomes undulating. This kind of land extends in a northerly direction up the Colorado, Brazos, and Guadalupe rivers, from 150 to 200 miles above the level region, and reaches to the mountain range of Texas. This undulating section is deemed as desirable a residence for man as can be found on the face of the earth. It is bountifully watered, abounding in bold rivulets and springs of the purest water. Successful experiments have been made on these undulations, of wheat, rye, oats, flax, &c. Lime stone and building stone in abundance. Indigenous grapes of various sorts grow in great profusion, and natural vineyards await the hand of the vine dresser.

Attempt to assign the Cause of the Spontaneous Combustion of Charcoal. By Mr. JOHN DAVIES, Member of the Wernerian Society of Edinburgh, &c. and Lecturer on Chemistry, &c.

In the above interesting paper, no attempt has been made by the author of it to furnish an explanation of the phenomenon which he has established and described; and as every inquiring mind will direct its attention to a rationale of the operation, I presume that some remarks which have occurred to me within the few last days, and which may at least supply some aid in the discussion, may be without impropriety appended to the paper. These remarks, though theoretical, are countenanced by experimental analogies, which, if they fail to establish the accuracy of the speculation, may, at least, excuse its introduction.

A statement of the mode in which the charcoal in question is made, will be necessary in the subsequent explanation. Small fragments of wood, generally stripped of their bark, are put into iron cylinders, and exposed to intense heat, in order to effect the distillation of the volatile constituents for the manufacture of iron liquor. Now, Mr. Brunner resorted to a similar procedure in obtaining potassium from potash and charcoal; and as we know that potash may be procured from the wood employed by Mr. Hadfield, we have in his manufacture the same operation and the same materials as in Mr. Brunner's experiment, and may therefore expect the same results. The only difference would be, that as Mr. Brunner used much potash, he procured a large proportion of the metallic base; while in the other case the potassium must be in small quantity, because all the potash present would be only that supplied by the wood subjected to distillation: and yet, upon the whole, the quantity extracted under the latter circumstances is not inconsiderable; for it is by the combustion of such wood in America, where it is of comparatively little value, that the potash is principally formed which is consumed in the arts and manufactures in every part of Europe.

It is manifest, therefore, that in the formation of Mr. Hadfield's charcoal, potassium must, in small quantities, be liberated.

Supposing the presence of potassium in fresh charcoal to have been established, we have now to explain its operation; and this appears to be effected upon the assumption that the metal lingers in the pores of the charcoal, incased, as it were, in the substance, until it be at length exposed to the action of atmospheric air and aqueous vapor. This view of the subject derives plausibility from the facts, that the combustion does not commence at any considerable depth below the surface; and that when a thermometer is introduced into the mass, the ignition generally originates in that place; that is to say, the combustion occurs exactly where it might be expected, since it takes place at the part which, favorably situated, is most exposed to the action of the supporter of combustion.

This general view of the spontaneous combustion is directly countenanced by the excellent paper of Colonel Aubert, inserted in the "Bulletin des Sciences Militaires" for January, which Mr. Hadfield has offered me the opportunity of consulting. This ingenious foreigner shows by a number of decisive experiments, that the absorption of

air and moisture is indispensable in the production of the phenomenon. He proves also, (what Mr. Hadfield has in a different way very clearly confirmed,) that no carbonic acid is formed before the incandescence occurs—a fact strictly in accordance with the hypothesis which I have offered; since upon this hypothesis the oxygen of the air, instead of forming an acid with the carbon, produces, by its superior affinity, an alkali with the potassium. The next position which he establishes, is that the carbon increased in weight in proportion to the quantity of air and moisture absorbed; and this should, according to the explanation suggested, occur, the alkali formed being much heavier than its metallic base. It appears that, to produce the ignition, the charcoal should not only be reduced to powder soon after its formation, but that the sooner it is so reduced the more certain and considerable will be the effect. Now, this fact also is entirely consistent with the explanation, because, when the pulverization has been delayed, air and moisture will have gradually produced the alkali, by a process imperceptible, because the minute portions of potassium would be at comparatively distant intervals from each other, and thus would not be in sufficient quantity at any one place to produce a sensible effect.

Colonel Aubert pulverized a mixture of coal and sulphur, and he found that under these circumstances no ignition ever occurred. The reason is obvious: for the potassium, which has been conceived to be the cause of the combustion, entered during the trituration into combination with the sulphur.

He also triturated charcoal with nitre, and he again found that the spontaneous combustion was prevented. Now nitre, by mingling with the potassium, would check its too rapid absorption of oxygen; and the effect of his experiment is in this way sufficiently accounted for.

The presence of the potassium seems to account for the circumstance, that when charcoal is moistened and subjected to heat, carburetted hydrogen is set at liberty. In this instance it would appear that the water is decomposed, the hydrogen evolved, and the oxygen united with the potassium to form the alkali. If the heat be continued, carbonic oxide would be evolved; the oxygen absorbed in the first part of the operation being again detached from the metallic base. Now this explanation corresponds precisely, I believe, with the order in which, in such an experiment, these gases are produced.

All these circumstances observed by Mr. Hadfield and Colonel Aubert appear, therefore, perfectly reconcilable with the supposition that the spontaneous incandescence is owing entirely to the oxidation of the potassium liberated from the wood during the manufacture of the charcoal.

Dr. Thompson, in the second volume of his History of Chemistry, published since my paper was read to our society, has thrown additional plausibility upon my explanation, by his attempt to show that phosphorus owes its property of catching fire, when in contact with oxygen, to a little potassium, which is reduced to the metallic state during the formation of the phosphorus.—[Phil. Mag.]

STEREOTYPE METALGRAPHIC PRINTING.
—By Dr. Alexander Jones, of Mobile, Alabama.—I offer this name, as I have nothing

better to designate it. It means simply the transferring of printed letters, from the pages of a book, or newspaper, to the polished surfaces of metallic plates, especially of soft iron. My experiments are not yet completed, yet I feel satisfied that the result is entirely a practicable one, if carefully conducted with proper instruments.

The best plan on which to conduct the experiment is as follows: Take two plates of very soft iron, of moderate dimensions, give one face of each a very true and fine polish, so that, when applied by these faces, they shall uniformly fit and adhere together. Moisten two slips of printed newspaper, or parts of a leaf from a book, of the size of the plates, apply one to the polished face of each plate, and interpose between them a fold or two of silk paper, and then clamp the plates together. Give them a gentle heat over the fire, then place them in a vice, and apply a strong screw power. On separating them and gently removing the paper, the letters will be seen, distinctly formed on the faces of the two plates. Now, as printer's ink is formed of lamp-black and oil, upon which acid acts very little, the faces of the plates may be slightly touched over with diluted sulphuric or nitric acid, which, if skilfully applied, acts on the iron, and leaves the letters raised. When the printer's ink contains some bees-wax, the experiment is more complete. These plates, once formed, may be converted into steel, on the plan of Mr. Perkins; after which they would probably print from 10,000 to 20,000 copies without being materially defaced. An expert mechanic, with proper machinery, could in a day or two form a sufficient number of plates to print off 20,000 copies (500 pages) of an octavo volume.

Other metals, as copper, brass, and type metal, with slight variations, can all have letters transferred to them in the same manner, and can be used as printing plates; but none of these will have the durability of iron.—[American Journal of Science.]

Correct Fusing Points of Metals and Alloys, and other important Temperatures, upon various Thermometrical Scales. [From the Repertory of Arts, &c.]

In the thirteenth edition of Parkes' Chemical Catechism, edited by Mr. Brayley, jun., which has just appeared, we find a "Table of the Effects of Heat," (p. 606), in which the higher temperatures have been corrected by the editor, agreeably to the pyrometrical researches of Mr. Daniell and other chemists. As we do not remember to have seen any connected view of the results, as to the correct fusing points of metals and alloys, &c., which Mr. Daniell has obtained by the use of his new register pyrometer, we subjoin an extract from this table, containing the temperatures from 212° upwards. It may be requisite to state, for the information of such of our readers as may not be acquainted with the present state of pyrometry, that Mr. Daniell has shown (as we find it explained by Mr. Brayley at p. 70, notes, of the Chemical Catechism,) that "the degrees (above the zero of 1077° Fahrenheit, which is stated to be a red heat visible in the daylight,) of Wedgwood's pyrometer, instead of being equal to 130° of Fahrenheit, as supposed by its inventor, are equal only to about 20°;" and that consequently the range of that instrument, instead of including 3200 degrees of Fahrenheit, did not really include more than about 5000°: this will account for the great difference of the corresponding temperatures of Fahrenheit, &c., and Wedgwood, as here stated from the new edition of the Chemical Catechism, from those given in former editions.

of that work, and also in many other publications on chemical subjects.

Fusing Points, &c. on the scales of Fahr. Reau. Cent. Wedg.

Water boils, and "fusible metal" [$\frac{1}{18}$ bismuth, $\frac{1}{18}$ lead, $\frac{1}{18}$ tin, smelt]	212	80	100
Sulphur melts	216	89	111
Nitrous acid boils	242	93	116
Camphor melts	288	114	142
Sulphur burns slowly	303	120	150
Pewter melts, [lead $\frac{1}{3}$, tin $\frac{2}{3}$]	403	165	206
Tin melts	442	182	227
Type metal melts, [lead 16 parts, antimony 1]	507	211	264
Sulphuric acid (sp. gr. 1.848) boils	590	248	310
Lead melts	612	258	325
Mercury boils	662	280	350
Zinc melts	773	329	412
Iron bright red in the dark—hydrogen gas burns?	800	341	427
—red in twilight	884	386	475
—red heat in daylight	1272	551	700
Enamel colors burnt, or burnt-in,* on porcelain	1392	605	756
Bronze melts, [copper $\frac{1}{3}$, tin $\frac{2}{3}$]	1446	629	786
—, [copper $\frac{1}{2}$, tin $\frac{1}{2}$]	1534	668	835
Diamond burns?	1552	676	845
"Orange heat" (Prinsep)	1650	719	899
Brass melts, [copper $\frac{1}{2}$, zinc $\frac{1}{2}$]	1672	730	911
—, [copper $\frac{1}{3}$, zinc $\frac{2}{3}$]	1690	737	921
Bronze melts, [copper $\frac{1}{10}$, tin $\frac{9}{10}$]	1750	794	955
Silver melts	1873	818	1023
Copper melts	1996	860	1091
Gold melts	2016	862	1102
Delft-ware fired	2072	967	1179
Cast iron melts	2786	1224	1420
Cream-colored stone-ware fired	2992	1316	1645
Temperature of the maximum of expansion of platinum, being nearly the highest degree of heat attainable in a laboratory wind-furnace	3280	1444	1805
Flint glass furnace, greatest heat?	3552	1253	1956
Soft iron melts, according to Clement and Desormes, but in all probability an estimate considerably above the truth	3945	1406	2118

Mr. Brayley observes, at the end of the table, "The still higher temperatures, derived from the experiments of Mr. Wedgwood, which were here given in former editions of the Chemical Catechism, are now omitted; a comparison of them with the results obtained by Mr. Daniell, by means of his pyrometer, having shown that they cannot be relied upon. Some of the temperatures given in this Table above that of ignition, or 800°, must also be regarded as doubtful, and all of them must be regarded as approximative merely.

*This is a technical term used by enamellers, glass and porcelain painters, &c., to denote the fixing of the colors they employ, by means of vitrification, on the substances painted upon.

ANCIENT MARKS ON PAPER.—Every one knows how often we are obliged to refer to ancient times to explain common terms of art, and words which are in every one's mouth. We have a curious instance of this in the names which are given to the different sorts and sizes of paper. We all talk of *foolscap-paper*, *post-paper*, and *note-paper*;

and paper-makers and stationers have other terms of the same kind, as *hand-paper*, *pot-paper*, &c. Now, the term *note-paper* is clear enough, as it evidently means paper of the size fit for notes; while *post-paper*, we may suppose, means the larger size, which is used for letters sent by the post. But when we come to *foolscap* paper, we are altogether at a loss for an explanation; and here we find we must look to something else than the size of the paper as to the origin of the name. Now, if we go back to the early history of paper-making, we find that terms which now puzzle us so much may easily be explained by the various paper marks which have been used at different times. In ancient times, we know, when very few people could read, pictures of every kind were very much in use where writing would now be employed; every shop had a sign, as well as every public house; and these signs were not then, as they very often are now, only printed on a board; they were always either painted pictures, as many inn signs still are, or else models of the thing which the sign expressed, as we still sometimes see a bee-hive, a teacanister, or a doll. For the same reason, printers had always some device which they put upon the title pages, and at the end of their books; and paper-makers used marks to distinguish the paper of their manufacture from that of others. Some of these marks becoming common, naturally gave their name to different sorts of paper; and as names, we all know, remain very long after the origin of them is forgotten, and the circumstances changed, we shall not be surprised to find the old names still in use, though perhaps in some cases they are not applied to the same things they originally denoted. It will be the best way, perhaps, to mention briefly the chief paper marks which have been used, as they occur in the order of time. The first paper-maker in England is supposed to have been John Tate, who is said to have had a mill at Hertford; his device was a star of five points within a double circle. The first book printed on paper manufactured in England was a Latin one, entitled *Bartholomeus de Proprietatibus Rerum*. It was printed in 1495 or 1496. The paper seems to have been made by John Tate, the younger, and had the mark of a wheel. The paper used by Caxton, and other early printers, had a great variety of marks, of which the chief are the ox-head and star, the letter P, the shears, the hand and star, a collared dog's head, with a trefoil over it, a crown, a shield, with something like a bend upon it, &c. The ox-head, sometimes with a star or flower over it, is the mark of the paper on which Faust printed some of his early books; but the open hand, which was likewise a very ancient mark, remained longer in fashion, and probably gave the name to what is still called *hand-paper*. Another very favorite paper mark, at a somewhat later period, was the jug or pot, which seems to have been the origin of the term *pot-paper*. It is sometimes found plain, but oftener bears the initials or first letters of the maker's name; hence there is a very great variety of figures, every paper maker having a somewhat different mark. The hand and pot marks existed from 1539 to 1639, as may be seen in old Bibles. The foolscap was a later device, and does not seem to have been nearly of so long continuance as the former. It has given place to the figure of Britannia,

or that of a lion rampant, supporting the cap of liberty on a pole; the name, however, has continued, and we still denominate paper of a particular size by the title of foolscap paper. The figures have the cap and bells which we so often read of in old plays and histories, as the particular dress of the fools, who formerly formed a part of every great man's establishment. Post-paper seems to have derived its name from the post-horn, which was at one time its distinguishing mark. This is of later date, and does not seem to have been used before the establishment of the General Post-Office, when it became the custom to blow a horn. This mark dates from 1670 to 1679. The mark is still sometimes used; but the same change which has so much diminished the number of painted signs in the streets of our towns and cities, has nearly made paper marks a matter of antiquarian curiosity, the maker's name being now generally used.—[Saturday Magazine, No. 11.]

CARRIAGES.—Wheel carriages for pleasure are generally supposed to have first come into use in England in the reign of Queen Elizabeth. But long before that time carriages of some sort were used on state occasions, or for the conveyance of sick persons. Even in the time of the Saxons, a clumsy kind of car, on four wheels, was employed to carry great personages; and Stow tells us, that, during Wat Tyler's insurrection in 1380, Richard the Second, "being threatened by the rebels of Kent, rode from the tower of London to the Miles End, and with him his mother, because he was sick and weak, in a *whirligate*," which is supposed to have been a sort of covered carriage. "Chariots covered, with ladies therein," followed the litter in which Queen Catherine was carried to her coronation with Henry the Eighth. But Queen Elizabeth's is the first that was called a *coach*. In 1564 William Booner, a Dutchman, became the Queen's coachman, and about this time coaches were brought into general use in England. In 1588 Queen Elizabeth went from Somerset House to Paul Cross, to return thanks on the destruction of the Spanish Armada, in a coach presented to her by Henry, Earl of Arundel. These coaches must have been clumsy uncomfortable machines. They had no springs, and the state of the streets and roads must have made travelling in them any thing but easy. But fashion brought them into such general use, that in 1607 Dekker complains that "the wife of every citizen must be jolted now." And in 1636 there were 6000 of them kept in London and the neighborhood. At first they had only two horses, but afterwards the number was increased. In the reign of James the First, "the stout old Earl of Northumberland, when he was got loose, hearing that the great favorite Buckingham was drawn about with a coach and six horses, thought he might very well have eight in his coach, with which he rode through the city of London to the vulgar talk and admiration." In general, however, it was thought disgraceful in those times for the male sex to ride in coaches. "In Sir Philip Sydney's time, so famous for men at arms, it was then," says Aubrey, "held as great a disgrace for a young gentleman to be seen riding in the streets in a coach, as it would now for such a one to be seen in the streets with a petticoat and waistcoat, so much is the fashion

of the times altered." Sir Walter Scott says, it is a tradition in Scotland, that chaises or chariots were first introduced into that country in 1745. Before that time the nobility were accustomed to travel in vehicles somewhat resembling Noah's ark, and the gentry on horseback; but in that memorable year, the Prince of Hesse appeared in a carriage of this description, "to the admiration of all Scotchmen, who regarded it as a coach cut in half." When we compare the clumsy things in which even our kings formerly rode, with the convenient and light carriages of the present day, we cannot help admiring the progress which our workmen have made in this and every other branch of art, and hoping that their skill may always find that encouragement which it so well deserves.—[From a paper in the *Archæologia*, by J. H. Markland, Esq.]

AGRICULTURE, &c.

USE OF MARL.—A correspondent of the Baltimore Farmer and Gardener thus speaks in favor of this manure:

I have been favored with the use of this mineral, as a manure, for more than twenty years, in neighboring states; and have, in many instances, witnessed the most wonderful improvement from its application. There is a great variety in the composition of this article; all of which require a corresponding difference in the component parts of the soil to which it is to be applied, for profitable results. He who goes to work with this manure without a knowledge of the composition of either his soil or his marl, will but flounder in an uncertain ocean of wild "experiment," and in many instances may expect to lose both his labor and his "deposits."

In New-Jersey there are three principal strata of this substance, differing materially in their composition, and in their adaptation for particular soils. The first stratum lies near the Delaware, is met with along the banks of creeks, and in the bottoms of wells—in one instance within my knowledge, it was penetrated nearly one hundred feet; but without going through the layer. This abounds with a large proportion of shells, and other fossil remains. The second stratum, farther up the country, has fewer shells, of a black color, and is granulated, by reason of which it has obtained the name of gunpowder marl. The third stratum lies still farther up the streams, and bordering on the regions of pines—this species strongly impregnated with sulphurous acid; so much so, in some instances, as to corrugate, and even excoriate, the cuticle on the hands of the laborers in the pit—has no undecomposed shells, color black, green, and sometimes blue, which has been used as a pigment for painting. I was acquainted with one tract of land which abounded with this latter species of marl, and was rendered almost entirely barren. With the exception of here and there a scrubby white oak, the soil was almost as bare as the beaten pathway. It had not been thought to be worth the expense of an inclosure, until it fell into the hands of a gentleman who understood something of the science, as well as the art of agriculture, and knew how to appreciate the value of a retort in the hands of a ploughman. On discovering the composition of his sterile soil, he knew how to apply the appropriate remedy, and after inclosing a lot, it was ploughed deeply, dressed with a coat

of the hydrate of lime, and laid down to clover; and a finer crop of that valuable grass I never witnessed. Here the uncombined acid of the soil, uniting with the calcareous matter, formed the sulphate of lime, or plaster of Paris, which enters largely into the composition of clover, and forms its proper nourishment.

At this cheap rate, was this barren waste converted into a rich and beautiful meadow; not exceeded in value by any bottom meadow within my knowledge.

Had marl of the first mentioned species been applied to this land, it would have produced the same effect, in proportion to the quantity of undecomposed calcareous matter which it contained. The second species would have produced little or no effect; but had the last mentioned kind been used, it would have been like adding fuel to the flame, and would have rendered the sterility more lasting and obstinate. It was refreshing to witness the effect of this blooming spot, surrounded by the dreary waste. It could only be compared to the effect on the famished caravan, when, traversing the blowing sands of Arabia, he descries in the horizon the lonely palm tree, marking the site of a solitary spring of water.

Preparation of Beet Sugar. By Dr. F. WURDEMANN. Being an extract of a letter from Dr. Wurdemann, of this city, now in Paris, to Dr. Ravenel, and communicated by him for publication in the *Southern Agriculturist*.

PARIS, December, 1833.

"The beets are collected when ripe, or little before that time, and immediately brought to the cleaning machine. This consists of a cylinder composed of ribs of wood, and revolving in a trough filled with water; into this cylinder, the beets with their tops, as torn from the ground, are put, and thoroughly washed; one objection to cutting off the tops before washing, is that a quantity of saccharine matter escapes. They are then brought to the rasping machine, which breaks down their cellules, and reduces them to fine pulp. In some places the beets are brought dried to the manufactory. They should then be cut in transverse slices, and dried in a stove heated somewhat below the temperature of boiling water, that being sufficient to destroy the principles of organic life in the beet, and which militates against the action of affinity present in all inorganic substances. The temperature should be below 112 degrees of Fahrenheit, as it appears that at that point the coloring matter is formed readily, either from a re-action taking place between the principles contained in the beet, or during the maceration, from the water used in that process. For the same reasons the time and degree of heat used in maceration should not exceed that requisite to extract the saccharine matter.

The quantity of fibrous matter contained in the beet is so small, in proportion to the liquid, and the cellules containing the latter are so minute, that it requires a most complete rasping to prepare them for the press. The presses most esteemed are those which press but a small quantity at a time, and that with expedition; as by these means most juice is obtained from the pulp. They are of two kinds, the screw and the hydraulic; but the limits of this paper will not permit me to give you a description of either; suffice it to say, that the pulp, having been placed in strong, closely woven cloth, is submitted to these presses, and the juice flows immediately into cauldrons, (coppers,) in which it undergoes the process of defecation. From good beets Dombasle obtains 85 per cent. of juice; from good and indifferent, 60 per cent. is usually got. From boiling them and then cutting them in slices, over which a current of water flows successively, he

has obtained 90 per cent.; 60 lbs. of juice of good white beets yield from 4½ lbs. to 5 lbs. of raw sugar; those grown in rich wet soils give less.

The juice thus, or otherwise obtained, is subject to a spontaneous alteration, which is important to know. If exposed to the atmosphere, it gradually acquires a stringy and oil-like consistence, which, increasing in proportion to the evaporation of the liquid, at last resembles that of the white of an egg. These changes take place in less than twenty-four hours, when the temperature is at 20 degrees to 24 degrees centigrades. The mass which before this change never showed any free acid, now contains both *acetic* and *nanqueine* acids, (the latter described by Braconnet in 1813—*Annales des Chimie*.) It is supposed that this alteration takes place in the beet itself when kept in too large heaps, and thus subjected to too high a temperature. It is the formation of this viscous matter which presents a great obstacle to the crystallization of the sugar, and which, gluing together the crystals, prevents the molasses escaping. To guard against this alteration of the juice, the utensils used in keeping and stirring the beet juice should be kept scrupulously clean, and the greatest celerity possible should be used in all the necessary operations, from the grinding to the defecation. The instruments of wood must be frequently washed with the greatest care, and when laid aside, should be covered with milk of lime, and which should not be removed before their immediate use is required. One of the best means to prevent this alteration in the beet juice is to employ small coppers, capable of containing about two hectolitres (two hundred English quarts) each; five of this size are capable to serve for the fabrication of 30,000 lbs. of beet juice per diem. Although the heat may be applied to a large copper long before it is filled from the juice flowing from the presses, too much time passes before it is full, and arises at the temperature of 70 or 80 degrees centigrades, at which temperature the juice may be considered safe from the alteration above mentioned.

I will not dwell on the *modus operandi* of the substances used in the defecation of the juice, but proceed, at once, to state the process most generally adopted. The quantity of lime varies from 2½ to 3½ "grammes" for each "litre" (quart) of the juice. As a general rule, the quantity must be increased in proportion to the quantity of saccharine matter contained in the juice. The purest lime should be used, and in its greatest degree of causticity, and it should be reduced into a clear pap by means of a little water before put into the coppers. It is best to put it in the copper as soon as a few buckets full of juice have flowed in, it acting in preventing the decomposition already so much insisted on, which is apt to take place to a more or less great degree before the juice arrives at the requisite degree of temperature.

Two methods are now used to complete the operation. One consists in preventing the boiling of the juice, by extinguishing the fire before it arrives at 100 degrees temperature, and then being left at rest for half an hour, when the scum rises to the surface; the liquid is afterwards drawn off by a cock placed near the bottom of the copper.

The method preferred by Dombasle is to continue the fire under the copper, and, when near the boiling point, watch the *first bubble* which swells under the scum; immediately take a ladle full of the juice from the spot where it arises, and pour on the spot a quart of cold juice, which checks the action immediately; the same operation must be repeated as often as a bubble appears, (which must never be permitted to burst and spread over the scum,) until, by examining the liquor taken up in the ladle, the defecation is found complete, when the fire must be extinguished, and the liquor allowed to rest for a half hour before drawn off; always guarding the bubbles, which may continue to rise, from bursting by the means already indicated. By this method, the operator is rendered com-

plete master of the work, and in those cases in which sufficient lime has not been used, he can have time to add more when he finds that complete defecation will not take place. For this purpose he has only to dilute a quantity of the milk of lime in the cold juice, which he pours into the copper. Even the introduction of the cold liquid alone sometimes produces a remarkable effect: a single quart changing the state of the liquor and causing the separation of the fæces in large flakes. The complete defecation is known by the liquid in the ladle being of a fine white wine color, and perfectly transparent, and that the fæces are divided into large flakes, which settle quickly to the bottom of the ladle. The liquor having been drawn off, the scum and residue are then placed on cloths extended over a table composed of wooden ribs, and having an elevated border; below this is placed an inclined plane, which conveys the juice into a reservoir containing the rest of the clarified juice. The cloths should be of cotton in preference to wool, which the lime, still retained by the fæces, is apt to rot.

Now, place the juice thus defecated into coppers destined to concentrate it. The form of the different coppers is not an unimportant object. Those used in defecation should be deep, viz. the depth half their diameter; and when bullocks' blood is employed in defecation, they should be as deep as wide. The coppers for concentration should be as wide as one foot in depth to four or five feet in diameter, those for cooking differ from these last only in having their bottoms three "lignes" in thickness at least. The combustible matter is pit-coal or wood, and the furnaces must be adapted to each. Animal charcoal is used in the concentration; that made from bones and not horns is employed. Its action is not confined to removing the color, but it acts also in an inexplicable manner, enabling the syrup to support a higher degree of temperature; and without it, it is almost impossible to cook the syrup on an open fire, which process will now be described.

Place the clarified juice into the concentrating coppers, and saturate the excess of lime, if it exist, by diluted sulphuric acid; it should not be rendered completely neuter, only so far that the purple (tournesol) paper changes slowly blue. Then pour in the animal charcoal in the proportion of $1\frac{1}{2}$ lbs. to a "quintal" (100 lbs. weight) of the liquor. Boil and continue the concentration until the hot liquor supports (porte) 20 degrees *a l'areometre de Baume*. It is then withdrawn and left to deposit in deep wooden vessels, and kept in a cool place, where it precipitates during cooling a great quantity of calcareous salts, among which the malates are most abundant. When the syrup is perfectly clear, (at the end of twenty-four hours usually,) it may be submitted to the action of cooking (*cuite*.)

Being placed in the cooking coppers, carry it by a brisk fire to 32 degrees *a l'areometre de Baume*. Extinguish the fire, and throw in animal charcoal, in the proportion of $\frac{3}{4}$ lbs. to a quintal of the juice which has furnished the syrup, viz. half the quantity employed the first time. Let the syrup now cool to about 75 degrees, stirring it occasionally to mix the charcoal well with it; then carry it into the clarifying coppers, and submit it to the usual clarification of bullock's blood; it is then drawn off clear and the cooking proceeded with. The scum, &c. is placed on woollen cloths to drip. The preceding is considered the most difficult part of the process. The cooking coppers now receive it, and the point of concentration is told by touching the ladle dip in the syrup and drawing out the thread. The thumb being below, when the finger is drawn from it, the thread should break at the thumb. The thermometers used for this purpose are rejected by M. Dombasle, as not to be relied on. When of the proper consistency, it is poured out into the "rafrachissoir," where it crystallizes.

The method recommended by Payer is to evaporate the defecated juice to twelve degrees of Baume, without adding any animal char-

coal; then draw off all the liquid into a filter filled with animal charcoal; evaporate rapidly the filtered liquid to twenty-five degrees of Baume, and filter again through a filter of Dumont with fresh animal charcoal. The syrup is thus rendered ready for the cooking, it yields more crystals of a more beautiful hue, and the suppression of the bullock's blood no longer leaves a portion soluble and alterable. Payer recommends also the copper on a pivot for cooking the clarified juice, it (cooking) being in this accomplished in five or eight minutes, while the other method requires thirty or thirty-eight minutes; moreover, the alteration is six times less in syrup cooked in this than in the usual stationary coppers. The fire being brisk, the ebullition is commenced in one minute in every part of the copper; frequently the syrup is too viscous, and rises in a thick froth, and, incompletely wetting the bottom of the boiler, hazards the burning of the sugar: to check this instantaneously, throw in a small quantity of fresh butter, four or five grammes, which Dombasle recommends to have been previously melted, as that operation prevents the sugar receiving any flavor from it; as soon as the syrup, by means of the touch, is found cooked, draw the cord, and thus canting the copper, its contents pour out at once; open the stop cock, and proceed with the process; seven or eight products being thus united in the *rafrachissoir*, it is rolled into the rooms containing the forms, for much of the French beet sugar (raw) is in loaf form.

I have thus, my dear sir, given all the information I possess relative to the manufacture of beet sugar from the expression of the juice to the crystallization. I have drawn freely from the latest and most esteemed works, but as yet have not been in a refinery. I thank you for the hint, how I may render my stay here serviceable to my native city; and shall use my endeavors to gain admittance into a refinery before my return.

I am, with great regard, dear sir, yours, very respectfully, F. WURDEMAN.

APPLES FOR OXEN.—Last season a widow lady residing in New-Jersey bought a pair of working oxen for \$55. She had them fed on apples and grass, with the addition of four or five bushels of ears of corn. She sold them in the fall to the butcher for \$94. The apples were the kinds of which the best New-York cider is made.

Report on the Cultivation of Turnips with Compost applied in a peculiar manner. By Mr. HUGH MUNRO, Assynt by Evanton, Ross-shire.

[The following is from the Transactions of the Highland Society of Scotland, and the plan may be worthy of imitation in some instances.]

I had a field of nine acres, which I wished returned into grass, and from the little experience I have as a farmer of four years' standing, I considered that grass after turnip eaten off by sheep would be better than after any other course. I at one time thought I should be obliged to purchase bone-manure for this field, not having any fold manure; but the expense of bones for nine acres, at twenty-five bushels per acre, at 2s. 10d. (the price last season), would £3 10s. 10d., or £3 17s. 6d. I have, however, heard that fourteen bushels of bones per acre have been applied to raise turnip with success, which makes £1 19s. 8d. per acre, or £17 17s. for nine acres. So I determined to try and find a substitute that would be cheaper and equally effective, in which, I am happy to say, I have succeeded beyond my most sanguine expectations. I got some of the small tenantry to bring to me a quantity of peat-moss, for which I paid £2 10s. I then mixed all the chaff from the mill, the fire-ashes from my own house, together with the sweepings and fire ashes, &c. &c. of my servants' houses, (for which I gave straw to bed their pigs,) the scrap-

ings of roads and ditches, and then wetted the whole with the superfluous urine from the fold, having added a little lime and horse dung, and turned it frequently till it was well pulverised; and in this way I prepared 45 single cart loads. During the winter, I drilled from the stubble the field intended for turnip, and let it lie exposed to the weather in that state until the end of May, when I harrowed it smooth, and then drilled it again by splitting the former drills. I then put a light roller over the drills to make it smooth, and commenced laying down the turnip in the following manner. I had five men with large dibbles made of hard wood, with which they made holes eight inches apart on the top of the drills, pressing down the dibble with the foot, each man having a single drill, followed by a woman with a basketful of the prepared manure,* and into each hole made by the dibble she placed a handful of manure. After her, followed a girl with a little bag of turnip seed†, putting from three to six or more grains on the top of the manure, with her fore finger and thumb, drawing a little earth over it; and in this manner I carried on five drills at a time with fifteen people, viz. a man and two women to each drill. The whole went on like clock-work, and I finished the nine acres in four days, at an expense of about £5, including purchase of peat moss. The turnips grew rapidly, and I had them cleaned in the usual manner, sometimes leaving two plants in one hole, which I found to answer well, especially if the plants happened to be a little distant from each other, say about two inches. I have thus raised an excellent crop of large turnip, by applying only five single cart-loads per acre of this prepared manure, and the expense of the whole does not exceed £5; indeed, they are so good, that I am now stripping one half previous to putting on the sheep. Every one who has seen the turnip has been surprised, and several in my neighborhood intend adopting the same plan next year. I shall now attempt to make some observations on this plan which I have adopted.

1st. Where the land is foul with weeds, the usual mode of cleaning should be adopted, and then drilling the land once.

2d. That the manure to be prepared should be made as strong as possible, by the superfluous urine of the court-yard in winter; and that the scrapings of roads and ditches, with rubbish of old houses, &c., would be preferable to peat-moss. A boll of lime should also be mixed with every ten cart-loads, and, when well attended to, less than five cart-loads per acre will be found sufficient.

3d. I observe that, although the season may be dry, and the sides of the hole liable to fall in, yet, by making the women with the manure follow the dibble quickly, this inconvenience (and I may say it is the only one) will be obviated in a great measure; and where this was done, I found no difference in the crop of turnips.

4th. This plan can be followed in all kinds of weather, and better while raining, which is not the case in the usual method.

5th. Where five or more grains of the seed come up together, (forced on by the strength of the manure over which the seed is immediately placed,) they will force themselves through, even should the soil be barked by rain, wind, and sunshine. And,

6th. Should dry weather be the character of the season while sowing the turnips, they will show a healthy braird, the manure, which is their food, being close at hand, and they not being obliged to push their delicate roots through a quantity of earth in search of nourishment, as in the method now in use.

* The manure is taken to the field in carts from where it is made, and the driver fills each woman's basket as they may require it.

† I only expended 2 lb. of turnip seed for each acre.

HAIL.—Hail fell in St. Francisville, La. on the 27th of March, and killed some sheep, chickens, &c. Some of the stones were as big as turkey's eggs.

CULTIVATION AND MANAGEMENT OF THE TOBACCO CROP.—Having an increasing number of subscribers in the southern states, we deem it due them to occupy a portion of our pages, even for their exclusive benefit.

To the Editor of the Farmer and Gardener.

SIR—To enable us to answer the numerous inquiries, which are constantly made relative to the cultivation of tobacco, we requested an extensive and highly intelligent planter (of whom we have received ten varieties of seed of the choicest Maryland sorts) to give us his views relative to the proper mode of cultivation and management.

We have the pleasure of enclosing his remarks on the subject. If you think them worthy a place in your valuable paper, publish them; the result may prove useful to your numerous subscribers. Respectfully, yours,
SINCLAIR & MOORE.

Baltimore, May 20, 1834.

The ground is prepared as you would for cabbage seed; in addition, it is always, when taken from new ground, burnt by placing a quantity of brush upon it, then set on fire, for the purpose of cleansing it from all filth. The repetition of burning may be avoided by always weeding up the bed after you are done with it for the season. The quantity of seed required is about a wine-glass full to ten yards square; but in this we differ in practice very much—we know if we could be certain it would always come, that this quantity would be enough; and as it is uncertain, we most always sow three times as much, with the calculation, should it be too thick, to rake out the over quantity. This raking is of rather a recent date, and is done by a small rake made of 10d. nails, put about five-eighths of an inch apart, with sharp points; and it is used with a little slight of hand, so as to divide the plants without leaving them in rows. This operation is performed when the plants are about the size of a five cent piece, which is usually in the early part of May, and just before we think of planting.

Planting is usually done from the latter part of May to the 10th of July; here again I must refer you to the mode of preparing and planting cabbages in hills. The size of the plants, about three inches broad, are the best size to plant out; when transplanted they are also cultivated very much as cabbages, only oftener worked with the plough and hoe.

Usually, in the middle of August, tobacco will signify its approach to ripening by buttoning and blossoming, at which time we quit working it, and proceed to break off the blossoms to such a leaf as we think will ripen as soon as the bottom leaf, (which we call topping tobacco); after this it will commonly put out suckers just above the joints of the leaves, these must be broken off, and then we think it time to house. *Cutting and housing:* This is done with a similar instrument to a butcher's cleaver. After it is cut it may lay for a little time, until the leaves fall and will not break by handling.

From the ground it may be taken in large loads to the tobacco house, where it is usually pegged (a wooden peg six inches long is driven into the butt, by which it is hung on the sticks in the house,) but sometimes split; this is done by a knife, splitting the stalk down nearly to the butt, before it is cut down in the field, and when brought to the house it is

straddled across the sticks, instead of being hung on them by the peg. The sticks are placed on the bearers in the house about six inches apart, the plants put from four to six inches apart, according to the size, where it is cured either by fire or suffered to cure by the air. It is considered cured when the stem of the leaf is dry. *Stripping* comes next; for which we choose moist weather, the only time it can be handled without crumbling, and tie it in bundles, from which it is generally put in bulk and watched that it does not heat; after which the bundles are straddled across the sticks for *conditioning* to pack; here it must be noticed that the bundles get completely dry, and then as soon as moist weather again enables you to handle it, it must be taken down and put in large bulks and weighed; this is called *close bulks*, here it is ready for packing; that process is so generally known that I do not deem it necessary here to say any thing about it.

The kinds. Tobacco is esteemed mostly for two reasons, one for *quality*, the other for *quantity*. It is supposed the thinner jointed tobacco generally cures the brightest, but I do not entirely subscribe to this opinion, as I have often seen the thick jointed of as good color. Am inclined to think there is more in the soil than in the kinds; a poor hickory soil will produce a good color, when I have seen such black soil produce very dull tobacco; but as a general rule, give me the thick jointed sort, and upon tolerable strong loam. Rich stiff soil will not produce a bright crop, but will give a heavy crop; quite sandy soil, on the other hand, is likely to produce bright, but a light crop. So, upon the whole, I should prefer the thick jointed tobacco, and upon a loamy soil of pretty good strength, to produce the most profitable crop.

Tobacco is a very troublesome crop; it never being off hand. The seed of the new is sown before the old crop is packed and sent to market. It is subject to many enemies, among them the fly in the bed and in the field; when small, the ground worm, the bud worm, the web worm, and lastly, and most destructive, the horn worm; these come in immense quantities, and are similar to the Tama worm. They will, from the eggs laid upon the leaves, grow in a few days as large nearly as your finger, and will, in a short time, leave nothing of the plants but the stems and stalk. These worms are the common enemy; they commence with the first growth of the tobacco, and at different periods follow it up until the crop goes to the house. Our plan of defence is to pick them off by hand, or use turkeys; they are best, because more expeditious. Turkeys, by driving them into the tobacco, will regularly examine each plant and pick them off.

I neglected in its place to say what time the seed should be sown—from February to the first of April is the best time; and the quantity raised per acre is generally one thousand pounds from 3,500 to 5,000 hills, according to the quantity of land.

PLOUGHING IN GREEN CROPS.—I have found by experience, that when a spring crop is taken off, and wheat is to follow, the best method is to harrow thoroughly, immediately, which causes all the seeds of grain which may have scattered, or of weeds, to vegetate. About two weeks before seeding, turn all the green stuff and stubble under the soil, there to remain and rot. If ploughed the second time,

much of the stubble is brought to the surface and lost.—[Genesee Farmer.]

AN IMPROVED BEE HIVE.—The box or hive to be made of inch plank, say about two feet three inches by twelve inches wide; the upper part of the box to be partitioned off, allowing just space sufficient to admit a drawer of about ten by twelve inches deep. This drawer is to slide upon the horizontal partition, and to be made to fit the inside of the box exactly. In the bottom of the drawer a hole is to be made, say about one and a half inch in diameter, and a corresponding one in the partition, so as to allow the bees to pass up from the lower part of the hive into the drawer. In the outer side of the drawer, a pane of glass is to be fixed, in order to ascertain when the drawer is filled with honey. Over the glass, a sliding shutter is to be placed, to exclude the light; or the upper end of the plank, forming the back side of the box, or hive, may be sawed off, and fastened with a hinge and button, so as to answer in place of the sliding shutter. When the honey is wanted for use, remove the shutter from before the glass, and having ascertained that the drawer is filled, introduce a little smoke into the top of the drawer by means of a tobacco pipe; and when the bees have been driven into the lower part of the hive, separate the drawer and partition with a case knife, remove the drawer, and having emptied it, return it to its place again, and the bees will commence working in it immediately. By this method the honey will be always pure, without bee-bread, or dead bees, and not a single bee need be destroyed; and moreover, it has been tested by many years, trial, and found to answer the intention completely. Z.

P. S.—The drawer should have a top screwed on, so as to be more readily opened when the honey is to be taken out; and any space between the drawer and the sides, or top of the hive, should be filled with some kind of cement, so as to prevent insects from making a lodgment within the hive.

A CURIOUS HORTICULTURAL ANECDOTE.—When Sir Francis Carew had rebuilt his mansion house at Beddington in Surrey, he planted the garden with choice fruit trees. There he was twice visited by Queen Elizabeth; and Sir Hugh Platt, in his Garden of Eden, tells a curious anecdote relating to one of these visits. "I conclude," says he, "with a conceit of that delicate knight, Sir Francis Carew, who, for his better accomplishment of his royal entertainment of our late Queen Elizabeth, led her majesty to a cherry tree, whose fruit he had of purpose kept back from ripening at least one month after all cherries had taken their farewell of England. This secret he performed by straining a tent or cover of canvass over the whole tree, and wetting it now and then with a scoop, as the heat of the weather required; and so by withholding the sun-beams from reflecting upon the berries, they grew both great, and were very long before they had gotten their perfect cherry color; and when he was assured of her majesty's coming, he removed the tent, and a few sunny days brought them to their maturity."—[Platt's Garden of Eden.]

LEMON TREE.—In the green-house of the late Hon. T. Bigelow, of Medford, there is a lemon tree, which, besides its foliage, its buds, and flowers, has on it about three hundred lemons. These are of course of all sizes, from the smallest to the largest, which are sixteen inches in circumference. The tree is supposed to be about fifty years old. It was given to Mr. Bigelow by the lady of the late Hon. Wm. Gray, about twenty-five years ago. It is emphatically a perennial, being never without foliage, flowers, and fruit. Perhaps some of the credit of rearing and perfecting this splendid exotic may belong to the gardener, whose watchfulness and care have been applied to it during the whole time that it has been in its present place.—[Boston Courier.]

NEW-YORK AMERICAN.

JUNE 21—27, 1834.

Our table is so covered with books, that have accumulated there during the season of long documents, that it is almost impossible to turn one's pen around in hitting off a paragraph upon any of the prevailing subjects of interest. We are, in fact, suffering from a plethora of new publications, and without waiting for our usual weekly relief through the review, we must begin to practice a little daily depletion. Opening the first volume that comes in our way, we find it to be a collection of Aphorisms, from various authors, ancient and modern, embodied under the title of "The Moral Testament of Man," and neatly published by Key & Biddle, of Philadelphia. Without pausing a moment to examine the propriety of the title, as applied to a book made up of the sayings of Chesterfield and Rochefoucault, Byron, Bulwer, and others of the modern novelists, blended with the more orthodox good things of Johnson and Goldsmith, we will, as briefly as possible, say all we have to add by way of codicil to the Moral Testament. We never believed much in aphorisms, for great men say so much merely for effect, and say it at the same time so well, that they easily succeed in passing off sound for sense, and lead us to swallow antithesis for truth. An absurd instance of the kind occurs at this moment to us in the popular sayings of Lacon—(whose best things, by-the-by, are stolen from the Greek and the French Aphorists)—where he says that "Many a man has been canonized who ought to have been cannonaded." There is nothing as bad as this in "The Moral Testament," though the author of Lacon is largely quoted. But the compiler should have omitted one of the following quotations from Bulwer, which to most apprehensions seem to nullify each other:

"To be pleased with one's self is the surest way of offending every one else."

"The great secrets of being courted are to shun others and seem delighted with yourself."

Such an oversight, however, may be readily forgiven in consideration of the following capital quotation from Lavater, which is new to us:

"Who in the same given time can produce more than another, has vigor; who can produce more and better, has talents; who can produce what none else can, has genius."

That is, that genius is an *inventive or creative faculty*: the power either of bringing new resources to light, or of combining old materials in forms hitherto undreamt of. This to us has always appeared the true and simple, the only definition of a term which sophomores and sages will never cease puzzling themselves about. Genius may be called a gift because it seizes those things by intuition, which talent arrives at by process of meditation.

The quotations from Chesterfield in this volume are generally well chosen, though he might have been quoted more largely to advantage. Whatever one may think of Chesterfield's morals, his system of manners has this advantage over most others, that it is founded upon philosophy, and would suit all peoples in every age. The more modern writers of the subject treat only of the conventional dicta of the circles which they profess to paint,—of fleeting fashions, which have nothing to do with the essentials of good breeding, and which, however important at Almack's, would never enable a man to pass muster as a gentleman among the Turks and Spaniards—and they, if Lord Byron, Mr. Slidell and Dr. Dekay are to be believed, are the most really polite people in the world.

The great difference between Lord Chesterfield's doctrine and the prevailing English tenets—as exem-

plified in the man of breeding of his day and the man of ton of ours—was that the first was always to study what was due to his neighbor, the last to be ever on the qui vive as to what is due to himself. The former was presumed to be so much of a gentleman in, that he could not be affected by courteous intercourse with his inferiors. The latter seems to be held so precariously polished that the slightest contact with any object less soft and smooth than himself may brush the golden flour from his butterfly-wings, and subject him to a loss of caste. The Chesterfield gentleman was born of the world and meant to shine in it. He that superseded him came from a London parish, and is suited to no other atmosphere. The raw material of the first abounds in West Virginia and Kentucky; the last you may see in a manufactured state by stopping an hour at any of the steam boat landings along the Hudson, and observing the air with which it steps ashore among "the natives." They however, may be best studied by seeing each meet one of its kind. The former, when he encounters a brother, seems to know him by intuition, the latter always waits until certain masonic signs pass between him and the party he wishes to recognize. In this month, green peas are their ordinary medium of communication, and the mystic figures are made with a fork. It must be admitted, however, that the Exclusive has this advantage over the Chesterfieldian—he is never alone; the real man, and the affected character always making good company for each other.

[FOR THE NEW YORK AMERICAN.]

Steamboat Native, Ohio River, June, 1834.

Oh you pampered New Yorkers, puffing and blowing in the heat and bustle and politics of your Babylonian phalanx, in the name of justice I entreat you send some investigator from the bevy of your uncomfortable idlers, and see with your own eyes, and tell with your own tongues, and—let conviction rest upon it—that Nature hath exhausted neither wardrobe nor jewel case in the decking of your thrice immortalized North River.

I am floating on the tranquil Ohio—which is just now in one of its happiest moods, neither hurrying on with a phrenzied haste, and spilling its unwelcome riches upon the grain fields—nor yet low, turbid, and uninteresting, as the best bred rivers will sometimes find themselves in the languor and heat of summer. The wheel of the "Native" has dislocated an arm, and the momentary pause having called me from my lounge, I am overwhelmed with a richness of scenery that never met my eye before, and in the fullness of gratification, I do protest (since that is the fashion) against a monopoly of praise that hath almost swollen your Anthony's Nose with satisfaction. The beauty of the Hudson River scenery consists, if I am right, in dark, precipitous and frightful cliffs, huge projecting rocks, and battlement-like embankments, and that in the upper country, more particularly in mighty barren hills of a grotesque figure. It has much of the stupendous and sublime for every eye, and is of that wild and Alpine character that ambitious young men, and amateurs in the Arts, like to be thought to admire—such as honest lairds and yeomen's sons break their necks after in Switzerland. Here then is the difference. The Ohio, calm, placid, unruffled as a Christian, is all smiles and love. On its banks, on either side, honest labor has earned a peaceful home, and the proprietors (no swollen cities) have put up—in well selected positions, sometimes on a point projecting into the river, and sometimes at the foot of a gently rising hill—a shelter, after the rude fashion of the country, often adding a beauty to the aspect that his art never intended. Here is a field in the dark green mantle of wheat—on the other side, extending far up the hill—where the trees have been girdled and left for time to sell, their naked and leafless branches outstretched as if in the agony of a protracted fast—is the dark, rich looking soil where the Indian corn is struggling into existence. The bosom of the river is covered with a variety of boats, and just before us is one of that huge and cumbrous fashion, so long known on these waters, barely solicited into motion by the joint efforts of the current, and the sweeps and poles of the boatmen. These last are singing—with rather more vehemence than melody—and as the boisterous echo returns from the shore, it mingles with the happy laugh of some young

adventurers, whose rickety shallop is dancing about in our wake. The immediate margin on either side, is fringed with hazel and beach, whose clustering foliage overhangs the water, bending with a grace—and you may trace the river wending far away, till the hills close in upon it, and all is lost and indistinct but the deep blue color, and the undulating outline against the sky. However, I do not desire to make a picture, and all I mean to say, is, that no man whose heart beats at beholding the independent and substantial comfort of a people, can view the Ohio scenery without feelings of satisfaction and gratitude that may fail to be aroused by the curious presentations of the Hudson.

I might say more, but we have a metaphysical Dutchman on board who is getting entirely too audible, and so, Adieu,
H. S. E.

Our readers are indebted to H. S. E. for the foregoing animated invitation, and we sympathize fully with him in his lively admiration of the beautiful Ohio. But it was heretical in him to institute so close a comparison with the Hudson. He might as well compare Hebe with Juno, or rather the head of Autinous with that of the Apollo; Lalla Rooke with Childe Harold; or the delicate gazelle of the Indies with the antlered elk of our western prairies. No one will deny the far flowing river of the West, the exclusive title of *La Belle*, by which it ever will be distinguished above all rivers that seek the sea: no one at least that has seen the place of its birth in Pennsylvania, where Virginia and New York send two of their most beautiful streams to mingle and bear a united tribute to the father of rivers: or, after hurrying for days on the boiling and turbid current of his desolate waters, turned aside from their cheerless bosom, to glide over the transparent tide, and loiter by the arcadian banks of the beautiful Ohio.—But the Hudson—the lordly majestic Hudson—mingling so much grandeur with its beauty, and blending as many various charms together, as could be concentrated in its short passage to the sea—there is in our humble opinion on stream upon the continent that can in romantic beauty of the highest order compare with it. There is a part of the Hudson, however, but little known by its warmest admirers, which, after repeatedly visiting, we have found more attractive than those scenes which have elicited admiration from travellers in all parts of the world. It is the northwest branch of the River, where it ceases to be navigable, and wanders about through the most broken and picturesque country in the Union, to hide its head in a hundred beautiful lakes. He who glides over their lonely waters—for the banks of many of them are still as solitary as those of the wildest waters of the Far West—he who glides over their transparent bosoms, or moves along their mountain shores where in one place frowning cliffs will darken the silent tide, and in another a fringe of silver sand receive its undulations, while, where the primeval woods slope more gradually to the shore, the wild deer steps unfrightened from her green covert to stalk along the snowy strand—could almost predict the infinite beauty and grandeur, the boundless variety of attraction that the stream which derived its birth from such sources would bear with it on its course.

[FOR THE NEW YORK AMERICAN.]

The Corner Stone.—A correspondent in one of your late numbers, inquires after the origin and meaning of laying the corner stone with invocation of the Divine blessing. As a religious rite, I apprehend its origin as Jewish, its application to type the coming Messiah, and would refer him to Isaiah, 28th chap. 16v. Solomon (himself a type) may have first introduced the custom in the building of the Temple, another type of the same glorious Person. In the New Testament scriptures, the same appellation is given to it: 1st Peter, 3d chap. 6, 8, where the Redeemer is styled the head of the corner; in Ephes. 2d chap. 20., the *Chief Corner-stone*. Builders of systems and temples have too often disallowed such a reference to the ceremony,—have too often considered Him a stone of stumbling and rock of offence; but to those that look for Him, He is precious, as is every type and shadow that applies to (either) his Divine character or Divine mission. May you and I, Messrs. Editors, build on this (His) foundation alone, not wood, hay and stubble, but gold, silver, precious stones.—[Rev. 21st ch. 1v.

Christians are the Temple of God, (Corin. 6th ch.

16v.) but it is in Christ alone, building on Him as the "Hope of Glory," and that the building is fitly framed (Eph. 2d ch. 21v.); for other foundation can no man lay than that is laid, Jesus Christ.—[1st Cor. 3d ch. 11v.]

SCOTUS.

[FOR THE NEW YORK AMERICAN.]
A HINT TO TRAVELLERS.

Mr. Editor: As the warm season is approaching, and many persons are casting about to see when and where they may spend a few months in search of health, novelty, or amusement, or all united, perhaps a word of advice from an old stager may not be taken amiss by those who have had less experience.

I am a way-faring man; I am told that the bump of "locality" is mightily developed upon my pericranium; I delight in change. When wearied of the iron bound streets,—the piles of brick and mortar,—the heat and noise, and the endless, unvarying throng of the city, I love to rush into the open air, into the midst of fields and forests, and the neighborhood of the rushing waters.

And then, again, when I become tired of solitude and myself, I return with new zest to the presence of man and to the luxury of social life; and I find the pleasures to be found on either hand increased a thousand fold by the contrast.

The restless energies of our countrymen are daily opening new scenes, and offering new invitations to the tourist and traveller. The last one of these which I have visited "in search of the picturesque," was afar "down-east—in the midst of the 'rocky mountains' of New Hampshire.

It is a lake of a most unpronounceable and unspellable Indian name, called by the present natives, as near as I can reduce it to writing, WIN NE-PIS-SAW-KEE. If you were to endeavor to pronounce it as it is written by geographers, (Winnipisseogee), the people thereabouts would not understand you.

It is a beautiful, but very irregular, sheet of water, some twenty-five miles in length, and of no particular breadth, as Davy Crockett would say; full of islands, having *exactly* 365, as they say of all lakes and bays when the number is large, and not easily ascertained: it resembles Lake George in the clearness of its waters, but is, I think, superior to that famous lake in the variety, and even boldness of its surrounding scenery. Those who like the authority of great names, may find in the steamboat's album (for they have a very pretty steamboat there) the recorded opinions of Dr. Kirkland, and I think, of President Adams also, that in beauty and sublimity, it equals all and surpasses also most of the show-scenes of Europe; and I understand that the Rev. Mr. Bigelow, whose published travels in Sicily and Great Britain prove him to be a good judge, says that "Loch-Lomond" and the other Scotch lakes are not to be compared with it.

The sublime, but bare and solemn scenery of the White Mountains is about sixty miles distant from the north end of the Lake; at which point, by the way, at a quiet little hamlet, is a very nice and well provided public house.

From the Notch of the White Mountains you can return home by "crossing the country" to Saratoga, or, in an infinitely more agreeable manner, by descending the beautiful valley of the Connecticut, to Hartford.

The better way of reaching this Lake, by those who are not pressed for time, is to go to Portsmouth, where you will find a most elegant Hotel, kept in what I understand was the mansion house of the late Governor Langdon; 'tis called the Rockingham House, and in the minutiae, as well as the essentials, is equal, in my humble opinion, to any of the "crack" houses of the day.

Dr. SYNTAX.

P.S. If you mean to fish for the salmon, trout, perch, and pickerel of the Lake, or the imitatively fine brook-trout of the mountain streams of New Hampshire, you had better take your fishing-gear with you. Every thing of that sort in the granite State, like their politics, is execrable.

[From the New Orleans News.]

LATEST FROM MEXICO.—By an arrival yesterday, we had Tampico papers of the 2nd June, from which some translations have been made.

MEXICO, MAY 18.—We are assured that the supreme government has just received intelligence by express that the city of Jalapa has opposed its civil authorities, and made the same declaration against

the government that the towns of Orizava and Cordova had just done before.

MAY 21.—We have seen several letters from Puebla, stating that on the night of the 17th inst a band of about 200 armed men seized on the convents of St. Domingo and St. Augustin, loudly demanding the deposition of the actual government of the city and state, and making the same proclamation in favor of religion and the church, that was done at Orizava and Cordova.

Last Monday, Senor Gonzales Angulo left here for Puebla, as a commissioner on the part of the general government, but the nature of his instructions has not transpired.

Yesterday, Colonel Gonzales Pavon, at the head of 200 cavalry, left this for Puebla. The prudence of this officer, and the instruction he has received to act with moderation, lead us to hope that the spirit of hostility in this city will soon cease.

Note by the Translator.—From the complexion of a political essay in one of the Mexican papers, it would seem that about a month ago, the President, Santa Anna, had evinced some hesitation concerning the line of policy he would pursue in future, that is, whether he would join the party of the clergy or that of the reformers. We regret to add, that letters from Vera Cruz state, that Gen. Santa Anna had joined the cause of the priests, and, with part of the army, are now determined to resist all reforms, and to carry back Mexico as near as possible, to what it was under the Spaniards. Indeed, we should not be surprised to see a Spanish or French prince in our neighborhood before the expiration of twelve months.

SUMMARY.

Our city has seldom witnessed a scene more imposing than the funeral procession of yesterday. The military array was greater and more brilliant than we recollect to have seen it, and their muffled drums, and measured march, their reversed arms, and mournful ensignia, had a peculiarly solemn effect—while the long procession, composed of the various societies, with their shrouded emblems and melancholy dirges, added every thing to the ceremonial.

Pursuant to previous arrangements, the different societies and associations, the officers of the General and State Governments, the members of the fire companies, the students of the colleges and universities, the public officers, the military, and other individuals invited, assembled at about two o'clock in the neighborhood of the City Hall. Their places in the procession were assigned them by the Marshals, and at about three o'clock, the procession commenced its line of march, in the following order:

The various volunteer military companies, preceded by the Grand Marshal of the day.

Clergymen of different denominations, wearing appropriate badges.

The Governor and Lieutenant Governor of the State, the Mayor of the city, and the Orator of the day.

The Common Council of the City, attended by City Marshals.

Officers of the U. S. and State Courts, members of the Bar, and of the State Legislature.

Officers of the Army and Navy of the United States.

A number of French residents followed, dressed in deep mourning, bearing a splendid banner inscribed, "A tribute to departed worth."

The Grand Lodge to the State of New York, in splendid Costume. A number of banners were borne inscribed to the illustrious departed.

The Faculty and Students of Columbia College, and of the N. Y. University, dressed in silk gowns.

The Fire Department came next, bearing a splendid urn, with appropriate devices. The different companies marched in respective order, each company with its badges, emblems and banners. The engine No. 5 displayed a magnificent banner with the inscription, "He is dead, but still liveth."

Then followed the Trades' Union Societies—the Journeymen Bakers, Cordwainers, Cabinet and Chair Makers, House Carpenters, Typographical Society, Saddlers, &c., the Hibernian Benevolent Society, Gold and Silver Artificers, Tin and Sheet Iron Workers, and Journeymen Tailors, Smith's Benevolent Society, Musical Instrument Makers, &c.

The URN, and the EAGLE, which were used on this occasion, were the same sacred emblems that were exhibited at the funeral solemnities on the death of WASHINGTON.

The URN was conveyed on an open carriage drawn by four white horses, guarded by the Lafayette Guards, and followed by the Revolutionary Pall bearers, members of the Cincinnati Society, in open barouches.

To form an idea of the immense number of individuals forming the procession, a morning paper states that when General Morton arrived at the Battery, a large number of the persons joining in the ceremonies had not yet left the Park. The scene in Broadway Chatham street, and through the whole route of the procession, far surpassed any exhibition of the kind ever witnessed in this city. The streets were lined with a dense mass of citizens, and every house on the line was filled even to the roof with spectators of the solemn scene. The public buildings, such as the Museums, and others, appeared to contain some thousands, even to the roof.

Shortly after six o'clock the procession began to arrive at Castle Garden. Some detachments of military had previously been stationed on the Battery, and by lining the promenade leading from the entrance on Broadway to the bridge at the garden, kept the ground free for the passage of the procession.

The Garden was in various places, indeed wherever circumstances admitted it, hung with black cloth. In the gallery opposite the rostrum in front of the great saloon, a temporary orchestra was erected, which was shrouded in mourning, and was occupied by the Band and Choir of the New York Sacred Music Society. The rostrum was covered with the American Ensign and with folds of black crape.

The Societies as they entered took their places in different parts of the Garden, and their various banners all shrouded and elevated in every direction, added materially to the solemnity of the scene. The funeral Urn, with the four greys which drew it, was placed between the fountain and rostrum, the company of Lafayette Guards being stationed around it.

About an hour having elapsed, the funeral service commenced with the following Hymn, arranged to the music of Handel's Dead March in Saul:—

Unvett thy bo-som faithful tomb,
Take this new treasure to thy trust,
And give these sacred relics room,
To slumber in the silent dust.
Nor pain, nor grief, nor anxious fear
Intrude thy bounds. No mortal woes
Can reach the peaceful sleeper here,
While angels watch the soft repose.
Break from his throne, illustrious man!
Awend, O earth! his sov'reign word;
Restore thy trust—a glorious form
Shall then arise to meet his Lord.

The Right Reverend Bishop Onderdonk, of the Protestant Episcopal Church, then read from the 15th chapter of the First Epistle of St. Paul to the Corinthians, commencing at the 20th verse to the end. He also read part of the Episcopal Service for the Burial of the Dead, during which, and at the close, the following pieces of music were performed and sung:

MARCH—PLEYEL'S HYMN.

RECITATIVE.

I heard a voice from Heaven, saying unto me, Write, blessed are the dead who die in the Lord.

CHORUS.

Even so, saith the Spirit, for they
Rest from their labors.

LUTHER'S HYMN

Great God! what do I see and hear?
The end of things created,—
The Judge of mankind does appear,
On clouds of glory seated:
The trumpet sounds—the graves restore
The dead which they contained before—
Prepare my soul to meet him.

WHEN THE EAR HEARD HIM.

When the ear heard him, then it blessed him; and when the eye saw him, it gave witness of him.

CHORUS.

Why should we start and fear to die?
What terrors worms, we mortals are!
Death is the gate of endless joy,
And yet we dread to enter there.
Jesus can make a lying bed
Feel soft as downy pillows are,
While on his breast I ease my head,
And breathe my life out sweetly there.

The most solemn part of the procession (says the Mercantile) we witnessed last night at 11 o'clock. It was the return from Castle Garden of the Horse and Urn, accompanied by the Lafayette Guards, with torches burning, and drum and fife playing the dead march.

The Funeral Oration of the Hon. James Talmadge we did not hear, but by those who had that pleasure, it is spoken of as eminently happy.

The public feeling displayed yesterday—for one deep and solemn feeling seemed to pervade the whole mass of our assembled population—gave a moral effect to a pageant which, for its orderly arrangement and imposing details, was every way worthy of New York. From Providence, Salem, New Haven, at the East; from Alexandria, Fredericksburg, Richmond, on the South; and several towns Westward,—which the melancholy news has reached,—we hear of immediate measures for similar public expressions of feeling. A spontaneous tribute to departed worth, characteristic of a high-toned people. The fitting requiem of one whose noble deeds seemed ever as instinctive as the grief that mourns him, and broad in their benefits, as will be the sorrow for his decease. †

The following are the five distinguished Cadets in each Class, as determined at the examination, which terminated on the 16th instant.

- | | |
|-------------------------------|--------------------------------|
| 1st Class. | 2d Class. |
| 1. William Smith of N. Y. | 1. Chas. J. Whiting of Me. |
| 2. John Sanders of Flo. | 2. John H. Martindale of N. Y. |
| 3. H. Loughborough of Ken. | 3. Geo. W. Morell of N. Y. |
| 4. Thos. A. Morris of Inds. | 4. Chas. H. Bigelow of Mass. |
| 5. Robt. Allen of Md. | 6. Geo. M. Legate of — |
| 3d Class. | 4th Class. |
| 1. Jas. L. Mason of — | 1. John W. Gunnison of N. H. |
| 2. Danville Leadbetter of Me. | 2. Henry W. Besham of Conn. |
| 3. M. C. Meigs of Penn. | 3. Edwin W. Morgan of Penn. |
| 4. Alex. Hamilton of N. Y. | 4. Alex. B. Dyer of Misso. |
| 5. Barnabas Conkling of N. Y. | 5. John Bratt of N. Y. |

We understand that the Polish Committee having exhausted all its funds, have adjourned *sine die*, and that a statement of its expenditures will be published in a few days.

It will afford a large part of the American people great satisfaction to learn that Mr. McDuffie has resumed his seat in the House of Representatives, in improved health.

The Washington Globe of Tuesday, says:—"The Board of Commissioners under the Convention with the Two Sicilies, have terminated their fourth session. We understand that the Commissioners have disposed of all the cases ready for trial up to this date.

The French Academy of Belles Lettres has proposed for the Volney premium, for next, the following theme:

"To determine the grammatical character of the languages of North America, known under the name of Lenni Lenape, Mohegan and Chippewa."

The premium is a gold medal worth 1200 francs, which our venerable fellow-citizen, Mr. Duponceau, could win against all the world.—[Nat. Gaz.]

We have a pleasant instance, (says the National Gazette of yesterday, how the Secretary of a despotic chief may be used, in the following anecdote related by Sir Harford Bridges, in his account of his mission to Persia:

New Duties of a Secretary.—General Gardanne, on his introduction to Mohammed Ally Meerza, had presented him with a very fine pair of rifle-barrelled pistols, made at Paris, the barrels of which, the General assured the Prince, were worked with such nicety, that a ball delivered from them would fly to the distance of twenty yards, so true as to strike invariably the centre of a piastre, a piece about the size of our half crown. The Prince had received the General in a room which opened to a large walled court, and from the spot where his highness was seated to the wall was pretty much the distance for which the general had vaunted the precision of his pistol. As soon as he was dismissed, the prince turning to his secretary, who was standing by him, said, "Come, let's try the Frenchman's pistols; go and hold out your hand against the wall." The astonished and trembling secretary, after some remonstrance, found himself obliged to obey, and stand the shot.—The prince fired, and fortunately missed his mark.

A Polite Curate.—In the church service, for the thanksgiving of women, on a certain occasion, the curate of —, afraid of offending his patroness, who was a person of quality, introduced the word lady instead of women; and accordingly said, "Oh, Lord, save this lady thy servant;" when the clerk made answer, "Who putteth her ladyship's trust in thee."

Melancholly Occurrence.—Extract of a letter to the Editors of the Philadelphia Commercial Herald, dated Louisville, (Ky.) June 12.—A shocking occurrence took place here last week. A Mr. C. married Miss Buckner last week, a beautiful and interesting woman, of one of our most respectable families. On that evening Mrs. Buckner (the mother of the bride) had a large quantity of custard made, and sent to the houses of her married children. On Sunday Mrs. Foster (her daughter) was taken ill, and died in a few hours. While the company was assembling for her funeral, a daughter of her's became suddenly ill, and the funeral was postponed, that both might be buried together. Before this took place, Mrs. Buckner died; and, one after the other, eight have died; and nine more are dangerously ill.

Poison having been suspected, the servants are all in prison, but there is no evidence, external or internal, to prove the charge. The contents of the stomach show no appearance of poison. The symptoms in all resemble those of Asiatic Cholera; yet no one else in town has been attacked, and not one of that devoted family who avoided the custard. All who ate of it have died or are ill. The physicians and magistrates are all in alarm and bustle, and no two people seem to agree in opinion as to the true cause of this melancholly visitation.

The above deaths from eating custard, had they occurred on "The American Bottom" in Illinois, or in those small neighbourhoods in Kentucky and Tennessee, where that singular disease, "the milk sickness," has been known for years—would have been unquestionably attributed to that complaint. The symptoms of "the milk sickness," which is always traced to drinking the milk or eating the meat of cattle affected in a peculiar manner, are, as described by the western people, precisely those of Asiatic cholera.

Since writing the above, we find the following in the Louisville Focus:

"A report is again going abroad of the prevalence of the Cholera at Louisville. There is no foundation for it. Up to this time, not one of our citizens has exhibited symptoms of that disease. The physicians, two or three days since, supposed that several individuals to whom they were suddenly called, were laboring under attacks of cholera, but the cases proved to be the effects of *poison*. The unfortunate victims were poisoned with arsenic at a wedding party on Sunday evening. Near a dozen have already died, and there are several others who cannot long survive. One family of the first respectability, is almost entirely swept off. The atrocious deed is supposed to have been perpetrated by a negro who is now in jail."

We have copied an account of a dreadful mortality in a family of Louisville, Kentucky. The following paragraph from a late number of Galianani's Paris Messenger, furnishes a similar case:

"The Courier du Midi, of Montpellier, of the 6th instant, relates, that, after a grand dinner given by a widow lady, on the occasion of the marriage of her daughter about three weeks before, supplied by a respectable Restaurateur, out of fifty guests who partook of the feast, thirty were taken ill and showed symptoms of having been poisoned by verdigris. Antidotes were promptly administered, and all the sufferers were relieved and ultimately restored, except the mother of the bride, who expired on the morning of the 5th, after suffering dreadful agonies. This is a new instance of the danger of neglecting to be careful in having copper culinary vessels well tinned."

Sudden Deaths.—The Harrisburg (Pa.) Chronicle of Monday, states the following remarkable instances of sudden death as having occurred recently in Susquehanna township, of that county.—"On Thursday last, Isaac Diller and John Johnston. The former fell down in convulsions while at the plough. The latter carried him home, and complained immediately of sickness, fell down and shortly after expired.—They both died within half an hour."

The New Orleans Bulletin of the 5th ult. says, we understand by the late arrivals, that the Cholera has disappeared from the banks of the Mississippi above, and that there is at present no sickness on the river.—There is yet some cholera in this city; there is enough to justify the extreme caution; and at the first appearance of dysentery, no matter from what cause it may be supposed to spring, medical aid should be invoked.

NEW ORLEANS JUNE 7.—As rumor is prone to exaggerate in these matters, we have taken the trouble to ascertain from the proper authorities, the number of funerals in New Orleans lately.

During the last month of May, 491 persons were buried.

During the five days of June, 90 persons were buried.

Ten years ago, the average number of interments per month, was about 120. Setting down the increase of population in New Orleans, at 59 per cent. in ten years, the monthly interments, were the city healthy, should not exceed 180.—[News.]

Sudden death.—We learn with much regret, that Col. Cyrus Baldwin, brother of the celebrated engineer, died yesterday morning at his residence in Middlesex Village. He appeared to be in his usual firm health the evening previous. The cause of his sudden decease was attributed to an affection of the heart, and we understand a *post mortem* examination was to be made to-day to ascertain the fact.—[Lowell Journal.]

It is stated in a West India paper, that the Commissioners appointed for the Colony of Demerara, under the Slavery Abolition Act, for ascertaining the average prices at which slaves were sold between 1st January, 1823, and 31st December, 1830, had closed their investigations, which fixes the average at £116 sterling. The slave population of Demerara is estimated at 70,000.

PUBLIC REVENUE IN NEW-YORK.—Revenue accrued in the District of New-York for the 1st quarter, ending the 31st March, 1834, \$3,148,455 87. First quarter, 1833, \$3,123,166 51. Increase, \$26,289 06.

These facts we have ascertained at the Custom House this morning. When it is considered that on the 3d of March, 1833, the entire duty on tea, coffee, most kinds of spice, and a great many other articles, was abolished,—and that on the 31st December, 1833, all duties on linens, linen cambrics, worsted stuff goods, manufactures of silk and worsted, and of silk coming from this side of the Cape of Good Hope, were abolished, and that on all goods of every description, one-tenth of the excess above 20 per cent. ad valorem was repealed on the same 31st of December, 1833, the above results appear to us very surprising.

They are, however, in perfect accordance with the fact which we stated a day or two since, that the number of arrivals at this port from foreign countries has been greater by 44 during the first quarter of the present year, than during the corresponding quarter of 1833, and greater than ever before, unless possibly in 1816 and '17, immediately after the war.

The reader will observe that the revenue above stated is the revenue *accrued* [not collected] during the quarters mentioned; and of course that cash duties and short credits will not affect the amount. They will also bear in mind that the importations of 1833 were uncommonly large, amounting, in round numbers, to \$109,000,000.—[Jour. of Com.]

Many of the goods on which the above revenue accrued have been sent back again, and consequently the drawback allowed will subtract from the revenue.

TO REMOVE A HARD COATING OR CRUST FROM GLASS AND PORCELAIN VESSELS.—It often happens that glass vessels, used as pots for flowers and other purposes, receive an unsightly deposit or crust, hard to be removed by scouring or rubbing. The best method to take it off is to wash it with a little diluted muriatic acid. This acts upon it and loosens it very speedily.

A PETRIFIED PAPOOSE.—Some persons employed lately in quarrying stones at Guernsey, Ohio, came across the body of an Indian child completely petrified. This extraordinary specimen was found embedded in a solid mass of rock, and has the appearance of a stone image, somewhat imperfect, to be sure, yet, on the whole, a very fair outline of a young Indian, done in lime stone. A small row of Indian beads (too hard originally to need petrification, we suppose,) was found in the same cavity.

[From the Albany Daily Advertiser.]

Coincidence.—The 20th of May—the day on which Gen. La Fayette expired, is somewhat marked in Chronological history. On that date of the month, Americus Vesputius sailed on his first voyage of discovery, and that date of the month, witnessed the last mortal agonies of Christopher Columbus.

On the 20th of May, General Lafayette, with an inferior force, baffled the British General, Grant, who, at the head of 7,500 men, attempted to surprise the Marquis, at Barron hill. Lafayette's retreat on that occasion, was pronounced to be a masterly military manoeuvre.

It was on the 20th of May, at a later period, that Lafayette's hope of a free French republic, experienced a total destruction, in the ceremonial were Napoleon Bonaparte was declared Emperor.

These coincidences may appear somewhat trivial, but they are curious, and worthy of a passing notice.

Literary.—We learn from the Boston Transcript that—

Lilly, Wait & Co. have in press, and will publish in a few days, the second number of "The Pilgrimage beyond the Sea," from the pen of Professor Longfellow. The admirers of the exquisite sketches contained in the first number, may be assured that the second is fully equal to the former. Among its best papers we would include "The Baptism of Fire," "An Old Soldier," and "The Valley of the Loire."

A valuable musical manuscript by Guillaume de Machault, who was valet de chambre to Philippe le Bel in 1307, has been discovered in the Royal Library at Paris. It contains several French and Latin authors, ballads, &c. and concludes with a mass, which is supposed to have been sung at the coronation of Charles V. in 1364, and which proves that at that time they were acquainted with the art of composition in four parts.

Encouragement of Learning and the Fine Arts in France.—The annual expenditure of the State and of the Civil List, for the several establishments in favor of Learning and the Fine Arts, is estimated at 120,000l. a sum tenfold the amount of that which is expended for similar purposes in Great Britain. This sum is exclusive of various extraordinary grants of large sums of money devoted to the purchase of collections of marbles, coins, and antiquities.

Steamboat Curiosity.—A little boat called the *Caroline*, came into harbor a few days since, which was built in South Carolina, has made her way through Quebec, &c. here, and is bound, we understand, for the Mississippi, through the Lakes.—[Buffalo Journal.]

Steamboats in the West.—An official list of Steam Boats on the Western waters, on the 1st of January, 1834, gives the whole number 234, whose aggregate amount of tonnage is equal to 39,000 tons—they have cost three millions of dollars. The total yearly expense of running them is four millions and a half.—66 boats went out of service during 1831, '32 and '33—of these, 15 were abandoned as unfit for service; seven were lost by ice, 15 were burned, 24 snagged, and five destroyed by being struck by other boats—thus 51 were lost by accidents. The investments in these boats are now decidedly unprofitable—the business is overdone, and though of incalculable advantage to the valley of the Mississippi, they are too often the ruin of their owners.—[Moor's Price Current.]

Boat Race.—Two of the barge clubs, who have their boats on the Schuylkill, undertook on Saturday afternoon, to have a rowing match. The boats were the *Dart* and the *Falcon*—rowed each by six members, with a steersman, all in the uniform of their respective clubs. The distance was three quarters of a mile. The *Falcon* beat about ten yards. The race was said to have been well contested.

Distressing.—We learn from Capt. Mayhew, of the ship *Warren*, recently arrived at that port, that Capt. Charles Spooner, of the ship *Erie*, of Newport, whose extraordinary marriage to Mingatara Oruruth, a native of Otaheite Island, has been lately noticed in most of the papers of this country, was deprived of his bride soon after his marriage, under the following painful circumstances: She had gone into the water to amuse her husband with an exhibition of her extraordinary feats of swimming, for which she is said to have been very remarkable, when she was attacked by a large shark. The shark first seized her by a limb, but releasing his hold, he made another attack, and with one effort of his powerful jaws, severed her body in two. The unhappy

husband was a spectator of this awful scene, but could render no assistance.—[Bristol R. I. Gaz.]

BALTIMORE, JUNE 26th.—The *Marion*, *Morgan*, and *Sharp Shooter* Rifle corps returned to this city yesterday afternoon from the Washington Rail road, bringing with them eleven of the rioters, including one charged with murder. They were all committed to jail. The detachment left the ground at eleven o'clock yesterday morning, up to which time no further disturbance had occurred. [The detachment, composed of the Mechanical Volunteers and Independent Blues, which left this city yesterday morning on the same service, were passed about mid-day on their march to the ground.]

The London Court Journal of the 10th ultimo, describes London at this period in these terms—

"The season is unfolding prosperously. The Drawing rooms are brilliantly attended;—the last ball at Almack's was one of the best we ever saw, and graced by the appearance of seven fair *débutantes* of the highest rank, beauty, and fashion;—the Italian Opera abounds in attractions;—the English theatres, although no longer either national or classical, afford fertile sources of amusement and discussion;—the Exhibitions are all open, most of them displaying merit of a high order;—the Literary and Scientific Institutions are in full activity;—the streets are alive with equipages;—Kensington gardens and the Parks brilliant with verdure;—our aristocratic absentees have returned from the continent and are commencing their course of spring gaieties;—booksellers, auctioneers, the shops and the places of public amusement, vie with each other in attempts to engage the notice of the public;—in a word, all those objects of attraction which it has been our business and pleasure to illustrate, are re-assembled in renewed interest around us, to excite us to further activity and animate us with freshened energies."

CHINA.—The Chinese Repository, published at the end of February, has the following paragraph:

Since the 9th inst. this city (Canton) has presented a scene of festivities, rejoicings, and congratulations which is usual throughout the Chinese empire during the holidays of new year. In the mean time there has been an unusual amount of suffering, especially among the lower classes of the inhabitants. Great numbers of the poor, who were rendered houseless and penniless by the inundation last August, have perished during the winter. No one can describe the wretchedness of some of these sufferers, and none but an eye-witness can conceive it. Morning after morning, and in the same place, we have seen two, three, and four dead bodies; and in the narrow compass of a few rods, we have seen at noon-day more than 20 individuals stretched on the ground half naked, and either senseless or writhing in the agonies of death, caused by hunger. No man cares for their bodies; none for their souls.

We learn from the Journal of Commerce that letters of a recent date from Liberia, were received here yesterday. They announce the death of Mr. Matthew Laird, and Mrs. Laird, missionaries of the Western Foreign Missionary Society, who sailed from Norfolk on the 6th November last, and arrived at Liberia on the 31st of December.

They died of the African fever, to which almost every new comer is subject. Rev. Mr. Finney, the acting Governor, had been very ill, but was recovering. The decease of Mr. and Mrs. Laird will of course be seized upon by Immediate Abolitionists as an evidence that the frown of Providence rests upon the Colony, or at any rate, that a Colony so invaded by disease and death ought not to be supported. Weak minds may possibly be operated upon by such suppositions; but none others can be. The same argument precisely, and with still greater force, might have been urged against the Colonies at Plymouth and Jamestown; and may now be urged against the mission at Bombay. Jamestown and Plymouth are now healthy, and have been so for a century; Liberia may be so too, after the surrounding country is cleared up and cultivated. It would be strange indeed, if the civilization of a Continent was to be accomplished without some loss of life. But if loss of life is so dreadful a thing to the Abolitionists, then we say that *ten lives are saved by the Colony*, in the prevention of the Slave-trade for two or three hundred miles along the coast, where one is lost. When a few more such Colonies as Liberia, Sierra Leone, and Cape-town, are planted along the coast, the Slave-trade will be dead forever.

Ship on Fire at Savannah.—We express our acknowledgements to Captain Sisson, of the schr

Exit, for the following account of a fire on board the ship Hull, lying in the harbor of Savannah:

"SAVANNAH, JUNE 16.

"The ship Hull of Boston, Captain Knox, laden with cotton, for Liverpool, ready for sea, is on Fire, supposed to be in the after part of the lower hold.—Smoke was discovered coming out of her after hatch early this morning, when she was immediately dropped down below the town, and grounded on about 200 yards from the lower wharf. There are two engines in flat, playing into her, and they are knocking out the forward lumber port to allow her to fill. There are also flats alongside taking out cotton. The bottom on which she is aground is hard sand, and the tide is flowing. Her cargo will be saved, partly damaged; and I have no doubt the ship will also be saved. N. B. Sisson.

"N. B.—Main hatch is nearly burnt through.—With haste. N. B. S.

[The Hull had cleared with a cargo of 928 bales upland, and 8 bales Sea Island Cotton on board.]

The arrival yesterday of the ship *Josephine*, from Ireland, was quite an unexpected circumstance.—This ship formerly sustained a high reputation, and was considered one of the fastest sailers out of this port. In December, 1832, she was wrecked in Donegal Bay, where she laid nearly buried in the sand for about fifteen months, and was considered as totally lost. In a heavy gale and very high tide last spring, the ship was driven from her bed upon a potato field near the beach. In this situation, after being stripped of her copper, she was observed by an American captain, who, finding her frame was sound, purchased her as she lay, and employed workmen at 6d. each per day, to dig a canal in which he could convey her to the sea. The workmen had only just completed this canal, when another high tide fortunately arose, and swept the ship into deep water. She was then taken to Sligo, repaired, and has safely arrived again at her original home.—[Merc. Adv.]

The Missouri (St. Louis) Republican of the 9th inst. states that the net profits of the Orphans' Fair, held in that city last week, amounted to \$1,505.

A lady who died in England in 1816, bequeathed to six of her horses an annuity of £50 each. These happy and well-fed horses died at the respectable ages of 28, 29, 31, and 33. The last but recently departed this life, having enjoyed his annuity more than seventeen years, and received about £800.

THE CHEROKEES.—In the Senate on Friday, Mr. White of Tennessee, from the Committee on Indian Affairs, in answer to the petition of John Ross and others, of the Cherokee Tribe of Indians, reported the following resolution:

Resolved, That the President of the United States be authorized and requested to cause to be ascertained upon what terms the claims of the State of Georgia and its citizens, to the lands of the Cherokees east of the Mississippi, can be extinguished, and communicate the same to Congress at the next session—and that the further consideration of the memorial be postponed to that time.

Crops in Illinois.—A late paper from Peoria says: "We are informed by the farmers in our vicinity, that the crops have every appearance of being productive. We have had, during the last few days, a succession of warm showers—the fields of small grain never looked better."

The great error in vaccination is said to be the removing it from one subject to another. The original infection, or one remove, will, it seems, always be found a certain antidote to small pox; but after one remove, it is affirmed to be unsafe, and hence is brought into unmerited disrepute.

Coroner's Inquest.—A coroner's inquest was held on Monday afternoon on the body of Mr. George Clayton, which was found floating in the river at the foot of Reed street. Mr. Clayton has been missing for some weeks, and was married only a few days before he disappeared. Verdict—death from accidental drowning.

Pity.—In passing, said a neighbour, a Porter House on one of the Avenues, I saw standing by the fence, a horse just ready to die with old age, and hard and cruel usage. Whilst I was looking at and pitying the once noble, but now most miserable animal, an old man with trembling limbs came staggering and tottering out of the door, and bringing up near the horse, began to belch and vomit, exhibiting the most disgusting, painful, and pitiable sight. Ah! said I, is the monster in human shape who has caused such misery and degradation to come before me?

It will be seen by our Washington letter to-day, that public surmise in relation to the late nominees to the Senate, is fully confirmed. Mr. Stevenson and Mr. Taney have been rejected, and Mr. Butler confirmed without a division. The National Intelligencer gives the vote on Mr. Taney's nomination a little different from our correspondent, making it 18 and 28 instead of 30, 15.

THE POLISH SCYTHMAN.—A finished lithograph, by a young Pole, is now attracting much attention at the print shops in Broadway. It represents a Polish Scythman in the full costume of that "indigenous soldier." The impressions are sold for the benefit of the brave Exiles.

Hercules, Jun.—Signor Schiarra, the Italian, now exhibiting at Walnut street Theatre, is one of the most extraordinary wonders of the day. His feats of strength are certainly the most marvellous efforts ever witnessed in this city. He will lift ten, and in some instances, twenty times as much as any other person. It is said he can balance any thing but the Post Office accounts.—[Philad. Intell.]

Surgical Operation.—A very large tumor was removed, a few days since, from the side of a young lady, by Dr. Smiley, of this city. Some idea may be formed of its dimensions from the fact, that after the operation, which diminished one-third of its size, it measured twelve inches and a half in circumference, and weighed only half an ounce less than one pound. No bad symptoms took place, and the young lady has entirely recovered from the effects of the operation. Few instances have occurred in which an operation of such magnitude has been attended with so few bad effects.—[Phil. Nat. Gaz.]

MORE SHIPWRECKS.—The Montreal Gazette, of Thursday, contains some particulars of two other losses at sea, not hitherto reported. One, the *Proseleie*, of Limerick, with 223 passengers, all of whom have been safely landed at Richibucto, (Nova Scotia), in a lamentable state of misery, and the other name unknown, but described as being from the west of England, with 280 passengers, 7 of whom only are saved.

[British square rigged vessels bound to the British Colonies, lost this season, including the above, 23. Lives lost, 734, besides all on board of a bark unknown. Total number of passengers arrived at Quebec to 14th instant, 14,137. Consequently, the lost are to the saved as 1 to 19 and a fraction. Of all the emigrants bound to this port this season, not one has lost his life by shipwreck.—[Jour. Com.]

"Isn't there a large tree standing before your door?" inquired a wag of a green looking Jonathan from the country. "Yes—why?" was the answer. "Because," said the wag, "I thought from your appearance that you grew in the shade."

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted. Levelling Instruments, large and small sizes, with high magnifying powers with classes made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J31 St corner of Maidenlane.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,

347 N. Market st. (opposite Post Office.)

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

New York Farmer and American Gardener's Magazine. Mechanics' Magazine and Register of Inventions & Improvements.

American Railroad Journal and Advocate of Internal Improvements; and the

New-York American, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads. No. 264 Elizabeth street, near Bleecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J31 St

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER, Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833. To Messrs Ewing & Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

E. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m25

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 24, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch, Flat Bars in lengths of 14 to 16 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit. soon expected.

250 dn. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, and 4 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON,

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d11mcwr

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested;

Baltimore, 1832. In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information.

The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend, JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

German town, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germant. and Norrist. Railroad

m14

NEW-YORK PRICES CURRENT:

Corrected from the "New-York Shipping and Commercial List"—Wednesday, June 25, 1834.

ASHES— Pot, 1st sort 1834. 100 lbs 4 00 a — Pearl, common, do 4 25 a 4 30	BESWAX— White, common, do 30 a — Yellow, do 20 a 21	BRAD— Navy, do 2 a 2 Pilot, do 2 a 2 Crackles, do 5 1/2 a 5 1/2	BRISTLES— Russia, 1st sort, do 60 a 65 Do, common, do 25 a 37 American, do 15 a 44	CANDLES— Mould, tallow, do 11 a 13 Dipped, do 10 a 11 Sperm, do 27 a 30	CLOVERSEED, lb 5 a 7	COAL— Liverpool, children 9 50 a 9 00 Scotch, do 6 00 a 6 50 Salmy & Bridgeport, do 7 50 a — Albion, do 7 50 a — Virginia, do — a — Anthracite, ton 5 50 a 6 50	COCOA— Caraccas, lb 16 a 17 Trinidad, do 8 a 19 St. Domingo, do 4 1/2 a — Para, do 8 a —	COFFEE— Cuba, lb 10 a 11 Brazil, do 11 a 12 Porto Rico, do 12 a 12 1/2 Laguaira, do 11 a 12 St. Domingo, do 10 a 10 1/2 Java, do 12 a 13 Jamaica, do — a —	COPPER— Sheathing, lb 21 a 22 Pig, do 16 a — Old, do 15 a 16 Bolt, do 21 a —	CORDAGE— Foreign, lb 9 a 10 American, cwt 9 1/2 a 10	CORKS— Velvet, do 38 a 45 Common, do 20 a 33 Pital, do 5 a 12	COTTON— New Orleans, lb 11 a 14 1/2 Upland, do 10 1/2 a 14 Alabama, do 11 a 14 1/2 Tennessee, do 11 a 12	COTTON BAGGING— Hemp, yd 19 a 21 Flax, do 17 a 18 Do, American, do 20 a 21	DUCK— Russia, U. X., bolt 16 00 a 16 50 Do, Brueguina, do 15 00 a — Do, Zontif & Komof, do 14 00 a — Do, 3d quality, do 14 00 a 13 00 Do, inferior, do 14 00 a 11 00 German, Half, do 14 00 a — Holland, A. A., do 5 50 a 7 00 Havens, do 5 50 a 7 00 Amer. Jy, all flag, do 14 50 a 11 00 Do, No. 1 & 2, do 14 50 a 11 00 Do, Phenix Mills, do 16 00 a 12 00 Do, cotton, Paterson, do 26 a 39	DYE WOODS— Brazilletto, ton — a 40 00 Camwood, do 70 00 a — Fustic, Cuba, do 21 00 a 25 00 Do, Tampico, do 21 00 a — Do, Compaichy, do — a — Logwood, Campby, do 23 00 a 21 00 Do, St. Dou, do 16 00 a 18 00 Do, Jamaica, do 14 00 a — Nicaragua, Bonaire, do 47 00 a 50 00 Do, Coro, do 45 00 a 55 00 Do, Hache, do 70 00 a 75 00	FEATHERS— Live, Foreign, lb 14 a 30 Do, American, do 23 a 40	FISH— Dry Cod, cwt 2 25 a 2 37 1/2 Scale, do 1 50 a — Pickled Cod, do 4 50 a 4 75 Do, Salmon, do 15 00 a — Smoked, do, lb 6 25 a — Mackerel No. 1, do 5 50 a 5 62 1/2 Do, No. 2, do 3 50 a — Do, No. 3, do 3 50 a — Shad, Conn. Mess., do 8 25 a 8 75 Do, Bucksport, do 6 50 a — Herrings, do — a 2 50 Do, Smoked, box 35 a 65	FLAX— Russia, lb 11 a — American, do 7 1/2 a 8 1/2	FLAXSEED— Clean, do 10 a — Rough, do 10 25 a 10 50	FLOUR AND MEAL— New York supreme, brl 4 75 a — Troy, do 4 75 a 4 81 Western Canal, do 4 81 a 5 00 Philadelphia, do — a — Baltimore Howard st, do 5 37 1/2 a 5 50 Richmond City Mills, do 6 12 1/2 a 6 25 Do, Country, do — a 6 25 Georgetown, do 5 25 a 5 50 Alexandria, do 5 00 a 5 12 1/2 Fredericksburg, do 5 00 a 5 25 Petersburg, do 5 00 a 5 25 Scratched and fine, do 4 62 1/2 a — Middings, fine, do 4 25 a 4 50	Rye Flour, brl 3 25 a — Indian Meal, do 3 25 a 3 50 Do, do 16 00 a 16 50	GRAIN— Wheat, North riv. bush 1 00 a 1 24 Do, Genesee, do 1 16 a 1 08 Do, Virginia, do 1 05 a 1 06 Do, N. Carolina, do — a — Rye, Northern, do 60 a 62 Corn, Yellow, North, do 67 a 68 Do, White, L. & N. J., do 70 a — Do, Southern, do 60 a 65 Barley, North river, do — a — Oats, South & North, do 28 a 38 Peas, white dry, 7 bush 70 a — Do, black eyed, do — a 1 00 Beans, do 11 00 a 14 00	GUNPOWDER— American, 25 lbs 3 25 a 3 75 English, do 3 00 a 6 25	HEMP— Russia, ton — a 170 00 Manilla, do 150 00 a — Sisal, do — a — American dew-rot, do 100 00 a 120 00 Yarns, Kentucky, lb — a —	HIDES— La Plata & T. Grande, lb 11 1/2 a 13 1/2 Brazil, do 9 a 10 1/2 Do, wet salted, do 6 1/2 a 6 1/2 Dromoco, do 11 1/2 a 12 1/2 W. India & Southern, do 9 a 10 1/2 S. A. Horse, piece 1 02 1/2 a 1 87 1/2	HOPS— Havana, gallon 45 a 46	HORN— First sort, 1833, lb 10 a 11 Second sort, do — a —	HORNS— Ox, 100 5 00 a 20 00	INDIGO— Bengal, lb 1 20 a 1 60 Manilla, do 90 a 1 05 Caraccas, do 1 00 a 1 25 Guatemala, do 30 a 1 25	IRON— Pig, Engl. & Scotch, ton 38 00 a 45 00 Do, American, do 30 00 a 40 00 Bar, do, do 72 50 a 75 00 Do, Russia, P. S. I., do 90 00 a — Do, new Sable, do 83 00 a 85 00 Do, Sweden, do 82 50 a — Do, English ass'd, do 70 00 a 72 50 Sheet, English, cwt 6 25 a 6 75 Peru I. Co. flat & sq., do — a — Do, round, do — a — Hoop, American, cwt 6 00 a 6 25 Do, English, do 6 25 a 6 50	IVORY— Prime, lb 1 00 a 1 25 Under 20 lbs, tooth 35 a 70 JUNIPER BERRIES 2 a 3	LEAD— Pig, U. X., lb — a 42 Bar, do 51 a — Sheet, do 61 a — Old, do 4 a —	LEATHER— Sole, Oak tanned, lb 17 a 25 Do, Hemlock, do 14 a 17 Do, damaged, do 8 a 12 1/2 Upper, dressed, side 75 a 2 75 Do, undressed, do 1 00 a 2 25	LUMBER— Boards, N. R., M ft 16 00 a 17 00 Do, East'n Pine, do 17 00 a 18 00 Do, Albany, do 17 a — Plank, Georgia, do 17 25 a 18 00 Do, heading W. O., do — a 50 00 Staves, W. O. pipe, do 55 00 a 60 00 Do, do, do 37 00 a 40 00 Do, do, do 35 00 a 36 00 Do, R. O. hhd., do 24 00 a 25 00 Hoops, do 25 00 a 30 00 Scantling, Pine, do 15 00 a 16 00 Do, Oak, do 30 00 a 35 00 Timber, Oak, do 28 a 30 Do, Geo. Yell, Pine, do 28 a 30 Shingles, Cypress, M ft 4 a 10 Do, Pine, bundle — a —	MAHOGANY— St. Domingo, foot 6 a 40 Honduras, do 6 a 15	MOLASSES— Marinique & Guad. gal 25 a 26 English Islands, do 25 a 28 Havana & Matanzas, do 22 a 25 Trinidad do Cuba, do 26 a 28 New Orleans, do 27 a 30	NAILES— Cut, 4d to 40d, lb 5 1/2 a — Cut, 3d, do 6 1/2 a — Cut, 2d, do 7 1/2 a — Wrought, do 10 a 14	NAVAL STORES— Pitch, brl 1 75 a 1 87 1/2 Pichl, do — a 1 75 Rosin, do 1 37 1/2 a 2 00 Turpentine Wilm. soft, do 2 25 a — Do, North Co. do, do 2 09 a — Spirits Turpentine, gal 45 a 50	OILS— Florence 30 flasks, box 4 25 a — French 12 bottles, hkt 2 50 a 3 25 Olive, gallon 82 1/2 a 95 Linseed, American, do 90 a — Do, Eng. & Dutch, do 90 a 91 Whale, do — a 58 Do, refined, do — a — Sperm, Summer, do 68 a 70 Do, Winter, do 85 a 90 Liver, Straits, brl 13 00 a — Do, Shore & Bank, do 10 50 a 12 00 OSNABURG, yd 8 a 8 1/2	PROVISIONS— Beef, Mess., brl 9 00 a 10 00 Do, Prime, do 5 50 a 6 00 Do, Cargo, do 4 75 a 5 00 Butter, N. Y. Dairy, lb 12 a 15 Do, Shipping, do 6 a 9 Do, Philadelphia, do 6 a 8 Hog's Lard, lb 7 a 9 Pork, Mess., do 12 75 a 14 00 Do, Prime, do 9 00 a 10 25 Do, Cargo, do — a — Cheese, American, lb 6 a 8 Hams, Virginia, do 9 a 10 Do, Northern, do 9 a —	RAGS— Foreign, do 2 a 8 Country, do 3 a 5 RICE—100 lb 2 50 a 3 25	SALT— Turk's Island, bush 40 a — Lale of May, do — a — St. Ubes, do 31 a — Cadiz, do 30 a 31 Lisbon, do 33 a — Liverpool ground, do 27 a 28 Do, blown, do — a — Do, sack do, sack 1 40 a 1 50	SALT PETRE— Refined, lb 8 a 8 1/2 Crude E. I., do 6 a 6 1/2	SOAP— New York, Brown, lb 11 a 6 1/2 Castile, do 11 a 13	SPELTER, lb 2 1/2 a 3	SPIRITS— Brandy, O. D. & Co. gal 1 50 a 1 62 1/2 Do, Rochelle, do 1 15 a 1 25 Do, Bordeaux, do 1 10 a 1 15 Rum, Jam. 4th proof, do 1 00 a 1 25 Do, St. Croix, 3d do, do 95 a — Do, Wind Isl. 3d do, do 80 a 55 Do, N. Orleans, 1st do, do 40 a 45 Do, N. Eng. 1st do, do 30 a 32 Gin-Hoof, Mederswa, do — a 1 12 1/2 Do, Hoof Glass, do — a 1 06 Do, Pine Apple, do 1 10 a 1 13 1/2 Do, Imperial, do — a 1 05 Do, Country, do 30 a 38 Whiskey, Rye, do 21 a 22 1/2 Cider Brandy, do 23 a 25	STEEL— German, lb 10 1/2 a 11 English, do 11 a 11 Trieste, in boxes, do 7 a 7 1/2 American, do 5 1/2 a 6	SUGARS— British Island, lb 7 a 9 St. Croix, do 6 1/2 a 9 1/2 New Orleans, do 5 a 6 1/2 Havana, White, do 8 a 10 Do, Brown, do 7 1/2 a 7 3/4 Do, Muscovado, do 7 1/2 a 8 Porto Rico, do 7 a 8 Brazil, White, do 7 a 8 Do, Brown, do 7 a 7 Manilla, Brown, do 7 a 7 1/2 Lump, do 12 1/2 a 15 Loaf, do 16 a 17	SUMAC— Sicily, ton 55 00 a — Trieste, do 35 00 a — American, do — a 30 00	TALLOW— Foreign, do 7 a — American, do 6 1/2 a 6 3/4	TEAS— Imperial, do 55 a 1 06 Gunpowder, do 55 a 1 06 Hyon, do 45 a 87 1/2 Young Hyon, do 35 a 87 1/2 Hyon Skin, do 23 a 45 Souchong, do 17 a 45 Bohea, do 13 a 16	TIMOTH. SEED, ice 13 00 a 12 00	TIN— Block, S. American, lb 12 a 13 Do, East India, do 14 a 15 Plates, 14, box 9 75 a 10 00	TOBACCO— Richmond & Peters, do 4 a 7 North Carolina, do — a — Kentucky, do 5 a 8 Cuba, do 6 a 14 St. Domingo, do 7 a 13 Manufactured, No. 1, do 11 a 13 Do, No. 2, do 8 a 9 Do, No. 3, do 7 a 8 Ladies' Twist, do 15 a 18 Crownhill, do 12 a 37	TORTOISE SHELL WHOLEBONE— Slab, lb — a 19	WINE— Madeira, gall 1 12 1/2 a 2 25 Sherry, do 6 a 7 1/2 Canary, Cogswell, do 73 a 1 25 Tenerife L. F., do 73 a 94 Do, Cargo, do 50 a 65 Malaga, dry, do 35 a 44 Do, sweet, do 35 a 42 Claret, cask 10 00 a 13 00 Do, in bottles, do 2 00 a 5 00 Port, gall 75 a 1 70 Lisbon, do 80 a 1 00 Maderella Madeira, do 34 a 44 Catalonia, do 25 a 35	WOOL— Merino, Am. fleece, lb 45 a 52 Do, pulled, do 44 a 48 Common, do 34 a 32 Pulled, spinning, do 38 a 40 Lamba, 1st quality, do 43 a 40 Do, 2d quality, do 30 a 32 Do, 3d quality, do 21 a 23
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[From the New York Shipping and Commercial List.]
REVIEW OF THE NEW YORK MARKET—June 27.

(For three days preceding.)

ASHES.—The demand continues good at the advance noticed in our last publication, and all that were offered have been taken at \$4 for Pots, and \$4.30 for Pearls. The quantity arriving from the Interior is very moderate.

COTTON.—The market, since our last publication, has been very steady, and prices particularly for the fine qualities, which are wanted for home use, are fully maintained.

Flour and Meal.—Western Canal Flour is in very fair demand, and is taken out of market about as fast as it arrives. The bulk of the sales at \$4.87 1/2.

GRAIN.—There have been some considerable sales of Wheat at 105 cents for good Middle County, to 107 cents for Genesee. No Southern float. 2000 bushels Northern Rye sold yesterday, at 62 1/2 cents. Corn continues in demand, and all the good Northern Yellow arrived was sold at 68 cents. Last sale of Northern White, 70 cents; Maryland Yellow, 65 a 66; Northern Oats, 28. Export, from 1st to 19th inst., Corn, 9506 bushels; Wheat, 600 bushels.

Hides.—The market is quite at a stand. We have not a single sale to report.

Provisions.—For Beef and Pork there has been some increase of demand, and the sales for the last two days, have been more extensive, but without any change in prices. Lard is also in fair demand—200 kegs Philadelphia were sold, to arrive, at 9 cents cash. Export from 1st to 19th inst., Beef, 533 bbls; Pork, 1619 bbls; Lard, 904 kegs.

SALT.—Liverpool continues abundant, and several sales of Blown, in sacks, have been made at \$1.50.

Tobacco.—There is some inquiry for Kentucky, and prices are well sustained.

Exports.—There is very little offering for Europe at present—not enough to fill the regular packets to Liverpool and Havre.

[By the David Brown.]

CHARLESTON MARKET.

The wholesale Grocery and Dry Goods business with the country has come nearly to a close, the season being so far advanced that we have but few dealers from the Interior.

COTTON.—The transactions in Uplands for the week ending yesterday, have again been to a fair extent, and although they were less extensive than those of the week previous, still they considerably exceed the amount sold at this season of the year. Former prices have been fully maintained, and as choice lots become more scarce as the stock declines, prime and such as border thereon, have met with more ready sales. The sales in all amount to 4345 bales.

Rice.—The demand for this article has been very limited.

Flour.—Upwards of 2000 bbls Baltimore and Canal Flour were received during the week, a considerable part of which were disposed of at various prices, from \$5.56 1/2 to \$6, and a few bbls even above that price.

GRAIN.—The arrivals of Corn since our last report, amount to 1300 bushels—three cargoes sold at from 67 to 71 cent—one cargo sold at prices not transpired, and one other was disposed of about a fortnight since, to arrive. 1500 bushels Oats brought 42 cents, and 1200 bushels Peas, at 90 cents. A lot of 237 bales North River Hay, brought 70 cents.

Molasses.—No importations.

Spirits.—Of all descriptions dull. 150 bbls N. E. Rum, sold at prices not transpired. 70 bbls Baltimore Whiskey, at 26 cts, and a small lot Northern Gin at 32.

Bacon.—A considerable quantity of Baltimore Bacon has been received during the week, most of which has been readily disposed of.

Mackerel.—45 bbls new No. 3 were received during the week, and sold readily from the wharf, at \$5.50 per bbl. With but a moderate supply this price cannot long be maintained.

Fatigues.—Have declined.

THE subscriber having invented a new and useful improvement in the method of metallic packing for Steam Engine Pistons, and valves, specimens of them may be seen in Mr. Burden's new steam vessel; also on reference to Mr. L. P. Altair, Engineer, and the Troy Steamboat Company. These improvements he will be happy to introduce on the most reasonable terms; and having taken lawful means to secure the same by Letters Patent from the Government of the United States, which he expects to receive in a few days, (and of which due notice will be given) hereby cautions all persons from making use of said improvements, unless through him or his agents.

NEIL SNODGRASS, C. E.

No. 87 Pearl street.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon date, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, {
Janu 29, 1833. }

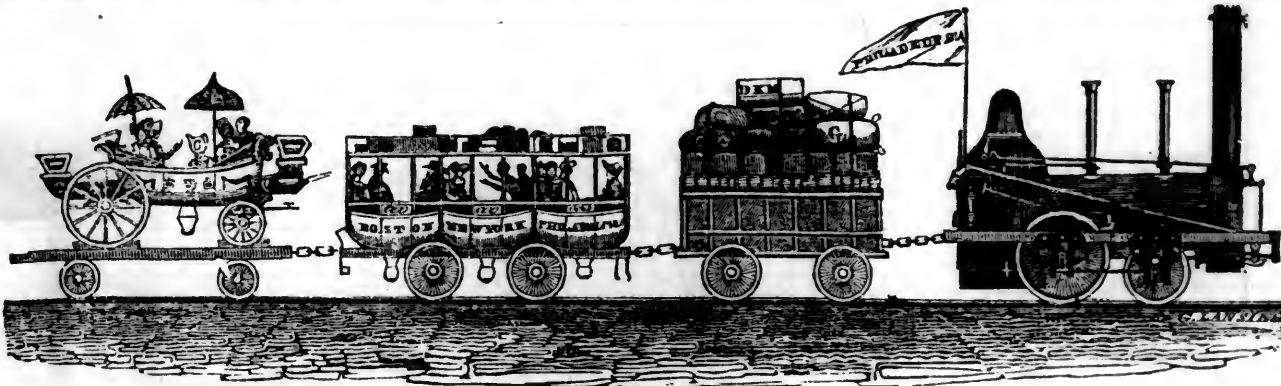
NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lanesburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for shins. The nail is hammered and comes from the machine completely heated to redness; that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell out all his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine-shop of Mr. John Humphrey, in the village of Lanesburgh, August 15, 1833. A291 R M & F

BULWER'S PILGRIMS OF THE RHINE, royal 8vo. bound in arabesque, and embellished by 28 splendid engravings. Also, Rogers's Works, 2 vols. 8vo., elegantly bound in arabesque, and illustrated with 128 beautiful engravings. The above works are for sale by

WM. A. COLMAN, 132 Broadway,

Where many new works are just received. J98



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, JULY 5, 1834.

[VOLUME III.—No. 26.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JULY 5, 1834.

The citizens of Taunton, Mass., are about constructing a branch from that place, to meet the Boston and Providence railroad—distance about 10 miles—probable expense \$80,000.

NEW LOCOMOTIVE.—By the ship New-York, the Saratoga and Schenectady Railroad Company have received another Locomotive Engine in addition to the one now in use, on their road. It is from the celebrated manufactory of Stephenson & Co., and will probably be ready for operation in the course of ten days.

IRON WHEELS.—We saw a waggon in Court street this forenoon, which, from the novel construction of the wheels, excited considerable curiosity in the passers-by. They were made entirely of iron—the outer part of the wheel was formed from a single piece of iron about an inch and a half square—the spokes were round, and five-eighths of an inch in diameter. The naves were constructed in a new and ingenious manner, by which the friction is much diminished; and the whole appearance of the wheels conveyed the idea of usefulness, neatness, and simplicity.

On inquiry, we learned that these wheels were calculated to sustain a weight of a ton and a half—and that wheels of the ordinary construction, to sustain so great a weight, would weigh about the same as these newly invented wheels. The expense also, we were informed, will not vary materially from those in common use. They were manufactured by Mr. Hale, of South Boston; and we believe this is the first attempt of the kind to manufacture all the parts of the wheel of iron. The advantages to be derived from this invention are neatness, safety, and durability.—[Boston paper.]

RAILROADS IN VIRGINIA.—We fully agree with our correspondent as to the importance of the two, or more properly *one*, railroads to which he refers in the following communication, and we trust we have good reason to anticipate an early movement towards their construction. Virginia has, it is true, done very little towards the improvement of her natural advantages—too little, indeed, for the station she has always maintained amongst the States of the Union; but we think we perceive the dawn of a better day for her. Petersburg has led the van; Norfolk is following her, and Richmond must in self-defence do something, or she will be left so far behind as not to be thought of in the same day; and she will hardly stand that. Richmond will attend to the construction of a railroad to Fredericksburg, Fredericksburg to the Potomac Creek, and then Petersburg or Richmond, or both, will finish the chain by making a railroad between those two towns, which will intersect the State.

RAILROADS IN VIRGINIA.

To the Editor of the Railroad Journal.

There are two works in Virginia of the most useful and important character, but which will not be undertaken for some time yet to come, on account of the want of energy or interest of the citizens of that section of the country in their completion. They are railroads, one from Ck. Landing to Fredericksburg, (a little over ten miles in length), and the other from Fredericksburg to Richmond (about sixty miles.) They are on the great southern mail route from Washington City to New-Orleans, and are, (the former more particularly), essentially necessary to the speedy transportation of the mail and passengers. From Fredericksburg, (a distributing post-office), the mail routes diverge to Maysville and Guyandotte westward, and southward to Richmond, Norfolk, Petersburg, Charlottesville, &c., into North and South Carolina, Georgia, &c. The mail at present is conveyed in steamboats from Washington to Potomac Creek, (a tributary to the Potomac river), 60 miles, and thence in stages to its various destinations; and owing to the miserable state of the roads throughout Virginia, more particularly during the winter—(I refer you to the far-famed poem of Moore's, on

his ride over a portion of them, for a better description than I could give)—there is no calculating with certainty on the arrival of the stages at the proper time, or of their bringing the mails with them when they do come, (notwithstanding the extra allowances of our worthy postmaster.)

A survey for a railroad from Potomac creek landing to Fredericksburg, was made in the spring of 1832, and the line located across the peninsula, dividing the waters of Potomac and Rappahannock rivers. From some cause or other, only a common turnpike was constructed over a portion of the line, and the attention of the citizens generally, and of the Legislature, being too much absorbed at the time by the James River and Kenawha Canal, to feel interested in any other work of internal improvement, very little of the stock of this road was subscribed for, and no interest felt for its construction. The report of the engineer who surveyed and located this road, not having been printed, I cannot procure a copy, of which I should like to send you one, as it contained much statistical information respecting that section of the country. Yours, respectfully,

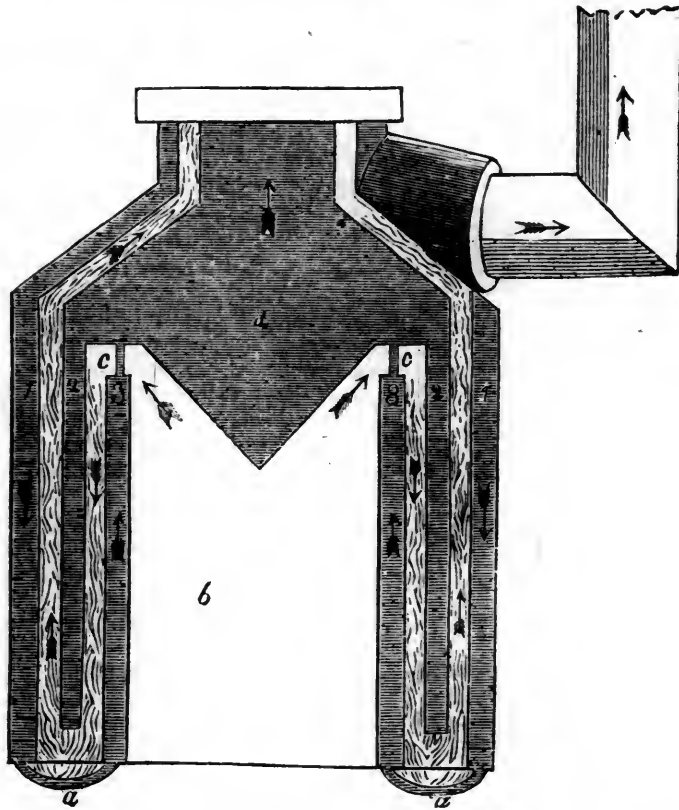
H. N. C.

HUDSON AND ERIE RAILROAD.

To the Editor of the Railroad Journal.

I find, from the late numbers of your Journal, that there is some prospect of an entire survey being made of the Hudson and Erie Railroad. The feelings of the citizens of the lower part of the state have led them to determine on the route of this railroad through the lower tier of counties, without probably reflecting on the possibility of a better, cheaper, and more practicable route elsewhere, for accomplishing their object. Upon reference to a map, you will find that the streams watering that section of the country generally run parallel to each other, with lofty and continuous ridges of mountains between them. These ridges are most generally unbroken, affording no opportunities for the passage of a railroad, except at an immense expenditure of money for stationary power, more, in fact, than could be warranted, I think, by the travel and transportation over such a route, for years, at least, to come. Why not then seek for the best location of such a work, without limiting the researches of the engineer to one particular route

Fig. 2.



room between said arms and the cylinders for the connecting rods to revolve, and to which arms is attached the main or driving pulley, *f*, or in place thereof a cog-wheel, as the case may require.

The connecting rods and cross-heads being mostly hid in the representation, are so nearly in the common form as to need no description. But the feet of the said connecting rods are connected together by a moveable joint, so as to revolve round a centre-pin, which is removed from the centre round which the cylinders revolve, just half the length of the stroke of the pistons.

The steam is conducted through a hole lengthwise in the main axis *G*, and out through a hole in the side thereof into the bottom of each cylinder successively, as they revolve.

On the side of each cylinder is a tube, passing from the bottom to the top, and also connected at the bottom with that which lets the steam into the bottom of the opposite cylinder, so that when the steam is let into the bottom of one cylinder it enters the top of the one opposite; and as the feet of the connecting rods revolve round a centre at some distance from the centre of the main axis, as the pistons act and re-act, the cylinders must of course revolve round the axis; and when each cylinder has passed round to the opposite side from whence it filled, the steam escapes through a hole on the opposite side of the axis into a hole lengthwise of the axis, and parallel to the one by which it entered, and goes off through the discharge pipe *i*.

Mr. F. will engage to construct an engine and boiler of fifty horse power, of strong and permanent workmanship, which (both engine and boiler) shall stand on a circle of six feet diameter, and will not vary much in weight from three tons. And operating with a steady rotary impulse and without any jar, its operation will be much pleasanter in steamboats, and also prevent the injury done

to the boats by the constant racking motion of the engines now in use.

This engine and boiler will be in operation in a few days at 246 Water street, New-York.

Since the above was in type, we have received the following from Mr. Fairman:

To the Editor of the *Mechanics' Magazine*:

SIR.—However I may be reduced, by the misfortune, or rather the folly, of having undertaken to invent useful mechanical improvements, my pride is not so far overcome as to be willing to ask any services on the score of charity; but if, from any other motive, you should see fit to give this a place in your Magazine, I wish you better remuneration for so doing than to meet the fate of an inventor.

I had long been led to believe that a rotary steam engine, simple, operative, and sure in its construction, with an efficient boiler, both so compact, and consequently light, as not to overburthen their own power, and peculiarly adapted to locomotive purposes, was a desideratum for which the enlightened public would liberally reward the inventor, if such an inventor could be found. I had good authority for so believing. Many respectable writers on the subject of steam power, have noticed the importance of such an invention, but all I have seen have considered it impracticable.

Mr. Nicholson, in his *Operative Mechanic*, (Philadelphia edition, page 206,) says: "All steam engines, as yet noticed, have their action by the movement of a piston, in a cylinder, and act by what is called a reciprocating motion. In engines of this description a very considerable degree of power is expended in arresting the motion of the different working parts, and putting them into action in a contrary course. This has claimed much attention of engineers, and

many attempts have been made to construct an engine in which the action of the steam should operate in a continuous manner, without bringing the parts to a state of rest."

Again he remarks, (page 213,) "The reciprocating motion in steam engines is a loss of power, which cannot be denied, for the momentum of the beam and other parts, passing in one direction, have suddenly to be arrested and moved in the opposite direction, which produces a loss of power."

"Rotary action has been sought, therefore, with propriety, but has not yet been attained with advantage."

Since Mr. Nicholson wrote the foregoing, the importance of locomotive steam powers has nearly doubled, and yet I have known of no attempt which was likely to succeed in effecting the desired object.

With these views of the subject, and believing, or at least hoping, it was practicable, I undertook, and have no hesitation in stating, that I have effected all that the subject required. I have constructed an engine and boiler as little liable to disorder, and as easily kept in repair, as any other, and, I believe, with at least double the power, in proportion both to the cost and weight, of any which has come to my knowledge.

But my want of pecuniary means compelled me to let the engine and boiler which formed the first experiment, and which could not be expected to be perfect, go out of my control, and be placed where, by awkward management, if it be not condemned, it will discredit rather than benefit the invention. No man of judgment would expect perfection in a first experiment; but fortunately there was no mistake perceived in the engine, and but for a slight miscalculation in the boiler, I would not wish my reputation to stand, as an inventor, on a better foundation.

I cannot now invest the necessary sum in materials to exhibit my invention to the public, but if any gentleman or company interested in procuring the best locomotive engine and boiler, after due examination of my plan, will furnish materials, I will hazard all the labor of constructing them at short notice, and will guarantee, as far as my labor goes, that they shall not vary essentially from the following calculations:

A boiler, which shall expose 160 feet of heating surface to the water, and shall possess sufficient strength to work steam under 100 lbs. pressure to the inch above the atmosphere, and which, of course, must produce a sufficiency of steam for a fifteen or sixteen horse power; an engine with 4 cylinders, 6 inches diameter, 18 inch stroke, making four double strokes at each revolution, and 50 to 60 revolutions per minute, working off from 78 to 94 feet of steam.

The whole engine, boiler and furnace, shall only occupy a circular space of three feet six inches diameter; and shall weigh less than a ton. A boiler and furnace sufficient for a fifty horse power shall stand on a circle six feet in diameter.

All which facts are respectfully submitted by the public's humble servant,

SIMON FAIRMAN.

P. S.—I have no wish nor reason to find any fault with the conduct of the gentleman in whose hands my steam engine is placed in New-York. I have found nothing ungentlemanly or unfair in his conduct. The only difficulty is, the engine was taken away prematurely.

S. F.

The Steam Engine.—Security against accidents from the explosion of steam, being a subject of such extreme interest to the community, we insert the annexed report, made to the House of Representatives in the 26th ult., by Mr. White, of Louisiana, from the select committee to which was referred the memorial of Benjamin Philips of Philadelphia, who suggests a contrivance by which the double advantage is obtained of increasing the power of the engine, and at the same time preventing mischief from explosion.—[Nat. Intel.]

The Select Committee to which was referred the memorial of Benjamin Philips, of Philadelphia, report: The object of the memorialist is to invite the attention of Congress, and the public generally, to certain improvements devised by him in the use and structure of the steam engine. The model of his apparatus accompanied by drawings and diagrams, illustrative of its principles, have been submitted and examined. Whatever other advantages may be supposed to be combined in the scheme, the committee have considered it chiefly, if not exclusively, in reference to its comparative safety, or exemption from the danger of explosion.

It seems to be a point conceded by scientific observers, that, among the primary causes of explosion in steam boilers, one of the most prominent may be traced to the want of a constant and regular supply of water, while the engine is in action. The usual means employed, as the committee are advised, both for supplying the consumption of the boiler, and for ascertaining the quantum of water in that receptacle, are inadequate and uncertain. The forcing pump is liable to derangement; and when the water has fallen so low as to superinduce the circumstances of danger, neither the common gaugecock, nor the common safety valve can be relied on for an accurate indication of the state of things so essential to be known. By the plan submitted, these defects appear to be remedied. A constant and uniform supply of water, and a test water gauge, indicating to the eye, at any moment, the precise level the fluid in the boiler, form a part of the melioration suggested.

But what appears to the committee to be the distinguishing feature of the plan, is that it contemplates the employment of the steam at any given pressure, without a corresponding stress on the boiler. The result is obtained by generating the steam at a very moderate pressure on the boiler, from whence it is conveyed for use, to one or more receivers, in which, before it is applied as the momentum to the engine, it may be raised by fires heated from a separate furnace, to any required degree of elasticity.

The committee are of opinion, that if the scheme be feasible, of which they do not doubt, it must of itself be an important step towards the GRAND DESIDERATUM. Confined in a separate reservoir, not in immediate connexion with the boiler, the steam, never rarefied, would not be liable to be suddenly injected with water, a process which all concurring experience proclaims to be the proximate cause of many of the most dreadful accidents that have occurred.

The form and position of the contemplated receiver is believed to present another condition of security. Placed vertically on the deck, with different chambers or compartments connected by valves, steam at its greatest tension naturally rushing through the valves into the upper chambers of the recipient, if ever explosion should take place, it would be a mere effusion of steam, and not of hot water; and the discharge would be upwards, into the open air, leaving untouched the passengers and the property embarked in the vessel.

There are other particulars in the mechanism, of the usefulness of which, practical engineers alone are competent to form an accurate estimate. It suffices to say, that as a whole, the committee consider the contrivance as reflecting credit on the science and ingenuity of the proprietor, and his plan is worthy of a full and fair experiment.

In the question as to the power and the inexpediency of aid and co-operation on the part of the Government in experiments of the kind, the committee have come to an affirmative conclusion. When it is considered how intimately the subject matter connects with the general welfare, looking to the protection of the lives and property of the whole people, it involves considerations of naval and national defence, as well as the general interests of commerce, it is not thought that any valid opposing argument can be drawn from the want of power, much objection be raised on the score of policy.

The committee have thought proper to recommend

a small sum to be placed at the disposal of the Secretary of the Navy, to test the improvements in this branch. It is believed that a reasonable expenditure of the public money for this subject, would coincide with the universal sense, and meet the applause of the nation. The knowledge of the mode of controlling and directing with safety this powerful, but hitherto dangerous, agent in the affairs of men, would be cheaply purchased at the cost of millions.

TRENTON, (N. J.) JUNE 28.—*Delaware and Raritan Canal.*—On the 25th inst. a large Barge from the Delaware and Chesapeake Canal, left Bordentown in the morning, with the Directors of the Company and a number of the Stockholders on board, on an excursion of inspection of the locks, bridges and other works of the canal, and arrived at Trenton about 12 o'clock. She then went up the feeder as far as Lambertsville. On the following day the Barge, with the Directors, &c. proceeded on the main canal hence for New Brunswick. The canal, we understand, is now open for the passing of shallops, &c. from the Delaware to the Raritan—the supply of water is good, and appears to be abundant for a depth of 6 and 7 feet.

A large supply of water was let into the Canal of this Company on the 24th inst. On the night following, the embankment on the west side near the Asanpink, gave way, occasioning a heavy breach, which will take a week or more to repair.

[From the *Lansingburgh Gazette.*]

MR. EDITOR,—I beg leave through the medium of your paper, briefly to notice several communications in your two last numbers, of which I have the honor to be the subject.

I utterly disavow having knowingly in my composition a particle of ingratitude; and as I have no reason to doubt that the pieces alluded to were dictated by a spirit the most friendly for my interest, I as sincerely reciprocate to them every kind feeling which grateful sympathy can dictate.

I am well aware, however, from long observation, confirmed by a good share of experience, that whoever attempts to lessen the burden of Labor, or render it more productive, by the invention of a labor-saving machine, not only sets himself up as a mark, like a man in the pillory, for men of feeling to pity, and fools to throw rotten eggs at, but puts himself upon a fair chance to end his days in a poor-house or a prison; and I have the mortification to confess that something, which I have reason to fear is a radical defect in my constitution, has placed me among that unfortunate class of beings called inventors.

But I beg leave to state, that inventors, (poor wretches,) have feelings, and sometimes even pride, as well as other people; and as I have a little share of that added to my other misfortunes, I wish those respected friends of mine to consider that it cannot but be painful to me to be exposed as an object of public sympathy. I have been foolish enough to invent some labor-saving improvements, and men have been benefitted by them who seldom thanked me, and much more seldom paid me; and it is true, I have lately invented and constructed a *steam engine*, on a plan which, whatever may be its mechanical force, will force its way into use, and will benefit the world when I am forgotten. And it is equally true, that it has found its way out of my hands, without any fair compensation; but, thank Heaven, I still enjoy health, and strength, and air, and sometimes sun-shine, as plentifully, perhaps, as if I had never invented any thing; and if Heaven will continue me these blessings, and my friends will favor me with such jobs as will occupy my time, and keep me from committing any more acts of invention, I

will thank them more for such patronage than for ten times the amount in commiseration.

SIMON FAIRMAN.

Lansingburgh, June 3, 1834.

Animal Mechanics, or Proofs of Design in the Animal Frame. Part II., showing the Application of the Living Forces. [From the Library of Useful Knowledge.]

(Continued from page 343.)

Here we find a very beautiful muscular apparatus which is necessary to the perfect adjustment of these cords. The cords are attached to small muscles called *columnæ carneæ*, C C, or fleshy columns, which at their other extremities are incorporated with the muscular wall of the ventricle itself. The use of these muscles is now to be explained. Had the tendinous cords of the valves been tied to the inside of the wall of the ventricle, without the intervention of these muscles, as the walls of the cavity approach each other during their contraction, the tendinous cords would have been let loose, and the margins of the valves carried back into the auricle. But, by the intervention of these muscles, they are pulled upon and shortened in proportion as the sides of the cavity approach each other.

On the whole, then, we perceive that this apparatus, which is as intricate as the rigging of a ship, consists of a variety of fleshy columns and cords, many of which, in fact, run across the cavity of the ventricle.

We are about to exhibit another form of a valve, much simpler, and yet we are bound to believe equally effectual; which tends to support the opinion expressed above, that besides preventing the retrograde motion of the blood, this intricate apparatus of the ventricle is intended more effectually to agitate and to mix the different streams.

At the root or origin of the great artery, called the *Aorta*, there is a firm ring, to which the valves now to be described are attached. The necessity of this will appear evident, since, if the ring could be stretched by the force of the heart's action, the valves or flood-gates would not be sufficient to close the passage; their conjoined diameters would not equal that of the artery which they have to close. These valves are three in number: they are little half-moon shaped bags of thin membrane, which are thrown up by the blood passing out from the ventricle, but by the slightest retrograde movement of the blood, their margins are caught, and then, being distended or bagged, they fall together and close the passage. There are some curious little adjuncts to these valves, which ought to be explained, as shewing the accuracy of the mechanical provision.

When the margin of the valve is thrown up by the blood passing out of the heart, it is not permitted to touch or fall flat upon the

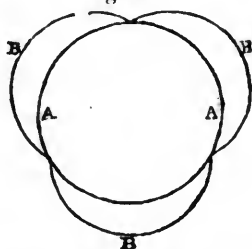
Fig. 5.



side of the artery, for, if it did, it would not

be readily caught up by the blood that flows back; there is, therefore, a little dilatation of the coats of the artery behind each valve, by which, although the margins of the valve be distended to the full circle, they never cling to the coats. These valves, then, are never permitted to fall against the coats of the artery, and therefore they are always prepared to receive the motion of the reflux blood.

Fig. 6.



Let this figure represent a transverse section of the root of the aorta: A A, the inner circle, is the margin of the three valves thrown up to let the blood pass. B B B are three semi-circular bags, formed by the dilatation of the coats of the artery at this part, receding from the margin of each of the valves—consequently, in such a manner as to leave a space between the valves and the sides of the vessel.

To strengthen the valves, a tendon runs along their margin, like the bolt-rope or foot-rope along the edge of a sail, and these ligaments are attached to the side of the artery, and give the valve great strength.

Fig. 7.



These valves, we have said, are semi-lunar, consequently, when they fall together there must be a space, A, left between them. If we put the points of the thumb, fore and middle fingers, together, there is a triangular space left between them; such a space between the convexities of the three valves would be a defect.

Fig. 8.



This figure represents the artery open, and the semi-circular valves, like little bags, attached to the inside.

Three little bodies like tongues are therefore attached to the middle of the margin of each valve, and these, falling together when the valve is shut down, perfect the septum and prevent a drop of blood passing backwards.

GLASS TILES.—M. Dorlodot, a glass manufacturer, at Anzin, in France, has invented a species of glass tile, of great solidity and transparency, which, it is thought, may be substituted with much advantage in all cases where skylights are now employed. The existing excise

laws of Great Britain oppose, however, an insuperable bar to their adoption in this country, unless under circumstances where expense is no object.—[Mechanics' Magazine.]

MORAL PRINCIPLES THE SAFEGUARD OF LIBERTY.—The following from the Scottish Guardian, although not correct in all its statements or reasoning, deserves, says the Annals of Education, deep reflection, and we have been gratified to see it circulating extensively through our newspapers.

Two Magistrates of Paris recently made a tour through the United States, and in the course of two years collected important information regarding the statistics of crime and education. In the state of New-York, 500,000 children, out of two millions, are at public schools; that is, a fourth part of the population, and £240,000 are annually expended for this purpose. Yet in this State crime increases, and that, too, though the means of subsistence and employment are so much more easily obtained than in any other countries. In Connecticut, education is still more extended, and nearly a third part of the population is at school. Yet crimes multiply to a frightful extent. The Journal of Education, stating these facts, draws this cautious conclusion: "If knowledge cannot be accused of causing this increase of crime, at least it has not prevented it."

On turning to France, and examining tables of the comparative proportion of instruction in its different departments, during a period of three years, the western and central provinces have been found the most uneducated—15, 14, 13, 12, and 8 per cent. only being able to read and write; but, according to an essay on the moral statistics of France, presented to the Academy of Sciences, the minimum of crime is to be found in these uneducated departments, and the maximum in Corsica and in the south-eastern provinces, and in Alsace, where nearly half the population can read. The different employments of the population may account for the difference in part; yet still we may again draw the cautious conclusion, that if education has not caused, at least it has not been seen to prevent crime.

The only ascertained moral effect of intellectual education was stated in last March by the Lord Chancellor, in the House of Lords. In Russia, where education can scarcely be said to exist, out of 5,800 crimes committed within a certain period, 3,500 were accompanied by violence; while in Pennsylvania, where education is generally diffused, out of 7,400 crimes, only 640 were accompanied by violence, being in the proportion of $\frac{1}{12}$ of the whole number, instead of $\frac{3}{4}$, as in the former case. Thus the only ascertained effect of intellectual education on crime is to substitute fraud for force—the cunning of civilized, for the violence of savage life. Nor would even this small change be permanent. A highly intellectual community, without moral principles and the habits of self-denial which religion imposes, would only prove a sleeping volcano, ready to awaken every moment, and overthrow those very institutions under which it had been fostered. To increase the intellectual power, and enlarge the knowledge, of a man void of principle, is only to create in him new desires, to make him restless and dissatisfied, hating those that are above him, and desirous of reducing all to his own level; and you have but to realize universally such a state of society, to fill the cup of the world's guilt and misery to the brim. What do we say then? Not certainly that education is to be withheld from any member of society,—for that question is now decided, whether we will or not,—but that from the infant school, upwards to the university, it must be a thorough Christian education, in which our youth shall be trained in the ways of virtuous self-control, and piety and righteousness wrought into the understanding and into the whole habit of man. A perfunctory religious

education will no longer serve—not mere Bible-reading—but Bible education. The understanding must be enlightened, and the heart must be gained over to the side of truth and righteousness. In short, the grand aim of education must become, not merely the formation of intellectual habits, or the acquisition of secular knowledge, (as is too exclusively the case in present times,) but the formation of the Christian character. Men have hitherto been prone to take for granted, that it was only necessary to teach the art of reading, and before this new power all vice and error would flee away. These are dreams of men ignorant of themselves, and ignorant of our poor nature. Men must be trained to piety and virtue as they are trained to any other habits, whether intellectual or physical; and the moral man must advance contemporaneously with the intellectual man, else we see no increase from our increased education, but an increased capacity for evil doing.

The following application of this truth to our own country and its peculiar dangers, from the Northampton Courier, is another gratifying evidence of the increased interest taken in the subject.

"We believe that there is much truth and justice in the remark, that other influences besides that of force must be exercised, to keep the Union of these states permanently together. Statutes may be enacted, constitutions framed, and interests multiplied, but if there is not a primary feeling of moral obligation and fraternal duty, to cement and enforce them, the duration of this government, like all others, is extremely questionable and uncertain. Pecuniary interest, and common defence, and general prosperity, are but transient ties, which can be thrown off to suit the excited spirit of the times, or changed to meet any pressing emergency. They are but selfish bonds, which yield at the rude touch of popular disaffection, and are easily rent by the misguided voice of public sentiment, and vindictiveness, and clamor. But if legal enactments and obligations, and physical wants, and common defence, do not constitute security against dissolution, what influences can be exerted to sustain and strengthen a civil compact of such stupendous weight and importance as our own? If these things fail, what iron will enter the souls of men, to enforce their moral obligations, and to impress upon them the maxim of 'union,' with certain safety and security?"

We think a moral obligation, and religious feeling, and fraternal affection, which is founded in the heart, and has its emanations from the soul, if rightly cultivated, will insure this purpose, and guarantee its permanent duration. Some deep abiding sentiment, some strong affection of the mind, some radiating influence from the heart, which rises above selfishness, and pecuniary wants, and sordid interest, which all feel and acknowledge, is what should be cherished and cultivated, to bind with adamant chains the different parts and sections of this our own favored country together.

Yes; it is by cultivating the sense of 'moral obligation and religious feeling,' and the 'fraternal affection,' which is their necessary concomitant and result, that our own union is to be maintained, (for we are unwilling to add the qualification which is chilling so many hearts,) and not by constitutions of parchment, or even by the arm of power. If our laws are not supported by our feelings, and principles, the force which we use to maintain them, may indeed make us fellow prisoners, or fellow subjects, but never can unite us as brethren or fellow citizens. France has long sought to establish moral principle on some other basis than that of Christianity; but she has renounced this visionary plan, and now requires the New Testament to be employed as the text book of morals and religion in every school in the empire. Let us profit by her example, and retain the precious legacy of our purer, happier ancestors.

AGRICULTURE, &c.

CULTURE AND EXTRAORDINARY PRODUCTIVENESS OF THE OXALIS CRENATA.—We are indebted to the Quebec Mercury for the following interesting article :

This vegetable has been newly introduced in England, and on the limited experience a brief acquaintance with it has enabled those who have cultivated it to acquire, it is regarded as a plant of considerable promise and well worth attention. It is cultivated by tubers, and we have great pleasure in adding another instance of greater feeling with which the efforts of our new Quebec Society for the Improvement of Agriculture are encouraged by societies, having the same purpose in view, in the mother country, in announcing that some tubers of this plant have been forwarded to its Society, by the Royal Devon and Cornwall Botanical and Horticultural Society, accompanied by the fourth annual report of their Committee, from which we extract the following notice of the *Oxalis Crenata*.

"It is cultivated by tubers, which being furnished with eyes like those of the potato, may, like it, be divided into several cuttings; but, as the substance of the tuber is the magazine destined by nature to sustain the plant till it acquires sufficient strength to draw its nutriment from the soil, it will perhaps be advisable not to make the division too small, or rather to plant the tubers whole, and reverse the division till after the plants have acquired such a size as to be independent of the nutriment of the parent tuber. While their culture is restricted to the limited operations of the garden, and perhaps also even after they have attracted the attention of the farmer, Mr. Beaton recommends making the tubers germinate in pots protected from the severities of the early spring; a practice which will facilitate the subsequent division just recommended. They should not be planted out in the open ground till the advancing season has removed all danger of severe frost. When transplanted, they should be put in ground well dug and rendered permeable to their roots, and should not be set closer than from four to six feet apart. They will grow well, as Mr. Beaton observes, in any light soil, but a very rich soil is best for a heavy crop. The best method of planting would perhaps be to set them between drills, the earth of which may from time to time be brought down over them with a hoe. The thick succulent stems which are thrown up in profusion during the summer make excellent tarts, resembling those of rhubarb or gooseberries, but requiring less sugar; while the leaves are a grateful food to many domestic animals, and the tops and smaller branches may be employed as cuttings to extend its culture, and augment the production of tubers. Cuttings of this kind, stuck in the open ground without any peculiar care, as late as the 26th of last October, were found, when examined on the 16th of the following month, not only to have thrown out radical fibres, but to have commenced the formation of tubers. The plants flower during the greater part of August and beginning of September, and when covered with a profusion of golden blossoms, make a handsome appearance in the flower garden. Cuttings taken at this time, even when loaded with flowers, root freely, and produce their tubers at the usual season. In October the production of tubers commences, and such is

the profusion with which they are thrown out, that, in rich soils, they not only fill the ground to the exclusion of every thing else, but frequently even form on the stems above the surface of the ground. As the production of these tubers does not appear to commence at present earlier than the first of October, and as their growth and production may be affected by cutting the herbage after that day, it would be worth while to determine the question by a careful examination of the produce of two plants growing in circumstances perfectly similar, the herbage of one of which had been cut after this period, while that of the other was left untouched. The herbage when cut during the summer months is rapidly reproduced; and Mr. Beaton states that on the 27th of last September he obtained no less than ten pounds' weight of green food from a single tuber, planted six feet apart from any other. He considers this herbage as superior in summer to every other kind of green fodder for cattle.

Attempts having been made to discourage the experiments now prosecuting for the purpose of ascertaining the real value of the *Oxalis crenata*, as an article of sustenance for man, as compared with other productions of a similar nature, the secretary of the Horticultural Society feels it his duty, as a friend to every improvement calculated to add to the comforts of the poor, and provide for the wants of our increasing population, without attempting to give any positive opinion, or create hopes which may terminate in disappointment, to lay before the society from time to time such facts as may come to his knowledge from authentic sources, accompanied with such suggestions as those facts may present; distinguishing, however, the facts from the theory, and leaving his readers to estimate the value of the latter from the details of the former. On the 7th of April, a tuber of the *Oxalis crenata*, weighing only 28 grains, was planted in an old cucumber bed, in a garden on the east side of Plymouth. About five weeks after, two offsets were taken from it and planted separately in the common soil of the garden. The parent plant grew with surprising vigor, and soon spread over an elliptic space, the transverse diameter of which measured three feet seven inches, and the conjugate diameter three feet one inch. Early in November, the proprietor, having accidentally disturbed the ground, broke off a few tubers from one of his plants, which he cooked, and found to be most delicious, resembling the flavor of a mealy potato, without the slightest trace of acidity. On the night of the 25th and the morning of the 26th November, there was a smart frost, which injured the herbage of the plants, and from which they did not again recover. On the 14th of December, he at length took up the roots, when he found the produce to be as follows :

Parent plant, 407 tubers, weighing 7 lbs. 8 oz. 14 dr. 22 gr.					
Two off-sets, 198 "	"	3	8	0	0
Total, 605		11	0	14	22

being a return of no less than two hundred and seventy-five thousand per cent., a return almost unparalleled in the annals of horticulture. Of these tubers, one, now in the possession of the secretary, who will be happy to show it to any desirous of examining it, displays the singular form of a compressed cone, or rather triangle, two of whose sides measure one inch and six-eighths, while the remaining

side measures two inches, so that it is as nearly as possible equilateral, with a thickness of nearly six-eighths, and weighs 300 grains, or nearly 14 times the weight (28 grains) of the tuber originally planted; this one tuber alone being a return of no less than 1392.86, or nearly 1393 per cent. The time occupied from the planting to the digging did not exceed 251 days, or the time usually required for the potato to bring its tubers to perfection, and there is reason to believe that this period might have been advantageously shortened by a month or more, for when the proprietor tried the tubers in the early part of November, they were superior in flavor to the best potatoes, while some of those dug on the 14th of December last, had acquired more or less of an acid taste, which was disrelished by many. It has been already observed that the plants were cut off by the frost of the 26th of November, after which it is probable that the growth of the tubers, as to size, ceased to advance, and nothing consequently was gained by leaving them in the ground—but as the frost was followed by a succession of warm humid weather, favorable to vegetation, it appears probable that, although ceasing to advance in size, the tubers, or many of them, began to germinate; now the process of germination, as in the familiar instance of malting, is well known to be accompanied with the formation of sugar, from the absorption of oxygen, both from the decomposed humidity and from the surrounding atmosphere, by the farinaceous portion of seed. In plants, however, whose product, in place of being saccharine, is a peculiar acid, as in the family of the sorrels, it is not improbable that the combination of the oxygen during the progress of germination, with the farinaceous portion either of the seeds or roots, forms that peculiar acid which, from the genus by which it is furnished in the greatest abundance, has been termed the oxalic acid; and hence, those tubers which, prior to the 26th of November last, were perfectly sweet, became subsequently, from the commencement of germination or malting, more or less acid according to the degree of progress made. This hint, founded perhaps upon an erroneous analogy, is merely thrown out for the purpose of calling attention to the subject, eliciting information from those more competent to supply it, and removing any unreasonable prejudice which may have been created in the minds of those who have tasted the tubers at an improper stage of their growth. As for those whose fears may have been alarmed by the information that oxalic acid exists in the *oxalis crenata*, it is but just to relieve their apprehensions by stating that the acid does not exist in its deleterious state, but in the form of a neutral salt, the super oxalate of potassa, whose effects, in the common wood sorrel of the hedges (*Oxalis acetosella*), the sorrel dock (*Rumex acetosella*), and other similar vegetables freely used as sallads, are eminently antiscorbutic and beneficial to the health.

It is stated that the tubers of those plants of the *oxalis crenata*, which have blossomed, are larger and better than those of plants which have not flowered: the fact, if correct, is important, and deserves inquiry, especially as the reverse is said to happen in the case of the potato (*Solanum tuberosum*)."

ON THE PRESERVATION OF POTATOES.—Potatoes at the depth of one foot from the

ground, produce shoots near the end of spring; at the depth of two feet, they appear in the middle of summer; at three feet of depth, they are very short, and never come to the surface; and between three and five feet, they cease to vegetate. In consequence of observing these effects, several parcels of potatoes were buried in a garden at the depth of three feet and a half, and were not removed till after intervals of one and two years. They were then found without any appearance of germination, and possessing their original firmness, freshness, goodness, and taste.—[Ann. Soc. d'Agric.]

CHURNING BUTTER.—Not many days since, on entering the house as usual about dinner time, I found my family very much perplexed about the cream which they had been churning for about two hours, and yet no signs of butter. On examination I found the cream was worked into a perfect froth. I was satisfied, that unless something could be done to change its nature or condition, churning would be useless: I therefore threw into the churn as much common salt as I could hold in my right hand; I then put the churn in motion, and in 15 minutes, by the clock, the butter had perfectly separated from the milk.—[Ohio Farmer.]

SILK.—The Connecticut Silk Manufacturing Company are to receive \$11,500, to aid and encourage them in establishing a silk factory; Messrs. Gay and Bottom, mechanics of Lisbon, \$2,000, as a remuneration for their labor and expense in inventing and constructing silk machinery; the Mansfield silk factory, \$1,500; the State House yard, \$8,000, and the remaining \$2,000 goes into the State Treasury.—[Hartford Review.]

MANURE FROM HOGS.—This is the season for farmers to avail themselves of every opportunity to collect every substance that can be made into manure. Let every farmer look about him and endeavor to find sources of increasing his manure. The following is from the Northern Farmer:

One of the regular means which every farmer possesses, for the increasing of his stock of manure, and which is by no means the least valuable, is by many totally neglected. It is that of making their hogs serviceable in this business. Upon this point, I can speak from past experience, both in respect to the loss from neglect and the advantages derived from these valuable animals, when employed for this purpose. It was my practice, till within the last fifteen years, to permit my swine to roam at large in the highway, in the summer season; or what was but little better, confine them in a pasture, for three or four months during the warmest of the season; carrying whatever I might have to give them as feed, to the place in which they were confined. I began, however, after a while, to consider this course of turning hogs to pasture, or permitting them to run in the highway, to be altogether wrong. Upon mature reflection, I concluded that by confining them in a close yard, and furnishing them with the materials for making manure, the profits would be amply sufficient, not only to repay me for all the trouble of furnishing the materials, but would also enable me to give them better keeping; and, in this respect, my anticipations have been fully realized. One er-

ror, however, I committed in the outset, and I have noticed the same fault in others. It was this: my yard was at first made at least three times too large, embracing about two and a half rods of ground, for three or four hogs, the number which I generally keep; and I have seen yards including a much larger space made by some farmers, for an equal number of hogs. Now this, where the object is the making and saving manure, is, in my judgment, wrong; for, in so large a space, the quantity of materials put into the yard must be very great, or it must lie very thin over the yard; in either case, the benefit received from three or four hogs is but small: at least I found it so, where the materials, of whatever nature they might be, were put in one season and carried out the spring following. I therefore diminished my yard to twenty feet by fourteen, about one-third of its original dimensions; and I find this space to be sufficiently large for four hogs; and, I believe, large enough for even six to make manure to advantage; for in this space, materials sufficient for twenty or twenty-five loads of manure may be deposited in the course of one season; and what to me seems of the first importance in this business, is the hogs are kept continually on the materials, except when in their house, for the purpose of eating and sleeping.

My method of supplying these materials is the following: after having cleared their yard at the season of planting, I put into it such portions of straw as I may have left on hand, after the season of foddering is past; and if I have not a sufficient quantity of this, to furnish the necessary supply till vegetable substances attain to a sufficient growth to be profitably collected, I put in earth collected from the low places, by the side of the high-way; though this I more generally place in or near my barnyard, in a situation to receive and retain the wash that might otherwise escape from that. Brakes and weeds of any kind are valuable. These I make use of to the extent they are obtainable, when in a green state; as I consider green vegetable substances, for this purpose, far more valuable than dry. Potato tops when pulled for early use, before they become dry and shrivelled, I consider equal if not superior to any other green substances for this purpose. Pea-vines I usually put into my hog yard, after the peas are threshed off; and if some are put in before being threshed, they are as gratefully received by the inmates of the yard. Buck-wheat straw I have made use of, but I deem this to be of all substances the least valuable for the purpose of making manure, when it has ripened into a dry state, however valuable it may be when ploughed under in a green state, as it unquestionably is; being at that stage of its growth one of the most juicy plants of the vegetable kingdom.

I add nothing by way of materials to my hog yard, after the first of September, at which time I generally commence feeding, for the purpose of fattening; and by the middle or twentieth of December, my usual time for killing my hogs, I make from four to five loads of manure to each hog so kept, superior to the summer dung, obtained by yarding my cows. And the quantity made by my hogs is for each one double to that made by each cow for the same period of time.

Thus I have endeavored to present to the readers of the Farmer my method of adding to my stock of manure by the aid of my

hogs from fifteen to twenty loads annually: whereas, I used formerly, as too many do at the present day, who call themselves farmers, entirely to neglect all these advantages, the improvement of which is so essential to profitable farming. It is to be hoped, however, that no farmer, who has the opportunity of reading an agricultural paper, is so remiss, in relation to that which is so conducive to his best interests. MATTHEW BUELL, JR.

Newport, May 31st, 1834.

HOEING CORN.—After such an unfavorable spring as we have had this year, the hoeing of early planted corn is rather a disagreeable employment than otherwise.

When the soil is of a clay loam, and was early ploughed and planted, after which were heavy rains, and the soil has become hard, and the corn looks pale and sickly, it is often abandoned as not of sufficient promise to compensate for the labor of cultivation; but young farmers should remember, that after they have done their duty by carefully ploughing and hoeing, much depends upon the weather, during the months of July and August, for producing a good crop of corn, and although the plants may continue stunted during much of the month of June, yet if the ground is kept in good condition, a fine crop may be realized.

Many are apt to say, in case of dry weather, during the month of June, "that the ground is so dry that it will do corn more hurt than good to hoe it." Never mind, if the ground is dry, stir it the more, it is the best way to guard against drought; in short, do not neglect hoeing, for stirring the ground without manuring is better than manuring without stirring.—[Goodsell's Genesee Farmer.]

EFFECTUAL SECURITY AGAINST THE BEE MOTH.—As soon as your bees commence working in the spring, examine your hives, and with a slab of wood, or piece of hoop iron, scrape the stand immediately under the hive, also around the inner edges of the box, taking care to remove all the web that may be attached to any part of the stand or hive, as the whole secret consists in keeping them free from the web formed by the moth or fly. Having completed this operation, provide yourself with four square blocks of wood, and place one under each corner of your hive, so as to raise it not quite half an inch from the stand; this will enable you to clean the stand without removing the hive. This scraping operation must be repeated every three or four days, if there should be any appearance of web forming on the stand, or around the inner edges of the hive. It seems necessary to remark that the moth or fly makes its attacks by a kind of regular approach, first forming its web on the stand, and then extending it up the sides of the hive until it gets complete possession. By a little attention in cleaning the stand and hive, as directed, you will certainly secure your bees from the ravages of the worm. In the winter, the blocks must be removed from under the hive, so as to allow it to rest immediately on the stand, which will secure it against the attacks of mice, &c. On this plan, it is advisable to make an entrance for the bees by cutting a perpendicular slit, in the front of the hive, half way from the bottom, say two and a half inches in length, and one-eighth of an inch wide, with a kind of a shelf just under it, to serve as a resting place for the bees going and returning to the hive. After being a little used to it, the bees seem to prefer this entrance to the one at the bottom of the hive. This plan has proved an effectual security against the worm, after every other remedy has failed; and not a single hive has been lost since it was adopted. Z.

MANGOLD WURTZEL, OR FIELD BEET.—We are happy to find that farmers are awake to the cultivation of this crop, and so great has been the increase of demand for seed, that it has

THE COILING SYSTEM OF CULTIVATING GRAPE VINES IN POTS.—At page 164, we inserted an article on this interesting system. We subjoin some additional facts from the Gardener's Magazine.

This coiling system is certainly a completely new feature, and, I think, a very valuable one, in the art of grape-growing. Is it not a matter of great importance that, in consequence of my discovery, a gardener, who may go to a situation, in the autumn, where no grapes have previously been growing, may be enabled to produce there easily, for the ensuing season, from 500 to 1000 bunches of fine grapes? All that is wanting to enable any gardener, so circumstanced, to do this, are the prunings of the vines from any garden, that would otherwise be thrown away, and, of course, a convenient frame, pit, or house, for growing them in. If abundance of shoots can be produced, and there is a sufficient extent of frames, &c., either temporary or permanent, two, three, or five thousand bunches may thus be produced in a garden where grapes were never seen before.

The coiling system is nothing more than taking a long shoot or cutting from a vine, cutting out all the buds except a few at the upper end, and then beginning at the lower end, and coiling the shoot round and round, say from three to six or eight times, the inside of a pot of 12 or 14 inches or more in diameter. The shoot may be of any length, from 6 feet to 30 feet, and it may be entirely of last year's wood; or the greater part of it may be of old wood, provided 3 or 4 feet at the upper end be of new wood; because, as every gardener knows, the buds from young wood are more certain than those from old wood of producing blossoms the first year. The vine being coiled round in the pot, and plenty of drainage being put in the bottom, take care that the end of the shoot left out of the pot, on which the fruit is to grow, be not injured at the point where it separates from the coil. This shoot may be 2 or 3 feet long; and to keep it steady, it may be tied to a stake, or coiled round two or three stakes. After this, fill up the pot with a rich loamy soil, pressing it firmly against the coil, as if you were making firm the end of a cutting. Unless this is done in such a manner as to bring every part of the coil in close contact with the soil, it will not root so readily as it otherwise would do. The next operation is, to wrap up all that part of the stem which is above the pot with moss, and this moss must be kept constantly moist till the grapes are formed. The pot should now be plunged in bottom heat, either in a pit or forcing-house; but, wherever it is plunged, care must be taken to regulate the temperature of the atmosphere of the house, in such a manner as to prevent the top of the vine from being excited before the roots. If this should happen, the young shoots produced will soon wither for want of nourishment. Abundance of air, therefore, should be given for several weeks, so as never to allow the temperature of the atmosphere of the house, frame, or pit, to exceed 45 or 50 degrees, while the temperature of the medium in which the pots are plunged may be as high as 65 or 70 degrees. When, by examination, you find that fibres are protruded from the coil, the temperature of the atmosphere may then be gradually raised when the buds will break, and the shoots will grow apace.

The shoots proceeding from that part of the stem above the pot should be led up to within 8 or 10 inches of the glass, and there trained, at that distance from it, towards the back of the pit or house. It is needless to state to the practical gardener, that each shoot will require to be shortened, free from laterals, &c. Each vine will produce from three to twenty or more bunches, according to the length of coil and variety of grape. I have now (Jan. 17, 1834,) upwards of 200 coiled branches in pots, and nearly fifty of them in action; some with twenty bunches of fine grapes upon them.

I was asked the other day, whether vines so

treated would not require frequent shiftings into larger pots; or, at least, to be shifted once a year. To this I answered, that while we had a plentiful supply of prunings from our own vines, or could procure them from those of our friends, the best mode would be to treat the plants, after they had borne one crop, as we do the roots of asparagus, and other plants that we force: that is, to throw them away. If, however, you should wish to keep the coiled plants a second year, and the pots should be found to be too full of roots, turn out the ball, shake the soil from the coil, and cut away all the roots close to the shoot; then repot it as before. If this be done in winter, the plant will produce an excellent crop the following season; probably a better one than if the roots were allowed to remain, and the ball shifted into a larger pot or box. The pot or box is in either case soon filled with young vigorous fibres, like a hatch of young maggots, each eager for food, and consequently sending it up in abundance to supply the crop above. Can there be a doubt but that this is a far superior mode to keeping pots, or even fruit tree borders, filled up with old inert roots?

Before my bunches are clearly developed, I have thousands of eager mouths or spongioles, extending along the coiled shoot, and each gaping for food; some of these rootlets are 3 feet long, and before the vines are out of blossom, many of them are 6 feet in length, and matted round and round the pot. You will easily understand from this how important it is to supply vines so treated with liquid manure, either by watering from above, or by a supply from a saucer or feeder from below.

I am, Sir, yours, &c.

JOHN MEARNS.

Wilbeck Gardens, Jan. 17, 1834.

ART OF MANAGING SHEEP.—Sir: I have been very desirous of ascertaining the particular method in which Mr. Barney, of Philadelphia, manages his sheep, that enables him so far to exceed every body else in producing fine mutton, and good wool.

On his late visit to this city, I put the question to him, wherein consisted his superior management of sheep! He gave the following reply: He said a gentleman visited him not long since, and on going to his sheep-yard, and viewing it, asked him the same question. He showed at that time, from fifty ewes, upwards of sixty lambs, all lively and brisk, with a loss, I think he said, of three or four. The gentleman observed to him that he had his shed covered with dead lambs; and asked wherein the secret in breeding lay. Mr. Barney observed to him, you stuff your sheep with dry food. Yes, as much good clover hay as they will eat, was the reply. Mr. B.—You give them no water, but suffer them to go out in time of snow and eat it as they are disposed to do? Yes. Then, said Mr. Barney, there lies the secret. Your sheep fill themselves with dry hay; they get no water; and they have not a sufficient supply of gastric juice to promote the digestion of the hay in the stomach; they cannot raise it to *chew the cud*; they lose their appetite; are thrown into a fever; and cannot bring forth their young, or they bring forth a feeble, starved lamb, that falls off and dies the first exposure to the cold or rain. On the contrary, I take care to provide my sheep with good clear water in summer and winter. I feed them regularly with hay through the winter, and give them ruta бага and mangel wurtzel every day. The ewes produce me 120 per cent. increase in lambs. You cannot, says Mr. Barney, get along without ruta бага and mangel wurtzel.

This gentleman has just sold his sheep for upwards of \$17 per head to the butchers. It is his opinion that sheep are the most profitable stock that a man can raise; and it appears he makes use of no expensive food, or increased quantity of it. But the secret of raising good stock of every kind consists in maintaining that regular and cleanly mode of proceeding, which preserves the digestive organs of the animal in a healthy state, and enables them to convert what they eat into chyle, suitable for the nourishment of the animal. Respectfully yours, A.—[Farmer and Gardener.]

imal in a healthy state, and enables them to convert what they eat into chyle, suitable for the nourishment of the animal. Respectfully yours, A.—[Farmer and Gardener.]

DISEASE IN THE FEET OF SHEEP.—As the persons employed on the farm of Anthony Anderson, Esq., at Dorchester Bridge, were shearing his sheep, on Thursday, the shepherd called his attention to a small orifice bust, at the separation of the foot of one of these animals, and told him that it was a disease called the *worm in the foot*, which Anderson, though an experienced farmer, informs us he had never seen, or indeed heard of. The shepherd advised that the wound should be pared down so as to get at the head, and with a strong needle he passed some doubles of thread through it, and extracted what he called the worm. It appears to be a *Hydatid*, or bladder-like skin, containing a fluid not unlike starch, and a small portion of a hairy substance, resembling the short wool on the legs of sheep. Mr. A. extracted one such worm, from each foot, all similarly placed at the articulation of hoofs; and found five or six of his sheep afflicted in like manner. After extracting the cause of the disease, whatever name be applied to it, he filled the cavity with pepper and salt.—[Quebec paper.]

APPLES FOR LIVE STOCK.—A farmer in Blandford says cows fed with apples in the autumn will give milk as abundantly as in June, and that he cannot perceive any difference in the beneficial effects of sour and sweet apples. Another, in East Granville, says he can make as good pork and beef with apples as potatoes. It is the opinion of many that a bushel of the former nearly equals in value a bushel of the latter. Such facts we think are of great value to the farmer: if he can convert his apples into beef and pork, or by them increase the products of the dairy, then a way is opened for the conversion of fruits into money without going through with the longer and more tedious process of converting them into cider, and that into brandy, and that into money. Again, if pork, beef, butter and cheese, can be made from apples, they will yield a greater profit to the farmer than if he make these articles by the aid of potatoes or grain, since they cost but little.—[Westfield Journal.]

MIXTURE FOR CATTLE AND SHEEP.—It has been recommended, by a gentleman who tried it, to mix salt with unleached wood ashes, in the proportion of one quart of fine salt to one half-bushel of ashes, and place the mixture under cover, where the animals can have access to it. This composition, our informant said, preserves the health of the animals, increases their appetite, and he believed would preserve sheep against the rot, and horses against botts.

[From Sir Samuel Moreland's Perpetual Almanac, Ready Reckoner, and Gardener, published in the reign of Queen Anne.]

Directions relating to the Purchasing of Land.

First see the land which thou intend'st to buy,
Within the Seller's Title clear to lie;
And that no Woman to it doth lay claim
By Dowry, Jointure, or some other Name,
That may it cumber. Know if bound or free
The Tenure stand, and, that from each Feeffee
It be released; that the Seller be so old,
That he may lawful sell, thou lawful hold:
Have special care that it not Mortgaged be,
Nor be entailed on Posterity.
Then if it Stand in Statute bound or no,
Be well advised what Quit rent out must go,
What Custom service hath been done of old,
By those who formerly the same did hold;
And if a wedded woman put to Sale,
Deal not with her, unless she bring her Male;
Thy bargain being made, and all this done,
Have special care to make thy Charter run
To thee, thy Heirs, Executors, Assigns,
For that beyond thy life securely binds:
These things foreknown and done, you may prevent
Those things Rush Buyers many times repent,
And yet when you have done all that you can,
If you'll be sure, deal with an honest man.

NEW-YORK AMERICAN.

JUNE 28—JULY 3, 1834.

LITERARY NOTICES.

MIRIAM COFFIN, OR THE WHALE FISHERMEN; 2 vols. New York: G. & C. & H. Carvill.—An original American novel is not so common a publication but that we always take one up with more interest than is created by the reprint of some new fiction from the British book market; and Miriam Coffin is a work which, in more respects than one, will repay perusal. It wants many of the requisites of a finished novel, but it contains some most admirable scenes, and abounds in graphic descriptions of manners;—the manners of a race which, though immortalized in the magnificent periods of Burko fifty years since, are still but little known to their own countrymen. We congratulate the Nantucket whaler upon having at last found an animalist to record their daring adventures with a pen that seems guided by the soul of a sailor.

The scene of the story, to be in keeping with the roving characters that move upon it, shifts to every part of the world; and though we have hesitated a little in making our selection between the picturesque islands of the Pacific, and the not unromantic peculiarities of Nantucket itself, we believe that none of our readers who enter into the spirit of the following bold scene upon the coast of Africa, will complain of the preference we have given it over all others in the book.

Not Ocean's monarch shall escape us free!

Masanillo.

Soon the sport of death the crews repair:
Rods and, unerring, o'er his head suspends
The barbed steel, and every turn attends;
Unerring aimed, the missile weapon flew,
And, plunging, strike the fated victim through.
Awhile his heart the fatal javelin thrills,
And flitting life escapes in sanguine rills!

Falconer.

Among the indentations of the coast of Western Africa, the bay of Walwich may be traced upon the chart. This bay was much resorted to, in years past, for the right-whale—or the species that live by what whalers call "auction." The bay contains good anchorage ground, and shelter for ships; and, at some periods of the year, known to whale-fishermen as the season for feeding, the coast along its margin is visited by these huge animals in pursuit of food, which consists principally of peculiar kinds of small fish, that keep in shoal water about the bay and herd or school together in countless numbers. Thousands of the mullet, the roman, the stone-bream, the harder, the mackerel, and many other varieties that abound in African bays, together with myriads of the Medusan race, are sucked in by the right-whale for a breakfast, through the vertical bars of whalebone that stud its mouth, like the gratings of a prison window, or the railings of a picket fence.

There are but few persons who do not know the difference in the formation and habits of the two principal species of the cetaceous tribe—the *mysticetus* and the *cachalot*—which are the object of pursuit of the whale-fisherman. They are called the *right-whale* and the *spermacetti*. The former has immense jaws of bone, without any well-defined teeth, but with a groove of dark fibrous material within its huge mouth, called whalebone, through which to strain its food;—keeping mostly in shallow water, and living upon small-fry; disappearing from the surface at short intervals; remaining under water but for a few minutes; breathing, or ejecting from its blow-holes, columns of water, in two perpendicular streams, or *jets d'eau*, on rising to the surface, and producing inferior oil. The latter, to wit, the *spermacetti*, has tusks of ivory on a huge dropping under-jaw; blunt, clumsy head, and broad tail; frequenting none other than the deepest water; diving deep and perpendicularly; staying long out of sight, and, on rising, blowing or spouting in a single jet, or stream, which inclines to the horizon; and producing a better quality of oil, though in smaller quantity according to its bulk, than the right-whale. The *spermacetti* yields, in addition to its oil, a valuable matter called *sperm*, which is highly prized as an article of commerce; and also produces that rare aromatic drug, called *ambergris*.

Jethro, with his son Isaac, remained in London, intending, when his business should be finished there, to take passage home in some merchantman bound for the colonies.

The Grampus set sail from the Thames. The place of her rendezvous with the Leviathan had been appointed at Walwich bay. The Grampus, without any remarkable incident, arrived first upon the spot, and had waited for her consort for several days.—Some forty whaling vessels, of all nations, were riding at anchor within the bay, waiting the expected visits from the whales. Day after day—week after week—had glided away, since the arrival of the major part of the fleet, but not a solitary animal had as yet made his appearance. The Grampus was fitted out for the sperm-whale fishery, and had taken in her three years' provisions at London. Her captain and crew, who had been some time idle, now longed for sport; and they cared very little, since wait they must for the good ship Leviathan, in order to double The Horn in company,—whether the invitation to amusement should soon come in the shape of a right-whale, a spermacetti, or a razorback;—the last the most dangerous and least productive of all.

Africa has a burning, sultry coast. The sun was sending a lurid glare upon the sea, which heaved long and sluggishly in the bay, without a breath of air to curl the crest of the swell. The crews of the assembled ships were at their early breakfast, and the officers and men on the lookout were lazily gazing upon the mirrored surface of the water, or listlessly walking to and fro upon their posts. In many of the whale-ships,—particularly in those that had previously been in Northern latitudes,—a crow's nest, or a sort of sentry-box, surrounded, breast high, by canvass stretched as a protection against the weather, and covered with an awning,—was perched on the maintopmast, or at the topgallantmast head. In these places of look-out a man is always stationed to observe the approach of the whale, and to communicate his motions to those on deck. But in the Grampus,—destined as she was for temperate latitudes in the Pacific,—no other accommodation was provided for the sentry, than the bare maintopgallant cross-trees, where for hours together the lynx-eyed watcher sent forth his anxious regards upon the ocean, and deemed his station a post of honor,—as it always proved of extra profit, if he should be the first to discover a whale within pursuing distance.

"Dull work!" said Seth, slowly pacing the deck;—"work,—by my hopes!"—in this accursed climate, where scorching airs blow from the great African desert:—and as for amusement,—we may feast our eyes, if we like, by looking upon armies of naked Hottentots, 'capering ashore,' smeared with slush, and surfeiting upon tainted blubber!—who mock us in our commands, as we coast along the bay,—repeating, as they follow us, our very words like an echo,—and mimicking our minutest actions, when we attempt to make ourselves understood by signs. Poor brutes!—The Creator has smitten their continent and their minds alike, with barrenness; and has given to the one its arid plains, which defy the hand of cultivation,—while the souls of the people are unblest with the refreshing dews of intelligence. But what boots it?—they are happier, in their ignorance, than we who boast of knowledge, but who are restless in our desires.

—As the Ocean—

In one unceasing change of ebb and flow."

& The reflections of Seth, upon the blessings of ignorance, were interrupted by a thrilling cry from the mast-head.

"Flocks—flocks!" was the welcome salutation from aloft. The half-eaten meal was broken off,—and the rush to the boats was tumultuous. It was like that of an army of practised gladiators, in the arena of the Coliseum. The alarm was heard by the crews of other vessels; and the intelligence spread like wildfire that a whale was entering the bay.—Four boats were lowered—manned—and put off from the Grampus, in less than half a minute after the cry was uttered aloft. A hundred other boats were instantly in motion, and bearing down upon the animal. Some, however, took the precaution to separate from the rest, and this divided the chances of capture. None could count with certainty upon striking the prey, for his course was irregular while in pursuit of his food. The whale is not a vicious animal, unless wounded; and, if not frightened, will move off sluggishly from his pursuers, and appear and disappear at regular intervals:—so that, if the direction is well observed when he sinks, (or shows his *flocks*, or forked tail, as he dives,) a pretty accurate calculation may be made as to the place of his reappearance.

The whalers in the boats that had scattered, had their share of excitement in turn; while those who had headed the whale, when he sunk from their sight for the first time, saw with mortification, by the indication of his *flocks*, that he had already deviated largely from his first course. As a score of

others were already near the spot where he would next rise to blow, the first pursuers naturally lay upon their oars;—but they were watchful of the event of the chase.

Macy, with his two mates, and an approved boat-steerer, had each command of a separate boat. The selection of the crews for these boats, is in fact a matter of taste or favoritism with these officers of the ship. The captain has the first pick of the whole crew;—and, if his judgment is good, he chooses those of the most powerful limb and muscle, quickness of apprehension, and readiness of execution. The next choice falls to the first mate;—the second officer's turn comes next;—and the siftings of the crew fall to the boat-steerers. It may readily be believed that Macy, who was an experienced whaler, was altogether discreet in his choice, and had a crew of oarsmen who might be pitted against any other crew of the whole fleet. To say that they were Americans, and experienced whale-fishermen, is sufficient assurance, of itself, that they were competitors for all whaling honors, against the whole world. It is still, as it was eminently then, altogether un-American to admit of superiority in this business. It was, therefore, with deep chagrin that Macy saw the game escape him; for thus far he had led the van of the attack; while the whalers in some fifty boats in the rear, if not altogether content that he should be their leader, were at least satisfied, that to be beaten by him was no dishonor.

The Englishman, the Dane, the Dutchman, the Swede, as also representatives, of other European nations, were Macy's ambitious competitors, for the honor of killing the first whale of the season:—the long and the strong pull was exerted to carry off the prize, and fair words of encouragement were offered, and enforced in the blandest and most persuasive manner, by those who controlled the boats. Some, uselessly enough, where so many were engaged, pulled after the animal in his devious course after food; while others rested on their oars to watch the result, and to take advantage of his wanderings. The scene was most animating—and but a few minutes served to scatter the boats in every direction; to sprinkle the bay with dark moving spots; to people it with life—sinewy life; in short, it was an exhibition of the noblest of God's creation, both animal and human, waging a war of extermination, and threatening death and destruction by collision.

The noble animal—for it was a right-whale of the largest class—held on its course up the bay, scooping its food from time to time, and annihilating its thousands of small fish at a dive; leaving the boats far in the rear, and darting off in new directions, until those who were most on the alert, or rather those who pulled the most constantly, were fain to give up the chase and lie on their oars. The whale approached the anchorage ground of the ships; and its speed was increased as it shoaled the water, in proportion to its eagerness after its flying victims. The small fish, driven before their huge devourer, clubbed together, and concentrated in schools of such magnitude, that the ships were surrounded, as it were, with a dense mass of animal matter, huddling together for common safety, or flying in swarms, before their common enemy, like the multitudinous and periodical flowings of the herring from the Greenland seas.

Intent upon his prey, the whale appeared unconscious of the dangerous vicinage of the ships, and played among them with a temerity that evinced a tameness, or perhaps an ignorance of its danger, that plainly showed he had never been chased by the whaler, nor hurt by the harpoon. His eager pursuit after food may, however, account for his recklessness; for, generally speaking, the instinct of the whale is sufficient, upon all occasions, to avoid an unusual object floating upon the water; and at such times the nicest stratagem of the art of the whaler is required to capture him.

The persecuted tribes have been chased so often—pursued so relentlessly, from haunt to haunt, that they must not be unnecessarily scared; for, if they are, the pursuit may as well be abandoned first as last. No crew can row a boat, for any length of time, to keep pace with a frightened and fugitive whale.

The animal, gorged with its fishy meal, at last commenced its retreat from the bay; and the boats manoeuvred to head him off as he retired. Obeying the instinct of his nature, he now showed his *flocks* and vanished from the sight, before the boats could get within striking distance. A calculation being made where he would next appear, (for beneath the water the whale does not deviate from a direct line in his horizontal progress,) a general race ensued; and each strove, as if life were on the issue, to arrive first upon the spot. Some twenty minutes' steady and vi-

gorous pulling found the foremost boats a full mile behind the whale, when he arose again to breathe.—Several boats were unluckily ahead of Seth in the chase, as their position at starting enabled them to take the lead, when the animal began to push for deeper water. But Seth's men had been resting on their oars, while nearly all others had exhausted their strength, in following the whale among the ships; and the captain judged rightly, that in darting after his tiny prey, he would lead them all a bootless dance. He had determined to wait for the retreat, and then to hang upon the rear of the enemy. There were others, however, acquainted with the soundings of the bay, whose tactics were scarce inferior to Seth's; and the advantage gained over him by several boats was proof of this, or at least of the superior accuracy of their calculations. It was a long time since Seth had given chase to an animal of the right-whale breed;—he had grappled, of late, only with the spermacetti.—and, therefore, it was not to be wondered at, at this time, and under the circumstances, that some of those around him should beat him in manoeuvring in the bay. But, in the steady chase, he knew that he could count upon the speed and bottom of his boat's crew, and he was now resolved to contest for the victory.

"We have a clear field now, my boys—give way steadily—we gain upon them—give the long pull—the strong pull—and the pull together—keep her to it—heave ahead, my hearties!" Such were the words of Seth, as with eyes steadily fixed upon a certain point, and with his steering oar slightly dipping at times, he guided the light whale boat unerringly towards the place where he expected the whale to re-appear. One by one he had dropped his antagonists by the way, until three only remained manfully struggling between him and the prize. The whale again breathed at the surface, and the distance between the headmost boat and the animal was found to be diminished to half a mile—while the ships in the bay were run "hull down." The pursuers were now out upon the broad ocean. Those who had abandoned the chase in despair, were slowly returning to their ships. The rigging of the vessels was manned by anxious spectators, watching the motions of the tiny specks out at sea, with beating hearts. The whale again cast his floes into the air, and sank from the view of his pursuers. Now came the tug of war.

"You must beat those foreigners ahead," said Seth, to his men, "or crack your oars: they are of good American ash, and will bear pulling," continued he:—"Give way with a will!—Pull—pull, my lads;—that whale will not sink again without a harpoon in his body:—and 'I will never do to tell of at home, that we allowed men of other nations to beat us. Keep your eyes steadily on your oars;—mark the stroke of the after oar, men—and give way for the credit of the Grampus!"

Here Seth braced himself in the stern-sheets—seized the steering oar with his left hand, and placed his right foot against the after oar, just below the hand of the oarsman.

"No pull for your lives!" said he, "while I add the strength of my leg to the oar:—Once more!—Again, my boys!—Once more—There,—we pass the Spaniard!"

"Diablo!" exclaimed the mortified native of Spain.

The additional momentum of Seth's foot, applied to the stroke oar, had done the job; but two more boats were to be passed,—and quickly too,—or all the labor would be lost.

"At it again, my boys!—steady—my God, give way!—give way for the honor of the Grampus. One pull for old Nantucket!—and—there—we have shown a clean pair of heels to the Dutchman!"

"Hagel!—Donder and blizem!" said the Hollander.

"There is but one boat ahead," said Seth;—"It is the Englishman!—We must beat him too, or we have gained nothing! Away with her, down upon him like men!—One pull for the Grampus, my boys!—another for old Nantucket!"

The American now shot up alongside of the English boat:—but the honor of the nation, too, was at stake; and they bent to their oars with fresh vigor. Five athletic Englishmen, each with a bare chest that would have served for the model of a Hercules, with arms of brawn and sinew, awayed their oars with a precision and an earnestness, that, for a minute, left the contest doubtful. The English commander, seeing how effectually Seth managed the stroke oar with his foot, braced himself in a similar attitude of exertion;—and his boat evidently gained upon the Nantucketer! Seth saw the increase of speed of his rival with dismay. The

whale, too, was just rising ahead. The bubbles of his blowing, and of his efforts at rising, were beginning to ascend! It was a moment of intense anxiety. The rushing train, or vortex of water, told that he was near the surface. Both commanders encouraged their men anew by a single word; and then, as if by mutual consent, all was silent, except the long, measured, and vigorous stroke of the oars.

"For old England, my lads!" shouted the one.

"Remember old Nantucket, my boys!" was the war-cry of the other.

Both plied their oars with apparently equal skill; but the hot Englishman lost his temper as the boat of Seth shot up again, head and head with him—and he surged his foot so heavily upon the after oar, that it broke off short in the rowlock! The blade of the broken oar became entangled with the others on the same side, while the after oarsman lost his balance, and fell backward upon his leader.

"I bid thee good bye!" said Seth, as he shot ahead.

"Hell and damnation!" vociferated the Englishman.

"Way enough—peak your oars!" said Seth to his men. The oars bristled apeak, after the fashion of the whale-fishermen. The harpooner immediately seized and balanced his weapon over his head, and planted himself firmly in the bow of the boat. At that instant the huge body of the whale rose above the surface; and Seth, with a single turn of his steering oar, brought the bow dead upon the monster, a few feet back of the fin. Simultaneously with the striking of the boat, the well-poised harpoon was launched deep into the flesh of the animal.

"Starn all!" shouted Seth.

The boat was backed off in an instant; and the whale, feeling the sting of the barb, darted off like the wind! The well-coiled line flew through the groove of the bow-post with incomparable swiftness, and it presently began to smoke and then to blaze with the rapidity of the friction. Seth now took the bow with his lance, exchanging places with the harpooner, and quietly poured water upon the smoking groove, until it was cooled. The oars were again peaked, and the handles inserted in brackets fixed on the ceiling of the boat beneath the thwarts—the blades projecting over the water like wings; and the men, immovable, rested from their long, but successful pull—and much need did they have of the relief,—for a more arduous, or a better contested chase, they had never experienced.

The line in the tub was now well nigh run out; and the boat-steerer, with a thick buckskin mitten, or *nipper*, as it is called, for the protection of his hand, seized hold of the line, and, in a twinkling, caught a turn around the loggerhead, to enable the man at the tub oar to bend on another line.

The rapidity of the animal's flight the while was inconceivable. The boat now ploughed deeply and laboriously, leaving banks of water on each side, as she parted the wave, that overtopped the men's heads, and effectually obscured the sight of every object on the surface. The swell of the closing water came after them in a heavy and angry rush. The second line was now allowed to run slowly from the loggerhead; and a *drag*, or plank about eighteen inches square, with a line proceeding from each corner, and meeting at a point like a pyramid, was fastened to it, and thrown over to deaden the speed of the whale. Another and another drag were added, until the animal, feeling the strong backward pull, began to relax his efforts:—and presently he suddenly descended, though not to the full extent of the slackened line.

It now became necessary to haul in the slack of the line, and to coil it away in the tub carefully; while the men pulled with their oars, to come up with the whale when he should rise to the surface. All things were soon ready again for the deadly attack.

The ripple of the whale, as he ascended, was carefully marked; and when he again saw the light of day, a deep wound, close to the barbed harpoon, was instantly inflicted by the hand of Seth. It was the death blow.

"Starn all!" was the cry once more—and the boat was again quickly backed off by the oarsmen.

The infuriated animal roared in agony, and lashed the ocean into foam. The blood gushed from his spout-holes, falling in torrents upon the men in the boat, and coloring the sea. The whale, in his last agony, is a fearful creature. He rose perpendicularly in the water, head downwards, and again writhed and lashed the sea with such force, that the people in the retreating boats, though ten miles distant, heard the thunder of the sound distinctly. The exertion was too violent to last long:—it was the

signal of his dissolution. His life-blood ceased to flow, and he turned his belly to the sun! The *waif* of the Grampus floated triumphantly above the body of the slaughtered Leviathan of the deep—and the peril of the hardy crew was over.

TALES AND SKETCHES, SUCH AS THEY ARE, by Wm. L. Stone, 2 vols.—Unwonted neglect on our part, and an accidental misplacing of these sprightly and agreeable volumes, have delayed this notice, which should have been given some weeks ago. We mention them now with unavoidable brevity—our columns being crowded with matter previously prepared—because we are unwilling to continue the delay. In the deluge of multifarious publications through which we wade every week, we are happy now and then to find a work strictly American,—though it is seldom that we have to notice two publications on the same day to which characteristic applies. It is certainly no mean recommendation of "Tales and Sketches." They come before the world unpretendingly, and from a writer who, in a different capacity, has long entertained and effectually served the public. We are glad to see that he can occasionally depart from the drudgery of a daily paper to luxuriate in the regions of fancy, and, while doing so, can weave into his fiction so much that is valuable and interesting of historical fact.

A BRIEF VIEW OF THE CONSTITUTION OF THE UNITED STATES, by Peter S. Duponceau, LL. D.; Philadelphia.—This work by the venerable provost of the Law Academy of Philadelphia, should be perused by every one who would familiarize himself with the opinions of one of the most celebrated lawyers in our country upon the most important instrument in its archives. The volume is for sale by Mr. Wiley, Nassau street, and also at Carvill's.

JOHN MARSTON HALL, by the author of *Richelieu*; 2 vols., Harpers.—The mantle of Sir Walter, like that of Shakspeare, will hardly within the same century, if ever, descend upon another. But among all the competitors for the wand of the great magician, Mr. James certainly deserves the palm for success, in the heroic romance. He treads more gracefully, and with more vivacity, in the steps of his great master than any of his pupils; though the measure in contrast is still but the walk of a minuet to the march of a giant. The present production will be read with pleasure by his admirers as reviving agreeable associations with a former favorite,—the hero being "Little Ball O'Fire," the spirited urchin that figures in so many scenes in the life of "Henry Masterton." The scene of the story is laid at the French Court in the reign of Louis the 14th, and the details are managed with all that minute knowledge and keeping of costume in which Mr. James is second only to the great Scottish antiquarian.

THE COMPLETE WORKS OF SIR WALTER SCOTT, with a Biography, &c. &c., Vol. VI. New York—Conner & Cooke.—In calling the attention of our readers again to this cheap publication, we could only repeat the terms of approval applied to the previous volumes, the present one being, in every respect, equal to the others. It contains, with *Tales of A Grand Father*, the *Lives of the Novelists* and his *Notice of Byron*, &c.

LECTURES ON PHRENOLOGY, DELIVERED BEFORE THE YOUNG MEN'S ASSOCIATION FOR MENTAL INSTRUCTION, IN THE CITY OF ALBANY; by Amos Dean.—We had marked a long extract from this work, for quotation, as the best mode of showing its claims upon the general reader. It shall be given hereafter; and, in the meantime, we can only observe, that those who would be readily initiated into the new science that is so rapidly gaining ground in the teeth of all ridicule and opposition, are much indebted to Mr. Dean for his neat and comprehensive essay.

THE REPUBLIC OF LETTERS, No 3.—We have intended as each successive number appeared, to no-

tice this judicious publication. To those who are not apprized of the plan upon which it is conducted, it is merely necessary to observe, that it is a weekly issue of a beautifully printed quarto sheet at six cents a number, each number containing one or more octavo volumes. When it is added that "The Man of Feeling" and "The Vicar of Wakefield," two of the finest classics in our language, may thus be had for the sum of 12 1/2 cents, it will be seen, that both from the true taste and the liberality with which it is conducted, there can be no publication which promises better to diffuse abroad a knowledge of the models of polite literature than the Republic of Letters. The last number published contains "The Tales of the Hall," by Crabbe, one of the most vigorous of modern writers. His style, indeed, though strikingly original, is often overdone; and his subjects are of so coarse a character as frequently to leave a harsh and unpleasant impression upon the reader; but there is ever a truth to nature in her humblest guises, which renders his minute delineations and skillful dissections of character invaluable.

North American Review.—The eighty-fourth number of this journal will appear on the first of July. The contents are as follows:—1. Life of Schiller.—2. The Philosophy of History.—3. Roman Literature.—4. Usury and the Usury Laws.—5. The Free Cities of Flanders.—6. Life and Writings of Crabbe.—7. Helen.—8. Miss Peabody's Key to History.—9. Origin and Character of the Old Parties.

[From the Journal of Commerce.]

FURTHER FROM LIBERIA.—In yesterday's paper we announced the death of Rev. Matthew Laird and wife missionaries of the Western Foreign Missionary Society, who arrived in the Colony on the 31st December. We have now the painful duty to add the death of Rev. John Cloud, missionary of the same society, and Rev. S. O. Wright, of the Methodist Missionary Society. The wife of the last named gentleman died in February last. Her death has been before announced. *Among the emigrants by the Jupiter*, which arrived at the Colony on the 31st December, there had been no deaths except a woman of seventy-five years, and two children under twelve. Mr. and Mrs. Spaulding, Methodist Missionaries, were to leave Liberia on the 12th of May, in the ship *Argus* for Boston. Their object is, to procure a reinforcement and recruit their health. They are soon to return to the Colony, as is also Mr. Temple, a colored Assistant missionary, who has arrived in the *sch. Edgar* at this port. Mr. Jones, who has also arrived in the *Edgar*, is about to proceed to Kentucky for his family. The general health of the Colony is good. We have had the pleasure of an interview with Messrs. Temple and Jones, and are happy to state that they are in excellent spirits in regard to the Colony, and think it the best place for the colored man which the world affords. Mr. Temple has not fully recovered from the effects of the fever. Annexed is a letter from Rev. Mr. Pinney, Colonial Agent, to R. S. Finley, Esq.

Monrovia, May 10, 1834.—Mr. Temple, the last of the band of Presbyterian missionaries who landed in Africa the first of January last to try its perils, will hand you this note, and communicate more at length the tidings my pen is loth to speak.

Mr. T. will, I trust, do good while at home. He is desirous of ordination and expects to return very soon. The vessel sails in about two hours, and time is short. Our losses do not dishearten me. I trust the church will not be discouraged. God is about to try us, but I hope some good will be found, and faith which shall not tremble though a thousand fall.

From Liberia papers received at this office.

Monrovia, Jan. 29.—Native Coffee Trees.—Professor Wright, in the Colonization debate between him and Mr. Finley, was positive that coffee trees were not indigenous to this part of the coast, but came from an African Island. If the Professor would take the trouble to pay us a visit, we would show him a dozen varieties of the coffee plant, in our immediate vicinity, growing spontaneously in our woods.

Grand Bassa Settlement.—Recent accounts from *Edina*, represent this settlement in a most flourishing condition, and so industrious had the settlers been, that 15 shingled houses had already been erected.—The recent purchase of the Devil's Bush, had given

great satisfaction to all parties, and but little time would elapse, when that spot, so long consecrated to the unhallowed rites of Moloch, would be covered with Christian inhabitants.

Monrovia, Feb. 25.—Houses for New Emigrants.—Two extensive buildings (one of which is nearly completed) are now erecting in a pleasant part of our town for the reception of new comers.

Erection of a Light House on Cape Messurado.—It is proposed to erect a Light House on Cape Messurado, for the benefit of our infant commerce. The want has long been felt, and several ship-masters have wondered that a small tax had not been levied before now, to defray the expenses of the same.

Erection of a Sawmill.—Measures are in train for the erection of a Sawmill on the creek nearly opposite Millsburgh, on the St. Paul's River. It is a pity that we have not one or two steam mills in operation for sawing lumber, as the natives have lately adopted the commendable plan of rafting down logs suitable for sawing, to our water's edge; and now they have adopted the plan themselves, there will be no difficulty in keeping them so employed, if suitable encouragement is held out.

Price of Rice and Coffee in the Settlement.—From a perusal of a late number of the *Genius of Universal Emancipation*, which has been politely furnished us by the Editor, a person would be led to believe that our Colonists really paid at the rate of 25 cents per pound for rice, and 70 cents for coffee. This is something new to us and our readers, to hear that African rice has been sold by the pound in our market.

We assert without fear of contradiction, that we have never known rice, (in times of greatest scarcity, which is during the rains, before the new rice is fit for cutting,) to sell for more than two dollars and fifty cents per bushel. To arrive at a fair rate, at which rice should be quoted, will be, to put it down at one dollar and sixty cents the bushel; as during the season when all prudent persons should lay in their rice, it can be purchased for one dollar per bushel, and often for less. Estimating a bushel at sixty-eight pounds, it would then give nearly two one-half cents per pound, instead of twenty-five. A wide difference. Coffee grows wild around us, and if a little encouragement was held out to the natives, might be purchased at a moderate rate, at least enough for home consumption.

Our Colonists have not paid much attention to the culture of this important berry, but we know one family, who have for years raised more than enough for their own consumption from trees of their own planting. We have never seen sixty cents per pound paid for coffee yet, and we are doubtful if it has ever been.

LATEST FROM EUROPE.—By the ship *New York*, Captain Hoxie, which arrived last night from Liverpool, from which port she sailed on the 26th May we have received London papers to the 25th inclusive. The *Manchester*, Capt. Swift, had already put us in possession of Paris dates of the 24th; and by the *France*, which arrived to-day, our files are completed up to that time. The French papers are devoted to the obsequies of Lafayette, with which the Parisians seem to be wholly engrossed. In London, the critical political topic of Church Reform was not less absorbing. "It again," says a London paper, "formed the prominent subject of discussion in the House of Lords last night. The Tory Temporal Peers and some of the Right Reverend Prelates, amused themselves with vehement discourses on the mode in which the Lord Chancellor brought in the Bills for the suppression of Pluralities and Non-Residence; that is to say, for moving their first reading without a more formal notice to their Lordships. We think that the Peers would better consult their public reputation if they would interest themselves more liberally in the subject matter of Church abuses and their remedies."

It is mentioned in one of the French papers, that M. Lafitte entertained the project of proposing to the Chamber of Deputies that the body of General LAFAYETTE should be deposited in the Pantheon, but renounced it on learning that it was the decided wish of the family that the directions of the deceased as to his interment should be scrupulously followed.

All the ministerial papers contain eulogies on this

consistent and persevering friend of human liberty. The military honors paid to him were those which belong to a General in Chief. The account of the funeral will be found below.

The following is a translation of the letter addressed by the President of the Chamber to his Son, in reply to one from him announcing his father's death.

Sir, and Dear Colleague.—The Chamber has learned, with deep sorrow, the loss she has just sustained. The death of General LAFAYETTE deprives the Chamber of one of its most illustrious members—a great citizen, whom liberty has ever found faithful to her cause, in every period when she needed a defender. The revolution of July found him again at the head of that brave National Guard of Paris, whose patriotism and devotion have never failed to comport with the device of "Liberty, public order," inscribed on their banners.

The name of General LAFAYETTE will ever remain celebrated in our annals. He will appear there amongst the principal founders of the Constitutional monarchy, which he with us, cheered onward in its course, and which had his best wishes. Accept, &c.

Signed, DUMIN.

FRANCE.—"The Parisian papers (says a London paper,) continue to be much taken up with remarks upon the character of Lafayette, to whose memory, with the exception of the Carlist party, they do the justice which we have ourselves already rendered to him, of being a most respectable private character, an ardent patriot, but not very profound politician."

The funeral took place on Wednesday, and from the public character of the deceased, both as a member of the Chamber of Deputies and a General, was invested by the Government with all the imposing pomp which the attendance of numerous bodies of military never fail to give to processions of this description, and of the National Guards, who came forward in immense numbers, to join in giving effect to this parting act of homage to their venerable colleague.

Funeral of Lafayette.

From an early hour on the morning of the 22d of May, the Rue d'Anjou St. Honore, in which the hotel of the late lamented Lafayette is situated, and every street and passage in its vicinity, was crowded with citizens of Paris, hastening to pay their last tribute of respect and attachment to the illustrious deceased.

The funeral ceremony (says Galignani's Messenger, from the public character of the deceased, both as a member of the Chamber of Deputies and a General, was invested by the Government with all the imposing pomp which the attendance of numerous bodies of military never fails to give to processions of this description; while the attendance of the National Guards, who came forward in immense numbers, to join in giving effect to this parting act of homage to their venerable colleague, and the crowded state of the streets leading to the Church of the Assumption, where the funeral ceremony was to be performed, and from thence along the Rue de la Paix, the entire length of the Boulevard, and every spot near which the procession was to pass, showed the extent of the popularity, and the affectionate esteem with which the deceased was regarded by every class.

About half past seven the members of the various deputations appointed to take part in the procession began to arrive at the hotel, which was handsomely hung with black. Among these were numbers of staff officers, of the troops, and the national guards. Detachments of infantry were placed as guards of honor in the commencement of the Rue de Faubourg St. Honore, the Rue Royale, the Rue St. Florentin, and other points by which the procession was to pass.

At a few minutes after nine the body was brought down and deposited in the hearse, which was decorated with twelve tri-colored flags, three at each corner; it was surmounted by plumes, and had the letter L on various parts of the drapery, and was drawn by four black horses. The cordons of the hearse were held by four persons of distinction, friends of the deceased. After a few minutes spent in preliminary arrangements, the funeral march struck up, and the cortege began to move. The hearse was preceded by muffled drums, deputations from various legions of the National Guards of Paris, and the Banlieu, the 61st Regiment of the Line, and a regiment of Red Lancers. The hearse followed, which was immediately succeeded by the Deputations of the Chambers of Peers and Deputies; other deputations followed, from various public bodies, among whom we perceived numbers of foreign

ers, particularly Americans and Poles. These were succeeded by *Chefs de Battalion* of the National Guards and the Line, and these again followed by other detachments of National Guards and troops of the Line, headed by muffled drums and full military band; two pieces of cannon, and detachment of the 1st regiment of Artillery, with a numerous body of cavalry of the National Guards. Four of the Royal carriages, three private ones of the General, followed by another regiment of the Lancers, several private carriages, and a body of Municipal Guards, wound up the procession.

The immense crowds, and the small space left for the military, occasioned considerable confusion previous to arriving at the church, for want of room the hearse being stopped on one occasion more than a quarter of an hour. The coffin was then taken into the church, and the funeral ceremony being performed, the procession again proceeded; and, notwithstanding the incalculable crowds assembled, has passed the Rue de la Paix, and is now (as we are going to press) far advanced on the Boulevard, with the most perfect order and regularity.

All the Ministers (says the same Gazette) on leaving the Council held by the King on the preceding day at the Tuilleries, went in a body to make a visit of condolence to the family of Gen. Lafayette. They were received by M. George Lafayette, and were conducted by him to view the body. An immense number of persons of all classes called in the course of the day, and inscribed their names as participants in the general grief.

At a meeting of the citizens of the United States in Paris, held on the 21st at the Hotel of the American Legation, to take into consideration the most appropriate manner of expressing their sorrow for the loss they and their country have sustained by the death of the great and good Lafayette, Thomas B. Barton, Esq. Chargé d'Affaires of the United States, was called to the chair, and Duncomb Bradford, Esq. American Consul, was appointed Secretary.

The following resolutions were offered and unanimously adopted:

Resolved, That we have heard of the death of our illustrious fellow citizen, the virtuous Lafayette, with feelings of the deepest sorrow and regret—

Resolved, That the citizens of the United States, now in Paris, will attend in a body, the funeral of Lafayette, in testimony of the high respect they entertain for his exalted character, as the undeviating friend and defender of the liberties of their country, and of those of the human race.

Resolved, That a committee be appointed to address a letter of condolence to the family of Gen. Lafayette, expressive of their deep sympathy in the affliction dispensation with which it has pleased Divine Providence to visit them.

Resolved, That as a further testimony of their high admiration for the virtues and perfect consistency of character of Lafayette, through a long life, and under the most arduous circumstances, they will wear crape upon the left arm for three months.

On the motion of Mr. Brooks, seconded by Mr. Adams, it was then

Resolved—That a copy of the foregoing resolutions be communicated by the Secretary of this meeting to the family of the illustrious deceased, and that the proceedings of the meeting be published.

On the motion of Mr. French, seconded by Mr. Blow, it was

Resolved, That the United States, as far as they are represented at this meeting, each furnish a member to constitute the committee to address the letter of condolence to the family of General Lafayette: whereupon, the following gentlemen, representing seventeen States of the Union, were, on the motion of Mr. Hayne, seconded by Alex. Claxton, Esq. U. S. Navy, named that committee:—

Dr. Wood, of Maine.
N. Niles, Esq. of Vermont.
Charles Brooks, Esq. of Massachusetts.
J. Dennison, Esq. of Connecticut.
Mr. Burns, and Mr. Brevoort, of New York.
Philip Kearney, Esq. of New Jersey.
Dr. A. B. Tucker, of Pennsylvania.
Alexander Claxton, Esq. U. S. N. of Maryland.
Rev. F. S. Mines, of Virginia.
Arthur P. Hayne, Esq. of South Carolina.
Dr. L. A. Dugas, of Georgia.
W. P. D'Arment, Esq. of Indiana.
Dr. A. P. Elston, of Kentucky.
J. S. Pomer, Esq. of Mississippi, and
D. Urquhart, Esq. of Louisiana.

On the motion of Mr. Townsend, Mr. Barton and Mr. Bradford were *ex officio* placed on the Committee. After a short adjournment, the Chairman, in the name of the Committee, reported a letter of con-

dolence to the family of General Lafayette, which was unanimously adopted. On motion of Mr. Hayne, seconded by Mr. Brooks, it was resolved, that an eulogy on the illustrious character of the revered Lafayette be delivered before the American citizens at Paris. On the motion of Mr. Brewster, seconded by Mr. Niles, it was also resolved, that five gentlemen be named by the Chair, to constitute a Committee of Arrangements, to provide for the execution of the preceding resolution; whereupon, Mr. Brewster, Mr. Niles, Mr. Atherton, Mr. Brevoort, and Mr. Brooks, were named that Committee. It was then resolved, that the proceedings of this meeting be communicated by its Secretary to the Legation of the United States at Paris, with the request that they may be recorded on the books thereof—and the meeting adjourned.

DOG CHEAP.—It is stated that during the year 1833, there were no fewer than 30,000 Crosses of the Legion of Honor conferred by the French Government, and that up to the 1st of May, in the present year, the number granted had exceeded 18,000. This approaches, in the distribution of honors, very nearly to the principle of universal suffrage.

The Chamber of Deputies had voted the budget of receipts, and has thus closed its labors. It will probably not again be convoked, except to hear the word dissolution. All France appears tranquil at present.

The Marquis de Fitzjames, who was sentenced by the Court of Assizes for the Somme, to imprisonment for three months, for chalking on the wall at a public inn, the words "Vive Henri V." has surrendered himself at the prison at Amiens, to undergo his penalty.

A splendid sword has been subscribed for, and presented to Marshal Gerard, in commemoration of the capture of Antwerp.

In 1833 the number of Volunteers who enrolled themselves in the army, amounted to 5591.

SPAIN.—[The Cortes are convoked to assemble on the 24th July. The Carlists still continue to struggle against the Government of the Queen; and one of their chiefs, General Zumalacarraguy is accused of acting with the greatest ferocity. Colonel O'Donnel, the son of the Count D'Abisbal, having fallen into his hands, the following is given as the dialogue which occurred between him and Carlist's General's Aid-de-Camp, before his execution.]

"Aid-de-camp: My general desires me to offer you not only quarter, but your continuation of your present rank, with a certain command, if you will swear fidelity to the King, Don Carlos V."

"O'Donnel: I cannot be a traitor to my honor. I have sworn fidelity to the Queen, as well as to the nation, represented by its Cortes. I have no other sovereign than those."

"Aid-de-camp: Reflect well on what you say, colonel—the death of an officer like yourself will be pitiful."

"O'Donnel; To die for my country, is to die for immortality."

"Aid-de-camp: And what shall I say to my general?"

"O'Donnel: That I will give a certain sum of money for my release, but that if my release is to be effected at the cost of a perjured oath, I would rather die a thousand times than take it."

"In consequence of this obstinacy, O'Donnel was ordered to be shot. He marched with calmness and serenity to the ground, exhorting the soldiers who were to suffer death with him to bear their fate like men, and exclaimed at the moment that the word 'fire' was given—'We die in defence of the Queen and the rights of the nation.'"

MADRID, MAY 14.—I have received the Gazette in time for the Courier. It contains, as you will see, an order from Martinez de la Rosa to the Captain-General of Castile, instructing the Sub delegate of Fomento and the Corregidor of Madrid to prepare suitable chambers for the meeting of the Courts of both one and the other Estamentos, which is to take place on the 24th July next. The order is dated Aranjuez, May 12.

The same Gazette contains a Royal order appointing Jose Martinez de San Martin to the post of Superintendent General of the Police of the Kingdom, as well as some orders for changes in the municipality of Jerez, near Cadiz, in consequence of a Carlist disturbance which took place there on the 7th inst.

The Four per cents yesterday were at 55 1/2. M. Martinez, a merchant of Cadiz, has offered to equip 100 Urbanos at his own expense.

The Royal Council of Spain and India will be installed on the 15th inst.

Intelligence has been received this morning of the capture of and declaration of Coimbra, on the 6th, in

favor of Donna Maria, and of the junction of Rodil and the Duke of Terceira. This news has raised the Funds one per cent, and the Fours are now at 57.

A conspiracy was discovered here last night, the particulars of which have not transpired. It is not a very serious matter.

PORTUGAL.—[The news from Lisbon is to the effect that Figueras and Coimbra have surrendered to the Pedroites. Both are said to have fallen without a blow being struck. Figueras was taken possession of by Admiral Napier, and Coimbra by the Spanish and Portuguese forces: the former under the command of General Rodil, and the latter under that of the Duke of Terceira. The Miguelites are still strong in the province of Beira, and their superiority in the southern part of the kingdom undisputed.]

Doubts continue to be expressed, in consequence of the non-arrival of the ratification of the Treaty from Lisbon, that Don Pedro hesitates to attach his signature to the State Document; but we are informed, upon what we consider ample authority, that the Treaty has been signed, and it will be conveyed to this country by the Government steamer, the Countess of Pembroke, which was especially appointed to carry out the Treaty and to bring back the document ratified.

GERMANY.—The Augsburg Gazette of the 15th of May, has the following, of the 11th, from Vienna:—"The Spring Festival will be celebrated tomorrow by a *dejeuner dansant* in the Imperial Gardens; all the Diplomats are invited. Most of the Germanic Ministers have requested audiences of leave, which indicates that the Congress is about to close. The Emperor will quit the capital for Schönbrunn on the 13th."

SWITZERLAND.—The *National Genevois*, in a postscript of the 9th of May, says—"A traveller from Rumeltz tells us a corps of troops, stated at 50,000 men, is expected in Savoy; it was even said that preparations were made to receive them." Fifty thousand Piedmontese! a large number. The Journal adds:—"Several pieces of cannon are mounted on their carriages, in order that our ramparts may be properly armed in case of need."

ENGLAND.—London, May 24. In the House of Lords, yesterday, several petitions were presented for the protection of the Established Church, and against the claims of the Dissenters. Some petitions were also presented, praying for the separation of Church and State, and in favor of the Dissenters' claims.

The Earl of Harrowby, on presenting petitions for the protection of the Church, admitted that the real grievances of the Dissenters ought, as far as was practicable, to be redressed. But he called upon their Lordships to take care that they did not place that body in the 'vantage ground, by which they might be enabled to continue the attack that they had avowedly made against the Established Church. He trusted that their Lordships would agree with him, and not give their assent to any thing that would endanger the safety of that fabric.

We hear that it is finally determined that all foreign papers shall be admitted into England by payment of three-halfpence per paper, and that the same postage will be exacted for all English papers forwarded to the Continent. It is asserted, but we cannot believe it, that none but newsmen registered for the purpose, will be allowed to receive papers from the Continent.—[Morning Chronicle.]

BELGIUM.—A letter from Frankfort, dated May 2d, says—

"The difficulties in which the question of the cession of part of Luxemburg to Belgium are involved do not appear likely to be soon surmounted. The Dutch Envoy often finds it necessary to ask for new instructions from his Court, and no progress is made. As for the Austrian Envoy, Baron Von Neumann, his time seems almost entirely occupied in journeys from Biberich to Frankfort, and from Frankfort to Biberich. He too appears to be very much in want of instructions."

The Prince of Orange has returned to the Hague from the army.

The New Orleans Bulletin of the 12th has the following:—

Brig General Santa Anna, Vanstaveren, five days from Tampico, reports that a new revolution had broken out in Mexico, that the troops of Orizava and Cordova had declared for a military government, and to maintain the Catholic religion in all its apostolic forms and rules; that the troops of Puebla had declared for religion in the same tone, but to sustain the Federal government; that there had been some blood shed in Puebla; that the Northern States of

Zacatecas and San Louis Potosi, had determined to sustain the forms in religion and the present government.

SUMMARY.

APPOINTMENTS BY THE PRESIDENT.

By and with the advice and consent of the Senate. John Forsyth, Secretary of State, in the place of Louis McLane, resigned.

Levi Woodbury, Secretary of the Treasury, in the place of Roger B. Taney, rejected.

William S. Holabird, to be Attorney for the District of Connecticut.

Thomas Turner and Fleet Smith, to be Justices of the Peace for the County of Washington, in the District of Columbia.

Charles Scott to be a Justice of the Peace for the County of Alexandria, in said District.

PENSACOLA, June 14.—*Naval*.—The U. S. sloop of War Vandalia, left here, somewhat unexpectedly, on Tuesday last, in search, we understand, of the schooner Experiment. Since the Experiment left Havana, nothing has been heard of her. Fearing that some accident may have happened to her, the commanding officer of the squadron has promptly despatched the Vandalia in quest of her. We learn that the Experiment left this port with only five weeks' provisions of board, and she has been absent upwards of seven weeks.

The suggestion contained in the following paragraph, should not be forgotten:

Some time ago, the British Government sent to that of France a complete set of its Parliamentary papers, consisting of about 600 volumes folio—the result was a similar present from the Government to ours.

A present of a somewhat similar character has been sent to the principal Libraries of the United States. This is well, as it will no doubt lead to a reciprocal exchange on future occasions. We know from experience that American constitutional documents are almost impossible to be found in London. Having had occasion a few years since, to refer to some works which are to be met with in every considerable Library in America, we searched some of the public Libraries in London, but in vain. We have often heard this complaint from others.—[Montreal Advertiser.]

Cholera at Cincinnati.—The Cincinnati Intelligencer of the 23d ult. says: "We hear of repeated cases of cholera in this city, some of which have proved fatal. Many complain of the premonitory symptoms."

Among the deaths at Louisville, of cholera, are those of John F. Anderson, of the firm of Thomas Anderson & Co.; Mrs. Margaret Grey, a native of Philadelphia, and wife of Mr. Jackson Grey, of the New Orleans theatrical company. It has been made certain, that those persons who were supposed to have been poisoned by partaking of food prepared for a wedding party, were cases of cholera.

The Louisville Journal says:—"The Cincinnati Republican has been misinformed in several particulars concerning the recent deaths in this place. The custard was not served to the company at the wedding, but sent to the houses of the guests next day. It was a day or two before any were attacked; the number was not more than twelve or fifteen, of whom about eleven have died. There is great doubt whether any poison has been employed; none has been detected with certainty, in the examinations which have taken place. The Faculty of Louisville have had a meeting on the subject, and are about equally divided in opinion whether poison was or was not used."

The Atlantic Insurance Company have declared a dividend of ten per cent, for the last six months, payable on Monday next.

[From the Journal of Commerce.]

New Banks.—We learn by a gentleman from Poughkeepsie, that the books for the capital stock of the Farmers and Manufacturers Bank in that village, were closed on Friday last—\$1,650,400 having been subscribed. Capital stock \$300,000. The stock of eight banks chartered or increased by the Legislature at the last session, has been offered, with the following results.

Name.	Where.	New Capital.	Subscribed.
Phoenix Bank	New York,	\$1,000,000	\$3,136,925
Lafayette Bank	do	500,000	1,849,000
Commercial Bank	do	500,000	1,396,150
Albany City Bank	Albany	500,000	1,142,900
Farmers & Manuf'rs	Poughkeepsie	305,000	1,650,400
Highland Bank	Newburgh	200,000	951,400
Greene Co. Bank	Albion	200,000	680,200
Sackett's Harbor B'k	Skt's Harbor	200,000	about 600,000
		\$3,400,000	\$11,316,975

The Rev. Wm. M. Carmichael has resigned the Rectorship of Christ Church, Rye, Westchester co., and accepted that of St. James', Hyde Park, Dutchess county.—[Churchman.]

The schr. Sabina, at New Orleans, reports the wreck of the schr. New Packet, Capt. Rameadell, which took place on the 20th May, at the bar of Aransas. She is a total wreck. We learn (says the New Orleans Bulletin of the 18th) by the mate, that 82 of the Irish emigrants which went out in the N. P., died of the cholera before they reached Aransas, together with three of the crew.

We find in the Boston Liberator, Mr. Garrison's paper, the following notice, the Editor vouches for the character of the advertiser, and certifies that he is serious in his proposals, and it is actuated by disinterested and general motives:—

A Friend of Equal right, is convinced that our colored brethren and sisters are entitled to all the rights and privileges which are claimed by the whites; that prejudice against color is extremely absurd; and that as long as this prejudice exists, its victims will feel the yoke of oppression crushing them to the earth. He takes the liberty also to state, (being himself what is termed a white man,) should he meet with a suitable opportunity, he is convinced that it would be his duty, and it is his determination to bear testimony against this prejudice by marrying a Colored Woman.

Information would be thankfully received of any young respectable, and intelligent colored Woman, (entirely or chiefly of African descent,) who would be willing to endure the insults and reproaches that would be heaped upon her for being the partner of a white man; and who is either in low circumstances, or would be willing to cede all she has or may have of this world's goods, to the American Anti-Slavery Society, that the mouths of gainsayers may be stopped. Information sent by letter (post paid) to E. K., Chester, Penn. will meet with due attention.

LOCUSTS.—The Flatbush woods are swarming with locusts, which the warm weather seems to have emancipated from their chrysalis. They are rather smaller than the ordinary green locusts, with black bodies, red eyes, and yellow legs and wings.—[L. I. Star.]

[FOR THE NEW YORK AMERICAN.]

Translated from the French.

Can Love exist without Jealousy?

I cannot persuade myself that the stoics, who had held the first rank among the ancient philosophers, could by their discipline procure their followers an exemption from every kind of passion. They knew very well that the passions were so natural to them, that it would be impossible to destroy in man what was so deeply engrained in his constitution. Seneca, who was the master of that sect, freely confessed that the wise man cannot prevent emotions from rising in his soul, but that reason can prevent their swelling into excess. We are a compound of the spiritual and the material: our spirits assimilate us to the angels, and our bodies partake of the animal nature. On the one hand, Moses informs us that the angels have been envious and presumptuous, and on the other, we see every day that animals give loose to unrestrained passions. We know that maladies are as natural to man as his passions, and that no one has ever attained exemption from them. The body is composed of parts so different in temperament, and we are exposed to so many accidents, that it is impossible for us to escape all bodily discomfort. Some maladies are severe, and others slight; some men who have a good temperament are never troubled with any but slight disorders, which soon pass away. It is the same with the passions of the heart; and wise men, who admit they are not exempt from them, tell us they have none but slight emotions, and that while in some the passions are so powerful as to be dominant, in others, their hold is not so strong but that they may be controlled by salutary remedies.

Since, then, the passions are natural to man, jealousy, which is one of the strongest, and is compared by the Scriptures to death and hell, jealousy, the offspring of love, we are constrained to believe, will never give absolute quarter to any who love. We will expatiate a little in proof of this.

There is no need of our entering here into a description of love. The reader will find many books which unfold its nature; it is sufficient here to speak of jealousy, which is its offspring. We have said elsewhere that beauty in a person of a different sex has fascinations so great that it enchains us, even against our will, and whatever resistance we make is insufficient to defend us against its at-

tacks. Such are its attractions that it gets within our hearts and acquires the mastery of our inclinations. When love is ardent, it keeps the image of the loved object present to our thoughts, though the object be absent, and the individual takes pleasure in discoursing of the loved one. A mind that is in this state, is not capable of accurate discrimination, it receives incorrect ideas mingled with the true; delusions slip in and impose themselves upon it, and it is led to distrust, by the suspicions and conjectures it fabricates. Perhaps a man fears that he has not sufficient agreeable qualities to retain the favor of the loved individual, and thence entertains fears that she is inconstant, and that she has ceased to love him. The weakness of our nature and the delusions of love then transmute these conjectures into proofs, and these doubts into convictions, notwithstanding the assurances we may receive from the individual. Indeed, we can hardly love ardently without jealousy; for after having attained that high degree of passion in which the changeableness of our nature renders it impossible for us to continue, we are obliged to fall into coldness or hatred, at which we arrive as we pass through the gate of jealousy.—Celsus, the illustrious physician, who was a master of the knowledge of human nature, tells us that a man who is become more corpulent than is usual with him, should be in apprehensions of falling sick, because things in this world being inconstant, he cannot continue long in his usual exuberance of health. In like manner, the intelligent observer, when he sees a man the slave of excessive and extravagant love, knows that it cannot long be maintained in the same state. We might here introduce the similitude of sheet iron stoves; soon hot and soon cold again.

A person excited by a strong passion, cannot judge fairly. The mind perplexed with difficulties, and unable to separate the tangled web, is brought into wild disorder, and is subject to continual vacillation. After having combated appearances, and cut off one of the heads of the hydra, it yields again to the whimsies of love; takes chimeras for truths, and the hydra reproduces ten heads for the one it had lost. Then again seeking by all methods to disengage itself from the doubts it has conjured up, curiosity is roused, and examines every trifling circumstance. The object is watched with a scrutinizing and severe espionage. This extravagant mode of proceeding renders the matter worse, and instead of effecting a cure, aggravates the disorder. This is what the ancients intended to convey by the fable they have narrated, that Vulcan disgusted with the infidelities of his wife, resolved to revenge himself upon her by proclaiming his jealousy in the presence of all the gods, expecting them to espouse his cause. But this public disclosure brought him into disgrace among them, and they drove him from Heaven, and his fall to earth brought upon him the discomfort of a broken limb and perpetual lameness. Such is the fate of the jealous; for the sake of exposing the frailty of their wives, they draw upon themselves the derision of the world, and fix a lasting stain upon their own reputation.

They who are accustomed from youth to control their passions, may with ease prevent them from quickening into tumultuous precipitation. Julius Cesar had such force of mind, that, though he had sufficient cause for jealousy, he never succumbed to this horrible passion. That illustrious man did not clamor in public about his domestic injuries. He knew that if he did, even boys would deride him.

Women are by nature more subject to jealousy than men. Being more feeble, they stand in need of masculine protection and succor, and are apprehensive of losing the affection of one from whom they expect them; and as they are also more constant than men, the stream of their love flowing constantly towards the same object wears a deeper channel, and we have observed that jealousy is seldom the attendant of any love but that which is strong and ardent.

Great minds can generally, by the force of reason, resist jealousy, which they receive only at the gate, without admitting it into the mansion. A prudent man, says Ariosto, ought to know the honor that is due to his wife, his children, and himself, and not wilfully bring any cloud over it, to obscure its brilliancy.

Having in this chapter been led a little out of my way by the consideration of a passion which is a blot upon love's escutcheon, I shall in my next chapter inquire whether the gay and frolicsome, or the timid and diffident, are most ardent in their attachments; and shall also offer some considerations on the question which is the easier, to gain the affection of a female or to retain it.

BRADDOCK'S DEFEAT.—We extract, to-day, from the appendix to Sparks's edition of the writings of Washington, a notice of the French account of this affair, which will be found interesting. It corresponds generally with that given by Gen. Lafayette, of the same affair, while last in this country, but differs in one point. It seems Captain Beaujeu, who suggested and led the expedition from Fort Duquesne, was killed, and that the victory was completed by Capt. Dumas; and it must have been from the latter that the Monsieur Du Contrecoeur snatched the laurels.—[Pittsburg Gaz.]

"No circumstantial account of this affair has ever been published by the French, or has it hitherto been known from any authentic source what numbers were engaged on their side. Washington conjectured, as stated in his letters, that there were no more than three hundred, and Dr. Franklin, in his account of the battle, considers them at most as not exceeding four hundred. The truth is, there was no accurate information on the subject, and writers have been obliged to rely on conjecture.

In the archives of the War Department, at Paris, I found three separate narratives of this event, written at the time, all brief and imperfect, but one of them apparently drawn up by a person on the spot. From these, I have collected the following particulars:

M. de Contrecoeur, the commandant of Fort Duquesne, received intelligence of the arrival of Gen. Braddock and the British regiments in Virginia. After his remove from Will's Creek, French and Indian scouts were constantly abroad, who watched his motions, reported the progress of his march, and the route he was pursuing. His army was represented to consist of three thousand men. M. de Contrecoeur was hesitating what measures to take, believing his small force wholly inadequate to encounter so formidable an army, when M. de Beaujeu, a captain in the French service, proposed to head a detachment of French and Indians, and meet the enemy in their march. The consent of the Indians was first to be obtained. A large body of them was then encamped in the vicinity of the Fort, and M. de Beaujeu opened to them his plan, and requested their aid. This they at first declined, giving as a reason the superior force of the enemy, and the impossibility of success. But at the pressing solicitation of M. de Beaujeu, they agreed to hold a council on the subject, and to talk with him again the next morning. They still adhered to their first decision, and when M. de Beaujeu went out among them to inquire the result of their deliberation, they told him a second time that they could not go. This was a severe disappointment to M. de Beaujeu, who had set his heart upon the enterprise, and was resolved to prosecute it. Being a man of great good nature, affability, and ardor, and much beloved by the savages, he said to them—"I am determined to go out and meet the enemy. What! will you suffer your father to go out alone? I am sure we shall conquer." With this spirited harangue, delivered in a manner that pleased the Indians, and won upon their confidence, he subdued their unwillingness, and they agreed to accompany him.

It was now the 7th of July, and news came that the English were within six leagues of the Fort. This day and the next were spent in making preparations, and reconnoitring the ground for attack. Two other captains, Dumas and Liguery, were joined with M. de Beaujeu, and also four lieutenants, six ensigns, and two cadets. On the morning of the 9th they were all in readiness, and began their march at an early hour. It seems to have been their first intention to make a stand at the ford, and annoy the English while crossing the river, and then retreat to the ambuscade on the side of the hill where the contest actually commenced. The trees on the bank of the river afforded a good opportunity to effect this manoeuvre, in the Indian mode of warfare, since the artillery could be of little avail against an enemy, where every man was protected by a tree, and at the same time the English would be exposed to a point blank musket shot in fording the river. As it happened, however, M. de Beaujeu and his party did not arrive in time to execute this part of the plan.

The English were preparing to cross the river, when the French and Indians reached the defiles on the rising ground, where they posted themselves, and waited till Braddock's advanced columns came up. This was a signal for the attack, which was made at first in front, and repelled by so heavy a discharge from the British, that the Indians believed it proceeded from artillery, and showed symptoms of wavering and retreat. At this moment, M. de Beaujeu was killed, and the command devolving on M. Dumas, he showed great presence of mind in rallying

the Indians, and ordered his officers to lead them to the wings and attack the enemy in flank, while he with the French troops would maintain the position in front. This order was promptly obeyed, and the attack became general. The action was warm and severely contested for a short time; but the English fought in the European method, firing at random, which had little effect in the woods, while the Indians fired from concealed places, took aim, and almost every shot brought down a man. The English columns soon got into confusion; the yell of the savages, with which the woods resounded, struck terror into the hearts of the soldiers, till at length they took to flight, and resisted all the endeavors of their officers to restore any degree of order in their escape. The rout was complete, and the field of battle was left covered with the dead and wounded, and all the artillery, ammunition, provisions, and baggage of the English army. The Indians gave themselves up to pillage, which prevented them from pursuing the English in their flight.

Such is the substance of the accounts written at the time by the French officers, and sent home to their government. In regard to the numbers engaged, there are some slight variations in the three statements. The largest number reported is two hundred and fifty French and Canadians, and six hundred and forty-one Indians; and the smallest, two hundred and thirty-three French and Canadians, and six hundred red Indians. If we take a medium, it will make the whole number led out by M. de Beaujeu at least eight hundred and fifty. In an imperfect return, three officers were stated to be killed, and four wounded; about thirty soldiers and Indians killed, and as many wounded.

When these facts are taken into view, the result of the action will appear much less wonderful, than has generally been supposed. And this wonder will be still diminished, when another circumstance is resorted to, worthy of particular consideration, and that is, the shape of the ground on which the battle was fought. This part of the description, so essential to the understanding of military operations, and above all in the present instance, has never been touched upon, it is believed, by any writer. We have seen that Braddock's advanced columns, after crossing the valley extending for nearly half a mile from the margin of the river, began to move up a hill, so uniform in its ascent, that it was little else than an inclined plane of a somewhat crowning form.—Down this inclined surface extended two ravines, beginning near together at about one hundred and fifty yards from the bottom of the hill, and proceeding in different directions till they terminated in the valley below. In these ravines the French and Indians were concealed and protected. At this day they are from eight to ten feet deep, and sufficient in extent to contain at least a thousand men. At the time of the battle, the ground was covered with trees and long grass, so that the ravines were entirely hidden from view, till they were approached within a few feet. Indeed, at the present day, although the place is cleared from trees, and converted into pasture, they are perceptible only at a very short distance. By this knowledge of the peculiarities of the battle ground, the mystery, that the British conceived themselves to be contending with an invisible foe, is solved. Such was literally the fact. They were so paraded between the ravines, that their whole front and right flank were exposed to the incessant fire of the enemy, who discharged their muskets over the edge of the ravines, concealed during that operation by the grass and bushes, and protected by an invincible barrier below the surface of the earth. William Butler, a veteran soldier still living (1832), who was in this action, and afterwards at the Plains of Abraham, said to me, "We could only tell where the enemy were by the smoke of their muskets." A few scattering Indians were behind trees, and some were killed in venturing out to take scalps, but much the larger portion fought wholly in the ravines.

[From the Detroit Courier.]

TECUMSEH.—The following incident in the career of this remarkable savage, which we do not recollect to have seen published, may not be altogether uninteresting to our readers, though we fail to embody it in the glowing language of an eye-witness by whom we chanced to hear it narrated. We give it with the more readiness, well knowing the importance attached by the public to any occurrence, however slight, serving to illustrate the character of a distinguished individual; and such the self-styled "King of the Woods" is universally allowed to have been, though border traditions have darkened the policy and patriotism of the native warrior with the deeper pen- ciling of ferocity and blood-thirstiness.

The train of events immediately succeeding the memorable victory of Lake Erie on the 13th of September, 1813, are still fresh in the memory of many of our inhabitants. Among them was the evacuation of Fort Malden by the British, notwithstanding the earnest counsel of Tecumseh that it should be maintained to the last; at the same time proposing to skirt the forest below with his "braves," and foot by foot to dispute the progress of the assailants. It was a bright autumnal day when the army of Gen. Harrison, under the escort of Commodore Perry's fleet sailed from Put-in-Bay, for the purpose of occupying that important post. The warlike array of the little squadron still scored with the marks of the recent engagement; the fluttering of pennants and waving of the battle flags; and the files of soldiery crowding the boats, with their burnished muskets throwing back the glitter of the sun were described as having formed a truly animating and imposing spectacle. Their course lay along that part of the Lake which had been the scene of conflict but ten days previous, and terrible mementoes of that bloody victory still surrounded them in the floating bodies of the dead, blackened and mangled as they were tossed from the decks, the red coat of the Briton contrasted with the grey dress of the marine, or the blue jacket of the American tar. As they drew near the Canadian shore, an object was discernible flitting along the beach, now dashing with rapid movement down the entire front of the approaching fleet, and anon pausing as if to reconnoitre. A nearer view revealed a trim and athletic horseman mounted on an Indian pony, dressed in a belted hunting frock of smoked deer skin, with the appendage of long gaiters strapped below the knee, and the richly ornamented moccasins. It was the celebrated Tecumseh, who, notwithstanding the flight of his white ally, had lingered behind to ascertain the force of the invading enemy, and who, after singly confronting their floating batteries till satisfied of their numerical strength, leisurely withdrew as if in dignified defiance from the shore, to communicate the intelligence to the remaining inmates of the Fort.

Had the dauntless spirit and quick sighted sagacity of the Indian warrior been shared by his British brother, it is probable that our troops, after a harassing march to Malden, would have met with a warmer reception than they experienced from a few bed ridden paralytics and a group of defenceless women and children.

While upon this subject it may not be amiss to advert to a scene which formed the concluding portion of the same narrative, though not materially connected with the name of Tecumseh. A part of the Kentucky troop of horse under the command of Col. Johnson, still following upon the tracks of General Proctor, after his discomfiture at the forks of the Thames, took possession of the Moravian town on that river which had but recently been evacuated by the enemy. These wild and fearless men to whom peril was but pastime, and who seem to have resembled in some particulars the tameless horsemen of the Don, were already rendered half furious at the cold and savage butcheries which had spilt the best blood of Kentucky like water. When orders were therefore given to fire the rows of the deserted log-cabins which constituted the town, these wild riders in the mere wantonness of daring scoured furiously through the streets, walled in as they were on either side by sheets of flame; their vicious and half-tamed animals to all appearance equally elated with the strange glee of their masters. The very appearance of these mad warriors must have been semi-barbarous, bearded and browned as they were by exposure, and attired in the costume of the back-woodsmen, with their carbines slung over their shoulders, the long hunting knife thrust into the belt of the deer-skin frock, and the canteen slung from the bear-skin saddle bows. This, with the roaring of the conflagration, the crash of the falling dwellings, the shouts of these desperate troopers, and the clattering of their horses as they burst ever and anon through the smoke and flames, must have presented as singular and stirring a picture as has ever been sketched even by the pencil of romance.

French Shop Girls.—The following piquant description of a Parisian Shop Keeper is given by Mr. Fay, in one of his late letters from France, published in the New York Mirror:

"Next to the quay I should rank the women, that extensive class of them I mean, who keep the shops. There is nothing under heaven like a young French girl behind a counter; she is thoroughly skilled in manner. It is brilliant and irresistible. They are graceful, pretty, attentive, respectfully flattering, and always good humored; and so different from those

honest gentlemen behind the counters of Maiden lane and Broadway, who tell you "the article cost three and sixpence, but you can have it for three shillings," that one scarcely knows how to treat them. Their air resembles that of a charming belle in the meridian of a drawing room; mere pecuniary calculations—such paltry matters as *deni francs* and *sous* are the last things that enter my head; and I stand scraping and bowing and stammering interjections in vile French, and pay ten times what my purchase is worth from mere politeness.

"They are arrant sirens after all: and have several times beguiled me into bargains like that of Franklin's whistle, for most of them consider it disreputable not to cheat a foreigner. Discovering that their obliging air was but a lure, and that my polite simplicity only plunged me deeper into the snare, I resolved to resist their demands with the bluntness of one who knew rather too much to be taken in so readily. Having occasion, therefore, for a pair of gloves, I suffered the counter to be heaped with untied packages—leather, kid and silk, cotton, linen, buckskin of every size, shape and color. The young girl toiled on with the same engaging smile. It was all in vain: Nothing would do. I turned to depart, when her perfectly cheerful "Ah, monsieur cannot suit himself. I am very sorry—pardon—*bon jour Monsieur*," arrested me on the threshold. I felt like a scoundrel. I had thrown her shop into confusion. It was but just to take something. I selected a trifle, worth perhaps two shillings, and handed her a dollar. She threw the glittering coin into the drawer, and gave me the sweetest smile in the world, and I bowed out with her "*bon jour, monsieur*," ringing in my ears like the tones of a flute. There is no sound in nature like the "*bon jour, monsieur*," of a pretty French woman, after she has cheated you out of a dollar. It is actually delightful—perfect music—but it costs you more than the opera."

[FOR THE AMERICAN.]
THE HEBREW REQUIEM.

"They made a funeral oration at the grave, after which they prayed, then turning the face of the deceased towards Heaven, they said—'Go in peace.'"—[Hebrew Antiquities.]

Go thou in peace—we may not bid thee linger
Amid the sunlight and the gloom, of earth,
Where every joy is touched by sorrow's finger,
And tears succeed the brightest hour of mirth;
Thine upward gaze is fixed upon that dwelling
Where sin and sorrow never more are known,
And seraph lips, the loud Hosanna swelling,
Have caught the music of celestial tone.

Go thou in peace—thy home on earth now leaving
In the lone chamber of the dead to dwell;
Thou hast no portion in the sorrow heaving
The hearts whose anguish tears but feebly tell—
A path of light and gladness is before thee,
The hope of Israel in fruition thine,
And thou wilt gaze upon the beams of glory
Around the throne of Israel's God that shine.

Go thou in peace, why are the loved ones weeping
Around the spot where now thy form is laid,
There is no cause for grief that thou art sleeping,
Free from each trial, and untouched by pain;
Thy path has been through many a scene of sorrow,
Thy weary form has needed this repose;
Calm be thy rest until the eternal morrow
Its light and glory on thy dwelling throws.
Go thou in peace—temptation cannot sever
The tie that now unites thee to thy God;
The voice of sin—of unbelief—can never
Enter the precincts of thy low abode:
We leave thee here with mingled joy and sadness,
Our hearts are weak, our faith is low and dim,
Yet to the Lord we turn with chastened gladness,
And yield our friend—our brother up to Him.

M. J. W.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street,
Jail St corner of Maidenlane.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of *Duffee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver it in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. E. & C. Co., Albany; or James Archibald, Engineer and Delaware Canal and Railroad Company, Carbon Run, Columbia county, Pennsylvania.
Jann 27 v 2, 1853.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines. And other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 12 miles per hour; a four ton engine at a speed of 10 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 24, 1853.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in length of 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. do.	
40 do. 1 1/2 do. do.	
800 do. 2 do. do.	
800 do. 2 1/2 do. do.	

soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 3 3/4, and 3 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1853.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1853.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1853.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY B. CAMPBELL, Eng. Philad., Germant. and Norrist. Railroad

md 17

STEPHENSON.

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

J35 tr

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned and set.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

mls



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt that they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1853.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

E. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

mls

23d CONGRESS....1st Session.

The following is a list of the acts of public importance passed at this session.

For the relief of John Percival, Master Commandant in the United States Navy,

Making appropriations, in part, for the support of Government for the year 1834.

Making certain allowances, and granting certain arrears to the Captains and Subalterns of the U. S. Corps of Marines

To grant to the State of Ohio certain lands for the support of Schools, in the Connecticut Western Reserve.

For the relief of sundry citizens of the United States who have lost property by the depredations of certain Indian tribes.

Making appropriations for the Indian Department for the year one thousand eight hundred and thirty-four.

Making appropriations for the Naval service, for the year one thousand eight hundred and thirty-four.

Authorizing the Secretary of War to establish a Pension Agency in the town of Decatur, in the State of Alabama, and to provide for paying certain pensions in said town of Decatur.

In reference to pre-emption rights in the South-eastern district of Louisiana.

Making appropriations for Indian Annuities, and other similar objects, for the year 1834.

Making appropriations for the Revolutionary Pensioners of the United States, for the year 1834.

Concerning the gold coins of the United States, and for other purposes.

Making appropriations for the Military Academy of the United States, for the year 1834.

Making appropriations for the support of the army, for the year 1834.

Regulating the value of certain silver coins within the United States.

Making additional appropriations for certain harbors, and removing obstructions in the mouths of certain rivers, for the year 1834.

Making appropriations for the civil and diplomatic expenses of Government, for the year 1834.

To establish an additional land office in Arkansas.

Regulating the value of certain foreign gold coins within the United States.

To extend the time allowed for the discharge of the duties of the commission, for carrying into effect the Convention with France.

To change the boundary between the Southeastern and Western land districts in the Territory of Michigan, and for other purposes.

To revive and amend "An act for the relief of certain insolvent debtors of the United States," passed on the second day of March, eighteen hundred and thirty-one, and an act, in addition thereto, passed on the fourteenth of July, 1832.

Supplementary to the act entitled "An act to carry into effect the Convention between the United States and his Majesty the King of the Two Sicilies, concluded at Naples on the fourteenth day of October, 1832.

To enable the Secretary of State to purchase the papers and books of General Washington.

To authorize the removal of the Custom House from Magnolia to St. Marks in Florida.

To equalize representation in the Territory of Florida, and for other purposes.

For the re-appropriation of an unexpended balance of a former appropriation for the payment of the Georgia Militia Claims, for the year one thousand seven hundred and ninety-two, and one thousand seven hundred and ninety-three, and one thousand seven hundred and ninety-four.

Giving the consent of Congress to an agreement or compact entered into between the State of New York and the State of New Jersey, respecting the territorial limits and jurisdictions of the State.

Making additional appropriations for the Armory at Harper's Ferry, for the year 1834.

To amend an act passed on the twenty-ninth day of May, 1830, entitled "An act for the relief of the owners of sundry vessels sunk for the defence of Baltimore."

Making appropriations to carry into effect certain Indian treaties and for other purposes.

To attach the territory of the United States West of the Mississippi river and North of the State of Missouri, to the Territory of Michigan.

To provide for the organization of the Department of Indian Affairs.

Making appropriations for certain fortifications of the United States for the year 1834.

Making appropriations for the Public Buildings and grounds, and for other purposes.

For the better organization of the United States Marine corps.

To procure a bust in marble, of the late Chief Justice Ellsworth.

For the completion of the road from a point opposite to Memphis, in the State of Tennessee, to Little Rock, in the Territory of Arkansas.

Concerning the duties on lead.

Authorizing the selection of certain Wabash and Erie Canal lands in the State of Ohio.

To establish a port of entry at Natchez, in Mississippi, and creating certain ports of delivery, and for other purposes.

Concerning naval pensions and the navy pension fund.

Authorizing the President of the United States to cause certain roads to be opened in Arkansas.

To suspend the operation of certain provisos of an "act to alter and amend the several acts imposing duties on imports," approved 14th July, 1832.

To aid in the construction of certain roads in the Territory of Michigan.

To enable the President to make an arrangement with the Government of France, in relation to certain French Seamen killed or wounded at Toulon, and their families.

Limiting the time of advertising the sale of the Public Lands.

For the benefit of the City of Washington.

To create two additional Land Districts in the State of Illinois, and two new Land Districts north of said State, in the Territory now attached to Michigan, which lies between Lake Michigan and the Mississippi river.

For the continuation and repair of the Cumberland road.

An act in addition to the "act more effectually to provide for the punishment of certain crimes against the United States and for other purposes:" approved March 3d, 1825.

To amend an act entitled "An act to annex a part of the State of New Jersey to the collection district of New York; to remove the office of collector of Niagara to Lewistown; to make Cape St. Vincent, in the District of Sackett's Harbour, a port of delivery; and out of the Districts of Miami and Mississippi, to make two new Districts, to be called the Districts of Sandusky and Teche, and for other purposes.

Authorizing the Governors of the several States to transmit by mail certain books and documents.

Authorizing a sum of money to be distributed among the officers and crew of the late private armed brig General Armstrong.

Granting a township of land to certain exiled Poles from Poland.

Authorizing the payment of bounty in certain fishing vessels lost at sea.

For the relief of the Roman Catholic church at St. Louis, Missouri.

For the relief of a part of the crew of the brig Sarah George.

To regulate trade and intercourse with the Indian tribes, and to preserve peace on the frontiers.

Making appropriations for building light houses, light boats, beacons, and monuments, for the year 1834.

Making appropriation for the improvement of the navigation of the Hudson river, in the State of New York.

To authorize the Secretary of the Treasury to compromise the claims of the United States against the late firm of Minturn and Champlain and their securities.

For the relief of J. Haggerty & David Austen, of N. York.

For the relief of John Hone & Sons, of New York.

For the relief of the widow and heirs of Felix St. Vrain.

To continue further in force "An act to authorize the extension, construction and use of a lateral branch of the Baltimore and Ohio Railroad into and within the District of Columbia."

To authorize Gazaway B. Lamar to import an iron steamboat, in detached parts, with the necessary machinery, tools, and working utensils therefor, into the United States, free from duty, and to provide for the remission of the same.

To change the time for commencing the session of the Courts of the United States in the District of Delaware.

To carry into effect the 14th article of the Treaty of the 8th of January, 1821, with the Creek nation of Indians, so far as relates to the claims of the citizens of Georgia against said Indians, prior to 1822.

Repealing certain acts of the Legislative Council of the Territory of Florida.

Authorizing a road to be cut out from the northern boundary of the Territory of Florida, by Marianna, to the town of Apalachicola, within the said Territory.

To mark and open a road from Columbia to Little Rock, in the Territory of Arkansas.

To provide for rebuilding the Frigate Congress.

Authorizing the Secretary of the Navy to make experiments for the safety of the Steam Engine.

To authorize the President of the United States to direct transfers of appropriations in the naval service, under certain circumstances.

Authorizing the purchase of live oak frames for a frigate and sloop of war, and for other purposes.

Authorizing the construction of a Bridge across the Potomac, and repealing all acts already passed in relation thereto.

Increasing the salaries of the Judges of the United States for the Territories of: Michigan, Arkansas, and Florida.

To authorize an extra session of the Legislative Council of the Territory of Michigan.

To prohibit the Corporations of Washington, Georgetown and Alexandria, in the District of Columbia, from issuing promissory notes or bills of any denomination less than ten dollars, after the period therein mentioned, and for the gradual withdrawal from circulation of all such notes and bills.

Supplementary to the act to amend the several acts respecting copy-rights.

For establishing the northern boundary line of the country purchased of the Chickasaws by the treaty of 1832.

Making compensation for certain diplomatic services, and for other purposes.

To relinquish the reversionary interest of the United States in a certain Indian reservation lying between the rivers Mississippi and Desmoines.

To provide for the payment of claims for property destroyed by the enemy while in the military service of the United States, during the late war with the Indians on the frontiers of Illinois and Michigan Territory.

To complete the improvements of Pennsylvania Avenue.

Concerning tonnage duty on Spanish vessels.

Resolutions.

Resolution directing certain Books to be procured and furnished members of the 23d Congress.

Giving the right of way through the property of the United States at Harper's Ferry, to the Winchester and Potomac Railroad Company.

For distributing the returns of the last Census.

Joint Resolution manifesting the sensibility of the two Houses of Congress and of the Nation, on the occasion of the decease of General Lafayette.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for shingles. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh, - August 15, 1833. A291f R M&F

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

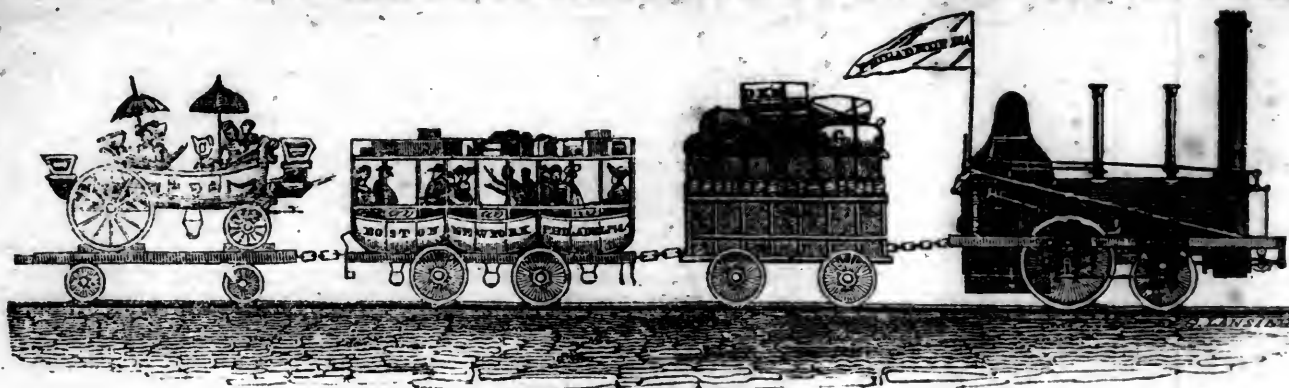
Troy, N. Y. July, 1831.

HENRY BURDEN, Agent.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. L. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Jauviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward the orders as early as practical, as the subscriber is desirous of attending the manufacturing so as to keep pace with the increasing demand for his Spikes.

H. BURDEN.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, JULY 12, 1834.

[VOLUME III.—No. 27.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JULY 12, 1834.

RAILROADS AND CANALS.—We have been often requested to give a concise account of the canals and railroads in the different States, and should long since have done so, could we have obtained the necessary information, which engineers and others on the different roads and canals have been so repeatedly requested to communicate. After much delay, a few short sketches of some of the most important works have been received, which, together with such as may be gleaned from the previous volumes of the Journal, will be published from time to time, as may be convenient. It is desired that any errors, if any should be published, relating to the different works, may be corrected by those having the means, at the earliest possible period, that we may correct them.

Extracts from the Common-Place Book of an Engineer.

CUMBERLAND AND OXFORD CANAL, MAINE.—This canal, so called from the two counties through which it and its tributaries pass, is the only work of internal improvement of any importance in the State. It connects tide-water at Portland with the southern extremity of Sebago Pond, with which and its tributaries, it opens a communication of 40 miles with the back country. The canal itself is of small dimensions and yet, though it is made through a country abounding with the necessary materials, and not presenting any other than ordinary difficulties, it has cost the company the sum of \$250,000, or about \$12,500 per mile. The locks, 25 in number, are, with one exception, built of timber, and so badly has the work been executed, that there is scarcely one that does not stand in need of entire rebuilding. The stone lock at Portland is built for one-third of the distance up of small uncoursed masonry, upon which,

for the remainder, immense masses of well cut granite are piled without the least judgment; and though well caulked with pieces of shingle! it can only be filled at half or at full tide. The canal is connected with the "Canal Bank," which is interested in it to the amount of \$150,000; and though it had every disadvantage under which to labor, it last year (1833) yielded a nett income of \$12,000, principally derived from the tolls on lumber.

New York and Pennsylvania Canals.—A captain of a steamboat, who recently arrived here from Louisville, relates the following anecdote:

While he was in Louisville he happened to be in the house of Mr. Buchanan, a commission merchant, when an agent from New York came in. This person had letters from the Canal Commissioners, or some other persons on the New York and Ohio Canals, and was endeavoring to induce men of business to make their shipments by the way of those improvements. He urged Mr. Buchanan very strongly upon the subject.

That gentleman, in reply to his urgent application, said that the western folks would do their business where it could be done to the best advantage—that the Pennsylvania Canal seemed to suit them best; there, said he, are some goods which we have just received in twelve days from Philadelphia, at the expense of one dollar and thirty-seven and one-half cents per hundred, and they are all in good order, which was seldom the case with goods brought by the New York Canal. Now, sir, continued Mr. Buchanan, if you can do our business as well, as speedily, and as cheaply, we may trade with you, otherwise we must prefer the Canal of Pennsylvania. The New Yorker admitted that, at present, they could not do business so favorably, but added that some mode must be contrived to counteract the facilities afforded by the Pennsylvania improvements. We were truly well pleased with this piece of intelligence, and publish it for the gratification of Pennsylvanians, and the information of New Yorkers.—We have no objections to the enterprise and exertions of our northern neighbors, but we feel confident that their efforts will be unavailing. The four hundred and odd miles of New York Canal, the three hundred and odd miles of Ohio Canal, the two hundred miles of Lake navigation, and above all, the long obstruction of the Lake with ice, excludes New York from a fair competition with Pennsylvania for the western trade.

If the "empire State" can ever successfully compete with this State for that trade, she must do it through some improvement which will not be subjected to the risk and delay and precariousness of a Lake passage. We believe, after much reflection, that her safest reliance would be on a canal from the New York Canal to the Alleghany river, from Rochester, for instance, to Olean.

[New York would do better by turning her attention to the far West, and securing the growing trade of Indiana, Illinois and Missouri, by promoting as much as lies in her power a railroad from Detroit to Chicago, and a steamboat canal from Lake Michigan to the Illinois river.]

Report of the Directors of the Boston and Worcester Railroad, to the Stockholders, at their third Annual Meeting, June 2, 1834.

The Directors of the Boston and Worcester Railroad Corporation respectfully report, That since the last meeting of the Stockholders, they have prosecuted the work upon the railroad with as much vigor as they have thought practicable, consistently with a due regard to economy; and every part of the work which remains to be completed is now in progress.

The grading of the road and the laying of the rails is completed on the first division, extending from Washington street in Boston, to Needham, a distance of twelve and a half miles. All that remains for the completion of this part of the road is to dress off and finish some parts of the cuttings, embankments, and a small portion of the horse paths—to fill in with earth some parts of the road across the receiving basin of the Mill Dam—and to complete the side railings and fences along some parts of the road.

On the second division of the railroad, extending from Needham to Southborough, a distance of thirteen miles, the grading is finished, with the exception of the high embankment at Morse's Mills in Natick, and the cutting through a ledge at the next summit beyond this embankment. The work has been delayed at these two points in consequence of the failure of the contractors, but it is now going on rapidly, and it is expected that it will be finished in about three months. There is also some little work to be done in dressing off the other sections on this division.

The laying of the rails on this division is just commenced, and it is intended that it shall go on steadily and rapidly, so as to be finished nearly as soon as the cutting and embankment, at the points above mentioned, shall be completed.

The grading of the third division, extending from Southborough to Worcester, a distance of seventeen miles, is all under contract, with the exception of about a mile in the town of Worcester. The work on the first five or six miles of the division, extending to Westborough meeting-house, has been delayed by the wet weather and the unusual quantity of water on the low ground through which the route passes, and also by the failure of a contractor on the most difficult section. The grading is now finished for about half the distance, and it is expected that the residue will be completed by the 1st of September. The contracts on the remainder of the division are to be completed by the month of March next. The work is now in the hands of enterprising contractors, and it is going on successfully.

On two or three of the sections there is a

large amount of rock excavation, but the quantity does not appear to be greater than was originally estimated. It is not of a difficult kind, and nothing has yet occurred to induce a belief that the cost of accomplishing it will exceed the original estimate. The Directors have lately purchased a lot of land for a depot at the termination of the railroad in Worcester, situated on Main street, near the centre of population and business in the town, and to this point the road will soon be located.

This location will afford a very eligible situation for a public house at the termination of the road, should any one be disposed to purchase it for that purpose. Until the erection of such a house, the present buildings will afford all the necessary accommodations for the reception and discharge of passengers, and the termination being between the principal public houses in the town, will be as convenient for travellers as any that could be selected. The land purchased will also afford convenient sites for store houses, for the transaction of all kinds of business, and for the necessary car and engine houses, and shops for the building and repair of cars.

Provision has also been made for a convenient merchandise depot on the Blackstone canal, at the place where the railroad track crosses it. Several gentlemen in Worcester, owning estates adjoining the proposed depot, have made liberal contributions in land and money towards the accommodations thus procured. The Directors have purchased another lot of land in Worcester, through which the railroad will pass, a part of which only will be necessary for the purposes of the road; it being intended that the residue shall be sold when the railroad shall be located, and the parts laid out which it will be necessary to retain.

The railroad was opened for the conveyance of passengers between Boston and Newtown, a distance of eight and a half miles, on the 16th of April last. A locomotive engine has been run three times daily to Newtown and back, with from two to eight passenger cars at each trip.

The passage each way is usually made in about 25 minutes, making an average speed of 18 miles an hour. The engine may be made to travel at a much more rapid rate, with apparent safety, but this speed has been thought sufficient for the usual rate of travelling. These passages have been chiefly made by the "Meteor" engine, which was built by Mr. Stephenson in England. It is a light engine, but of a fine model; well built, and for its size of great power. Another engine, built in Philadelphia, has been used on the road on trial, constructed for the burning of anthracite coal. The practicability of using this fuel to advantage has not yet been fully tested. A third engine is now building at the Mill Dam Foundry in Roxbury, nearly after the model of the Meteor, but of larger size, which the Directors hope to have placed upon the road before the end of the present month. A fourth engine, of similar dimensions, has been ordered from England.

The completion of the part of the first division of the road, near Needham, was unexpectedly delayed by the unusual quantity of water which obstructed the excavation through the lower part of the ledge, and through the valley beyond, it being necessary to drain this valley through the opening made for the road through the ledge. Preparations have been made for extending the regular trips of the engine and passenger cars to Needham, and it is expected that arrangements will soon be made with several lines of stage coaches to meet the railroad cars at that place. The period for making the usual passage on this route to and from Boston, will thus be shortened about one hour.

The number of passengers who have been conveyed on the railroad since its opening, counting the passages in each direction, is 11,255, and the amount of passage money received is \$4,043 07. On the afternoon trips, when the weather has been favorable, there

have been usually as many passengers as could be accommodated in the cars, the average number daily, for thirteen days in April, was 222, and the daily average in May was 310.

The stone rubble for laying the foundation for the rails on a great part of the second division is already prepared. The sleepers are purchased and are chiefly delivered on the line. Iron sufficient for five or six miles of the distance is already received. A further quantity is now on the passage from England, and a sufficient quantity for completing the road to Westborough is expected to arrive in the ensuing two months.

The laying of the rails on this division will be rapidly prosecuted, and it is intended that it shall be completed very shortly after the completion of the excavation and embankment on the most difficult parts. It is hoped, therefore, that the whole of this division may be opened for use by the month of September next.

The first portion of the third division, extending as far as Westborough, it is anticipated will be opened in the course of the ensuing autumn, and the residue of the road to Worcester will be completed the next season.

The land for the track of the railroad, as well as for depots in Boston, Worcester, and at the intervening places, at which they will be required, has been nearly all purchased and paid for, and the damages to estates passed through, with the exception of a few cases, have been adjusted to the satisfaction of the proprietors.

The sum of \$60 has been assessed on each share of the capital stock, amounting to \$600,000, of which \$573,535 have been paid.

There has also been received \$4,950 16 for interest, chiefly on money deposited in the City Bank, and \$4,043 07 for passage money, making the aggregate of receipts into the treasury \$582,528 23. The whole amount of expenditures to the 31st ultimo amounted to \$527,601 24, leaving on hand a balance of \$54,926 99.

Every part of the work is believed by the Directors to be going on successfully, and nothing has come to their knowledge to diminish their confidence in the practicability of completing it at a cost not differing materially from the original estimate, or in the utility and profitability of the undertaking.

Recent proofs of the present amount of travelling on the route justify the belief that the number of passengers conveyed on the road will exceed the original estimate.

The experience already acquired on that part of the road now completed, fully proves the practicability of making the passage regularly between Boston and Worcester, when the road shall be completed, in the space of two and a half hours; and the ease and pleasantness of the mode of conveyance, independently of the saving of time and expense, will give it a preference over any other mode now in practice. All which is respectfully submitted.

NATHAN HALE,
DAVID HENSHAW,
GEORGE BOND,
HENRY WILLIAMS,
ELIPHALET WILLIAMS,
SAM'L HENSHAW,
DANIEL DENNY,
EDW'D ELDRIDGE.

Address of the Committee of Correspondence of New-Hanover County, to the Citizens of North Carolina.

Fellow Citizens: It is well known to you, that, among other important proceedings of the Convention which met at Raleigh, in November last, to deliberate upon the subject of internal improvement, a resolution was passed, authorizing the president to appoint a committee of ten members, "to disseminate information on the subject of internal improvement, and to publish an address." This address has been anxiously looked for; and, after a delay which afforded the members ample time for examination and reflection, it has at length appeared, under the sanction of some of the most en-

lightened and distinguished men of the State. The information which the committee have disseminated in this address is so very extraordinary, and the conclusion to which it has come, so ruinous, in our estimation, to the interests of North Carolina, that we deem it our duty to expose its errors, and to call your attention, calmly and impartially, to its leading features, that you may pause before you give your assent to the fatal policy it advocates. The sum and substance of the Address is this: North Carolina is in a most deplorable condition, destitute alike of natural advantages and the resources of art, without seaport towns or harbors, without shipping, "with a total absence of commerce, of manufactures, and under a defective system of agriculture." Norfolk, in Virginia, "is undoubtedly one of the finest harbors on the continent, if not, under all circumstances, the very best." Therefore, as the time has arrived, when, excited by the example of successful experiment, and urged by the imperious nature of our necessities, North Carolina must arise and perform her part of the great system of internal improvement, going on all around us, a railway should be extended to Fayetteville, or to our southern boundary, (some point on the South Carolina line,) from the head of the Petersburg railway, to be also connected with the Norfolk Railway. After which, provided this experiment succeeds, a general plan of internal improvement should be adopted, equal to the wants of the whole State, so as to allay local jealousies.

That this committee, consisting of enlightened and distinguished men, professing to impart correct information to the citizens of the State, with the means of obtaining the most precise knowledge of facts within their reach, and abundant time for the research, should have so misrepresented the case, and calumniated the State, is more incomprehensible to us, than that they should sacrifice state pride on the altar of self-interest, and become willing to make North Carolina for ever tributary to Virginia.

The committee represent North Carolina,

1. As being destitute of seaport towns or harbors.
 2. As possessing no mercantile marine beyond a few miserable coasters, and a few keel and steam boats of inconsiderable burden and value, for our inland trade, and some of these are owned in a neighboring State.
 3. "With a total absence of Commerce!"
- Now, let us advert to facts, fellow-citizens, and see how they will, on examination, sustain these three positions. And

1. We affirm that Wilmington is a seaport town, and that it possesses a safe and commodious harbor, protected by a most formidable fort. On the average of spring tides, with easterly winds, which prevail during the winter, vessels drawing 12 feet come to, and sail from, the wharves, without touching; in some instances, as during the past winter, 13 feet 3 inches have been carried to the wharves. When the tides are low, and westerly winds prevail, the average draught of water may be stated at 10 feet. With the highest spring tides, and the wind favorable, vessels drawing 15 or even 16 feet can pass safely over the main bar. On average tides, 14 feet can be carried over. This is better water than can be found in Mobile bay, or on Mobile bar, where there is as much trade carried on as there is at Norfolk; and Mobile is well known to be a seaport of great and increasing importance. The main bar of the Mississippi has but very little, if any, more water than is found on the main bar of Cape Fear during the period of the highest tides. It is evident that Wilmington is one seaport, in the State with a safe harbor, superior in advantages to Mobile, very little inferior to Orleans, and wanting only a communication with the interior of the State to place her in the first rank among the seaports of the South. But the advantages of Beaufort, as a seaport, are even superior to those of Wilmington. We have not, it is true, the advantage of persons

knowledge of facts, as in the case of Wilmington, but we have sufficient testimony to authorize us to state that Beaufort may be rendered equal to any seaport in the Southern States. The average depth on the bar is said to be 20 feet, and the best water 22 feet; 14 or 15 feet can be carried to the mouth of Newport river, where the harbor is perfectly safe, and 10 or 12 feet may be carried to the North Point. It is probable that secure anchorage may be obtained where there is a greater depth of water than at either of the places already mentioned, by the construction of a pier or breakwater. With respect to inland navigation, no place is more favorably situated than Beaufort, the Sound into which the Neuse, Roanoke, Tar, Chowan, and Pasquotank rivers flow, being navigable for coasters and steamboats throughout. The only objection to either place is the want of communication with the back country, a point conceded by the Committee when speaking of Norfolk; and this communication may be opened by the action of the State Legislature as easily with either or both, as with Petersburg or Norfolk.

2. The Committee assert that we have no mercantile marine beyond a few miserable coasters, &c. In reply, we can only state what has been said over and over again, that upwards of 5,000 tons of shipping, permanently registered tonnage, are owned in Wilmington, carrying from 100 to 350 tons, consisting of a fine new ship built on the spot, and brigs and schooners mostly of the first class. Nearly the whole of these are engaged in Foreign Trade, with the West Indies, Liverpool, Ports in the Mediterranean, and elsewhere. In the abstract of the Tonnage of the United States, for the year 1831, furnished to Congress by the Treasury Department, we find that the permanent and temporary registered and licensed tonnage of Norfolk was 11,894 35-100 tons, and that the same tonnage of Wilmington was 9,179 66-100 tons; showing a difference of only 2,714 72-100 tons, and that the permanent registered tonnage of Wilmington exceeds that of Norfolk by 60 tons. So much for the correctness of the extraordinary remark that we have no mercantile marine in North Carolina beyond a few miserable coasters!!

We are informed, by the Committee, that there is in this State, "a total absence of Commerce." Such an assertion scarcely needs a refutation, but as it is our purpose to establish every assertion we make, by an appeal to facts, we again call your attention to an Address published in the 31st number of the People's Press, last August. It is there stated, and we pledge ourselves for the correctness of the statements, that the exports from the Port of Wilmington for one year, say 1832, were of Lumber, 18,000,000 ft, of Staves, 3,000,000 ft, of Timber, 17,000,000 ft, of Shingles, 50,000,000 ft, Naval Stores, 100,000 barrels, Cotton, 20,000 bales, Rice, 10,000 tierces, besides Rough Rice, Tobacco, Flax-Seed, Flour, Beeswax, Tallow, Cow-Peas, Beans, Peanuts, Tanned Leather, Cedar Bolts, Varnish, Pitch, Rosin, &c.—and all these are *minimum* calculations.

To this we add the following extracts from the books of the Custom-House:

Tonnage entered from Foreign countries;			
	In American vessels.	In Foreign vessels.	
4th quarter of 1832,	4,281 tons	1,835 tons	
1st quarter of 1833,	6,056 tons	2,810 tons	
Total entered fr. foreign countries, 14,482 tons			
Tonnage cleared for foreign countries:			
	In American vessels.	In Foreign vessels.	
4th quarter of 1832,	6,306 tons	704 tons	
1st quarter of 1833,	11,768 tons	3,188 tons	
Total cleared for foreign countries, 21,966 tons			
Besides the coasting trade, exceeding for the			

same two quarters, 50,000 tons, making the whole tonnage, foreign, American and coasting, in and out, 86,448 tons, in six months. Will the Committee again venture the assertion that in our State there is a total absence of commerce? But further, let us compare the trade of Wilmington with the trade of Norfolk, the port so highly extolled by the Committee, and for which all our own ports are to be sacrificed. In 1829 the foreign trade of Norfolk carried on in American and foreign vessels, in and out, was, according to the records of the Treasury Department, 30,570 tons. The same trade of Wilmington that year, carried on in the same way, amounted to 45,862 tons, EXCEEDING that of Norfolk by upwards of 15,000 tons. In 1833 the amount of the same trade in Norfolk was 54,010 tons, and in Wilmington 31,895 tons, showing an increase of the foreign trade of Norfolk, occasioned no doubt by the influence of the railroad, and a decrease of the foreign trade of Wilmington, owing to an increase of the coasting trade, yet still exceeding the foreign trade of Norfolk in 1829.

After this exposition of facts, how can we account for the reckless assertions of the Committee? Can they be ignorant on the subject? And if they accept this alternative, which for charity's sake we will grant, how can they justify themselves under the plea of ignorance, professing, as they profess, to enlighten the public, and enjoying ready access to every source of information? Truly, in spite of all their talents, and all their eloquence, and all their sophistry, on one horn of the dilemma they must remain suspended to the public view. Can they be ignorant of the address to the citizens of Wake, Johnson, Wayne, Sampson, Duplin, New-Hanover, and Brunswick, published in the People's Press on the 7th of August last, by the Committee of Correspondence of the town of Wilmington, and which was copied into other papers in the State? Did they never see the report of the Committee consisting of L. D. Henry, and others, of Fayetteville, published in the Observer last September, of which the following is the conclusion? "Again as a harbor, Wilmington possesses some eminent advantages. Vessels of 300 tons may load at her wharves, and proceed to New-York or Liverpool; her port affords the best assorted cargo for the West Indies and Europe of any of our southern ports—every denomination of bread stuffs, including rice; every denomination of naval stores, of the best quality; and every denomination of lumber, of the very best quality; in fact, there are but few articles of commerce that cannot there be had. This port has always, and will forever present peculiar advantages to the American coasting vessels, because it is a fresh water harbor, where the bottoms of vessels are exempt from the wonderful destruction occasioned by the salt water worm. This advantage is incalculable, for the greater amount of tonnage that enters a port, the greater competition for freights, and the less the price for transporting our produce abroad; besides the specie put in circulation for repairs, outfits, &c. and the employment to our ship mechanics." To this, we would add the remark, that Wilmington is the best market for West India produce, because the northern vessels which come out in the fall, after making one voyage to the West Indies, must return to the north without making the second voyage, unless the cargoes can be sold in Wilmington; and this course, which is usually preferred, causes coffee and sugar to be sold at the lowest rates.

Fellow-Citizens, can you come to any other conclusion, than that all this grievous misrepresentation and daring assertion are designed to prepare your minds for viewing, with complacency, the plan of a railway from the South Carolina line, directly across the state to Petersburg and Norfolk? The Committee did not so lightly esteem your patriotism as to suppose you would consent to go to Virginia, if you believed that you could enjoy as good trade in your native state. They well knew that

you would not, unless impelled by stern necessity and insuperable obstacles, consent to make North Carolina tributary to Virginia, and place her, with all her resources, at the feet of her haughty rival. You surely cannot be misled by what follows in the address of the Committee. "If the first attempt be successful, the general plan may be gradually executed in the same cautious method, by successively completing such portions of the general plan, or of the particular works, as promise to be most profitable." Do you not perceive that a road from the South Carolina line across the state to Virginia, will be at once the grand receptacle of the trade of the interior, like the large venous trunks which collect the blood from all parts of the body and convey it to the heart? Every river, except the Catawba, every road from the interior, will reach it, and contribute to swell the current; and from the head of tide water too, on the other side, every thing will be swept away; and to cap the climax, the measure is so planned that *what will not go to Virginia in the East will become the spoil of South Carolina in the West*. And is there the most remote probability that after the lapse of the time necessary to accomplish and to test this work, whereby the course of trade thus concentrated will become firmly settled, and with the increase of influence that Virginia must gain, it will be possible to divert this mighty current in *any* direction for the benefit of North Carolina? The Committee themselves cannot think so; and they merely hold out this plan in prospective, to allay whatever anxiety and misgivings may yet linger in your hearts for the honor and welfare of North Carolina. But it may be asked, if the citizens can have a profitable trade and a good road to Virginia, and their welfare be thus secured, how can North Carolina be injured, and why not trade to Petersburg and Norfolk, as well as to Beaufort or Wilmington? Because, in the first place, Virginia would derive all the revenue from our trade which should go into the treasury of our own state. The merchants' tax in Wilmington alone is about \$1000 per annum, and with a railroad from the interior might be increased to ten times that amount. Add to this the amount of the same tax in other ports of the state, and it is apparent that, with railroads from the interior to our seaboard, this tax would become a source of very considerable revenue. 2dly. Wherever a great market is established, there will be abundant capital, and where there is abundant capital, there will be life and energy, and activity, and improvement, in every thing; in the arts, and sciences, and in literature; there will be public libraries, and lyceums, and colleges, and asylums for the poor and the afflicted; there will be employment for mechanics and for laborers; and real estate will be advanced in value, and provisions and supplies of every kind will be more abundant and cheaper; in short, every thing that can add to the prosperity and the dignity of a free and enlightened people. Now is it not better that our citizens should enjoy all these benefits, than that they should be deprived of them for the advantage of the citizens of another state? 3dly. It will alienate the feelings of the citizens from their own state. Where a man trades, there is his interest; and where his interest lies, there is his heart. Have we not sufficient evidence of this? Is not this the very circumstance that has ever retarded the course, not only of internal, but of general improvement in this state? Too many of our citizens already trade to South Carolina and Virginia; and the consequences are, that they send representatives to the Assembly who feel no interest in the affairs of the state, and who vote against every measure that is proposed for the improvement and welfare of North Carolina. Besides this deep alienation of so many citizens from the interests of the state, there are local jealousies and diversities of interest, and conflicting claims and disunion, and disgraceful apathy and inaction; and industry is

crushed, and enterprise is paralyzed, and energy is subdued, and there is a constant draining of the population and resources of the state by emigration; in short, that lamentable condition of things, of which all are now aware, and which the Committee profess so sincerely to lament.

Will this alienation of feeling be denied, and will it be said that other causes have conspired to produce that policy in our state legislatures, of which we all deeply feel and lament the consequences? If so, we can appeal to the transactions of the last legislature, and adduce the most positive proof. When it was proposed to recharter the Cape-Fear Bank, and when the distress of the citizens was forcibly portrayed, and it was demonstrated that utter ruin would ensue if all the banks were closed at one time, and all the circulating medium withdrawn, and as strong a case of necessity was made out as ever was submitted to a legislative body, was there any thing like sympathy evinced by those who trade to Virginia? On the contrary, was it not opposed by those members, and did not one insultingly ask, what do the citizens of North Carolina want with banks? and unfeelingly remark to the House, that in *his* county there was no distress; they had plenty of money, they had brisk profitable trade, good roads, good markets, and Virginia bank-notes in abundance. Such expressions and such sentiments need no comment; they are death to the body politic, and ruin to the prosperity of any community. But 4thly, and above all, we would not trade to Virginia when we can trade, with equal profit, within the limits of our own State, because it would be derogatory to the honor and dignity of the state; and the man who has not *equitate principle* to feel this, is not a fit subject for argument. We trust that we have now fully succeeded in proving what the Committee have thought proper to deny.

1. That there are, in the state of North Carolina, seaport towns and safe harbors, adequate to all the exigencies of commerce, and one at least equal for commercial purposes to any on the southern coast.

2. That the tonnage of one of these ports will bear a comparison, even under all its present disadvantages, with the tonnage of Norfolk.

3. That the commerce of the state is highly respectable, and might be made to equal that of our boasting neighbors, and

4. That it is not the interest of the people of this state to trade to South Carolina or Virginia, and that the policy recommended by the Committee, of first constructing a railroad across the state from Virginia to South Carolina, is injurious to the honor and real welfare of the state, and proclaims utter and irretrievable ruin to the whole seaboard.

It now remains to recommend that course which we conscientiously believe is demanded by the true interest and honor of the state. We are not the advocates of Wilmington, or of Fayetteville, or of Newbern, or of any other town, or any section of North Carolina. We plead for the whole and undivided state, and the general welfare, in the broadest signification of the term. We are in favor of any work that will convey the produce from any point within the limits of the State to any point on our own seaboard. But if there is any general plan to be adopted by the legislature, and to be preferred before others, we would advocate the construction of a railroad from the port of Beaufort through Newbern to the city of Raleigh, thence to Fayetteville and Hillsborough, or in any other direction that may be more favorable, so as to reach the remote west. Let such a work be executed, and North Carolina will be safe. Of its success, if ever accomplished, we cannot entertain the smallest doubt. That the resources of the state are adequate, we are fully assured. And after the completion of this work, we will cordially unite with the Committee in recommending the comple-

tion of the general plan, including even the transverse road, from South Carolina to Virginia, and all "such particular works as promise to be profitable." We ask you to give this subject the careful and impartial examination which its importance demands, and should you ultimately decide for that policy which we so truly deprecate, we shall retire from the contest with the proud consolation that we have been faithful to our state, and have discharged our duty to the best of our feeble ability.

WM. B. MEARES,
ALEX. McRAE,
JOSEPH A. HALL,
WM. P. HORT,
ROBT. H. COWAN,
P. K. DICKERSON,
JAS. S. GREEN,
EDW'D B. DUDLEY,
NICHOLAS N. NIXON,
*Committee of Correspondence for the
county of New-Hanover.*

NOTE.—We do not wish to make any assertion without the proof, unless when what we assume is mere matter of opinion. We have neglected to do so in one instance. We have charged the Committee with having stated that North Carolina is destitute of natural advantages.

It is proved, 1. By their remarks on the sterility of the soil.

2. That both soil and climate are less favorable to the production of cotton, (which is represented to be the principle staple of the state,) than in the states situated to the southwest of us.

3. That there is a want of natural communications between the interior and the seaboard, causing an expense of transportation which the articles produced in the interior will not bear.

4. That we have neither seaports nor harbors; see pages 30 and 31.

BURDEN'S BOAT.—This boat left the foot of Courtland street at 22 minutes past 7 o'clock, on Monday morning. The *Erie*, which is considered the fastest sailer in the line, was then from 4 to 5 miles ahead. Mr. B. continued gaining on the *Erie* until he nearly reached Carskill, and in a very few minutes would have passed her, but for an accident that occurred to the machinery. The lever of the cut-off-steam valve gave way, and the consequence was a great waste of steam, and reduction of the revolutions of the wheel from 23 1/2 of a ten foot stroke to 16. Mr. B. finally stopped the boat, and with the assistance of Mr. Snodgrass, Civil Engineer of Glasgow, under whose direction the engine has been constructed, repaired it—but not so well as to enable Mr. B. to regain the speed he was previously going, viz. about 19 miles an hour.

The time lost in repairing it, and the difference of the speed in consequence of this accident, may be estimated at about three hours—still the boat reached Troy in less than an hour after the *Erie*. Had the machinery worked well, Mr. B. fully calculated to have made the passage in nine hours.

Mr. B. is about building another boat, 100 feet longer than his present one, the parabolic spindles of which are to be of iron.

Sea Sledge.—Mr. Buder, Counsellor of Mines at Munich, in Bavaria, some years ago invented what he termed an aquatic sledge, constructed on such a principle that it might be impelled and guided on the water by the rider himself, without any other aid.—The first public experiment was made with this machine on the 29th of August, before the royal family, at Nymphenburgh, with complete success. It is described as consisting of two hollow canoes or pontoons eight feet long, made of sheet copper, closed on all sides, joined to each other in a parallel direction at the distance of six feet by a light wooden frame. Thus joined, they support a seat resembling an arm chair, in which the rider is seated, and impels and steers the sledge by treading two large pedals before him; each of these pedals is connect-

ed with a paddle fixed perpendicularly in the interval between the two pontoons; in front of the seat stands a small table, on which he may read, write, draw or eat and drink. His hands being at perfect liberty he may even play an instrument, load and fire a gun, or do whatever he pleases. Behind the seat is a leather bag, to hold any thing he may want in his excursion. It is evident that this machine must be admirably calculated for taking sketches of aquatic scenery, as also for the diversion of shooting water fowls, in which case the sportsman conceals himself behind a slight screen of branches or rushes so as to approach the birds unperceived. The vehicle is far safer than a common boat, the center of gravity being constantly in the middle of a very broad base; a circumstance which renders upsetting, even in the heaviest gale, absolutely impossible. It is moreover so constructed, that it may be taken to pieces in a few minutes, packed in a box, and put together in a very short time."—[Court Journal.]

Steam Carriages.—These wonderful machines are now constructed with sufficient mechanical skill, amount of power, safety, and general efficiency, to ensure their successful employment on any good road; and it is certainly time for our capitalists to turn their attention to them as legitimate objects of support, and as offering the means of a profitable investment. From the earliest development of the capabilities of steam, as applicable to purposes of locomotion, on properly constructed roads, we have carefully watched the progress made by different inventors, and have on many occasions borne testimony to the unceasing efforts of two of the most persevering and deserving among them; of two who have from time to time, promised less and performed more than any of their contemporaries—we mean Col. Maceroni and Mr. Hancock. On Saturday we had a trip on the Edgeware road, with the second coach constructed by the gallant Colonel. Starting from the Paddington wharf, No. 19, we proceeded on the road in the most surprising style, the coach turned, checked, stopped, or having its speed increased, under the complete command of the conductor. About three miles out we passed a stage-coach, whose four horses were put to their utmost speed, with a comparative velocity to that with which the stage-coach would have passed a wagon, our rate being at that time about 18 miles an hour. Soon after this we ascended Windmill-hill with perfect ease; although, in consequence of the road undergoing repair, the part we had to ascend was cut into deep ruts, and covered with dry soil and dust from three to six inches deep; forming, perhaps, the most uncertain and disadvantageous fulcrum on which the wheel of a steam-carriage could ever have to act. We arrived at the Welch Harp Inn, which is several perches over the five miles from our starting place, and turned the coach in the direction of Paddington, in precisely twenty minutes; having performed the distance, inclusive of stopping at the turnpike, and on two other occasions, and despite the bad condition of Windmill-hill, at the extraordinary average rate of upwards of fifteen miles an hour. Our return occupied the same period of time; and after this completion of the trip, we made the round of Paddington-green to gratify some gentlemen who had not arrived in time to witness the more extensive trial. Among our fellow-passengers on these occasions, were Jerome Bonaparte, ex-King of Westphalia, Prince Jerome, his son, the Duke de Montfort, the Marquis Azolino, M. Vigue de Marveille, and other distinguished foreigners.—[Morning News.]

Steam Carriages.—Mr. Hancock's "Autopsy" was seen, on Saturday last, in Cheapside, wending its way with the greatest adroitness amidst the multitude of carriages with which that thoroughfare is crowded. A stronger proof of its manageableness could not possibly have been afforded. We understand that it was on its way from Stratford to its old quarters in the City-road, preparatory to its being again started to run for hire, in conjunction with two or three other carriages, between the City and Paddington. Mr. Squires has, we are informed, sold out, and left Colonel Macerone sole proprietor of the steam-carriage prodigy, which did the 1,700 miles without requiring a shilling for repairs, &c. &c. A new steam-carriage has just entered the field, constructed by Mr. Redmund, who, some time ago, advertised that he was willing to furnish locomotives to run on common roads at any required speed, although he had never tried the experiment! The public will now, therefore, soon be enabled to judge whether he was justified or no in his extraordinary confidence. As yet the carriage has only been on a few private trips, which are said to have been quite

satisfactory. Publicity, is, however, the only test in such matters.—[Mechanics Magazine.]

Bridgeport, Conn., July 9.—The extreme heat of the weather has in some measure broken up the regular chain of communication. Three horses out of four attached to a stage, were driven so hard in order to be in time for the steamboat, that they fell and died almost immediately. It is agreed by all, that such intense heat has not been felt for many years.

[From Crichton's History of Arabia.]

THE ARTS.—"Their mathematical and mechanical knowledge the Arabs turn to various purposes of multiplying and improving the conveniences of life—such as the construction of aqueducts, baths, cisterns, and canals. Their acquaintance with hydraulics is manifested from the number of mills and other water-works employed in the useful process of irrigation. Accustomed to an arid and sultry climate, they considered the command of water to be a material requisite in every country where they settled. The *fontanos* or reservoirs in Spain, and the tanks in Africa, were either erected or restored by them. Their palaces and mosques were furnished with capacious cisterns. The gardens of the Alhambra contained sheets of water, in the surface of which the buildings were reflected; and in most of the principal cities fountains played in the streets as well as in the courts of the houses, by which the atmosphere was attempered during summer. In the famous palace of Toledo was a pond, in the midst of which rose a vaulted room of stained glass adorned with gold. In this apartment the caliph could enter untouched by the water, and sit while a cascade poured from above, with tapers burning before him. We are not aware that any discoveries of theirs in hydrostatics have been transmitted to us; but the titles of two works by the celebrated Alkendi are mentioned in Casiri, namely, on Bodies that Float on Water, and on Bodies that Sink.

"Architecture was an art in which the Arabs particularly excelled; and the revenues of kingdoms were expended in erecting public buildings, of which Jerusalem, Babylon, and Babel, afforded the most stupendous models. It has been observed as a circumstance worthy of remark, that no people ever constructed so many edifices as the Arabs, who extracted fewer materials from the quarry. From the Tigris to the Orontes, from the Nile to the Guadalquivir, the buildings of the first settlers were raised from the wreck of cities, castles, and fortresses, which they had destroyed.

"In the style of architecture, the Arabs, both of the east and the west, had a kindred resemblance, as appears by contrasting the disposition of the apartments of the Alhambra, and other remains of Moorish art, with the accounts given by travellers relative to the general mode of oriental buildings. While little attention comparatively was bestowed on the exterior of their mansions, on the furniture and accommodation within every thing was lavished that could promote luxurious ease and personal comfort. Their rooms were so contrived that no reverberation of sound was heard. The light was generally admitted in such a manner as, by excluding external prospects, to confine the admiration of the spectator chiefly to the ornaments and beauties of the interior. Their arrangements for ventilation were admirable; and by means of caleducts, or tubes of baked earth, warm air was admitted so as to

preserve a uniform temperature. The utmost labor and skill were expended in embellishing the walls and ceilings. Their tiles had a blue glazing over them; their paving bricks were made of different colors—blue, white, black, or yellow—which, when properly contrasted, had a very agreeable effect. Nothing is more astonishing than the durability of the Moorish edifices. The stucco composition on their walls became hard as stone; and even in the present century, specimens are found without a crack or a flaw on their whole surface. Their wood-work also, which is of a more fragile nature, still remains in a state of wonderful preservation. The floors and ceilings of the Alhambra have withstood the neglect and dilapidation of nearly 700 years; the pine wood continues perfectly sound, without exhibiting the slightest mark of dry-rot, worm, or insect. The coat of white paint retains its color so bright and rich, that it may be mistaken for mother of pearl."

"It is unquestionable that a great number of the inventions which at the present day add to the comforts of life, and without which literature and the arts could never have flourished, are due to the Arabs. They taught us the use of the pendulum in the measurement of time; and also of the telegraph, though not with all the speed and effect of modern improvement. The manufacture of silk and cotton was brought by them into Spain, as was probably the art of dying black with indigo. They introduced the use of camels and carrier pigeons into Sicily. The art of enamelling steel, the system of a national police, the principles of taxation, and the benefits of public libraries, were all derived from the same source. Rhyme, a pleasing characteristic of modern verse, though some have assigned to it a Gothic origin, was doubtless borrowed from the Saracens by the troubadours and Provençal bards, who, derived from the same source the sentiment of honor, the mysticism of love, and the spirit of chivalry, so copiously infused into our early romances. Even Descartes, as Huet has asserted, was indebted to them for his celebrated metaphysical principle, *Cogito, ergo sum*. To them also belongs the honor of making us acquainted with the manufacture and use of paper. This invaluable commodity, it is true, had from a very remote period been made in China from the refuse of silk, bamboo, and other substances. About the year 649 the invention was introduced at Samarcand by the Tartars, who used cotton instead of silk; and when that flourishing city was subdued by the Moslems, the process was conveyed to Mecca, by Yussuf Amru (A. D. 706), where paper was made similar to that now manufactured, though it does not appear to have come immediately into general use. From Mecca the art spread through all the Arabian dominions. In Spain, which was renowned for this article from the 12th century downwards, flax, which grew there abundantly, was substituted for cotton, the latter being scarce and dear. Alphonso X. established paper-mills, and his example passed successively into France, Germany, and England.

"Gunpowder, the discovery of which is generally attributed to Schwartz, a German chemist, was known to the Arabs at least a century before any traces of it appear in European history. Though it is probable they may have derived their knowledge of this composition from the Indians, they certainly improved its preparation, and found out different ways of employing it in war. The mariner's compass has been alternately given to the Italians and the French; but Tiraboschi, notwithstanding his partiality for his country, is decidedly of opinion that the honor of its invention is due to the Arabs. Its adoption in Europe is

not older than the 13th century, while among the Arabs it was known in the eleventh. The polarity of the magnet is alleged to have been known to Aristotle; and something like the compass was in use among the Chinese; but as the Saracens paid considerable attention to navigation, and often undertook long and laborious voyages, history has with much probability assigned to them the discovery of the magnetic needle."

At Muscat, near the entrance of the Persian Gulf, "the water is good; the fruit of the best quality,—grapes, mangoes, peaches, plantains, figs, pomegranates, limes, melons, and dates. Nowhere is there greater variety of fish; in the bay they swarm like gnats in a summer evening; the rocks supply oysters and other shell-fish, all of which are sold at a very cheap rate. As the pasturage is scanty in this neighborhood, dried fish a little salted, and pounded date stones, form the chief articles of food for their cattle, of which they are very fond. Horses and sheep, as well as cows, are fed on this diet.

"Lands are commonly let on lease, or for an annual rent, usually payable in produce. Slaves are here, as in all other parts of Arabia, employed in agricultural labor; but they are treated with uniform kindness and indulgence. Oman is by no means celebrated for its manufactures. Turbans and waistbands, or girdles of cotton and silk, striped or checked with blue; cloaks, cotton, canvas, gunpowder, and arms of inferior quality; earthen jars, called *murtuban*, for the Zanguebar market,—comprise almost all their fabrics. They also prepare an esteemed sweetmeat, named *hulwah*, from honey or sugar, with the gluten of wheat, and ghee, and a few almonds.

"The price of live stock at Muscat is extremely various. Camels, according to their blood and quality, will bring from thirty to three hundred dollars apiece; goats from four to six; sheep from one and a half to six; mules are not reared, neither are horses abundant; but the asses of Oman are celebrated as the finest in Arabia. The price of the common kind varies from one to forty dollars; but the best breeds sell for very extravagant sums."

FOOD.—"The hardy and athletic frame of the Bedouins, or inhabitants of the desert, is to be ascribed in part to their abstemious habits. They are models of sobriety, and never indulge in luxuries, except on some festive occasion, or on the arrival of a stranger. Their usual articles of food are rice, pulse, dates, milk, butter, and flour. The common people eat bread made of dhourra, which is coarse and insipid. When they have no grid-iron, they roll the dough into balls and cook it among embers. They generally eat their bread while hot and only half baked."

The Fatal Escape.—We have seldom had to record a case of more melancholy, and indeed romantic, domestic affliction than one which has lately occurred in the Isle of Man. A Miss Fell, a beautiful young lady, resident on that island, walked out to amuse herself on the cliffs near Douglas Head, from one of which she fell, and was precipitated upon a shelving rock at a considerable distance below. She was much bruised by the fall; the sea almost surrounded her, and the part on which it was bounded by the land was so precipitous, that escape was impossible. Here she remained for thirteen days and nights. Her voice became exhausted by her repeated attempts to render herself audible. A small well of spring water, which she fortunately found upon the cliff, afforded her only nourishment. On the fourteenth day, however, the waving of her handkerchief attracted the notice of a boatman, who rowed towards her, and found her almost insensible, on her knees, her hands clasped in the attitude of prayer, and her voice scarcely strong enough to disclose her residence. She was carried home, where she found her wretched mother worn out by her brother's illness and her own absence, and was only just in time to receive her dying breath. The wretched young lady, agonized and exhausted, terminated her own existence in a fit of insanity.—[London Paper.]

COMFORTS OF HUMAN LIFE.—The following picture is not overcharged, and might be much extended. Nearly each individual of the civilized millions that cover the earth may have the same enjoyments as if he were the sole lord of all. "A single man of small fortune may cast his looks around him, and say, with truth and exultation, I am lodged, in a house that affords me conveniences and comforts, which even a king could not command some centuries ago. Ships are crossing the seas in every direction, to bring me what is useful from all parts of the earth. In China, men are gathering the tea leaf for me; in America, they are planting cotton for me; in the West Indies, they are preparing my sugar and my coffee; in Italy, they are breeding silk-worms for me; in Saxony, they are shearing the sheep to make me clothing; in England, powerful steam-engines are spinning and weaving for me, and making cutlery for me, and pumping the mines, that minerals useful to me may be produced. I have post-coaches running day and night, on all the roads, to carry my correspondence; I have roads and canals, and bridges, to bear the fuel for my winter fire. Then I have editors and printers, who daily send what is going on throughout the world, among all these people who serve me; and in a corner of my house I have books, the miracle of all my possessions, more wonderful than the wishing cap of the Arabian tales; for they transport me instantly, not only to all places, but to all times. By my books I can conjure up before me, in vivid existence, all the great and good men of antiquity; and for my individual satisfaction. I can make them act over again the most renowned of their exploits: the orators declaim for me: the historians recite: the poets sing: and from the equator to the pole, or from the beginning of time until now, by my books I can be where I please."—[Dr. Arnott.]

MEMOIR OF LAFAYETTE.

[From the *Encyclopedia Americana*.]

Lafayette, Gilbert Motier, (formerly Marquis de,) was born at Chavagnac, near Brioude, in Auvergne, September 6, 1757, was educated in the college of Louis le Grand, in Paris, placed at court, as an officer in one of the guards of honor, and, at the age of 17, was married to the grand-daughter of the duke of Noailles. It was under these circumstances that the young Marquis de Lafayette entered upon a career so little to be expected of a youth of vast fortune, of high rank, of powerful connections, at the most brilliant and fascinating court in the world. He left France secretly for America, in 1777, and arrived at Charleston, South Carolina, April 25, being then 19 years old. The state of this country, it is well known, was, at that time, most gloomy; a feeble army, without clothing or arms, was with difficulty kept together before a victorious enemy; the government was without resources or credit, and the American agents in Paris were actually obliged to confess that they could not furnish the young nobleman with a conveyance. "Then," said he, "I will fit out a vessel myself;" and he did so. The sensation produced in this country, by his arrival, was very great; it encouraged the almost disheartened people to hope for succor and sympathy from one of the most

powerful nations in Europe. Immediately on his arrival, Lafayette received the offer of a command in the continental army, but declined it, raised and equipped a body of men at his own expense, and then entered the service as a volunteer, without pay. He lived in the family of the commander-in-chief, and won his full affection and confidence. He was appointed major-general in July, and in September was wounded at Brandywine. He was employed in Pennsylvania and Rhode Island in 1778, and, after receiving the thanks of the country for his important services, embarked at Boston, in January, 1779, for France, where it was thought he could assist the cause more effectually for a time. The treaty concluded between France and America, about the same period, was, by his personal exertions, made effective in our favor, and he returned to America with the intelligence that a French force would soon be sent to this country. Immediately on his arrival, he entered the service, and received the command of a body of infantry of about 2,000 men, which he clothed and equipped, in part, at his own expense. His forced march to Virginia, in December, 1780, raising 2,000 guineas at Baltimore, on his own credit, to supply the wants of the troops; his rescue of Richmond; his long trial of generalship with Cornwallis, who boasted that "the boy could not escape him;" the siege of Yorktown, and the storming of the redoubt, are proofs of his devotion to the cause of American independence. Desirous of serving that cause at home, he again returned to France for that purpose.

Congress, which had already acknowledged his merits on former occasions, now passed new resolutions, (November 23, 1781,) in which, besides the usual marks of approbation, they desired the American ministers to confer with him in their negotiations. In France, a brilliant reputation had preceded him, and he was received with the highest marks of public admiration. Still he urged upon his government the necessity of negotiating with a powerful force in America, and succeeded in obtaining orders to that effect. On his arrival at Cadiz, he found 49 ships, with 20,000 men, ready to follow him to America, had not peace rendered it unnecessary. A letter from him communicated the first intelligence of that event to Congress. The importance of his services in France may be seen by consulting his letters in the correspondence of the American Revolution, (Boston, 1831.) He received pressing invitations, however, to revisit the country. Washington, in particular, urged it strongly; and, for the third time, Lafayette landed in the United States, August 4, 1784. After passing a few days at Mount Vernon, he visited Baltimore, Philadelphia, New-York, Boston, &c., and was every-where received with the greatest enthusiasm and delight. Previous to his return to France, Congress appointed a deputation, consisting of one member from each state, "to take leave of him on behalf of the country, and assure him that the United States regard him with particular affection, and will not cease to feel an interest in whatever may concern his honor and prosperity." After his return he was engaged in endeavoring to mitigate the condition of the Protestants in France, and to effect the abolition of slavery. In the Assembly of the Notables, in 1787, he proposed the suppression of *lettres de rachet*,

and of the state prisons, the emancipation of the Protestants, and the convocation of the representatives of the nation. When asked by the Count D'Artois, since Charles X., if he demanded the states-general—"Yes," was his reply, "and something better." Being elected a member of the states-general, which took the name of *national assembly*, (1789,) he proposed a declaration of rights, and the decree providing for the responsibility of the officers of the crown. Two days after the attack on the Bastille, he was appointed, (July 15,) commander-in-chief of the national guards of Paris. The court and national assembly were still at Versailles, and the population of Paris, irritated at this, had already adopted, in signs of opposition, a blue and red cockade; (being the colors of the city of Paris.) July 26, Lafayette added to this cockade the white of the royal arms, declaring at the same time that the tri-color should go round the world. On the march of the populace to Versailles, (October 5 and 6,) the national guards claimed to be led thither. Lafayette refused to comply with their demand, until, having received colors in the afternoon, he set off, and arrived at 10 o'clock, after having been on horseback from before daylight. He requested that the interior of the *chateau* might be committed to him; but this request was refused, and the outer posts only were entrusted to the national guards. This was the night on which the assassins murdered two of the queen's guards, and were proceeding to further acts of violence, when Lafayette, at the head of the national troops, put an end to the disorder, and saved the lives of the royal family. In the morning he accompanied them to Paris.

On the establishment of the Jacobin club at Paris, he organized, with Bailly, then Mayor of Paris, the opposing club of Feuillians. January 20, 1790, he supported the motion for the abolition of titles of nobility, from which period he renounced his own, and has never since resumed it. The constitution of a representative monarch, which was the object of his wishes, was now proposed, and July 13, 1790, was appointed for its acceptance by the king and the nation, and in the name of 4,000,000 national guards, Lafayette swore fidelity to the constitution. Declining the dangerous power of constable of France, or generalissimo of the national guards of the kingdom, after having organized the national militia, and defended the king from popular violence, he retired to his estates. The first coalition against France, (1792,) soon called him from his retirement. Being appointed one of three major-generals in the command of the French armies, he established discipline, and defeated the enemy at Phillipville, Maubeuge, and Florennes, when his career of success was interrupted by the domestic factions of his country. Lafayette openly denounced the terrible Jacobins, in his letter of June 19, in which he declared that the enemies of the revolution, under the mask of popular leaders, were endeavoring to stifle liberty under the excesses of licentiousness. June 20, he appeared at the bar of the assembly, to vindicate his conduct, and demand the punishment of the guilty authors of the violence. But the mountain had already overthrown the constitution, and nothing could be effected. Lafayette then offered to conduct the king and his family to Compiegne. This proffer being declined, he returned to the army, which

he endeavored to rally round the constitution. June 30, he was burnt in effigy at the Palais Royal; and August 5, was accused of treason before the assembly. Still he declared himself openly against the proceedings of August 10; but, finding himself unsupported by his soldiers, he determined to leave the country, and take refuge in some neutral ground. Some persons have charged General Lafayette with a want of firmness at this period, but it is without a full understanding of the situation of things. Conscious that a price was set on his head at home, knowing that his troops would not support him against the principles which were triumphing in the clubs and the assembly, and sensible that, even if he were able to protract the contest with the victorious faction, the frontiers would be exposed to the invasion of the emigrants and their foreign allies, with whom he would have felt it treason against the nation to have negotiated, he had no alternative. Having been captured by an Austrian patrol, he was delivered to the Prussians, by whom he was again transferred to Austria. He was carried, with great secrecy, to Olmutz, where he was subjected to every privation and suffering, and cut off from all communication with his friends, who were not even able to discover the place of his confinement until late in 1794.

An unsuccessful attempt was made to deliver him from prison by Dr. Bollman, a German, and Mr. Huger, (now Colonel Huger, of Charleston, S. C.) His wife and daughters, however, succeeded in obtaining admission to him, and remained with him nearly two years, till his release. Washington had written directly to the Emperor of Austria on his behalf, without effect; but after the memorable campaign of Bonaparte in Italy, the French government required that the prisoners at Olmutz should be released, which was done August 25, 1797, after a negotiation that lasted three months. Refusing to take any part in the revolutions of the 18th Fructidor, or of the 18th Brumaire, he returned to his estate at La Grange, and, declining the dignity of senator, offered him by Bonaparte, he gave his vote against the consulate for life, and, taking no further part in public affairs, devoted himself to agricultural pursuits. On the restoration of the Bourbons, in 1814, he perceived that their principles of government were not such as France required, and he did not therefore leave his retirement. The 20th March, 1815, again saw Napoleon on the imperial throne, and endeavoring to conciliate the nation by the profession of liberal principles. Lafayette refused, though urged through the mediation of Joseph, to see him, protested against the *acte additionnel* of April 22, declining the peerage offered him by the Emperor, but accepted the place of representative, to which the votes of his fellow-citizens called him. He first met Napoleon at the opening of the chambers: the Emperor received him with great marks of kindness, to which, however, he did not respond; but, although he would take no part in the projects of Napoleon, he gave his vote for all necessary supplies, on the ground that France was invaded, and that it was the duty of all Frenchmen to defend their country. June 21, Napoleon returned from Waterloo, and it was understood that it was determined to dissolve the house of representatives, and establish a dictatorship. Two of his counsellors informed

Lafayette that, in two hours, the representative body would cease to exist. Immediately on the opening of the session, he ascended the tribune, and addressed the house as follows: "When, for the first time, after an interval of many years, I raise a voice which all the old friends of liberty will recognise, it is to speak of the danger of the country, which you only can save. This, then, is the moment for us to rally round the old tricolor standard, the standard of '89, of liberty, of equality of public order, which we have now to defend against foreign violence and usurpation." He then moved that the house declare itself in permanent session, and all attempts to dissolve it high treason; that whoever should make such an attempt should be considered a traitor to the country, &c. In the evening, Napoleon sent Lucien to the house, to make one more effort in his favor. Lucien, in a strain of impassioned eloquence, conjured the house not to compromise the honor of the French nation by inconstancy to the Emperor. At these words, Lafayette rose in his place, and addressing himself directly to the orator, exclaimed, "Who dares accuse the French nation of inconstancy to the Emperor? Through the sands of Egypt and the wastes of Russia, over fifty fields of battle, this nation has followed him devotedly, and it is for this that we now mourn the blood of three millions of Frenchmen." This appeal had such an effect on the assembly, that Lucien resumed his seat without finishing his discourse. A deputation of five members from each house was then appointed to deliberate in committee with the council of ministers. Of this deputation, General Lafayette was a member, and he moved that a committee should be sent to the Emperor to demand his abdication. The arch-chancellor refused to put the motion; but the Emperor sent in his abdication the next morning, (June 22.)

A provincial government was formed, and Lafayette was sent to demand a suspension of hostilities of the armies, which was refused. On his return, he found Paris in possession of the enemy; and, a few days after, (July 8,) the doors of the representatives' chamber was closed, and guarded by Prussian troops. Lafayette conducted a number of the members to the house of Lanjuinais, the president, where they drew up a protest against this act of violence, and quietly separated. Lafayette now retired once more to La Grange, where he remained to 1818, when he was chosen member of the Chamber of Deputies. Here he continued to support his constitutional principles, by opposing the laws of exceptions, the establishment of the censorship of the press, the suspension of personal liberty, &c., and by advocating the cause of public instruction, the organization of a national militia, and the inviolability of the charter. In June, 1824, he landed at New-York, on a visit to the United States, upon the invitation of the President, and was received in every part of the country with the warmest expressions of delight and enthusiasm. He was proclaimed, by the popular voice, "the guest of the nation," and his presence every where was the signal for festivals and rejoicings. He passed through the twenty-four states of the Union in a sort of triumphal procession, in which all parties joined to forget their dissensions, in which the veterans of the war renewed their youth, and the young were carried back to the do-

ings and sufferings of their fathers. Having celebrated, at Bunker Hill, the anniversary of the first conflict of the revolution, and, at Yorktown, that of its closing scene, in which he himself had borne so conspicuous a part, and taken leave of the four ex-Presidents of the United States, he received the farewell of the President, in the name of the nation, and sailed from the capital in a frigate, named, in compliment to him, the *Brandywine*, September 7, 1825, and arrived at Havre, where the citizens, having peaceably assembled to make some demonstrations of their respect for his character, were dispersed by the *gend'armerie*. In December following, the Congress of the United States made him a grant of \$200,000, and a township of land, "in consideration of his important services and expenditures during the American revolution." The grant of money was in the shape of stock, bearing interest at six per cent., and redeemable December 31, 1834. In August, 1827, he attended the obsequies of Manuel, over whose body he pronounced a eulogy. In November, 1827, the Chamber of Deputies was dissolved. Lafayette was again returned a member by the new elections. Shortly before the revolution of 1830, he travelled to Lyons, &c., and was enthusiastically received—a striking contrast to the conduct of the ministers towards him, and an alarming symptom to the despotic government. During the revolution of July, 1830, he was appointed general-in-chief of the national guards of Paris, and though not personally engaged in the fight, his activity and name were of the greatest service.

To the Americans, Lafayette, the intimate friend of Washington, had appeared in his last visit almost like a great historical character returning from beyond the grave. In the eyes of the French, he is a man of the early days of their revolution—a man, moreover, who has never changed side or principle. His undeviating consistency is acknowledged by all, even by those who did not allow him the possession of first-rate talents. When the national guards were established throughout France, after the termination of the struggle, he was appointed their commander-in-chief, and his activity in this post was admirable. August 17, he was made marshal of France. His influence with the government seems to have been, for some time, great; but whether his principles were too decidedly republican to please the new authorities, (a few days after the adoption of the new charter, he declared himself a pupil of the American school,) or whether he was considered as the rallying point of the republican party, or whatever may have been the reason, he sent his resignation in December, 1830, which was accepted, and Count Lobau appointed chief of the national guards of Paris. Lafayette declared from the tribune, that he had acted thus in consequence of the distrust which the power accompanying his situation seemed to excite in some people. On the same occasion he also expressed his disapprobation of the new law of election. Shortly before his resignation, he exerted himself most praise-worthily to maintain order during the trial of the ex-ministers. The Pole lately made him first grenadier of the Polish national guards. We are unable to state what were Lafayette's views respecting the best government for France in its present condition, though undoubtedly, in its abstract, he preferred a republic.

AGRICULTURE, &c.

HARVESTING.—It is asserted, as a general rule, that the proper time to reap wheat, or rye, is when the straw begins to shrink and become white about half an inch below the ear. This appearance is a sure indication that the grain has ceased to receive nourishment from the roots of the plant; and by cutting early, provided it is not taken to the barn or stack too green, the following advantages will be gained: First, the grain will make more and whiter flour. 2d. There will be less wasted by the grain's shelling. 3d. By commencing harvest early, you will have a fairer prospect of finishing before the last cuttings become too ripe, so that much of the grain will shell out in reaping and securing the crop. 4th. If you cut your grain as soon as it will answer, your straw and chaff will contain much more nourishment than if it were bleached and made brittle by the sun, air, dew, and rain, all of which combine to deprive it of most of its value for fodder. 5th. Should you plough in your stubble immediately after harvest, or mow it and secure it for fodder or litter, (either of which modes of management is perfectly consonant with the rules of good husbandry,) the stubble will make much better food for your cattle, or manure for your ground, than if it had yielded all its sweets, and much of its substance, to the greedy elements above mentioned.

If your wheat or rye is much affected by blight or rust, it should be cut even while still in the milk, and afterwards exposed to the sun and air, till the straw is sufficiently dry, and the grain so much hardened, that it will answer to deposit in the barn or stack. The heads, in such cases, should be so placed by the reapers as not to touch the ground. This may be done by laying the top ends or each handful on the lower end of the preceding one.

If your grain is encumbered with grass or weeds, you must cut it pretty near the top, in order to avoid as much as possible those extraneous substances. It will also be necessary to reap somewhat earlier than might be otherwise expedient, that you may have time to dry the weeds without danger of the grain's shelling out. If your grain is very ripe when you harvest it, the bands should be made early in the morning while the straw is moist and pliable. And Dr. Deane recommended, in such cases, to bind the sheaves when the air begins to be damp towards evening, as the least degree of moisture will toughen the straw.

It has been recommended by several English writers to bind the wheat as well as rye with only one length of the straw. If the straw is pretty long, and not very thoroughly dry, this may be good economy. You save the trouble of making bands; your wheat will dry better in the sheaf, (as the sheaves must of course be small,) and though it may take some more time and trouble to pitch and handle it, we believe the advantages, in many cases, will turn the scale in favor of binding wheat with single lengths of straw.

In stowing wheat or rye, some persons deposit the sheaves on a mow of hay; but this is a bad plan, as the grain presses the hay so that it is apt to become musty, and communicate a musty or mouldy taint to the super-incumbent grain; which will be harder to thresh, than if it had a more dry and airy location. It may be placed on a scaffold of

rails, laid on the beams, and over the floor of a barn; though it is not so easy to procure it for threshing, as if it were left on a scaffold of less elevation. But this disadvantage may be more than compensated by its being in a situation favorable for drying. If there is a deficiency of barn room, the sheaves may be stored in stacks. In that case, care should be taken that the grain may not draw moisture from the ground, by laying boards, straw, or rubbish, under the stack. A better way still is to have a tight floor of boards, mounted on four blocks set in the ground, and so high from the ground as to prevent the entering of vermin.

In building a stack, care should be taken to keep the seed-ends of the sheaves in the middle, and a little higher than the outer ends. No fowls can then come at the grain; and the rain that falls on the outer ends will run off, and not pass towards the centre. The stack should be well topped with straw, that the rain may be completely turned off.

Oats.—It is advised to harvest oats before the straw has wholly turned yellow. The straw will be of little value, if permitted to stand till it becomes white and destitute of sap. Though oats should be well dried on the ground after cutting, they should not be raked or handled when in the driest state. They should be gathered mornings and evenings, when the straw is made limber and pliable by the moisture of the air. If they are housed while a little damp, there will be no danger if they have been previously thoroughly dried.

Barley.—We are told by the wise men of agriculture, that some of the rules which should be observed in harvesting wheat, rye, and oats, will not apply to barley. Willich's Domestic Encyclopedia states, that 'with respect to the time when barley is fit to be mowed, farmers frequently fall into the error of cutting it before it is perfectly ripe; thinking it will attain to perfect maturity, if it lie in the swath. This, however, is a very common error, as it will shrivel in the field, and afterwards make but an indifferent malt; it also threshes with more difficulty, and is apt to be bruised under the flail. The only certain test of judging when it is fit to mow, must be from the dropping and falling of the ears, so as to double against the straw. In that state, and not before, it may be cut with all expedition, and carried in without danger to the mow.'

Dr. Dean's New-England Farmer states, that 'Some have got an opinion that barley should be harvested before it is quite ripe. Though the flour may be a little whiter, the grain shinks so much, that the crop seems greatly diminished and wasted by early cutting. No grain, I think, requires more ripening than this; and it is not apt to scatter out when it is very ripe. It should be threshed soon after harvesting; and much beating, after it is cleared from the straw, is necessary in order to get off the beards. Let it lie a night or two in the dew, after it is cut, and the beards will come off the more easily.'—[N. E. Farmer.]

Cultivation of Hops. By LATHAM. [For the New-York Farmer and American Gardener's Magazine.]

In endeavoring to comply with your wish, to give you the detail of a well cultivated Hop ground, I have done so as briefly as possible. Having found a soil, a friable

loam or clay, suitable, as also a site well protected from the northerly winds, and determined on the number of acres to be cultivated, we proceeded to enrich and get the ground into a good state, not sparing the manure of well decomposed horse dung, or, if practicable, sheep, fed off with turnips as a preparatory crop; at any rate, the land must be free from root weeds. In England, vegetation not being so luxuriant, closer planting would be used; but in this country, about 12 feet by 12 will be a good distance.

We will suppose the ground marked out, and holes dug ready for the reception of the sets or cuttings. Lay the lower spit of earth aside, and reverse the upper to be a richer receptacle for the sets; insert three, and cover with the lower spit; if the top soil is as it should be, application of manure is not now necessary. Let the hole be about 18 inches over, and 18 inches deep; mark each set with a small stick.

In the second week in March, if open weather, the shoots will appear; now dig over all the ground, and in a week or two put to each hill a small stake, 4 or 5 feet high: see that the vine readily takes to the pole. Although few or no hops can be expected the first season, yet the plants acquire much strength from climbing the poles. I should have observed, that in the previous autumn the sets should have been placed in the ground, although many prefer the spring planting. When the vine has become withered, the poles may be taken away; this, with always keeping under the weeds, will be all that is necessary the first season. There will be ample room to take an intermediate crop the first season, such as a line of potatoes, turnips, &c. &c.

As soon as the shoots appear in March, the second year, begin to dig all around, and uncover the hills, laying bare the shoots, so that all the vine, with an inch of the crown of the plant, may be cleanly cut off from the hill: a shoemaker's knife, very sharp, is the best tool. The proper shoots will soon appear. Early in April, to each hill put two poles, of about ten or twelve feet high; the third season they will require three poles of fourteen or fifteen feet, and four for all after seasons. Now, to each pole, in May, or when the vine is advanced about eighteen inches in length, select three well grown and clean topped shoots, to tie to the poles, with rushes procured the year previous, and carefully dried. At intervals, the vines must be attended to in climbing the poles. Manure should be added around each hill, and well forked in, though the best season for the application of manures is previous to the spring, or first digging, when it is best incorporated. Variety of manures may be applied with much effect, as old woollen rags cut up, fish, night soil, and, now and then, lime, as a ready means of adapting other manures to be absorbed by the feeding vessels of the plants. At one season, all around the plant will be found a multitude of small fibres put forth in search of food.

The time of picking the hops from the poles will be about the beginning of September; and the period is known by the seed being surrounded by a fine yellow dust, and feeling clammy on pressure; also, the seed itself is purple, the whole capsule is crisp to the feel, and a small leaf, called the lamb's tongue, appears. The future preservative

quality of the hop depends much on the drying. Nothing but practice and great care can perfect that operation; an empyreumatic flavor will be acquired by too much heat, or must and mould by imperfect drying, either deteriorating the value in a great degree.

LATHAM.

ENGLISH TURNIPS.—Every farmer will find it profitable to raise a quantity of these roots. The Mangel Wurtzel and the Ruta Baga, useful as they undoubtedly are, will not completely supersede, nor altogether supply the place of the old fashioned English turnip. In the Memoirs of the Board of Agriculture of the State of New-York, vol. i, page 26, we find the following remarks on the best mode of cultivating this valuable root.

‘There is no difficulty in raising turnips on new land; but it is very desirable to know the best mode of raising them, at least a small patch every year, on old farms. Mr. Henry De Bois, of this county, [Rensselaer,] and Maj. E. Cady, of Columbia county, say, that they have succeeded in obtaining good crops several years in succession by the following process. Turn over a turf of old sward the first week in June. Yard your cattle at night on this, in the proportion of six head at least to a quarter of an acre, until the 20th of July. Then harrow lengthwise the furrows, so as not to disturb or overturn them, and sow in the proportion of about half a pound of seed per acre.

‘If it is not convenient to yard cattle upon it sufficiently, about two inches of well rotted manure harrowed in as above, will do as a substitute. Mr. C. R. Colden applies the manure by strewing it in shallow furrows two feet apart, then buries the manure by two side furrows, and harrows the ground level, lengthwise of the furrows. This method requires less manure, and he has the advantage of hoeing the turnips in drills.’

We recollect, likewise, that we have read in several of our New-England newspapers that fine turnips have been raised by ploughing up old sward ground, some time in June, harrowing well and sowing from the 1st to the 20th of July, and this without the application of manure. But there can be no doubt that folding sheep or horned cattle on the land thus ploughed would very much enhance the crop.

All American writers on this subject, whose works we have perused, advise to sow seed of the common English turnip as late as about the middle of July. They tell us that late sowed turnips are much the best for the table, and that they are less liable to be injured by insects, if sown so late, than when sown much earlier in the season.

Turnips are frequently if not most generally raised in the United States as a second crop, and no doubt this practice is often very eligible, and may be perfectly consonant with the soundest maxims of good husbandry. But when it is intended to *make the most of your crop of turnips*, or to obtain as great a product as possible for the purpose of feeding cattle, we do not perceive any objection to giving turnips a larger portion of the season to grow in, than has been with us the general practice.

An English writer on agriculture, whose remarks on this and other agricultural topics appear to us to be judicious, and to display a thorough knowledge of the subjects of his

essays, says, ‘It is not pretended that there lies any solid objections to early sowing of turnips, simply considered; on the contrary, such seems to be the most proper means of obtaining a full crop; but the advantages of early sowing, whatever they be, are given up; and the season postponed from near three to five months by way of retarding the growth of the crop; that it may last to a later period in the spring, and receive less damage from the frosts than that to which it would be liable in its early maturity. The disadvantages attending this plan are a crop far inferior in weight to what might be obtained from the land; the very common risk of destruction from drought and fly. The weight and perfection of the turnips, being the objects, the land may be got ready for them as for any other early spring crop, and the seed sown with the first warm showers. This will afford ample scope for re-sowing, should the first seed fail, of which, however, granting it to be good, and the land sufficiently fine, I believe there is scarcely any risk.’

‘As to any advantages of a crop previous to the turnips, nothing scarcely can stand in competition with the first crop of roots.

‘The true turnip-soil is a deep sand, or sandy loam. Every gardener knows the proper time to begin hoeing turnips. In general, when the plants spread a circle of about four inches they are ready for the first hoeing. They are commonly left about a foot asunder. The second hoeing three weeks after the first.’

Those who desire to go extensively and successfully into the turnip culture should raise their own seed from the finest transplanted roots. An English cultivator says, ‘It is wonderful what a small quantity of seed suffices for an acre of ground, and indeed equally so how it can be delivered and spread over such a breadth. A pint might be more than enough, but it is usual to broad-cast a quart on an acre.’

Dr. Dean’s New-England Farmer asserts that ‘the quantity of seed sown on an acre is never less than one pound, frequently a pound and a half, and by some two. According to the same work, it is very necessary for the success of the crop that a heavy roller be passed over the field immediately after harrowing in the seed, provided the ground is sufficiently dry, or as soon as it is in a fit condition. By this means the clods are broken, and much of the seed that would otherwise be exposed to birds, &c., will be covered, and the surface rendered smooth and compact thereby, and consequently more retentive of moisture, which will greatly promote the vegetation of the seed and growth of the plants.

If a quantity of lime were sowed over the field immediately after putting in the seed, it would probably preserve the crop against insects, and prevent the turnips becoming spongy, as well as increase their size. Unleached ashes, soot, and plaster, have also been highly recommended as manure for turnips. Thomas Mellville, Jun. Esq. of Pittsfield, Mass., in raising a crop which received the premium from the Massachusetts Agricultural Society in 1817, and which amounted to about 750 bushels to the acre, sowed his seeds in drills of twenty-eight inches the 21st of June, on ground previously well manured. The following day sowed on the acre thirty bushels slacked lime and fifteen bushels house ashes.

What we have said about the *early sowing* of turnips we would merely suggest as a hint, or something to be thought of, and perhaps become a matter of experiment. It appears to us that our custom of sowing turnips so late in the season, as is commonly practised, is an usage borrowed from the British husbandry without duly considering the difference of our climate from that of Great Britain, and the different uses to which this crop is commonly applied in the two countries. In England they usually feed turnips off the ground with sheep; or draw them for neat cattle during the winter as fast as they are wanted, and often let them stand in the field till spring, to supply green food for sheep at the time of their yeanning, &c. But in the United States, this crop must be harvested in autumn and secured from frost; and it would seem to be desirable that they should have had time to obtain their full growth before they are gathered.

‘Ellis, an old writer on husbandry, says, “Turnips sooted about 24 hours after they are up will be entirely secured from the fly.” Some advise, and it may be well, if not too much trouble, to leach-soot and sprinkle the young turnips with the liquor. M’Mahon, in treating of the cultivation of turnips, says, “the plants should be left from seven to twelve inches every way; this must be regulated according to the strength of the land, the time of sowing, and the kind of turnips cultivated; strong ground and early sowing always producing the largest roots.”

‘The width of the hoe should be in proportion to the medium distance to be left between the plants, and this to their expected-size.

‘The critical time of the first hoeing is, when the plants, as they lie spread on the ground, are nearly the size of the palm of the hand; if, however, seed-weeds be numerous and luxuriant, they ought to be checked before the turnip-plants arrive at that size; lest being drawn up, tall and slender, they should acquire a weak and sickly habit.

‘A second hoeing should be given when the leaves are grown to the height of eight or nine inches, in order to destroy weeds, loosen the earth, and finally to regulate the plants; a third, if found necessary, may be given at any subsequent period.

‘Here will the farmer exclaim against the expense and trouble of hoeing; but let him try one acre in this way, and leave another of the same quality to nature, as is too frequently done, and he will find that the extra produce of the hoed acre will more than compensate for the labor bestowed.

‘Loudon says Arch. Garrie, a Scottish gardener of merit, tried steeping the seed in sulphur, sowing soot, ashes, and sea-sand, along the drills, all without effect. At last he tried dusting the rows, when the plants were in the seed-leaf, with quick-lime, and found that effectual in preventing the depredations of the fly. “A bushel of quick-lime,” he says, “is sufficient to dust over an acre of drilled turnips, and a boy may soon be taught to lay it on almost as fast as he could walk along the drills. If the seminal leaves are powdered in the slightest degree, it is sufficient; but should the rain wash the lime off before the turnips are in the rough leaf, it may be necessary to repeat the operation, if the fly begins to make its appearance.”

NEW-YORK AMERICAN.

JULY 5—11, 1834.

LITERARY NOTICES.

PARLEY'S MAGAZINE, Vol. I. for 1833-4. Boston: LILLY, WAIT & Co.—This is really a very captivating volume. It is the collection for a year of the little semi-monthly numbers, which make, when neatly bound up, a book of 416 pp. with a list of contents at the end, referring to every marking fact in the volume. There is a great quantity of useful information contained in these pages, and in a very attractive form, with numerous wood-cuts—and all for one dollar.

PETER PARLEY'S BOOK OF BIBLE STORIES, for Children and Youth. Boston: LILLY, WAIT & Co.—The compiler states this to be made up, for the most part, from two little books recently published in England, the one entitled "Bible Letters," the other, "Gospel Stories." It consists of extracts, thrown into a familiar narrative, of the chief incidents communicated in the Old and New Testaments, is illustrated by engravings, and is well calculated to excite a desire in youthful minds to peruse, more at large, in the Bible itself, the events here only presented in outline.

THE NEW TESTAMENT—stereotype edition. Boston: LILLY, WAIT & Co.—Fine, clear print, and good paper, render this an excellent edition of the Book of books.

THE PARENT'S CABINET OF AMUSEMENT AND INSTRUCTION, No. 1. Boston: LILLY, WAIT, COLMAN, & HOLDEN.—A very pretty little volume of about 150 pages, occupied partly with amusing stories, intended to inculcate in an agreeable manner, some point of good feeling or good morals, and partly with familiar lessons in, and illustrative of, natural history and physical science. It is to be continued in ten successive numbers, and will, we think, add another useful series to the numbers of books now published and publishing for the instruction of childhood and youth.

We may add, generally, of all these publications from the press of Lilly, Wait & Co. that they are excellent in their mechanical execution.

CURIOSITIES OF LITERATURE, Second Series. 2 vols. by I. D'ISRAELI. Boston: LILLY, WAIT, COLMAN & HOLDEN. New York: GOODRICH & WILEY.—There is scarcely any more agreeable miscellaneous reading than that which the taste, the research; and the cultivated mind of the elder D'Israeli have collected in these two series of the Curiosities of Literature. Nor is it merely as agreeable reading that these volumes recommend themselves; for they are, too, full of instruction, by unveiling much of the private life and character of distinguished individuals, and frequently by elucidating obscure historical points, by reference to some document neglected or unknown, which the perseverance of this author has brought to light. Of this latter character is the paper we extract to-day concerning "the secret history of the death of Queen Elizabeth, and of the nomination of her successor.

We have only to recommend the style in which these volumes are published.

Secret History of the Death of Queen Elizabeth.—Elizabeth, from womanish infirmities, or from state reasons, could not endure the thoughts of her successor; and long threw into jeopardy the politics of all the cabinets of Europe, each of which had its favorite candidate to support. The legitimate heir to the throne of England was to be the creature of her breath, yet Elizabeth would not speak him into existence! This had, however, often raised the discontents of the nation, and we shall see how it harassed the queen in her dying hours. It is even suspected that the queen still retained so much of the woman, that she could never overcome her perverse dislike to name a successor, so that according to this opinion, she died and left the crown to the mercy of a party! This would have been acting

unworthy of the magnanimity of her great character; and as it is ascertained that the queen was very sensible that she lay in a dying state several days before the natural catastrophe occurred, it is difficult to believe that she totally disregarded so important a circumstance. It is, therefore, reasoning *a priori*, most natural to conclude, that the choice of a successor must have occupied her thoughts, as well as the anxieties of her ministers; and that she would not have left the throne in the same unsettled state at her death as she had persevered in during her whole life. How did she express herself when bequeathing the crown to James the First, or did she bequeath it at all?

In the popular pages of her female historian, Miss Aikin has observed, that 'the closing scene of the long and eventful life of Queen Elizabeth was marked by that peculiarity of character and destiny which attended her from the cradle, and pursued her to the grave.' The last days of Elizabeth were, indeed, most melancholy—she died a victim of the higher passions, and perhaps as much of grief as of age, refusing all remedies and even nourishment. But in all the published accounts, I can nowhere discover how she conducted herself respecting the circumstance of our present inquiry. The most detailed narrative, or as Gray the poet calls it, 'the Earl of Monmouth's odd account of Queen Elizabeth's death,' is the one most deserving notice; and there we find the circumstance of this inquiry introduced. The queen, at that moment, was reduced to so sad a state, that it is doubtful whether her majesty was at all sensible of the inquiries put to her by her ministers respecting the succession. The Earl of Monmouth says, 'on Wednesday, the 23d of March, she grew speechless. That afternoon, by signs, she called for her council, and by putting her hand to her head when the king of Scots was named to succeed her, they all knew he was the man she desired should reign after her.'—Such a sign as that of a dying woman putting her hand to her head was, to say the least, a very ambiguous acknowledgement of the right of the Scottish monarch to the English throne. The 'odd' but very naïve account of Robert Cary, afterwards Earl of Monmouth, is not furnished with dates, nor with the exactness of a diary. Something might have occurred on a preceding day which had not reached him. Camden describes the death-bed scene of Elizabeth; by this authentic writer it appears that she had confided her state-secret of the succession to the lord admiral (the Earl of Nottingham); and when the earl found the queen almost at her extremity, he communicated her majesty's secret to the council, who commissioned the lord admiral, the lord keeper, and the secretary to wait on her majesty, and acquaint her that they came in the name of the rest to learn her pleasure in reference to the succession. 'The queen was then very weak, and answered them with a faint voice, that she had already declared, that as she held a regal sceptre, so she desired no other than a royal successor. When the secretary requested her to explain herself, the queen said, 'I would have a king succeed me: and who should that be but my nearest kinsman, the king of Scots?' Here this state-conversation was put an end to by the interference of the archbishop advising her majesty to turn her thoughts to God. 'Never,' she replied, 'has my mind wandered from him.'

An historian of Camden's high integrity would hardly have forged a fiction to please the new monarch; yet Camden has not been referred to on this occasion by the exact Birch, who draws his information from the letters of the French ambassador, Villeroy; information which it appears the English ministers had confided to this ambassador; nor do we get any distinct ideas from Elizabeth's more recent popular historian, who could only transcribe the account of Cary. He had told us a fact which he could not be mistaken in, that the queen fell speechless on Wednesday, 23d of March, on which day, however, she called her council, and made that sign with her hand, which, as the lords chose to understand, for ever united the two kingdoms. But the noble editor of Cary's Memoirs (the Earl of Cork and Orrery,) has observed, that 'the speeches made for Elizabeth on her death-bed are all forged.' Echard, Rapin, and a long string of historians, make her say faintly (so faintly indeed that it could not possibly be heard,) 'I will that a king succeed me, and who should that be but my nearest kinsman the king of Scots?' A different account of this matter will be found in the following memoirs. 'She was speechless, and almost expiring, when the chief counsellors of state were called into her bed-chamber. As soon as they were perfectly convinced that she could not utter an articulate word, and scarce could hear or understand one, they named the king of Scots to her, a liberty they dared not to

have taken if she had been able to speak; she put her hand to her head, which was probably at that time in agonizing pain. The lords, who interpreted her signs just as they pleased, were immediately convinced that the motion of her hand to her head was a declaration of James the Sixth as her successor. What was this but the unanimous interpretations of persons who were adoring the rising sun?

This is lively and plausible; but the noble editor did not recollect that the speeches made by Elizabeth on her death-bed, which he deems 'forgeries,' in consequence of the circumstance he had found in Cary's Memoirs, originate with Camden, and were only repeated by Rapin and Echard, &c. I am now to confirm the narrative of the elder historian, as well as the circumstance related by Cary, describing the sign of the queen a little differently, which happened on Wednesday 23d. A hitherto unnoticed document pretends to give a fuller and more circumstantial account of this affair, which commenced on the preceding day, when the queen retained the power of speech; and it will be confessed that the language here used has all that loftiness and brevity which was the natural style of this queen. I have discovered a curious document in a manuscript volume formerly in the possession of Petyt, and seemingly in his own handwriting. I do not doubt its authenticity, and it could only have come from some of the illustrious personages who were the actors in that solemn scene, probably from Cecil. This memorandum is entitled,

'Account of the last words of Queen Elizabeth about her Successor.'

'On the Tuesday before her death, being the twenty-third of March, the admiral being on the right side of her bed, the lord keeper on the left, and Mr. Secretary Cecil (afterwards Earl of Salisbury) at the bed's feet, all standing, the lord admiral put her in mind of her speech concerning the succession had at Whitehall, and that they, in the name of all the rest of her council, came unto her to know her pleasure who should succeed; whereunto she thus replied:

'I told you my seat had been the seat of kings, and I will have no rascal to succeed me. And who shall succeed me but a king?

'The lords not understanding this dark speech and looking one on the other; at length Mr. Secretary boldly asked her what she meant by those words, that no rascal should succeed her. Whereunto she replied, that her meaning was, that a king should succeed: and who, quoth she, should that be but our cousin of Scotland?

'They asked her whether that were her absolute resolution? whereunto she answered, I pray you trouble me no more; for I will have none but him. With which answer they departed.

'Notwithstanding, after again, about four o'clock in the afternoon the next day, being Wednesday, after the Archbishop of Canterbury, and other divines, had been with her, and left her in a manner speechless, the three lords aforesaid repaired unto her again, asking her if she remained in her former resolution, and who should succeed her? but not being able to speak, was asked by Mr. Secretary in this sort, 'We beseech your majesty, if you remain in your former resolution, and that you would have the king of Scots to succeed you in your kingdom, show some sign unto us: whereat, suddenly heaving herself upwards in her bed, and putting her arms out of bed, she held her hands jointly over her head in manner of a crown; whence, as they guessed, she signified that she did not only wish him the kingdom; but desire continuance of his estate: after which they departed, and the next morning she died. Immediately after her death, all the lords, as well of the council as other noblemen that were at the court, came from Richmond to Whitehall by six o'clock in the morning, where other noblemen that were in London met them. Touching the succession, after some speeches of divers competitors and matters of State, at length the admiral rehearsed all the aforesaid premises which the late queen had spoken to him, and to the lord keeper, and Mr. Secretary, (Cecil,) with the manner thereof; which they being asked, did affirm to be true upon their honor.'

Such is this singular document of secret history. I cannot but value it as authentic, because the one part is evidently alluded to by Camden, and the other is fully confirmed by Cary; and besides this, the remarkable expression of 'rascal' is found in the letter of the French ambassador. There were two interviews with the queen, and Cary appears only to have noticed the last on Wednesday, when the queen lay speechless. Elizabeth all her life had persevered in an obstinate mysteriousness respecting the succession, and it harassed her latest mo-

ments. The second interview of her ministers may seem to us quite supernumerary; but Cary's 'putting her hand to her head,' too meanly describes the 'joining her hands in manner of a crown.'

THE AMERICAN QUARTERLY REVIEW; No. XXX. Philadelphia: KEY & BIDDLE.—Here is a number which must satisfy the utmost wishes of those who insist that American Reviewers should occupy themselves solely or chiefly with American subjects—for, without exception, every paper is founded on American publications—although, as in Article XII, the translation of *Euphemia of Messina* is used mainly as the apology for a dissertation on Italian tragedy, as "Letters descriptive of Public Monuments, Scenery, &c. in France and Spain" afford the occasion of a somewhat minute description of Paris life, and localities. The number, however, is entitled to the higher praise of treating several very interesting subjects with great ability. We will briefly refer to some of them. The first paper is on the Writings of Washington, two volumes of which, as our readers know from a previous notice in this paper, have been published by Mr. Sparks.—The spirit in which the notice of these writings is conceived, may be judged by the following prefatory remarks:

At this period, particularly, it is good to dwell upon the deeds and virtues of Washington—his calm dignity—his noble modesty and distrust of his own powers—his disinterested generosity, and devotion of his all to the cause of his country. Now, when so frightful a change has come over the spirit of our rulers; when, instead of the hesitation, even in the exercise of clearly granted powers, which, as we shall see, characterized the acts of George Washington, our executive officers seem determined to consider themselves as placed at the helm of government to try how far they can strain constructive powers, or with what success they can usurp new; and deserting the safe path marked out by the experience of their predecessors, endeavor at novel and untried experiments upon the peace and happiness and comfort of the nation; when temperate conduct and temperate speech, those exterior demonstrations of a sense of the dignity of a high office, to which even the most absolute monarchs have been anxious to manifest their deference, have given way to disgraceful ebullitions of passion in language and action: when the devotion which marked our forefathers, and, which, in their instance, was manifested for their country and their whole country, has been narrowed down to a selfish attachment to party; when so many of our countrymen have raised up false idols, and seem willing to sacrifice on their altars the dearest interests of their neighbors; and when, O, blind infatuation! inferior men, these false idols, have been confidently compared to our Washington,—we say, in such seasons, it is profitable to perceive, by what fell from his own lips, what he was—to judge him by the undisguised statement of his own views and feelings—to trace this record from his earliest years, and to see his private conduct and his private virtues. Beholding, in such an examination, no sin of early youth to be lamented; no excesses of passion or of false feeling to draw a blush to the cheeks of age, we may with full confidence in the result of a candid comparison, present the portrait to all our countrymen, and asking them to "look upon this picture," and "on this," beg them to discard from their minds the unnatural vision in which any would be placed on a level with our great first president.

It is impossible for any one to dwell upon the character of Washington as Time and the Grave have irrevocably sealed it, without feeling the full force of these remarks, or being shocked with the irreverence which would compare a living idol with him, who has no parallel.

To those who, having any pretension to a library, have neglected to possess themselves of these volumes, the article in the Review will serve as a stimulus, we apprehend, to repair, as soon as may be, the omission.

The second paper is on the *Life of Hamilton*, of which the first volume has recently been published by his son, John C. Hamilton. As it is our purpose, in the course of next week,

if possible, to prepare a review of this book ourselves, we only add here, in reference to the article before us, that it is written with a deep and just sense of the value of the services and of the superior talents of that man, who, when time shall have dissipated or buried the calumnies of which he was the special object, will be acknowledged to have been second only to the Father of his Country.

The third paper presents a rapid and interesting sketch of the history of the Italian tragedy. Paper four is a capital review of Dr. Cox's book abusing the Quakers. It shows up the reverend divine in all his eccentricities, inconsistencies and intolerance, and goes far to prove, in connection with the profane and indecent lectures on the color and person of our Saviour, which, as we learn, this same personage is delivering to crowds of females at his Church in Laight street, that he ought not to be permitted to go at large without a guardian.

The fifth paper is on "the life and writings of Robert C. Sands," and it is instinct with the spirit which knows how to appreciate the ardent aspirations of such a mind as Sands's, and to relish the various excellences of those effusions he has left behind.

The next paper is on the biography of *Black Hawk*, of which it gives an outline; and this is followed by an essay on the Decline of Poetry, in which there is a good deal of common place, announced with elaborate and oracular emphasis. Paris and its anniversary sports, &c., follow; and the number concludes with its ablest contribution, that on the Public Distress. We have nowhere seen the topics connected with the removal of the deposits discussed with more calmness or more clearness than in this paper. We have marked for future insertion, and as especially deserving of general attention, for the perspicuity with which the argument is stated and enforced, the whole passage respecting the effect upon *Credit*, of what has been flippantly characterized as "the mere transfer of a certain amount of money from one side of the street to the other," but which was, in fact, a mortal blow to bank and mercantile credits throughout the nation.

LOVE AND PRIDE, by the author of Sayings and Doings; 2 vols.; Philadelphia, Carey, Lea & Blanchard.—These volumes exhibit, though in a less degree than previous works, the wit, the knowledge of character, and the sparkling style of their clever author. There are two separate stories, "The Widow" and "Snowdon"—the one intended to illustrate Love, and the other Pride; and thus combined, they give their title to the work.

TODD'S JOHNSON'S DICTIONARY OF THE ENGLISH LANGUAGE IN MINIATURE; Key & Biddle, Philadelphia.—This epitome of Mr. Todd's enlarged and valuable edition of the great English Lexicon is compiled by Dr. Rees; and the compressed form in which so much philological matter is compressed, renders it the very gem of dictionaries, as in accuracy and completeness it boldly challenges comparison with any work of the same size and class. It is intended to form part of a series of works, which, if completed on a similar scale, will enable one to carry a library of reference in his coat pocket.

THE MECHANIC'S MAGAZINE, Vol. III. No. 6.—The June number of this periodical is before us, and a rapid glance at its contents discovers that it contains the same judicious preparation of materials that has hitherto distinguished the publication. There are a number of articles, essentially valuable from the solid information embodied in them, and others, again, that will recommend themselves at once to the less severe reader, who always looks for some entertainment to be mingled with instruction. We have, for instance, a paper on Civil Architecture, with another on Popular Whims and Superstitions, an article on a General Mean of Computing, Descriptive Data of Ellipsoidal Arches, with a new

Theorem, and Mechanical Description of their working Drafts; and another upon the whimsical subject of the possibility of Naturalizing the Fire-Fly in England; a Memoir of Lafayette, with a full length portrait, engraved with much spirit; and a notice of Fairman's Rotary Steam Engine, with drawings of different parts of the machinery; a meteorological record; a phrenological paper, with engravings; and a notice of Burden's boat, with the claim set up by the English to it, &c. &c.

SUMMARY.

A copy of the following letter, addressed by the American committee in Paris to the family of Lafayette, was forwarded by Duncomb Bradford, Esq. our Consul at Paris, to a gentleman of this city, by whom it has been politely furnished to us for publication.

PARIS, MAY 21, 1834.

To George Washington Lafayette, Esq.

DEAR SIR.—At a meeting of the citizens of the United States now in Paris, assembled at the Hotel of the American Legation, we were charged with the melancholy duty of expressing to you and to your family their profound sympathy and condolence under the afflicting dispensation with which it has pleased Divine Providence to visit you.

In expressing to you the sorrow which we feel for the death of the great and good Lafayette we know that we are only anticipating the grief of every citizen in the United States, when the news of that lamentable event shall reach them.

The debt of gratitude that we owe to his memory as the defender of our liberties and our undeviating friend and advocate throughout his whole life, will cherish and live forever in the hearts of a grateful people down to their latest posterity. Never will they forget the Nation's friend. History will record his deeds and consecrate his name with those of the illustrious founders of American Independence.

He has gone to another and a better world to receive the reward due to a long life of devotion to the political and social alleviation of the whole human race. In the United States of America the great and illustrious name of Lafayette will forever be endearingly connected with that of the Father of American Liberty. Let us humbly hope that in the world to come, these ornaments of human nature may be permitted to reunite in eternal fellowship.

We might dwell upon the many sources of consolation which remain to you under the bereavement of your virtuous Parent but we forbear to intrude upon the sacredness of your sorrows at this moment of overwhelming affliction.

We conclude our melancholy duty by offering to you, and to every member of your family, in our own individual names, and in those of our fellow citizens now in Paris, the expression of our heartfelt sympathy and regret.

We remain, dear sir, most truly your obedient servants.

(Signed)

HENRY BREVOORT, of New York.
J. WOOD, of Maine.
N. NILES, of Vermont.
CHARLES BROOKS, of Massachusetts.
S. B. DENISON, of Connecticut.
WILLIAM BURNS, of New York.
PHILIP KEARNEY, of New Jersey.
A. B. TUCKER, of Pennsylvania.
ALEXANDER CLAXTON, of Maryland.
FLAVEL S. MINES, of Virginia.
ARTHUR P. HAYNE, of South Carolina.
S. A. DUGAS, of Georgia.
W. P. D'ARUMONT, of Indiana.
A. F. ELSTON, of Kentucky.
J. S. POMER, of Mississippi.
D. URQUHART, of Louisiana.
THOMAS P. BARTON, Charge d'Affaires.
DUNSCOMB BRADFORD, U. S. Consul.

APPOINTMENTS BY THE PRESIDENT.

By and with the advice and consent of the Senate.

William Hunter to be Chargé d'Affaires to Brazil, in the place of Ethan A. Brown, resigned.

Richard Pollard to be Chargé d'Affaires to Chile, in the place of John Hamm, resigned.

Eben R. Dorr to be Consul for Buenos Ayres, in the place of Geo. W. Slacum, removed.

William M. Gwin to be Marshal for the District of Mississippi, in the place of Samuel W. Dickson, appointed Receiver.

Humphrey H. Leavitt to be Judge for the District of Ohio, in the place of Benjamin Tappan, rejected by the Senate.

Charles Howard, Elisha Tibbits, and Levi Elmsker, to be Directors of the Bank of the United States, in the place of Joseph White, Saul Alley and Roberts Vaux, who decline the appointment.

Thomas Dennison to be Consul for Bristol, in England, in the place of Patrick Macauley, resigned.
Thomas T. Smith to be Consul for Coquimbo, in the Republic of Chile.

William S. Parrott to be Consul for the City of Mexico, in the place of Richard Pollard, resigned.

George G. Hobson to be Consul for Valparaiso, in the place of Thomas S. Russell, rejected by the Senate.

Thomas B. Nalle to be Consul for Angostura, in the place of Thomas F. Knox, removed.

John Patrick to be Consul for Montevideo, in the place of Joshua Bond, removed.

Frederick List to be Consul for Leipsic, in the place of G. F. Goehring, deceased.

Marmaduke Burrough to be Consul for Vera Cruz, in the place of James James, deceased.

Morris Croxall, Surveyor and Inspector of the Customs for the port of Camden, in the State of New Jersey.

Archer Gifford, Collector of the Customs for the port of Newark, New Jersey.

Woodson Wren, Collector of the Customs for the port of Natchez, in the State of Mississippi.

John T. Cabean, Register of the Land Office created by the "Act to establish an additional Land Office in Arkansas," approved the 26th June, 1834.

Littlebury Hawkins, Receiver of public moneys arising from the sale of public lands at the same office.

Joel H. Haden, Register of the new Land Office created in the southwestern part of Missouri.

Robert T. Brown, Receiver of public moneys arising from the sale of public lands at the same office.

William B. Slaughter, Register of the Land Office at Green Bay, in the Territory of Michigan, under the act to create additional Land Districts, in the States of Illinois and Missouri, and in the Territory north of Illinois.

S. W. Beall, Receiver of public monies arising from the sale of public lands at the same office.

John P. Sheldon, Register of the Land Office for the Wisconsin District, authorized by the same act.

Joseph Eneix, Receiver of public monies arising from the sale of public lands in the Wisconsin District.

Samuel A. Barker, Register of the Land Office at Zanesville, Ohio, vice George H. Hoot, rejected.

Appointment by the President.

R. M. Williamson, to be Surveyor General of public lands south of Tennessee, for the State of Mississippi, in the place of Gideon Fitz, removed.

EXAMINATION OF MIDSHIPMEN.—The Board for the examination of Midshipmen, which assembled at Baltimore in May, adjourned on the 12th June, having examined all who presented themselves.

The following is a list of those found qualified for promotion, arranged in the order of merit, to which are added the names of the States to which they belong. Warrants have been granted, bearing the date 14th June, 1834.—[Army and Naval Chronicle.]

1826 Chas W Pickering, N H	32 Augustus L Case, N Y
1827 John de Camp, Flo	33 Roger Perry, Md
W J H Robertson, D C	34 Wm S Ringgold, D C
1828	35 John T Williams, N C
1 Thornton A Jenkins, Va	36 Joseph W Revere, N Y
2 Joseph C Walsh, Pa	37 Alex'r M Pennoek, Tenn
3 Charles H Cotton, Vt	38 B S B Darlington, Pa
4 Augustine W Provost, Pa	39 George F Emmons, Vt
5 Franklin Clinton, N Y	40 Edward Middleton, S C
6 James K Bowls, Md	41 Montgomery Lewis, Pa
7 John Rodgers, Jr, D C	42 George M A White, D C
8 John H Marchand, Geo	43 C E L Griffin, N Y
9 Wm R Taylor, Mass	44 William S Swann, Va
10 H J Hartene, S C	45 Thomas T Hunter, Va
11 Lloyd J Bryan, D C	46 Albert A Halcomb, Ky
12 Benjamin F Sands, Ky	47 Gustavus H Scott, Va
13 Henry French, Mass	48 Richard Forrest, D C
14 William Leigh, Va	49 Levin Handy, Md
15 Samuel Larkin, Jr, N H	50 David McDougal, Ohio
16 William H Burgess, Va	51 Charles F McIntosh, Va
17 Henry S Stellwagon, Pa	52 James W Cooke, N C
18 Jas L Henderson, D C	53 C F M Spottwood, Va
19 Daniel B Ridley, Ky	54 Henry C Elleg, S C
20 John L Ring, S C	55 Joseph Moorehead, Ohio
21 Henry J Paul, N C	56 Daniel F Danney, Va
22 Robert E Hoge, Va	57 George L Seiden, D C
23 James M Lockert, Tenn	58 William H Hall, D C
24 William T Muse, N C	59 Eric W Snell, D C
25 William H Brown, Va	60 John F Mercer, Conn
26 Charles Steadman, S C	61 Stephen W Wilkinson, Ten
27 Wm L Herndon, Va	62 James E Brown, Va
28 John C Graham, D C	63 Hendrick Norvell, Ky
29 John P Parker, N H	64 Charles C Barton, Pa
30 John F Borden, Ohio	65 J J B Walbach, N H
31 James Aiden, Jr, Ma	66 Joseph R Brown, Pa

THE EXPERIMENT NOT LOST.—This vessel built on the Anneley plan, has been reported lost. Letters from her Commander have been received of a late date. All well.

NEW HAVEN, (CONN) JULY 1.—Ordination.— Lorenzo T. Bennett, late an officer in the United States Navy, was this morning ordained Minister of the Episcopal Church, in St. Paul's Chapel, in this city,

by the Rt. Rev. Bishop Brownell. The candidate was presented by the Rev. Dr. Hawks, of New York, and several assisting Ministers attending.

ASTOR'S HOTEL.—The corner stone of this fine building was laid on 4th July at 6 o'clock A. M., in the presence of about a hundred spectators. A box was deposited beneath the stone with a silver tablet in it, containing the following inscription:

CORNER STONE OF THE PARK HOTEL.

Laid the 4th of July, 1834.

The Hotel to be erected by John Jacob Astor.

BUILDERS.

Philetus H. Woodruff, Peter Storms, Campbell & Adams.

SUPERINTENDENTS.

Isaiah Rogers and Wm. W. Burwick.

ARCHITECT.

Isaiah Rogers.

The daily papers of Thursday, the last No. of the Mechanics' Magazine, containing a full length portrait of Lafayette, and "Goodrich's Picture of New York," were also deposited in the box.

The dimensions of the building are as follows:—The length of the building, fronting Broadway, will be 201 feet 1 inch; fronting Barclay street, 154 feet; fronting Vesey street, 146 feet 6 inches. There are to be six stories: the height to the top of the cornice, will be 77 feet. In the centre there will be a court yard, measuring 105 feet by 76. Each of the fronts will be built of blue Quincy granite. As the principal entrance will be from Broadway, there will be four columns—two of the Doric, and two of Antæ—surmounted with entablature.

The National Intelligencer states that the President had gone on a visit to the *Hermitage*, to remain till next October.

APPROPRIATIONS FOR HARBORS.—Among these appropriations at the late session of Congress, were the following for harbors in this State—

Oawego Harbor	\$30,000
Big Sodus Bay	15,000
Genesee River	20,000
Blackrock Harbor	12,000
Buffalo Harbor	20,000

Mr. Theodore Sedgwick, a passenger in the North America, is the Bearer of Despatches from Mr. Livingston, our Minister to France, to this Government. Among the despatches, are the original papers containing a list of American ships illegally captured, which after years of delay, have been obtained from the French Government.—The same Government has consented to give us the decisions by which the condemnation of those vessels were made.

The compensation to the sufferers on board the French line of battle ship *Suffren* from the shots fired through mistake by the U. S. frigate *United States*, is, according to the act passed by Congress, to be "twice the amount receivable by the Navy pensioners of the same or a similar class, of the wounded who survive, and to such relatives of those killed, as the President may deem it expedient to include in this provision."

THE CHOLERA.—We have seen a gentleman who left St. Louis on Thursday last—he brings the melancholy intelligence that this disease is raging in that city, and that it was increasing when he left.—The citizens are so reluctant to have the intelligence spread, that it is difficult to ascertain the number of deaths which take place from day to day. The reports vary from five to fifteen a day. A gentleman who arrived here on Wednesday last, states that he saw six funerals in St. Louis on the preceding Monday. To show that the silence of the citizens and of the press is criminal, we will mention a circumstance that occurred there within a few days;—an individual, just arrived from Kentucky, put up at a public house—a person was sick in one of the rooms, and he visited him. Not anticipating this disease to be in the place, he was so shocked at the sight of this patient—who had the Cholera—that he immediately took sick, and in a few hours was a corpse. A very little precaution might have saved him. Our informant states that all who could, consistently, were leaving the city.—[Jacksonville H. Patriot.]

The following specimen of eloquence was delivered by an Indian woman over the contiguous graves of her husband and infant:

"The Father of Life and Light has taken from me the apple of my eye, and the core of my heart, and hid them in these two graves. I will moisten the one with my tears, and the other with the milk of my breast, till I meet them again in that country where the sun never sets."

Deaths by Cold Water.—On Tuesday seven persons died in consequence of drinking cold water, yesterday eleven persons died from the same cause, when greatly heated, and two from strokes of the sun. It is stated that several other persons were suffering under the influence of strokes of the sun, whose fates are yet doubtful.

Eight horses, some of them belonging to the omnibuses, fell down and expired when in harness, in consequence of the heat.

Important from Mexico.—The New Orleans Mercantile of the 25th June has the following paragraph:

"Mexican papers of a recent date furnish intelligence that General Santa Anna, having pronounced in favor of the conjoined cause of the clergy and army, is at the head of a considerable force near Tula, the capital of the State of Mexico, whence he has issued a proclamation dissolving the National Congress.—That body, not to be outdone by him, has passed a decree declaring the President *fuera de la ley*—an outlaw. Thus stood matters at our latest advices—the next will probably bring tidings of bloodshed and civil war."

[From the Daily Advertiser.]

LATE FROM SPAIN AND PORTUGAL.—The brig Malory, Captain, Foster, from Gibraltar, brings papers from that place to the 24th of May, which contain much later intelligence both from Spain and Portugal than before received.

The Master of the *Madona di Pieta* arrived at Gibraltar, and who left Lisbon on the 19th of May, states there had been an illumination the evening before, in celebration of a victory obtained at or near Santarem, the result of which he understood to be the capture of six field pieces and three hundred prisoners. He also states, that a two-decker of Donna Maria's, lately returned from England, was to sail the day after he left, to blockade Madeira.

GIBRALTAR, MAY 17.—An article in the *Cadiz Diary* gives the particulars of one of the attacks upon Faro. This one took place on the 5th, and lasted from half past four in the morning till two in the afternoon, when Count Bourmont was obliged to withdraw, having lost 100 killed and near 400 wounded, out of about 6000 men with whom he began the attack. Baron de Sa was waiting for him the next day; but he marched upon Olhao, where he was again repulsed. If this is correct, and the Count was actually carrying on offensive operations against Olhao on the 6th, he could scarcely be known at Madrid, on the 10th, to have already reached Evora on his retrograde march, as stated in the *Gazette* of that date.

Cholera Morbus.—It has broken out to Elhaurin de la Torre, Cartama and Rio Cordo—two, three and five leagues from Malaga—and in the mountains.

GIBRALTAR, MAY 22.—The *Madrid Gazette* of May 17th, contains an account of the late interview between the Duke of Terceira and General Rodil, which we mentioned a few days ago. It was settled between them that the Duke should enter Thomar on the 14th and Golegan on the 15th, thus threatening, in that direction, Don Miguel's line of communication on the right bank of the Tagus. It was calculated, that on the last mentioned day, General Rodil, rapidly marching on Castellobranco, and by this movement threatening Abrantes, would have collected there the greatest part of the force under his command, which, for this purpose, were to move towards that point from Covilhao and Guarda under Generals Sanjuanena and Latre; and further, that if Don Miguel remained in the lines of Santarem, he would be attacked at once, in front and on his left, by Count Saldanha and the Duke of Terceira, while General Rodil, falling upon the Tagus and crossing it, would occupy the part of Alentejo, which is on the left of that river, putting himself in communication with the troops in Estremadura, and those which from Andalusia were advancing to Badajoz by forced marches.

It is re-stated that Don Miguel has thrown a bridge over the Tagus, and that he loses many men by desertion—no fewer than 50 superior and other officers, and 500 N. C. O. or privates, having surrendered to Donna Maria's Commanders in Coimbra within 24 hours after the occupation of that city.

The garrison of Chaves was partly composed of Spanish troops which were in communication with Valenza and Minho and Braganza where was Gen. Aviles. A guerrilla of Miguelites and Carlists, being defeated near Alcanices, had completely disappeared. On the 8th, Brigadier Serrano was at Meriola with the Spanish troops under his orders.

From a despatch of the Captain-General of Estremadura, it was known that Don Miguel's authorities had demanded at Evora, Estremoz, Nillaviciosa, Borba and other towns in Alemtejo, 140 carts drawn by mules, and directed them to be forwarded to Santarem, which induced the supposition that the troops there had some rapid movement in contemplation. This notwithstanding, Bourmont continued in Evora, the Pretender in Santarem, and the ex-General Moreno in Avis, Frontera, Gelbeas and Abrantes.

General Quesada and Brigadier Oras were at Laraga on the 7th, and General Lorenzo, close to them, in Mendigonia. Brigadier Linares was soon to join them, and station himself at Artajona. The rebels, divided into several bodies, had set themselves in motion, and Zumalacarreui marched from Villava to Urroz. The next day General Q. proceeded to Puente, General Lorenzo to Cirauqui, Brigadier Linares to Mendigoria, and Brigadier G. to Obanos. These are the only accounts, in the Official Paper, of the contending forces in the North.

None of the offers made by Spanish or foreign houses, for the loan of 200,000,000 reals, which the Spanish Government requires, being deemed sufficiently advantageous, they have all been rejected; and in announcing this resolution of her Majesty, the official paper has made it known, that the question of the recognition of the loans effected in 1820, 1821, and 1822, will be referred to the Cortes.

By the packet ship North-America, Capt. Dixey, from Liverpool, we have received our regular files of English papers to the 31st, inclusive.

The most important news brought by this arrival, is a change of Ministry in England, the grounds of which can hardly be set forth better than in the following remarks from the London Courier of the 29th of May. They are introduced by mentioning the resignation of Mr. Secretary Stanley and Sir James Graham.

The Cabinet, then, has been broken up, and broken up on a broad and distinct principle, which can leave no man in any doubt as to what side he ought to take. Mr. Stanley and his party maintain that all the possessions, all the revenues of the Church, are property which the State may distribute differently among the members of the Church, but cannot divert from ecclesiastical to secular purposes. The other branch of the Cabinet maintain that the revenues of the Church are not property in the rigid sense of the word; that they are, if not the gift of the State, secured to the Church by the State, and, that the State may not only direct a different appropriation of those revenues, among the members of the Church, and for ecclesiastical purposes, but, if it be desirable and proper, may divert those revenues to other than ecclesiastical purposes. That is the principle; the application is made to Ireland.—The revenues of that Church are enormously disproportioned to its duties, and to the number of people to whom it dispenses religious consolation and instruction. Moreover, those revenues are collected from a Roman Catholic population, who are equally as well entitled as his Majesty's Protestant subjects, to the protection of the laws, and those revenues are, and long have been, the sources of much vexation to that Catholic population, and of bitter strife and contention. In truth, our astonishment is excited, after running over the great number of authorities quoted by Mr. Ward, in his able speech last night, condemning the present Church Establishment of Ireland, and, after noticing the host of proofs he has brought together that all attempts to enforce the complete collection of that revenue have failed, and have led to little more than resistance and assassination;—we are astonished, after reading the opinions of our wisest Statesmen against the present system, and the proofs of its mischievous failures, that any man can for one moment hesitate to affirm that the State ought immediately to take measures to "reduce the temporal possessions of the Church of Ireland." Mr. Stanley, however, and those who think with him on this subject, deny the right of the State to abate one of the greatest acknowledged evils that ever existed in any country; they deny to the State the power to overturn a bad system; they bind the State to a subserviency to the Church; they make it the mere instrument for

collecting the Church revenues; they bow with reverence before an enormous abuse; they tie by their principles the hands of the State, and compel it to submit to a master. The principle, therefore, on which the Cabinet has split is vital for all Governments, for it is neither more nor less than the assertion of the supremacy of the State over all its subjects, and over all those parts or portions of society which grow from its regulations, or are protected by its care. Mr. Stanley and Sir James Graham deny this supremacy, and their principles cannot be followed in reconstructing the Cabinet, without virtually admitting that the State is incompetent to remedy some of the most glaring evils of society.—To follow their doctrines must inspire the people of Ireland with despair; to embrace their principles would fill all the people of England, who desire an amended appropriation of Church revenues, with dismay, and would lead, by a short cut, to ruin the authority of the government in Ireland, and to weaken and degrade it in England. But they are out of the Cabinet, because they have maintained such a strange principle, and their resignation speaks, we think, hope to Ireland, and peace and confidence to all parts of the empire.

Like ourselves, the *Standard*, of yesterday evening, denied to the State the possession of property, and, like ourselves, found some difficulty in selecting a criterion for spiritual wants. It went, however, to Cambridge and Mr. Goulburn for aid, and adopted that one with which the late Chancellor of the Exchequer some time ago astounded the House of Commons. The *Standard* measures the spiritual wants of a population by the extent of a country. It is the 30,000 square miles of Ireland which makes it necessary to leave a Church nearly £1,000,000 a year, and nearly one-half of its Clergymen non-residents, and makes it necessary to keep the population in misery to collect the Church revenue.—By the same rule New South Wales or Hindoostan has a gross injustice done to it; and either of them, instead of its poor supply of a religious establishments, a Bishop and a Dean should be at least four times as well provided with Archbishops and non-resident Rectors as the 30,000 square miles of Ireland.

From the London Courier of May 30.]

The public continue to look forward with extreme anxiety to the completion of the new ministerial arrangements. And this is not certainly to be wondered at, seeing that the destinies of the country cannot fail of being materially influenced by the mode in which the Cabinet is reconstructed.

We have reason to believe, that the arrangements are settled, and we hope to be able to announce them in our Second Edition. We at present only know, that the Earl of Carlisle, who has a seat in the Cabinet, is to be Lord Privy Seal, and that it is generally believed that Mr. Spring Rice will leave the Treasury, and fill one of the vacant high offices, with a seat in the Cabinet.

We are confident that the Cabinet will be so constituted, that while, on the one hand, it will assist in cautiously eradicating every real and acknowledged abuse, it will give no countenance to any of those crude or theoretical projects that are now afloat.—We require a strong and liberal Government; but we also require one deeply imbued with constitutional principles, and with a determination to uphold and strengthen the bulwarks of the Constitution. If we were obliged to choose among extremes there can be no question that a Government resolved to support whatever is, would be far preferable to one disposed to abet reckless attempts at innovation. But the prevalence of either spirit in the Cabinet would be exceedingly hostile to the best interests of the nation. Abuses must be weeded out with a firm though considerate hand; not only because it is abstractedly right that they should be extirpated, but because any attempt to support them in despite of public opinion would be sure to occasion in the end still more extensive and perilous changes. It is opposed by some that any modification of the Church of Ireland will be the forerunner of an attack on the Church of England; and that all who are attached to the latter ought to act on the principle of *obtemperare principis*, by resisting the first attempt at innovation. Nothing, however, can be more short-sighted than this. The Established Church of Ireland, as at present constituted, is not a support to, but a mill-stone hung round the neck of the Church of England, which, if not lightened, or detached from the latter, will assuredly drag her to the bottom. Those, therefore, who propose making the Established Church of Ireland commensurate with the number and wants of those attached to her faith and doctrines, are not the enemies but the best friends of the Church of England. The effectual reform of the

Irish Church will do more than any thing else to strengthen and consolidate the foundations of the English Church; and though such reform were not imperatively called for, that the foundations of peace and prosperity may be laid in Ireland, it would be called for that the Church of England may escape the disgrace of an alliance with such flagrant abuses; and that her well-being and permanence may be secured.

While, therefore, we hope and believe that the Ministry will be constituted so as to deal boldly with abuses, such as those inherent in the Irish Church Establishment, we also hope and believe that it will have sagacity to distinguish between what is rotten and what is sound; and that while it lops off the former it will resolutely protect and defend the latter. A Ministry acting in this way may not be popular with the *extreme gauche* or the *extreme droit*, but it will be popular with reasonable men of all parties, and will be sure to command the support and respect of the middle classes—that is, of those who possess eight-tenths of the property of the country, and who are distinguished by their moral worth and independence.

The change of Administration has taken place in consequence of a difference of opinion respecting the revenue of the Irish Church, and respecting that question alone. There is not, therefore, the slightest reason to expect any change of the general policy of Earl Grey's Cabinet. The country will unquestionably look for the immediate introduction into Parliament of some practical measure respecting the future appropriation of the Church property in Ireland, or of some declaration or resolution as to the measure to be adopted with that view, and for securing the permanent tranquility of Ireland at no distant period.

We are confident from what we know, that it is the intention of the Administration to pursue one or other of those courses.

Since writing the above, we have heard it confidently stated that Mr. Spring Rice is to be Colonial Secretary, that Mr. Francis Baring is to be Secretary of the Treasury, Lord Auckland to be First Lord of the Admiralty, Earl Mulgrave to be Postmaster General, Mr. Poulett Thomson to be President of the Board of Trade, and that Mr. More O'Ferrall is to have the vacant seat at the Treasury Board, in room of Mr. Baring. Mr. Ellice to have a seat in the Cabinet, retaining his present situation, in which he has given universal satisfaction. These arrangements we believe to be tolerably correct.

THIRD EDITION.—*Courier Office, 7 o'clock.*—We believe all the Ministerial arrangements specified in the preceding part of the paper to be almost settled, though not yet definitively fixed; but we are now enabled on sufficient authority to announce—

The Earl of Carlisle to be Lord Privy Seal. Mr. Ellice, Secretary of War, to have a seat in the Cabinet.

Mr. Spring Rice, Colonial Secretary, with seat in the Cabinet.

Lord Auckland, First Lord of the Admiralty, with seat in the Cabinet.

Lord Durham is not going to Paris, as Ambassador, as stated by some of our contemporaries.

Lord Mulgrave, if appointed to the Post Office will not have a seat in the Cabinet.

The Trades' Unionists of Leeds held another meeting on Monday, on Woodhouse-moor, at which there were about 3,000 persons present.

The *Garde National du Louvre* states, that on Thursday last a serious quarrel arose between some of the soldiers of the garrison of Orleans and some of the inhabitants of the town, which threatened serious consequences, but which was happily arrested in time.

According to accounts from Bayonne of the 22d, the Carlisle chief Zumalacarreui continued in "constant flight" before the Queen's troops, and very little more exertion was required to compel him and his followers to take refuge in France.

The funds in Paris remained in unusually quiet state, although the day of settlement is at hand.

M. Armand Carrel, the Editor of the *National*, has excited the suspicions of the Court of Peers, who have authorized an examination of his papers.

M. Bérard, the author, and M. Girard, the editor of a pamphlet entitled *Les Cancons fidèles*, were yesterday sentenced by default by the Court of Assizes to imprisonment for two years, and a fine of 2,000fr. for a libel on the King's person, and an attack upon the rights he holds from the will of the nation. —[Galignani.]

GOLD AND SILVER.—For the convenience and information of our readers, we publish altogether to-day, the three bills passed at the recent session of Congress, altering and regulating the value of gold and silver coins, foreign and domestic. With them, we publish the existing law, in order that it may be seen wherein the alterations consist.

There has been, hitherto, in the relative legal value of gold and silver such an inequality, as to banish gold completely from circulation. The question now is, whether, in attempting to remedy this evil, and to make the standard of the two metals correspond, gold has not been made, in relation to silver, too dear, as before it was too cheap. According to the new laws, to take effect from 31st instant, the legal value of gold has been raised 62.3ds per cent.; that is to say, the Eagle of the existing coinage, instead of being worth only \$10, will be worth \$10 67, and so in proportion. Henceforth, the standard of gold is to be so reduced, that the Eagle to be coined will only be worth \$10.

The apprehension seems to be, that owing to this advance in the legal value of gold, silver may be driven out of circulation; but, on the other hand, the commercial value of silver is so much higher than its legal value, as perhaps, after all, to leave only a small difference, not perhaps exceeding one per cent. between the relative value of gold and it.

After all, however, these new laws are experimental, and if found to establish too great a difference in the value of the two metals, will be altered.

An Act concerning the Gold Coins of the United States, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, That the gold coins of the United States shall contain the following quantities of metal, that is to say: each eagle shall contain two hundred and thirty-two grains of pure gold, and two hundred and fifty-eight grains of standard gold; each half eagle, one hundred and sixteen grains of pure gold, and one hundred and twenty-nine grains of standard gold; each quarter eagle shall contain fifty-eight grains of pure gold, and sixty-four and a half grains of standard gold: every such eagle shall be of the value of ten dollars; every such half eagle shall be of the value of five dollars, and every such quarter eagle shall be of the value of two dollars and fifty cents. And the said gold coins shall be received in all payments when of full weight, according to their said respective values; and when of less than full weight, at less values, proportioned to their respective actual weights.

Sec. 2. And be it further enacted, That all standard gold or silver deposited for coinage after the thirty-first day of July next, shall be paid for in coin, under the direction of the Secretary of the Treasury, within five days from the making of such deposit, deducting from the amount of said deposit of gold and silver one half of one per centum: *Provided*, That no deduction shall be made unless said advance be required by such depositor within forty days.

Sec. 3. And be it further enacted, That all gold coins of the United States, minted anterior to the thirty-first day of July next, shall be receivable in all payments at the rate of ninety-four and eight tenths of a cent per pennyweight.

Sec. 4. And be it further enacted, That the better to secure a conformity of the said gold coins to their respective standards as aforesaid, from every separate mass of standard gold which shall be made into coins at the said mint, there shall be taken, set apart by the Treasurer and reserved in his custody, a certain number of pieces, not less than three; and that once in every year the pieces so set apart and reserved shall be assayed under the inspection of the officers, and at the time and in the manner now provided by law; and if it shall be found that the gold so assayed shall not be inferior to the said standard hereinbefore declared, more than one part in three hundred and eighty-four in fineness, and one part in five hundred in weight, the officer or officers of the said mint whom it may concern shall be held excusable; but if any greater inferiority shall appear, it shall be certified to the President of the United States, and, if he shall so decide, the said officer or officers shall be thereafter disqualified to hold their respective offices: *Provided*, That if, in making any

delivery of coin at the mint in payment of a deposit, the weight thereof shall be found defective, the officer concerned shall be responsible to the owner for the full weight, if claimed at the time of delivery.

Sec. 5. And be it further enacted, That this act shall be in force from and after the thirty-first day of July, in the year one thousand eight hundred and thirty-four.

Passed the House of Representatives,
July 21, 1834. W. S. FRANKLIN, *Clk. Ho. Rep.*

An Act relating to the value of certain Foreign Gold Coins within the United States.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the thirty-first day of July next, the following gold coins shall pass current as money within the United States, and be receivable in all payments by weight, for the payment of all debts and demands, at the rates following, that is to say: the gold coins of Great Britain, Portugal, and Brazil, of not less than twenty-two carats, fine, at the rate of ninety-four cents and eight-tenths of a cent per pennyweight; the gold coins of France, nine-tenths fine, at the rate of ninety-three cents and one-tenth of a cent per pennyweight; and the gold coins of Spain, Mexico, and Columbia, of the fineness of twenty-carats three grains and seven-sixteenths of a grain, at the rate of eighty-nine cents and nine-tenths of a cent per pennyweight.

Sec. 2. And be it further enacted, That it shall be the duty of the Secretary of the Treasury to cause assays of the aforesaid gold coins, made current by this act, to be had at the mint of the United States, at least once in every year, and to make report of the result thereof to Congress.

Passed the House of Representatives, June 21, 1834. W. S. FRANKLIN, *Clerk.*

An Act regulating the value of certain Foreign Silver Coins within the United States.

Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, that from and after the passage of this act, the following silver coins shall be of the legal value, and shall pass current as money within the United States, by tale, for the payment of all debts and demands, at the rate of one hundred cents the dollar; that is to say: the dollars of Mexico, Peru, Chili, and Central America, of not less weight than four hundred and fifteen grains each; and those stamped in Brazil of the like weight, of not less fineness than ten ounces fifteen pennyweights pure silver in the troy pound of twelve ounces of standard silver; and the five-franc pieces of France, when of not less fineness than ten ounces and sixteen pennyweights in twelve ounces troy weight of standard silver, and weighing not less than 384 grains each, at the rate of ninety-three cents each.

Sec. 2. And be it further enacted, That it shall be the duty of the Secretary of the Treasury to cause assays of the aforesaid silver coins made current by this act, to be had at the Mint of the United States, at least once in every year, and to make report of the result thereof to Congress.

Passed the House of Representatives.
Attest: W. S. FRANKLIN, *Clk. Ho. Rep.*
May 27th, 1834.

THE EXISTING LAW.

An Act regulating Foreign Coins, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the 1st day of July next, foreign gold and silver coins shall pass current, as money, within the United States and be a legal tender, for the payment of all debts and demands, at the several and respective rates following, and not otherwise, viz: The gold coins of Great Britain and Portugal, of their present standard, at the rate of one hundred cents for every twenty-seven grains of the actual weight thereof; the gold coins of France, Spain, and the dominions of Spain, of their present standard, at the rate of one hundred cents for every twenty-seven grains and two-fifths of a grain, of the actual weight thereof: Spanish milled dollars, at the rate of one hundred cents for each dollar, the actual weight whereof shall not be less than seventeen pennyweights and seven grains; and in proportion for the parts of a dollar. Crowns of France, at the rate of one hundred and ten cents for each crown, the actual weight whereof shall not be less than eighteen pennyweights and seventeen grains, and in proportion for the parts of a crown. But no foreign coin that may have been, or shall be, issued subsequent to the 1st day of January, one thousand seven hundred and ninety-two, shall be a tender, as aforesaid, until sam-

ples thereof shall have been found, by assay at the Mint of the United States, to be conformable to the respective standards required, and proclamation thereof shall have been made by the President of the United States.

Sec. 2. Provided always, and be it further enacted, That at the expiration of three years next ensuing the time when the coinage of gold and silver, agreeably to the act, entitled "An act establishing a mint, and regulating the coins of the United States, shall commence at the mint of the United States, (which time shall be announced by the proclamation of the president of the United States,) all foreign gold coins, and all foreign silver coins, except Spanish milled dollars and parts of such dollars) shall cease to be a legal tender as aforesaid.

Sec. 3. And be it further enacted, That all foreign gold and silver coins; (except Spanish milled dollars, and parts of such dollars) which shall be received in payment for monies due to the United States, after the said time when the coining of gold and silver coins shall begin at the mint of the United States, shall, previously to their being issued in circulation, be coined anew, in conformity to the act, entitled "An act establishing a mint and regulating the coins of the United States."

Sec. 4. And be it further enacted, That from and after the 1st day of July next, the fifty-fifth section of the act, entitled "An act to provide more effectually for the collection of the duties imposed by law on goods, wares, and merchandize, imported into the United States," which ascertains the rates at which foreign gold and silver coins shall be received for the duties and fees to be collected in virtue of the said act, be, and the same is hereby, repealed.

Sec. 5: And be it further enacted, That the assay, provided to be made by the act, entitled "An act establishing a mint, and regulating the coins of the United States," shall commence, in the manner as by the said act is prescribed, on the second Monday of February, annually, any thing in the said act to the contrary notwithstanding. [Approved, February 9, 1793.]

INTERESTING.—A subterranean Indian Village has been discovered in *Nacoochee Valley* in Georgia, by gold miners, in excavating a canal for the purpose of washing gold. The depth to which it is covered varies from seven to nine feet; some of the houses are embedded in a stratum of rich auriferous gravel. They are 34 in number, built of logs from six to ten inches in diameter, and from ten to twelve feet in length. The walls are from three to six feet in height, forming a continuous line or street of 300 feet. The logs are hewed and notched, as at the present day. The land beneath which they were found, was covered, at its first settlement by the whites, with a heavy growth of timber, denoting a great antiquity to these buildings, and a powerful cause which submerged them. Cane baskets and fragments of earthenware were found in the rooms. The account is contained in a letter to the editor of the *Southern Banner*, from which the following further particulars are extracted:

The houses are situated from 50 to 100 yards from the principal channel of the creek; and as no further excavations have been made, it is more than probable that now and more interesting developments will be made when the land is worked for gold.

A great number of curious specimens of workmanship have been found in situations, which preclude the possibility of their having been moved for more than a thousand years. During my mining operations last year, I found, at one time, about one half of a crucible, of the capacity of near a gallon.—It was ten feet below the surface, and immediately beneath a large oak tree, which measured five feet in diameter, and must have been four or five hundred years old. The deposit was diluvial, or what may be termed table land. The stratum, of quartz gravel, in which the vessels were imbedded, is about two feet in thickness, resting upon decomposed chlorite slate.

It is not difficult to account for the deposits of these substances in alluvial soil, for the hills are generally very high and precipitous, and from the immense quantity of rain which falls, the streams are swollen to great height, sweeping every thing with them, and frequently forming a deposit of several feet in thickness in a season; but some of the diluvial land is from 10 to 50 feet above the present level of the streams. These deposits exhibit appearances of as great attrition as those recently formed.

There was a vessel, or rather a double mortar, found in Duke's Creek, about five inches in diameter, and the excavation on each side was nearly an inch

in depth, basin like, and perfectly polished. It was made of quartz, which had been semi-transparent, but had become stained with the iron which abounds in quantity in all this country. In the bottom of each basin was a small depression half an inch in depth and about the same in diameter. What its use could have been, is difficult to conjecture. Some suppose it was used for grinding paint, &c. or in some of their plays or games. The high finish, and its exact dimensions, induce me to believe it the production of a more civilized people, than the present race of Indians. Respectfully yours, M. S.

INDIAN ANECDOTE.—John Sequashquash, an Indian of the remnant of a tribe in Connecticut, was some years since brought before a justice of the peace on some charge or other, which we do not now recollect. John happened to be drunk at the time and instead of justice, merely muttered out—"Your Honor is very wise—y-y-your honor is v very wise—I says."

Being unable to get any other answer from him, the justice ordered him to be locked up till the next day; when John was brought before him perfectly sober.

"Why John," said the justice, "you were drunk as a beast last night."

"Drunk!" ejaculated the Indian.

"Yes, drunk as a beast. When I asked you any question, the only answer you made was, 'Your honor is very wise.'"

"Did I call your honor wise?" said the Indian, with a look of incredulity.

"Yes," answered the magistrate.

"Then," replied John, "I must have been drunk, sure enough."

FOREIGN ITEMS.

ST. PETERSBURG, April 30.—The communication with Armstadt is now perfectly free, the ice having broken up on the 26th.

The death of Mr. Stothard, at the venerable age of eighty four, has grieved all the lovers of art, though it has been long expected. But they regret to think that they can have no "more last words" from his genius—no more of those sweet and graceful creations of youth, beauty, and womanhood, which never ceased to flow from his pencil, and which made his kindly nature the abode of a youthful spirit to the last. An angel dwelt in that tottering house, amidst the wintry bowers of white locks, warming it to the last with summer fancies. Mr. Stothard had the soul in him of a genuine and entire painter. He was a designer, a colorist, a grouper; and, above all, he had expression. All that he wanted was a more perfect education, for he was never quite sure of his drawing. The want was a great one; but if those who most loudly objected to it had a tenth part of his command over the human figure, and even of his knowledge of it (for the purposes of expression,) they would have ten times the right to venture upon criticising him; and having that, they would have spoken of him with reverence. His class was not of the very highest order, and yet it bordered upon the gentler portion of it, and partook of that portion; for since the days of the greatest Italian painters, no man felt or expressed the graces of innocence and womanhood as he did. And his coloring (which was little known) had the true relish, such as it was. He loved it, and did not color for effect only. He had a bit of Rubens in him, and a bit of Raphael—and both of them genuine; not because he purposely imitated them, but because the seeds of gorgeousness and of grace were in his own mind. Mr. Stothard, for many years, was lost sight of by the public, owing to the more conventional elegancies of some clever, but inferior men, and the dullness of public taste; but it was curious to see how he was welcomed back again as the taste grew better, and people began to see with the eyes of his early patrons. The variety as well as grace of his productions soon put him at the head of designers for books, and there he has since remained. What he did of late for the poems of Mr. Rogers is well known, and his picture of the Canterbury Pilgrims still better, though we cannot think it one of his best. Many of his early designs for Robinson Crusoe and other works, especially those in the old *Novelist's Magazine*, far surpass it; and so do others in Bell's British Poets. There is a female figure bending towards an angel in one of the volumes of Chaucer in that edition, which Raphael himself might have put in his portfolio; and, the same may be said of larger designs for editions of Milton and Shakespeare. See in particular those for Comus, and for the Two Gentlemen of Verona, where there is a girl in boy's clothes. Nothing can be more true or exquisite than that little doubtful gesture of fear and modesty in the latter figure, blushing at the chance

of detection. Stothard excelled in catching these fugitive expressions of feeling—one of the rarest of all beauties. But he has left hundreds, perhaps thousands of designs—rich treasures for the collector and the student. He is one of the few English artists esteemed on the continent, where his productions are bought up like those of his friend Flaxman, who, we believe, may be reckoned among his imitators; for Stothard's genius was richer than his, and included it. —[Leigh Hunt's Journal.]

Important Discovery.—The celebrated orator Henry, who gave public lectures, being somewhat pushed for want of attractive novelty, and wishing to collect an audience on any terms, issued an advertisement, expressly addressed to journeymen shoemakers, wherein he promised to prove to demonstration the practicability of any members of the craft making six pairs of shoes in a day, provided he had sufficient materials. Such a temptation produced the desired effect, and the room was crowded to suffocation. Henry ascends the rostrum, and mute attention reigns. He thus began: "Gentlemen, the lecture of this evening being of a professional character, is intended to rouse industry, and stimulate exertion, in one of the most useful classes of the working community." (Applause.) The solemnity with which the opening speech was delivered increased the attention and impatience of the company for the development of this invaluable mystery. After a short pause, a general cry of "question, question," compelled the orator to resume the subject. "Gentlemen, although the communication I am about to make only specifies the practicability of one person making six pairs of shoes in a day, yet, with a sufficient stock of materials, the same person might facilitate sixty, nay a hundred," (thunders of applause.) Curiosity and anxiety were now at their height—"This grand and valuable secret, gentlemen, consists in simply cutting the legs off boots!" [Metropolitan.]

Elegant Intervals of the Fine Arts.—Hayman, the painter, it has been said, was a hero of the fist; and that the heroic Marquis of Granby, who was fond of the same amusement, when he went to sit to Hayman for his portrait, insisted on having a set-to with the artist before he began his work. The proposal was agreed to and carried into effect immediately. They began in good humor, but as the fighting gloves had not then been invented, a clumsy blow from one roused the anger of the other; they set to in earnest, and upset easel as well as combatants. The noise made by the fall alarmed Hayman's wife; she burst into the room and found the peer and the painter upon the floor, grappling one another like enraged beasts, each striving to keep the other down while himself got upon his legs. She parted the combatants, and when they had re-adjusted their dresses, Hayman proceeded to complete the portrait of his antagonist.—[Shilling Magazine.]

It may happen that the birds of prey interfere with our plans, though it is probable, that in their case, as well as in that of many other birds, we know the evil but not the good; and consequently, in our eagerness to destroy the evil, we destroy the good along with it, and in the end lose much more than our labor. We set a price on the brush of a fox, or the talons of an eagle, but it is open to every man's observation, that those places, in which foxes are not hunted or eagles shot, are not more impoverished than those in which both are destroyed with the utmost vigilance. Nature never sends any animal to inhabit a district, unless there be food and the other circumstances which suit that animal in that district; and when the food ceases, or the circumstances are changed, the animal disappears, as fast probably as is necessary to the best interests and perfection even of our artificial system. The kite would doubtless be a plunderer in the poultry-yard, the osprey in the fish-pond, or the eagle in the rabbit warren; and the owner might claim their lives. If we actually use any portion of the earth, then that portion is ours, and we may do with the wild creatures as we may deem best. But we should not play the tyrant with that which is not ours. If we can show that it will be useful for us to destroy the kite in the wide moor which we neglect, and the eagle in the mountain ravine which we can neither stock nor cultivate, then we may plead our privilege as lords of the nether world, and slaughter them; but if we cannot, we are interfering with, and most probably marring, that which we do not understand—acting much in the same manner as the owner of an estate, who should cut down the forests when he could neither use nor yet cultivate any other crop on the land which it occupied.—The birds of prey are not merely a part of

the system of nature, but one of the most interesting parts of it, and there are no birds, the haunts or the habits of which are more calculated to impart information and afford pleasure. In strength, in swiftness, in bold daring, in patient endurance, in attachment to each other and to their young, and in utmost perfection of observing power and muscular strength, there are no birds equal to the birds of prey. Drive the Eagle from the mountain, and half its sublimity will be gone; chase the owl from the ivied ruin or the hollow tree, and half its fascination, even to the unobservant rustics, would be destroyed.—[Mudie's British Birds.]

The porter of a Dublin grocer was brought by his master before a magistrate on a charge of stealing chocolate, which he could not deny. Upon being asked to whom he sold it, the pride of Patrick was greatly wounded. "To whom did I sell it?" says Pat; "why, does he think I took it to sell?" "Then, sir," said the magistrate, "what did you do with it?" "Do with it! Since you must know," said he, "we made tea of it."—[New Sporting Magazine for May.]

[FOR THE N. Y. AMERICAN.]

Mr. Editor—I am a very young lady and a very pretty one besides, and I have a whole host of admirers. To one of these, who does not reside in the city, I am very anxious to send some poetry, but my father, who is a grave, steady, and respectable old gentleman, says it is not proper for young ladies and young gentlemen to correspond. Now, Mr. Editor, I have heard a great deal of your gallantry, and I venture to hope you will oblige one of your most constant readers and a beauty to boot, by inserting the following stanzas in the N. Y. American.

POUR LUI.

From Moore's Song "To Sigh yet feel no Pain."

"To keep one sacred flame
Thro' life unchilled, unmov'd;
To love in wintry age the same
That first in youth we loved;
To feel that we adore,
To such refined excess,
That tho' the heart would break with more
We could not live with less.
This is faithful, faithful love,
Such as saints might feel above."

C. F. S.

HEART'S EASE.

Serk not for me in the lighted hall,—
Mine is no garland for festivals,
Look not for me in the wreaths they twine
Round urns of perfume and cups of wine
Though torn away from my forest fair
To deck their banquet—I perish there,
N'ath the heated lip and the flashing eye,
I smile—but smiling—I die—I die.

And some come there, with their cheeks of bloom,
Like roses wreath'd round a marble tomb,
Or the soft pink tints in some Indian shell,
Lit with the blush of the sun's farewell
With locks, like the first light clouds at dawn;
With the dreamy gaze of the woodland fawn
They come to seek me. Alas! for all
Who seek "Heart's Ease" in the masquing hall
The feast and the feaster have passed away—
The bluffs are winking in morning's ray—
And the withered chaplets hang idly down;
And the mirror is mocking its faded crown.
And they that stood 'midst the festal cheer,
Like the wounded fawn or the stricken deer,
With their strange bright eyes and their fatal bloom,
Have passed from the revel away—to the tomb!

They found me—they found me—but all too late,
Young hopes had died in the grasp of Fate,—
The bloom had fled, like the last bright streak
In the burning west, from the blighted cheek,
And the pallid taper—and holy hymn
Were there for rite and for requiem,—
And grasped in their cold white fingers lay—
"Heart's ease"—Oh, how calm were those hearts that day

O, seek ye for me—seek ye for me
In the bowery shade of the forest tree,
Where the far off tones of the hunter's horn
Rouse not the hare from its nest at morn,
Where the joyous brook glides laughing by,
Feeding the echoes with melody;
And the lilies, like Brahmins at eventide,
Are bent, as in worship, its streams beside.

Oh, seek ye for me—seek ye for me,
Where the summer birds have most to be,
And the worn out breeze with feeble sigh
Comes oft, like a love sick youth, to die—
And gathered the old oak boughs among
The white wood doves—like a vernal throng
In some ancient cloister, all dark and dim—
Are lifting to Heaven their evening hymn.

Oh, seek ye for me—seek ye for me
In the morning track of the joyous bee,—
Follow the streamlet through the wood and glen,
Follow the glow worm—you'll find me then,
For it loves to roam through the bowers at night,
And wave over flowers its elfin light;
Meet guide for such as would seek for me
In the calm of my forest sanctuary.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment in Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without aplice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania. Hudson, Columbia county, New-York, { January 29, 1853. }

The Emperor of Russia has issued an extremely severe Ukase, the object of which is to keep all Russians within the empire, or confiscate their property if they presume to reside abroad.

Marshal Bourmont has arrived in Geneva, where, it is said, he intends staying some time.

A report is mentioned in a letter from Geneva, which is to the effect that the late offensive official note of the Sardinian Ambassador in Switzerland had been disavowed by his Government. The letter further says, that nothing shows an approaching rupture between Sardinia and Switzerland.

Letters of the 29th ult. from Constantinople, announce that the Greek Ambassador, Tographos, has at length been congratulated in the name of the Ottoman Porte, by the chief Dragoman, who, at the same time, delivered to him the usual presents, consisting of exquisite flowers and fruits, and invited him to a first audience of the Grand Vizier, which will soon be followed by an audience of the Sultan.

ITALY.—Extract of a letter of the 14th instant, from Ferrara:—"A very serious affray took place two days ago in this city between the Swiss and the Austrians upon the occasion of the funeral of our bishop. The dispute commenced between some soldiers who escorted the provisions, and soon it spread to all the others, so that they came to blows, and several on both sides were killed and wounded. The number killed or seriously wounded is at least twenty. The Papal Government has ordered the Swiss to quit the city, and has distributed them in other cities of the legations. An Austrian corps will come here to take their place."

By a return laid before the House of Commons, on the motion of Mr. Leonard, it appears that in the course of last year, 246 persons were sentenced to death for robbery, of which number 7 only were executed.

ONERA, April 18.—For some days past large quantities of corn have been shipped here for the sea of Azoff. It is probable that some ships have already reached Kulock.

One day last week, as a farmer at Courseulles was tilling his land, his plough struck against some hard substance, which he at first supposed was a stone, but afterwards discovered to be an earthen vessel, containing a large quantity of gold coin of the reign of Charlemagne, the metallic value of which has been ascertained to be at least 40,000 francs. As they are in the highest state of preservation, they must be considered as worth a much larger sum.—[French paper.]

REVIEW OF THE NEW YORK MARKET—JULY 9.

ASHES—Sales are freely made at \$4 for Pots, and \$4.25 a \$4.30 for Pearls.

COAL—We have no transactions to notice in any description. Of Liverpool there is but little in market.

COTTON—The transactions in this staple, since our last publication, have been moderate, amounting to about 650 bales, as follows:

400 Uplands, 12½ a 14½ cents; 300 Florida, 13½ a 14½, and 50 Mobile, 14½ a 15 cents.

Import, since our last, from New Orleans, 241; Florida, 243; Georgia, 908; South Carolina, 329; North Carolina, 313. Total, 2124 bales. Total import since 1st instant, 2357 bales. Export from 1st to 4th instant, 400 bales.

COTTON BACONING—Last sales of best Hemp at 22 a 23 cents. The stock in market is small.

FISH—There is but little inquiry for Mackerel. Small sales of No. 1, at \$6.12 12 a \$6.37 1-2, and No. 3 at \$3.12 1-2. Of No. 2 there are none in market.

FLOUR AND MEAL—Sales of Western Canal at \$4.87 1-2 a \$5, and of Ohio, to a considerable extent, at \$4.81. There has been no demand for export. 200 hhds. Corn Meal were disposed of at about \$15.75. Exports, from 1st to 4th inst., Wheat Flour, 1152 bbls.

GRAIN—Sales of Western Wheat have been made at 103 a 105 cents; Northern Eve. at 62 1-2 cents, and Northern Yellow Corn at 68 cents. The demand for Oats is brisk, and considerable sales have been made at 40 cents.

LARD—The market remains without animation.

MOLASSES—No transactions of consequence have come to our knowledge.

OILS—From 15 to 16,000 gallons Whale have been disposed of at 37 1-2 a 38 cents, cash; about 10,000 gallons English Linseed at 90 cents, 4 months, and several smaller lots at about the same rate; a few casks of Palm brought 6 cents per pound, on time.

WHALEBONE—A lot of 1000 lbs. has changed hands, since our last, at 19 1-2 cents, cash.

WINE—We have no transactions of consequence to notice.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & O. W. BLUNT, 154 Water street, corner of Maidenlane.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J25 1f

RAILROAD CAR WHEELS, BOXES AND AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nutt's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m19



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on favorable terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833

To Messrs Ewing and Heartte.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

E. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m23

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1-2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine-wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By Order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

			Flat Bars in
Ninety-five tons of 1 inch by 1 inch,			length of 1410 lb
200 do. 1 1/2 do. 1 1/2 do.			feet counter sunk
40 do. 1 1/2 do. 1 1/2 do.			holes, end cut at
800 do. 2 do. 2 do.			an angle of 45 de-
800 do. 2 1/2 do. 2 1/2 do.			grees with appli-
soon expected.			ing plates, nails
			to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 2 3/4, 3, 3 1/4, and 3 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON,

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71mcowr

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction

of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

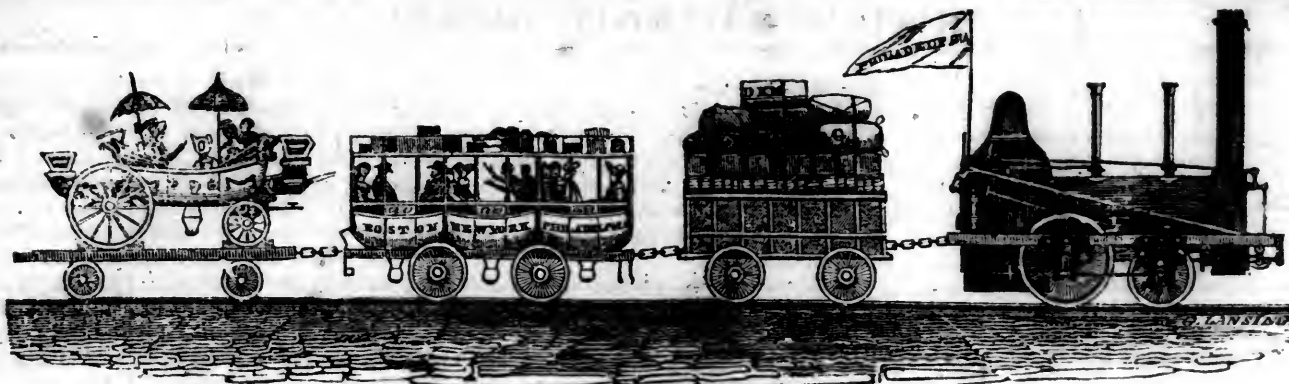
German town, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
German, and Norrist. Railroad

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, JULY 26, 1834.

[VOLUME III.—No. 29.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JULY 26, 1834.

We continue in this number the list of Railroads, and shall in the next complete it, as far as we at present have the means, together with a list of Canals.

NEW-YORK AND ERIE RAILROAD.—We understand that the surveys of this road are progressing rapidly, and that the route is found to be more favorable than was anticipated. It is greatly to be desired that this important work should be commenced at an early day. This city, as well as the great West, is particularly interested in its accomplishment.

IMPROVEMENTS IN VIRGINIA.

Petersburg, July 13, 1834.

To the Editor of the Railroad Journal.

SIR,—In your Journal, of 5th inst., I observe an article under the signature of H. N. C., in which it is mentioned that, "there are two works in Virginia of the most useful and important character, but which will not be undertaken for some time yet to come, on account of the want of energy, or interest, of the citizens of that section of the country in their completion. They are railroads, one from Crk. Landing to Fredericksburg, (a little over 10 miles,) and the other from Fredericksburg to Richmond, (about 60 miles.)" As I agree with you that Virginia has done too little towards the improvement of her natural advantages, I am unwilling she should be deprived of any credit to which her exertions may entitle her, and therefore beg leave to inform your correspondent, through the medium of your columns, that a party of engineers, under the direction of

Moncure Robinson, Esq., are now engaged in the location of the railroad from Richmond to Fredericksburg, a portion of which will be put under contract during the present year, and there is every prospect that the work will be completed as speedily as possible.

A VIRGINIAN.

PROGRESS OF STEAM NAVIGATION WITH INDIA.—A steam voyage from India to England, by the Red Sea, seems at last to be really on the eve of taking place. The steamer Forbes has been engaged to start from Calcutta for Suez in the beginning of the present month, the Hugh Lindsay having been pronounced unfit for the purpose. The whole expense, except that of the coals, is to be borne by the Indian Government; while the Calcutta Steam Navigation Committee, will receive all the profits on passengers and all kinds of freight, except letters, the postage of which will be reserved by the Government. [Mechanics' Magazine.]

A speed of forty miles an hour, with a light load, has been obtained upon the Manchester railway; and Mr. G. Stephenson, the engineer, has stated his opinion that an engine might be constructed to run 100 miles within the hour, although he acknowledges that "at that rapidity of motion the resistance of the atmosphere would be very considerable." Engines are now made with eight times the power of the Rocket, yet with little more weight resting on each rail, the load being equally divided upon six wheels, and the machinery placed in a more advantageous situation than formerly. The tubes of the boiler are made smaller, and more numerous, and of brass instead of copper. The last engine put on the railway ran 23,000 miles with the most trivial repairs, making every day four or five journeys of 30 miles each. —[English paper.]

NEW INVENTION.—A blacksmith in Virginia has invented a machine for striking, which enables blacksmiths to dispense with a striker, and at the same time perform, with the aid of one of these machines, double the amount of work which they can with the aid of one of the best strikers. The machine is propelled by the foot in the ordinary manner of turning a lathe. The inventor has secured a patent right.

DIFFUSION OF KNOWLEDGE.—A royal Sardinian edict was promulgated, so lately as 1825, which forbade every person from learning to read or write, who could not prove the possession of property above the value of fifteen hundred livres. To become a student, the possession of an income of the same sum is necessary.

PINE APPLE CLOTH.—A beautiful specimen of fine cloth, made from the fibres of the leaves of the pine apple, from Manilla, resembling the finest linen cambric, was presented by Miss Eliza Schroeder, at the late Horticultural Exhibition in Baltimore.

We copy the following from the forthcoming number of the Mechanics' Magazine,—as also the article at page 454, on the "Art of Brewing."

T. Eurbank's Hydrostatic Safety Valve and Gauge, for Steam Boilers. [Communicated by the Inventor.]

SIR,—In accordance with your request, I forward a brief description of the Hydrostatic Safety Valve, premising that a more perfect account of it may be seen in the "Journal of the Franklin Institute" for January and July of last year, (vols. 9 and 10.)

There appears to be a prevailing though erroneous opinion, that steam boilers are seldom, if ever, exploded by an excessive pressure of steam. Numerous persons suppose these disasters to be invariably owing to a deficiency of water within them at the time; hence they consider all improvements in the safety valve, or the application of other devices for a similar purpose, as having a tendency to increase the risk of explosion, by promoting negligence in the attendants. It is sufficient to observe, in answer to reasoning of this description, that it is equally calculated to prevent all improvements whatever in the steam engine. Had such arguments been listened to 120 years ago, this noble prime mover of the arts might still have been confined to its original purpose of raising water; and each one attended by a person, upon whose attention in alternately opening and closing the valves, the continuance of its motion depended. Such objections were particularly calculated to prevent the introduction of the important improvement of Pötter, who, it is said, had a disposition to skulk, or "scog," (as it was there termed,) which led him to devise a simple contrivance, which changed the whole character of the steam engine—for by it the engine no longer depended upon an attendant for the continuance of its motion, but became in a manner self-acting, and with a regularity infinitely superior to its previous movements. His device he called a "scogger."

Explosions of steam boilers are not attri-

butable to *one* cause: there are several. A deficiency of water is a fruitful one; excessive pressure of steam is another; a third may be found in the defective construction of a boiler; and where several are connected together, their not being *heated uniformly* is another. Numerous examples of each of these might readily be furnished. I believe there are not wanting instances where the attending engineers have been blamed, when the real cause was to be found in one or both of those last mentioned.

The importance of the safety valve is universally understood; without it no boiler could ever be secure. Upon it depends the very existence of the steam engine; for without the safety valve, as Mr. Galloway justly observes, "steam would, long ere this, have been abandoned as a most dangerous and ungovernable agent." Every person can readily perceive, that however strong a boiler may be, if the force within it be not limited it must be rent asunder; hence the design of safety valves, which are intended to open, and discharge the excess of vapor, whenever its elastic force exceeds the prescribed limits. In the case of a steamboat, the lives of the passengers and safety of the boat depend in a great measure upon the right construction and proper use of this part of the steam engine.

One of its most essential attributes consists in its being properly loaded; and a provision to prevent this load from being increased. By the arrangement of the ordinary valve, it is difficult, if not impossible, to accomplish this; the load *may* be increased indefinitely, either by augmenting the weight directly on the lever, or by moving it further from the fulcrum: how frequently and fatally this has been done, may be abundantly seen in the history of explosions. There are also other defects in the ordinary valve, though less obvious to common observers, such as the indirect mode of obtaining the pressure upon it, through the intervention of the lever and its joints, by which the centre of pressure, instead of being directly on the centre of the valve, becomes more or less on one side, which prevents it from being raised perpendicularly, and causes it to adhere to its seat. The friction of the stuffing-box, through which the valve rod passes, and also that of the joints, both of it and the lever, which from rust, &c. is often considerable. These and other defects are so great, that were it not for the

mercurial gauges used with low pressure boilers, (and they are inapplicable to those of high pressure,) no accurate knowledge of the pressure of steam could be ascertained by safety valves as ordinarily used.

These defects are supposed to be entirely avoided in the valve now submitted to your examination.

Its position is the reverse of the ordinary one; that is, instead of opening upwards, it is made to open downwards. For this purpose it is raised above the boiler, and connected to it by a pipe. By this arrangement you will perceive that the pressure requisite to keep the valve closed must be exerted in an upward direction. To attain this, and at the same time *limit* the pressure, a simple device is adopted, which will be understood by supposing an empty vessel (a bucket, for example,) placed with its bottom down, into water, or any other fluid; if depressed in that position, the power required to do so will be in proportion to the area of its bottom and the depth of its immersion; but if forced down till its upper edge becomes level with the surface of the fluid, the power required to keep it there, or in other words, the force which the vessel exerts in a contrary direction, will then be at its maximum; for if further depressed, the fluid would run into and sink it, and destroy its buoyancy altogether.

Suppose the vessel containing the water, which is rather larger in diameter, but of less depth, than the bucket, (that the fluid may never be permitted to run into the latter,) be placed immediately under the safety valve, and firmly secured to that part of it containing the seat of the valve. Let the bucket be placed in it in the position as before; and a rod, extending from the centre of its bottom to the centre of the valve; then, if the outer vessel be filled with water, the force tending to raise the bucket against the valve, by means of the rod, will be as before mentioned, at its maximum; nor can it be increased: consequently, the elastic force of the steam in the boiler can never rise higher than what is equivalent to overcome this pressure.

The length of the rod is such as to admit a space of two or more inches between the bottoms of the two vessels, in order to allow the valve to open that distance.

The foregoing is a brief description of the *principle* adopted in this valve; and which may be more clearly understood by the annexed cuts:

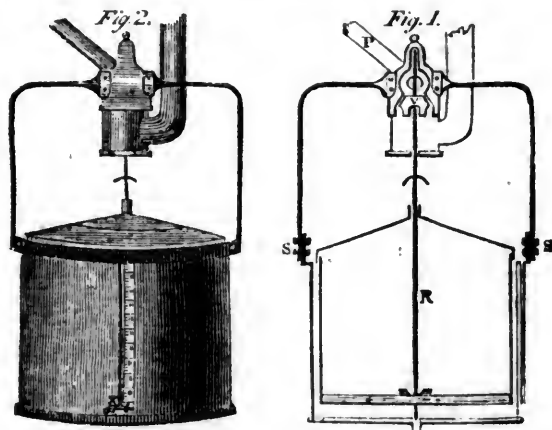


Fig. 1 represents this valve in section with the vessels by which the hydrostatic pressure is made. The outer one is enlarged

at the top by a rim, from which a pipe descends, which prevents any surplus fluid from flowing over it or entering the inner

one. It is firmly secured to the inverted valve seat by the rectangular rods which are bolted to the rim at S S. V is the valve, kept up against its seat by the rod R, the upper end of which enters a countersunk hole in it; and the lower end in a similar cavity in the centre of the bottom of the vessel. The rod being tapered at its ends, presses only on its central points. The inner or floating vessel is furnished with a cover, to prevent condensed steam from falling into it when the valve is opened. The rod passes through the centre of this cover, a few inches above which an inverted cup is soldered to the rod to cover the opening. A short tube, with a branch attached to it, is connected to the under part of the valve seat, to take off the waste steam when blowing off. The communication between the valve and the steam in the boiler is by means of the pipe P, which may either be connected to the boiler or the steam pipe. To prevent any friction arising from the inner or floating vessel touching the sides of the other, a short rod is attached to the centre of its bottom on the under side, which enters a corresponding cavity drilled into the bottom of the other.

This apparatus, unlike the ordinary safety valve, combines in itself both the valve and gauge, with its tell-tale; and this gauge is applicable to steam of every degree of elastic force.

Fig. 2. is an exterior view, and which also shows the gauge; which is a glass tube connected to the cock at the bottom of the outer vessel, and communicating with the water in it. It is open at top, and protected by a metallic case with a slit its whole length, to allow the height of the water to be seen. This case is graduated, so that when it is wished to ascertain the strength of steam, the cock is opened, and the water allowed to subside until the steam begins to open the valve, when the mark on the case, opposite the surface of the fluid in the tube, indicates the pressure; and this it will do to the fraction of an ounce.

In this valve there is no friction to be overcome. No lever, stuffing box, weight, bolts or joints, to obstruct its operation. *It cannot be overloaded.* The common valve is very liable to adhere to its seat, when not frequently moved, by the accumulation of saline or other matter upon it, but the elevation of this valve above the surface of the boiler, and its inverted position, prevents this from taking place. Moreover, a portion of condensed steam constantly collects above it, and occasionally oozes out, thus cleansing the surface and preventing the formation of any matter upon it whatever. One has been attached to a high-pressure boiler in this city for three years; and not an hour's labor has been expended upon it during that time; nor has it once ceased to operate with perfect accuracy—the steam always blowing off as soon and as long as its tension exceeded the prescribed limits.

It is respectfully submitted to owners and captains of steamboats, whether the adoption of this valve would not prevent explosions that arise from *one* acknowledged source—an excess of steam: and at the same time put to silence the complaint of the public on that subject. Very respectfully,

THOS. F. W. BANK.

P. S.—One of them is at Mr. Worrall's Foundry, Elm Street, New-York.

LIST OF RAILROADS IN THE UNITED STATES.

(Continued from page 433.)

BOSTON AND WORCESTER RAILROAD.—This Company was incorporated June 22d, 1831, with a capital stock of \$1,000,000. Surveys had previously been made by the authority of the Legislature of the State, with a view to determine its practicability and expense, the result of which was altogether unfavorable. In 1831, however, the Company commenced their approximate location, which was completed in November of the same year, and shortly after part of the line was put under contract. The line, as now laid down, leaves Boston not far from the foot of the Common, and after passing over the flats at the mouth of Charles River, on a construction partly of arches of masonry built on piles, and partly of trestle work, it proceeds up the south side of the valley of this river to Newton, a distance of 8 miles. Two miles farther, the line crosses the river on a bridge of a single span of 120 feet. It is built on Long's patent. The abutments are of hammer-dressed dry masonry, in height above river 35 feet, and cost \$6000. One mile farther, it enters Needham by a short heavy cut of 60 feet, immediately succeeding an embankment 600 feet long, and 30 feet high. Soon after it passes through a cut 31 feet high, and 500 long, excavated through a hard granite formation. The line then enters a pond half a mile long, and originally 7 feet above grade, the drainage of which passes down along the road, which is here constructed on piling, 35 feet deep. Thence, crossing the Worcester Turnpike, it follows parallel to the line of the Central Turnpike, to the south end of Morse's Pond, which it passes on an embankment 47 feet high and 700 feet long. Here it enters Natick by a rock cutting of 20 feet, forming a summit, whence it descends at the rate of 30 feet per mile to the south end of Natick Pond, which it doubles by a strong curve. Thence the line passes by easy grades and light work to the valley of Concord River, the bend of which is crossed at Shepherd's Mills by two bridges, of the same kind of masonry as previously described; one of two semicircular arches of 22 feet span and 18 feet rise, the other of 17 feet span and 4 feet rise. Ascending the valley of Concord River to its rise in Westboro' Swamp, (3 miles long,) it passes the town of Westboro' and a dividing ridge, and enters the valley of Elizabeth River. Ascending again, to its head, it passes a summit at Cutler's Peak into the valley of Long Pond, which it passes on a high embankment one-fourth of a mile long, over soundings averaging 20 feet in depth. Thence, rising 30 feet a mile, over a rough country, it passes through the main dividing ridge, 500 feet above tide, by a cut 37 feet deep and 1500 feet long, of hard slate rock, into the valley of the Blackstone River, crossing which it immediately after enters Worcester. The Clarence pattern of rail has been adopted for the whole line. The chairs are fastened immediately to the sleepers (chestnut and swamp cedar,) laid transversely in pits of well rammed rubble. The whole cost of superstructure is about \$6000 per mile of single track. The grading for a greater part of the line is finished; that for the remainder, and the laying of the rails, is rapidly progressing, so as to leave but little doubt but what it will be opened through its entire length by the spring of 1835. Eight miles of the road has been opened since April, upon which a locomotive has daily carried an average number of 230 passengers. The whole road is going on successfully, and nothing as yet has occurred to lessen the belief that it will be finished at the time and for the sum contemplated in the original estimate of the engineer, upon whom the work is calculated to reflect the highest credit. The table of ascents and descents is as follows:

16	1.4	miles	are	level
2	5.8	"	rise	13 feet
5	"	"	"	21 "
3	4	"	"	27 "
13	5.8	"	"	30 "

43 1.4 miles total distance.

BOSTON AND LOWELL RAILROAD, Massachusetts.—This road was incorporated June 5th, 1830; construction commenced November 28, 1831; length of road, 25 1.2 miles; width of way, 26 feet in cutting, and 24 feet on embankment. The road is to be formed for two tracks, but only one will be laid through at present. About 8 miles of one track, and 2 or 3 miles of the other track, are laid. The excavations and embankments are principally done, and also the bridges and culverts. The trench walls are nearly completed. There will be 69 river and road bridges, 18 under and 51 over the railroad, beside 12 streets and passage ways to be crossed on a level. The iron rails to be used are of the Liverpool and Man-

chester, or fish-belly pattern, in lengths of 12, 15, and 18 feet, weighing, with the cast iron chair, about 55 lbs. per lineal yard, chairs 17 lbs. The rails are to be supported every 3 feet on chairs, bolted to stone blocks and stone sleepers, which rest on continuous trench walls, the bottoms of which are 2 1.2 feet thick, and from 30 to 36 inches below the surface of the road-way. The space in the clear, between the rails of a track, is 4 feet 8 1.2 inches, and the top of the rails will be 10 1.2 inches above the surface of the road. The space between the tracks is 6 feet. The stone blocks are generally of granite, and contain 3 1.2 to 4 cubic feet. The stone sleepers which lay across the track are 7 feet long, and vary from 6 by 12 to 10 by 12 inches square. The line of the road crosses Charles river, by a wooden bridge 1,600 feet long. The inclination of the road will not exceed the rate of 1 in 528, or 10 feet to the mile, except a short portion in Lowell. The curves are intended to be of 3,000 feet radii, and upwards, except about 500 feet across the canal in Lowell, where the radius of curvature will be 1,200 feet. There will be about 29 portions of curved line, and 30 portions of straight line. The longest straight line will be short of 3 miles. All the level portions will not exceed 1 1.2 miles. The railroad at the depot in Boston will be about 7 feet above base, or ordinary high water mark. The greatest elevation is in Billerica, 4 miles from Lowell, and is 118 feet above base, and the terminus in Lowell 87 feet, or 80 feet above the depot in Boston. This railroad will open a communication between Boston and the manufacturing town of Lowell, situated on the right bank of Merrimack river, 30 miles above its mouth at Newburyport.

From Lowell the river is made navigable 50 miles, to Concord, N. H., by means of locks and short canals built thereon; and, by the Middlesex canal, which enters the Merrimack 2 miles above Lowell, a water communication of 30 miles is open from Lowell to Boston. Very little agricultural produce is brought by this communication down to Lowell or Boston, but large supplies of wood and lumber are obtained. All the kinds of foreign productions generally consumed in the country, with much grain and flour from the middle states, are carried up by the canal and river, and distributed at the various landings. The manufacturing establishments at Lowell, on the Merrimack, and its tributary streams, have been the cause of the principal traffic carried on upon their waters. It is now 40 years since these works for inland navigation were commenced, and their value has been much improved by the increase of manufactories in their vicinity.

This railroad is the offspring of the same spirit of improvement which has built up Lowell, and it is owned chiefly by the same persons, who have invested large sums to carry on the works there.

The large amount of cotton, wool, iron, coal, oil, dye stuffs, manufactured articles, &c., &c., to be transported by the various manufacturing companies at Lowell, with the passengers, will be to the railroad the main source of its income, until other railroads shall be extended farther into the country.

BOSTON AND PROVIDENCE RAILROAD.—This company was incorporated in 1831; the work was commenced in Dec., 1832; two-thirds of the grading is now, June 20, 1834, accomplished; 11 1.2 miles of railway are now in use. The road bed is graded for a double track, being in no place less than 26 feet wide, and in the deep cuts 30 and 40 feet. The length of the road is about 41 miles. The capital of the company is \$1,000,000, and the estimated cost is within the capital. This railroad will undoubtedly be a portion of the "great route" for communication between New-York and Boston. It is the straightest route, (taking into view its length,) in the world. The curves are mostly of 6,000 feet radius; there is one continuous straight line of 16 1.2 miles. The rail is of the heaviest, weighing 55 lbs. to the yard; is laid on cedar sleepers. The road passes through the townships of Roxbury, Dedham, Canton, Mansfield, East Attleboro' and Seekonk, traversing a most beautiful country. Locomotive engines are used. The passenger cars of the best kind, made in New-Jersey, by the Messrs. Greene.

In Canton, over the Stone Factory Pond, there is a splendid structure, 450 feet in length, and from 40 to 50 feet above the natural surface, built entirely of granite, in the most permanent manner. It is called the "Canton Viaduct," and is one of the finest structures of the kind in the United States. There are 15,000 perches of solid masonry in this structure. It is being built by Messrs. Dodd and Baldwin, of Pennsylvania. The entire road is being built in the most permanent manner.

STONINGTON AND PROVIDENCE RAILROAD.—This road

is to commence at Stonington Cove, on Long Island Sound, to which place there is an almost entire uninterrupted steamboat navigation from New-York during the year, and extend to Providence, R. I., 48 1.2 miles, where it will probably connect with the Boston and Providence Road, and thereby make an uninterrupted communication between Boston and New-York during the whole year. The elevation to be overcome does not exceed 302 feet, and may be so distributed as to be adapted to locomotive engines. The following shows the character of the route: 14.75 miles level, and under 2 feet; 7 miles under 8 feet; 13.66 under 13 feet; 3.81 under 20 feet; 7.19 under 26 feet; 1.36 under 34 feet to the mile, which gives an average of about 12 feet per mile. The work is to be graded for a double track, but for the present a single track only is to be laid down, with occasional turn-outs, and an edge rail of sufficient strength to require supports every 4 feet. The grading of the route for a double track is estimated to cost \$505,830.90; the superstructure, \$480,000; land and fencing, \$50,000; moving power, cars, agencies, &c. &c., to complete \$103,583.09. Total, \$1,139,413.99. Operations commenced on this road in 1833, and the work is progressing.

LOWELL AND BRATTLEBORO' RAILROAD, Vt.—This road is not yet chartered.

BOSTON AND SALEM RAILROAD.—Contemplated; not commenced.

BOSTON AND TAUNTON RAILROAD.—Will probably be connected with the Boston and Providence road at some convenient place.

WORCESTER AND NORWICH RAILROAD.—A charter was granted for this road in 1832. A survey was made, by which it was ascertained to be a very favorable route. The distance from Worcester to Norwich is 60 miles. The country fertile and densely populated. The Legislature of Connecticut granted a highly favorable charter, connecting with it a bank, which is required to subscribe for a part of the stock. Nothing has been done, as we are aware of, towards making the road.

TONEWANDA RAILROAD.—Commences at Rochester, and is designed to pass through Batavia to Attica and Buffalo. Incorporated in 1832. Capital, \$1,000,000.

ITHACA AND OWEGO RAILROAD.—This was one of the earliest chartered railroads in the state, with a capital of \$300,000; is 29 miles in length, and has two inclined planes ascending from Ithaca. The first is 1,733 1.2 feet in length, and rises 1 foot in 4.28, or 405 feet; the other is 1,733 1.3 feet long, and ascends 1 in 21 feet. The whole elevation above the Lake overcome is 602 feet, within 8 miles; after which there is a descent of 376 feet to Owego. Stationary power is used on the first, and horse power on the other plane, as well as upon the other part of the road. The curves are upon a large (say from 7,000 to 100,000 feet) radius. The road is constructed in a substantial manner much of the way. Trenches are made lengthwise, about one foot deep, filled with gravel rammed, upon which longitudinal sills, 4 by 12 inches, are placed; then cross ties are placed 3 feet apart, with chairs to receive the rail, upon which the iron plates, 2 1.4 by 5.8 inch are laid. The width of the track is 56 1.2 inches. It is in successful operation, and will add greatly to the prosperity of the two flourishing towns at its extremities.

CATSKILL AND CANAJOHARIE RAILROAD.—This road was intended to divert a part of the business of the Erie Canal to Catskill. The stock was subscribed, but nothing has been done on the road.

PORT KENT AND KEESVILLE, OR THE AUSABLE RAILROAD.—This road will be 4 1.2 miles in length. The ascent of 40 feet to the mile.

DANVILLE AND ROCHESTER RAILROAD, N. Y.—Was chartered in 1832, with a capital of \$500,000. The road has been surveyed and the stock taken. When completed, it will add much to the business of Rochester, and afford great facilities to the country through which it passes.

SARATOGA AND SCHENECTADY RAILROAD.—This road was commenced the 1st of September, 1831, and was opened for travelling 12th July, 1832, except a short distance at Ballston, which was completed in April, 1833. Its length is 21 1.2 miles. Its cost, \$297,201.22, exclusive of the land it occupies, and some trifling agencies and travelling apparatus, but including every thing, when in complete operation, \$297,237. About 3 miles of it is put down on stone foundation. Trenches were dug 2 1.2 by 2 1.2 feet, and filled with broken stone, closely rammed; and

placed, 3 feet from centre to centre. On these stone blocks, cast iron chairs are placed to receive the wooden rails, upon which is the iron plate. Cross-ties of timber secure the rails from spreading. The remainder of the road is laid upon longitudinal sills, upon which the sleepers rest, notched on both sides, to secure the sills in their place, and also to receive the wood rail, upon which rests the iron plate, as in the first part of the road. It has but a single track, with turn-outs. The road is mostly level, and in no case does the inclination exceed 16 feet to the mile. Steam power is used to great advantage, and the net income of the road from April 1, 1833, to February, 1834, was within a fraction of 10 per cent. upon its capital. It will be much more profitable, when the Saratoga and Fort Edward road shall be completed.

SARATOGA AND FORT EDWARD RAILROAD.—This road is designed to be a continuation of the Saratoga and Schenectady road. It was chartered in 1832, and has been surveyed, but not yet commenced, that I am aware of.

SALINA, WATERTOWN, AND OGDENSBURG RAILROAD.—At present only contemplated. It will, however, be hereafter made, and continued on south, through Homer, to Binghamton.

MADISON COUNTY RAILROAD.—Commences at Chittenango, on or near the Erie canal, and terminates at Cazenovia. It is also in contemplation to extend this road through De Ruyter to Binghamton, there to connect with the great New-York and Erie road, and also with the Lackawana and Binghamton railroad to the coal region of Pennsylvania, by which the salt works at Salina will be supplied with anthracite coal.

ROCHESTER RAILROAD.—This road extends from Rochester to the head of ship navigation, on the Genesee river, about 3 miles in which it has a descent of 254 3/4 feet, 156 1/2 of which within 1,000 feet of its termination. It cost construction less than ten thousand dollars per mile; was completed and in use the 1st January, 1833.

BUFFALO AND GENEVA RAILROAD.—Some movements have been made towards obtaining a charter for a railroad between these two points. A railroad will eventually be made over this ground, to connect with a railroad between Geneva and Ithaca, and thence by the Ithaca and Owego, and the New-York and Erie railroad, to this city.

BUFFALO AND ERIE RAILROAD.—To extend from Buffalo, along the Lake, to Autauga.

BUFFALO AND BLACK ROCK RAILROAD.—This road is 3 miles in length, constructed with sills hewed on one side, and covered with plank, laid transversely, extending quite across the road, thereby forming a horse path and a covering; upon the plank is laid a white oak scantling, 2 by 4 inches, parallel with and directly over the sills; upon this scantling is laid the iron rail, 2 inches by 1 1/2 inch. The cost of this road is less than \$2,500 per mile.

UTICA AND SCHENECTADY RAILROAD.—This road was chartered in 1833, with a capital of \$3,000,000. Over \$14,000,000 were subscribed. It has been surveyed and located. The contracts will soon be let, when operations will commence. The route is a very level one, and well calculated for locomotive power. Its length will be about 100 miles.

RENSSELAER AND SARATOGA RAILROAD.—This road commences and crosses the Hudson at Troy, and passes up on the west side of the river to Waterford; thence to Ballston Springs. The grading is partly completed.

NEW-YORK AND ALBANY RAILROAD.—This road has not yet been, and probably will not be commenced, at present. It was incorporated in 1832. It is to pass upon the east side of the Hudson River, to Albany; its capital \$3,000,000. The facilities for river navigation are so great, that this road, for a time, at least, would not be a profitable investment.

HARLEM RAILROAD.—This road was chartered in the winter of 1831, with a capital of \$500,000. The work was commenced in the spring of 1832. The grade was required to correspond with the regulation of the streets, which has required much deep cutting and some high embankment. About 4 miles of the road are now in use, upon which pleasure cars constantly run for the accommodation of those who desire to get out of the city for a short time. When completed, there will be a tunnel of some length through a rock, at Yorkville, after which there will be a gradual descent to Harlem river. The work thus far has been very expensive, and will be continued, at least its whole capital, and

probably more. At present horse power is used. A locomotive engine was provided and used for a short time, but from carelessness, or some other cause, the boiler burst, and the engine was laid aside.

BROOKLYN, JAMAICA, AND LONG ISLAND RAILROAD.—The road to Jamaica has been located, and may be made within a year or two; but that part beyond Brooklyn to Sag Harbor, designed as a substitute for steamboat navigation on the Sound, with the exception of about 25 miles from Sag Harbor to Stonington, probably not immediately—although it will eventually be made. There are so many other roads to be made where there are not as great facilities for business as on, or about Long Island, that this road will not be made for some years.

PATERSON RAILROAD.—This road will extend, when completed, from Jersey City to Paterson, passing, in its route, Bergen ridge, through which there is a deep cutting of near fifty feet, and much of it through solid rock, two extensive marshes and two navigable rivers. It passes the rivers upon bridges; that over the Hackensack is 1700 feet in length, and upon Col. Long's plan, so constructed as to permit vessels to pass; one by a slide and the other by draw. It is constructed in a substantial manner, with cedar sleepers and pine rails, upon which is placed the flat wrought rail, 2 1/2 by 1 1/2 inch. The first division, from Paterson, 4 miles, to Acquackanonk was ready for use in the spring of 1832. The second division, to the Newark turnpike, west side of Bergen hill, 1st December, 1833, since when cars have run regularly to that point, from whence the passengers are taken to Jersey city in stages. The fare from New-York to Paterson, 16 miles, including ferrage, is 50 cents, and the route is performed with horse power in two hours. There is much heavy work on the route, especially in deep cuttings and embankments. The deep cutting at Bergen hill is not yet completed, and probably will not be this year, but to facilitate business, and to accommodate the Newark Railroad, which is to be in use this fall, a single and temporary track is laid down over Bergen ridge, and will probably soon be in use to the Hudson river.

NEW-JERSEY RAILROAD.—This road is to extend from Jersey city, opposite Courtland st. New-York, through Newark and Elizabethtown to New Brunswick. The first 2 1/2 miles from Jersey city, to the west side of Bergen ridge, will be used in common with the Paterson road. This road is now nearly ready for use, and will probably be completed to Elizabethtown this year. It is to be constructed in a permanent manner, and will eventually be a part of the great North and South, or Atlantic Railroad.

CAMDEN AND AMBOY RAILROAD.—Extends from South Amboy to Camden, directly opposite Philadelphia. Its course is uncommonly direct. Its curves are few, and generally of a radius exceeding 1,800 feet. On the 1st division, from Camden to Bordentown, 3 1/2 miles, not yet completed, the route is remarkably favorable, mostly level, and seldom has an inclination of 20 feet per mile. The second division, from Bordentown to Amboy, 26 1/2 miles, now in use, is more rugged, having an ascent from Amboy of 45 feet per mile for a short distance. The rails are of rolled iron, 16 feet long, 2 1/8 wide on top, 3 1/4 at bottom, and 3 1/2 inches deep. The neck a half inch thick; weight, 39 3/16 lbs. per yard. They are secured by clamps of iron, and rivetted at the end of each bar. The rails are secured to the stone blocks and sleepers, by means of nails or pins at the sides, driven into wooden plugs. In order to prevent abrasion and concussion, thin slips of wood are put between the rail and the blocks. The tracks are 56 1/2 inches wide. Total estimated cost of the road, with a double track, \$1,120,322.14, beside real estate, \$115,792.84. \$180,000 for steamboats, \$41,587.65 for locomotives and cars, and \$8,674.01 for wharves and piers. This company have obtained the exclusive privilege across the state. A branch is authorised to New-Brunswick. Steam power is used, and the distance from New-York to Philadelphia is now performed daily in about seven hours.

DELAWARE AND SUSQUEHANNAH RAILROAD.—This road is designed to extend from Elizabethtown, N. J., by the way of Somerville to Belvidere, thence through the Lackawana coal region to Pittston, on the Susquehanna. It has been chartered both in New Jersey and Pennsylvania, and the route has been surveyed, but the work has not been commenced.

PHILADELPHIA AND TRENTON RAILROAD.—This road extends from Philadelphia to Trenton, N. J., along the Delaware, and but for the charter of the Camden and Amboy railroad, which secures the exclusive privilege of a railroad across the state, it would be continued to New-Brunswick, there to unite

with the New-Jersey railroad to New-York, and thus form a continuous railroad between the two cities. Distance, 27 1/2 miles, which will be completed in a few weeks, when there will be, with the exception of the 25 miles from New-Brunswick to Trenton, N. J., a railroad completed or under contract, from New-York to Washington city, and to Winchester, Virginia.

LACKAWANA, PA., AND BINGHAMTON N. Y., RAILROAD.—Contemplated to connect the Delaware and Susquehanna Railroad, with the New-York and Erie, and with the Salina and Binghamton Railroad, and the Chenango Canal at Binghamton, thereby opening the coal region of Pennsylvania to the interior of New-York.

PITTSBURGH, PA., AND CHEMUNG, N. Y., RAILROAD.—Also contemplated to open a communication with the interior of New-York by the Chemung Canal.

WILLIAMSPORT, PA., AND ELMIRA, N. Y., RAILROAD.—A third route from the interior of Pa. to the interior of New-York. This road was chartered in 1832. The route has been surveyed, but I am not informed what progress, if any, has been made with the work.

PHILADELPHIA, GERMANTOWN, AND NORRISTOWN RAILROAD.—The act of incorporation of this company was granted by the Legislature of the state of Pennsylvania in the winter of 1830-31; and the preliminary surveys for the final location of the line commenced early in the spring, and the work was put under contract, and commenced in July of the same year. The line as now constructed to Germantown leaves the corner of Ninth and Spring Garden streets in Philadelphia, and soon after enters the valley of Cohoesing, which stream it crosses by a handsome viaduct of mortared rubble, in one arch of 20 feet span, and a total height of structure of 25 feet. Curving there to the left, it passes up the valley of the Cohoesing, crossing the Germantown road by a skewed viaduct, on Town's plan, of 73 ft. span, on abutments of cut stone mortared masonry. Thence through a summit it joins the valley of Fisher's Run, up which it ascends, crossing Fisher's Lane by an arch of 33 ft. span, and 24 ft. high, of rubble masonry, and immediately after reaches Welley's Factory, where it ceases. The original location was based upon the necessity of passing through Germantown, thereby rendering the construction of the line liable to extremely heavy excavations and embankments, and a bridge over the Wissahiccon more than 100 feet high. This line, by a special act of the Legislature, the company has been enabled to abandon entirely, and are constructing the road anew, branching off at Weiss's Tavern, and immediately after gaining the valley of the Schuylkill, up which it will proceed by easy grades and light work to Norristown. The grades on the part now constructed vary from a level up to 32 feet per mile, the alignment of which consists of numerous curves, on radii of from 700 to 3,500 feet. The superstructure consists of a Clarence rail and chair, fastened by means of a screw and nut to stone blocks. The graded surface is 25 feet, on which a double track has been laid for the whole distance to Germantown. The highest embankment is 18 feet, and the deepest excavation is 17 feet, and yet the road has already cost the enormous sum of \$250,000! or a little more than \$41,000 per mile.

THE WEST CHESTER RAILROAD.—Is a branch from the Philadelphia railroad to the flourishing village of West Chester. It unites with the Pennsylvania railroad on the South Valley Hill, two miles west of Paoli. It is the property of a company composed of enterprising citizens of Philadelphia and West Chester. Length, nine miles; cost about \$100,000. Completed, and now in use.

LITTLE SCHUYLKILL RAILROAD.—From Port Clinton, at the mouth of Little Schuylkill, to the village of Tamuqua, on that stream—distance 21 1/2 miles, with several branches to coal mines. This is the work of a company, and is designed principally to transport coal to the Schuylkill navigation. Finished, and in use.

MINE HILL AND SCHUYLKILL HAVEN.—At the mouth of the West Branch of Schuylkill, up that stream 10 1/2 miles, to Mine Hill Gap. Finished and in use. Trade, coal. Belongs to a company.

MOUNT CARBON RAILROAD.—From Mount Carbon, one mile below Pottsville, up the valley of the Norwegian creek; main line and branches, about seven miles. Finished and in use. Trade, coal. Belongs to a company.

DANVILLE AND POTTSVILLE RAILROAD.—From Pottsville to Sunbury, opposite the forks of the Susquehanna.

nah. Length, 45 miles; eight miles nearly completed. It is designed to accommodate the great coal region on the Shamokin, Mahoney, &c., and to connect the Susquehanna with the Schuylkill canal. Belongs to a company.

SCHUYLKILL VALLEY RAILROAD.—From Port Carbon, at the head of Schuylkill navigation, up that river to the town of Tuscarora—distance 10 miles. Trade, coal. Belongs to a company. Finished, and in use.

THE MAUCH CHUNK RAILROAD.—The first of any magnitude completed in the United States. From the head of the Lehigh Canal, at Mauch Chunk, to the coal mine on the summit of Mauch Chunk mountain. Aggregate of main line and branches, 12 3/4 miles. Belongs to the Lehigh Coal and Navigation Company.

THE ROAN RUN RAILROAD.—From Mauch Chunk, up the Lehigh, to a coal mine—length, 5 1/4 miles. Finished, and in use. Belongs to the above company.

LYKEN'S VALLEY RAILROAD.—From Millersburgh on the Susquehanna, up Lyken's Valley, to a Coal Basin in the Brody Mountain. Distance, 16 1/2 miles. Began, and completed in 1833.

CARBONDALE RAILROAD.—Belongs to the Hudson and Delaware Canal Company, and connects that work with the Coal Mines in the valley of the Lackawanna. Length of road, 16 1/4 miles. Finished and in use.

ALLEGHANY PORTAGE RAILROAD.—This road connects two canals, one of 171, and the other of 104 1/4. Its length is 37 miles, in which it overcomes an elevation, by inclined planes, of 1,399 feet. There are ten inclined planes, varying in length from 1,500 feet to 3,100 feet, and, in inclination, from 4 degrees, 8 min.; 48 seconds, to 5 degrees, 51 min., and 9 seconds, from a horizontal plane. The ascent on the east side is 1,399, and the descent on the west 1,172 feet. The summit is a tunnel of 900 feet in length. The entrances are both arched with cut stone. There are 4 viaducts on this road, varying from 40 to 80 feet span, and 68 culverts, with span varying from 3 to 25 feet. These works are all of the very best masonry. There are also 85 drains, or square culverts, built of stone, making 157 passages for water under the road. The viaduct over the Juniata, at Hollidaysburg, is of cut stone; has two oblique arches, with spans measured on the face 40 feet 3 1/2 inches, or of 33 feet at right angles. The viaduct over the Little Conemaugh has an arch with a span of 80 feet, and is 78 1/2 feet high from foundation to top of parapet wall. On the inclined planes the superstructure is of wood rails, with flat iron bars, but the other parts of the road have the wrought iron English edge rails, which cost, delivered on the spot, \$70 per ton. The rails are laid upon stone blocks, with cast iron chairs, except on high embankments, where wood sills and cross ties are used. The road, when completed, with the necessary machinery for use, cost \$1,495,739.50. (See Railroad Journal, Vol. I, page 645, and Vol. II, pp. 66 and 564.)

PHILADELPHIA AND BALTIMORE RAILROAD.—This road will form a connecting link between the Pennsylvania and Maryland railroads. It diverges from the Pennsylvania, or Columbia Railroad, 45 1/2 miles from Philadelphia, passes through Oxford, and will strike the Susquehanna about half a mile above Port Deposit. Its length will be 20 1/4 miles, within the state of Pennsylvania, and 11 miles in Maryland, without even a bridge or a culvert. The ground is highly favorable for a railroad, which, with a double track of wood superstructure and flat rails, is estimated to cost \$12,030 per mile. The grade of the road is favorable, having only in one place an inclination over 30 feet per mile, where it is 44 feet per mile. The curves are one radii of 1000 feet and over.

The above list is believed to comprise all the important railroads in Pennsylvania, actually finished, or upon which arrangements have been made for their early completion. Some smaller or branch lines have been probably overlooked.

NEWCASTLE AND FRENCHTOWN RAILROAD, DELAWARE.—This road is considered by many as one of the best in the country. It was commenced at an early day, and was in use nearly through its entire line on the 1st of April, 1832, yet we have never received any particular report, or information, as to its cost, &c., &c. Its length is 16 miles, from Newcastle, on the Delaware, to Frenchtown, on the Chesapeake. It is said to be constructed in a superior manner. Locomotive power is used, for which its grade and curves are highly favorable.

BALTIMORE AND OHIO RAILROAD.—This road was chartered in 1827, with a capital of \$6,000,000. The grand object of this road was to open a direct and

easy communication from Baltimore to the always navigable waters of the Ohio, at Wheeling, or some other suitable place. The work was commenced July 4, 1828, yet very little was done until October of that year. The first division of the road has been constructed, on account of the unfavorable topography of the country, at great expense. There are some very heavy excavations and embankments, and expensive viaducts. The graduation alone of the first 13 miles, cost over \$381,000, or over \$29,000 per mile, and the masonry on the same section cost \$17,160 64 per mile. This road was arrested in its progress for a length of time, by coming in contact with the Chesapeake and Ohio Canal. A settlement was made, however, and it is again progressing towards Harper's Ferry. It has been in successful operation from the Point of Rocks for more than a year. The enterprise of this company has done much toward disseminating a spirit for improvement in other states. It has been visited by those interested in similar works, from all sections of the country, who have returned and carried with them information which enables them to diffuse amongst their neighbors a spirit which will produce, eventually, the most beneficial results. It is much to be desired that this work should be continued on to its intended termination, the Ohio River. (See Railroad Journal, vol. i. p. 657.)

BALTIMORE AND WASHINGTON RAILROAD.—This road is to connect with the Baltimore and Ohio railroad, 8 miles from Baltimore, and is, in fact, an appendage to the Baltimore and Ohio road. It will be about 32 miles in length, exclusive of the Baltimore and Ohio, and is estimated to cost about \$1,500,000. The distance from Baltimore to Washington is 40 miles, which it is contemplated to run with locomotives in two hours.

ATLANTIC AND OHIO, OR JAMES AND KANAWHA RAILROAD.—A work second to no other in the South, and yet scarcely agitated at the present time. The contemplated railroad from York, or Elizabeth river, on the Chesapeake Bay, up James river to the valley, and up the valley to New River, and thence down that and the Kanawha, or in its vicinity, to the Ohio river, must eventually be constructed; and, when properly constructed, Virginia may again look for commerce within her limits. Such a work will be constructed, and it only remains for the present generation to decide whether they will enjoy its benefits or leave them for the next.

PETERSBURG AND ROANOKE RAILROAD.—This road was chartered in 1830, with a capital of \$400,000. It commences at Petersburg, and terminates 1 1/2 miles below the falls of the Roanoke, and is 59 miles in length, a distance of 3 1/8 miles only greater than a straight line. Its curves are mostly on radii of 2 to 9 miles, and after leaving Petersburg it has in no place a greater inclination than 30 feet per mile. It is said to be one of the best built and best managed railroads in the country. The graduation of the road and masonry of the bridges, culverts, and other constructions, are of the most permanent kind. The superstructure is of white oak sills, 12 inches in diameter, heart yellow pine rails, 5 by 9 inches, plated with iron, 1/2 inch by 2 inches wide. One-half of the road was opened for use in October, 1832. The remaining part, or to within a few hundred feet of the Roanoke, was completed and used in August, 1833. Locomotive engines are used to great advantage on this road.

PORTSMOUTH AND ROANOKE RAILROAD, VIRGINIA. Commences at the town of Portsmouth, opposite Norfolk, and passes through Suffolk, over a very level country 77 miles, being only half a mile farther than a direct line. It crosses the Petersburg Railroad, and terminates at the north bank of the Roanoke river, opposite Weldon, in North Carolina. The greatest inclination is only 20 feet per mile, and 5730 feet is the smallest radius. This road is estimated to cost \$475,000. The surveys have been completed, and the work commenced between Portsmouth and Suffolk. This road, when completed, will compete with the Petersburg and Roanoke Railroad.

WINCHESTER AND POTOMAC RAILROAD.—This road was chartered in 1831, or '32. It was put under contract in November, 1833, with fair prospects of early completion. It will connect with the Baltimore and Ohio Railroad at Harper's Ferry, and at no distant day be continued south through the Valley of Virginia, and probably either continued on to Knoxville, in Tennessee, or follow New and Kanawha rivers to the Ohio. It is impossible to arrest the spirit of internal improvement, especially in a section of country that has so many natural advantages as Virginia. Her wealth in minerals, water power, and resources for enriching her soil, are not duly appreciated by her

citizens. They are, however, becoming so, as will ere long be seen.

RICHMOND, FREDERICKSBURG, AND POTOMAC CREEK RAILROAD.—The citizens of Richmond and Fredericksburg have made some considerable effort to make a railroad from the Potomac to Richmond. The distance is about 70 miles; the country level; the present roads, especially in the wet season, as bad as need be. Present appearances are favorable to the progress of the work, as a party of engineers are at this time (July, 1834,) engaged upon it. Should it be made, and also continued to Petersburg, Virginia will have done her share towards completing the great line through the Atlantic States, as connected with steamboat navigation.

PULASKI, TENNESSEE, AND FLORENCE, ALABAMA, RAILROAD.—The route for this road has been surveyed, the stock taken, and the directors elected. It is to be commenced this fall at both ends, and will be, when completed, 59 1/2 miles in length.

ELKTON, TENNESSEE, ATHENS AND DECATUR, ALABAMA, RAILROAD.—A railroad is contemplated from Elkton, Tennessee, through Athens, to intersect the Tusculum, Courtland, and Decatur Railroad, probably at Decatur.

TUSCUMBIA, COURTLAND, AND DECATUR, ALABAMA, RAILROAD.—This railroad, the first undertaken in the far South, (except perhaps the Pontchartrain and New-Orleans Railroad,) was commenced in 1831, and more than 15 miles of it are now in operation; it will be about 30 miles in length when completed, and will probably be ready for use by the 1st of October, 1834. It has wood rails, resting on cedar sleepers, upon which is placed a flat wrought iron rail. Its greatest ascent is 28 feet per mile, and it has but one curve, with a less radius than 1,512 feet, which is 1,380 feet. This road is designed as a link in the great chain of railroad from the Mississippi, to and through the Atlantic States, and it will be intersected by numerous other roads, both from Alabama and Tennessee. It is estimated to cost about 10,000 dollars per mile when completed.

TUSCALOOSA AND DECATUR RAILROAD.—A railroad is contemplated between Tuscaloosa and Decatur.

MONTGOMERY RAILROAD.—Some movements have been made for constructing a railroad from Montgomery, Alabama, to some point on the Tennessee river, probably at Decatur.

QUINCY RAILROAD.—A charter was granted for this road in the winter of 1825-6. The object of this road was to communicate with the granite quarries, on the Neponset, about 3 miles from tide water. It was at first laid down with wood, which has been replaced with granite sills. The rail used is the flat bar of iron, 3 1/2 of an inch by 3 inches, secured to the sills by 3/8 inch iron bolt, 3 inches in length, the head of which fits into a countersink. It is said to be done in the most substantial manner. The sills are laid on rubble stone, placed in a trench 2 1/2 to 3 feet in depth, closely rammed, with a cross piece of granite, 7 feet in length, every 6 feet. Each car carries from 6 to 7 tons; its own weight being about 3 tons. This road has a descent of 27 feet to the mile, in addition to an inclined plane, which descends 84 in the distance of 380 feet. Chains are used instead of ropes for lowering the cars. The empty, or returning cars, are moved up the inclined plane by the descent of the loaded ones. The cars are moved to the landing by horses, at the rate of 3 1/2 or 4 miles per hour, each team of 3 horses taking seven loads, of 4 cars each, or 150 to 160 tons per day. It is found that the labor of transportation is much easier on the granite than it was on the wood sills.

BOSTON AND OGDENSBURG RAILROAD.—Chartered by the different states, and formerly much talked of. Should it ever be carried into operation, it will probably connect at Lowell, with the Boston and Lowell road, passing through Concord, N. H., cross the Connecticut, at the mouth of White river, at Hartford, Vt.; thence to Montpelier and Burlington, from whence to Plattsburg steamboats would be used during the summer. The result of this work, should it be completed, will be to divert much of the Canada trade to Boston, which will be of immense advantage to that city.

ERRATA.

In the description of the Ithaca and Owego Railroad, 6th line, for "1,733 1/3 feet long," read "2,225 3/4 feet long." Also, in the same paragraph, 18th line, for "chairs," read "gains." The cost of the Saratoga and Schenectady railroad, exclusive of the land it occupies, &c., should have been "\$217,201 22," instead of "\$297,201 22," as printed.

The Art of Brewing—Ox Mill used in the Breweries of Vienna. [From the London Mechanics' Magazine.]

Of the treatises published under the superintendence of the Useful Knowledge Society, one of the very best was that on the "Art of Brewing," by Mr. David Booth; but owing (we believe) to some misunderstanding between the author and the Society, it was left in an incomplete state—two parts only, instead of four, having received the Society's *imprimatur*. Mr. Booth has, under these circumstances, been induced to give Parts III. and IV. to the world through another medium.*

Part IV. is appropriated to brewing in foreign countries, and treats of the art as practised at Munich, Prague, Vienna, Berlin, Brussels, Louvaine, &c. Mr. Booth states, "that for the greater portion of the information in this chapter he is indebted to the manuscript and oral communications of two German brewers (from Vienna and Munich), who have been, and now are, visiting the principal towns of Europe, for the laudable purpose of acquiring information concerning their business."

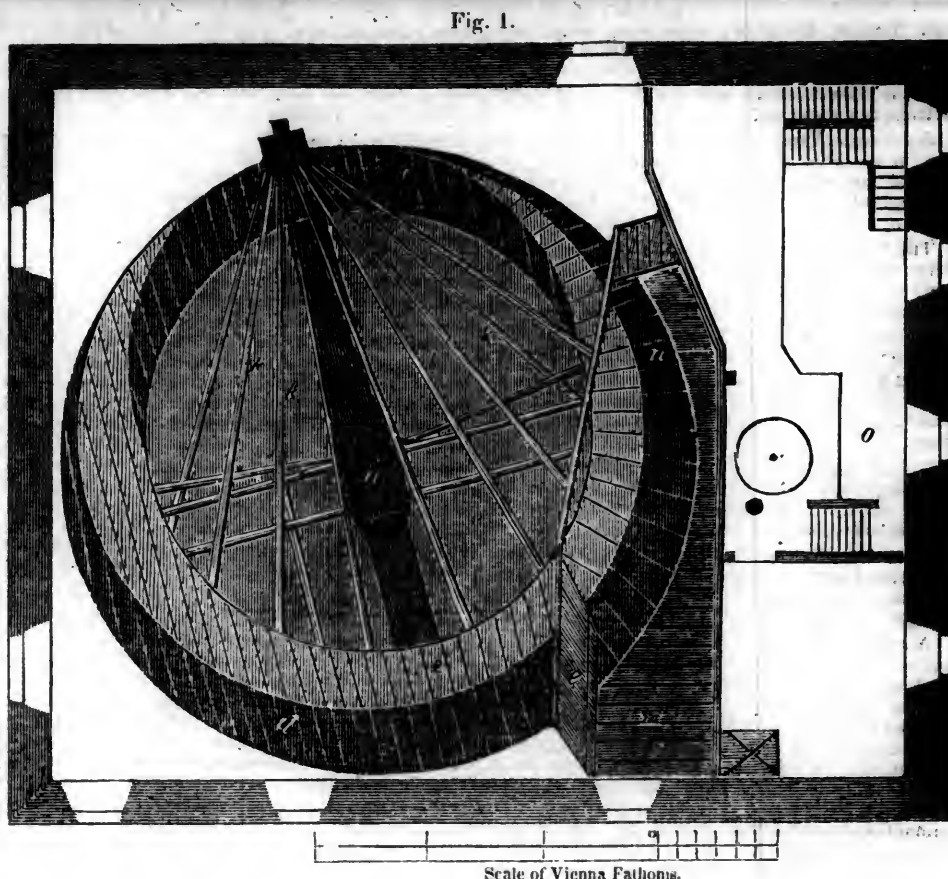
From this part, being that which contains the most novel information, we shall make a few extracts.

And first, as to the *Bavarian beer*, which, when in prime condition, is "as bright as wine, and contains so much carbonic acid, that it is, in that respect, similar to champagne."

"The beer throughout all Bavaria is nearly of the same strength: usually between $3\frac{1}{2}$ and $3\frac{1}{2}$ barrels to a quarter of malt. It is made wholly from malted barley and hops; and all sold at a uniform rate, which is fixed by law every year, according to the price of barley; so that there is but one kind of malt liquor for all classes, from the prince to the peasant. The rate for the present year is 16s. per barrel. The beer pays no duty; but the malt must be ground at a public mill, where an impost is levied, amounting to about half of its original value. The malt is screened before carrying it to the mill; and being generally cut with stones, it is also previously damped, in order to prevent the loss by dust. This operation is performed by sprinkling with a watering pan, at the same time frequently turning the heap till it has been well mixed with about two gallons of water to the quarter; and then leaving it to soak for nine or ten hours, that the moisture may penetrate to the centre of each grain. When the malt is to be bruised with rollers, this damping is not considered necessary."—p. 25.

"The cellars in Munich are very deep under ground, so that the temperature never rises higher than between 7 and 8° of Reaumur, which is from 48 to 50° of Fahrenheit. In some of them ice is preserved through the summer. It is within such cellars that the beer is cleansed, into casks that lie on their side, bung uppermost.

"After the beer has thus lain from eight to ten months, it is reckoned to be fit for use; and for that end it is drawn off into small casks as wanted, which are immediately carried out to the publican, and on the same



Scale of Vienna Fathoms.

day drank by his customers: so that every publican must be supplied with beer every day from the brewery."—pp. 27, 28.

"Great care is requisite in having the store-casks very clean and *sweet* before filling them, lest they should communicate a disagreeable flavor to the beer. In two towns this is effected, after they are well washed, by smoking them with burning sulphur; but in the rest of Bavaria it is done by lining them with pitch. The following is the manner by which this is effected at Munich: The store-casks, in which the beer is cleansed, are previously *pitched* every time for summer beer, and once a year for winter beer. Pitching is practised in this way: one end of the cask is taken out, and two English pounds of pitch for every barrel of its contents, if the pitching has only to be renewed (but double that quantity, if for the first time), is set fire to on the bottom of the cask, and made to burn until the whole has become perfectly fluid. This being done, the fire is extinguished, by putting in the head of the cask and driving the hoops close; and then the cask is rolled about, and turned in every direction, so that the pitch may be spread over every part of the inner surface, which it will thereby cover with a crust of one eighth of an inch thick. This crust is apt to crack and blister, which causes the necessity of re-pitching every season. The professed object of this manipulation is cleanliness; but it doubtless communicates a peculiar flavor to the beer, which, however, is liked, and consequently required, by the customers of those brewers."—p. 29.

"The brewers of this city (Augsburg) wash their coolers with great care, scrubbing them every week with Dutch rushes—the stalks of the *equisetum hyemale*; but, notwithstanding this apparent regard to clean-

liness, they have one practice which we, in this country, should not venture to imitate. Like the rest of their countrymen, they pitch their store-vats; but instead of waiting until the plaster is cold, they cleanse the fermented worts into the vats while the pitch is smoking and burning hot. It is this which gives the peculiar flavor by which the Augsburg beer is distinguished from that of all the rest of Bavaria."—p. 31.

The beer next in continental repute to the Bavarian is that of Prague.

"The city of Prague has been famed for its breweries from time immemorial. These constitute the chief support of a great proportion of its inhabitants; and the beer, next to that of Bavaria, is accounted to be the best in Germany. The mode of brewing is very similar to that which is practised at Munich. The brewers in the city draw one hundred gallons of beer from the quarter of malt, while those of the suburbs make ten to twelve gallons more; and, notwithstanding, the beer of the latter has a more agreeable taste than that of the former."—p. 31.

"The beer vaults of Prague, of which every publican has one, are of the very best kind. The floor of each is covered with a deep mass of ice, which never melts, and upon this mass the beer is placed, when received from the brewer. After it has lain from four to six weeks on its icy bed, it is fit for drinking, and is served out to the customers in that chilly state."—p. 33.

In treating of the method of brewing at Vienna, Mr. Booth gives the following description of a species of tread-mill, by means of which oxen are employed to drive the mill stones and rollers (for bruising the malt), which, though "little, if at all, known in this country," he thinks deserving of more extensive publicity, "believing that it would prove a cheap and convenient power

* The Art of Brewing. Parts III. and IV. By David Booth. To which is added an Appendix concerning Burton Ale. London: F.J. Mason. 8vo., 1834, pp. 56.

Fig. 2.

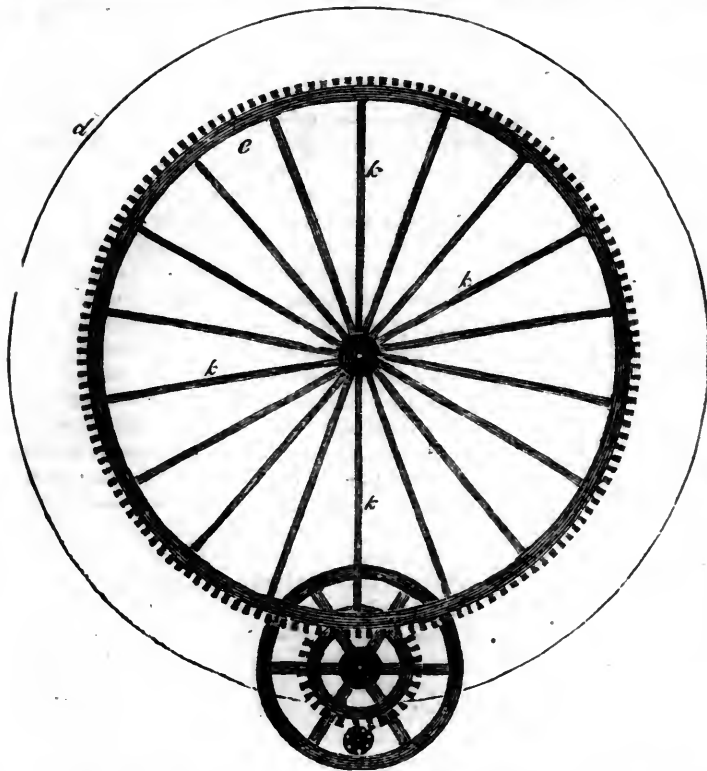
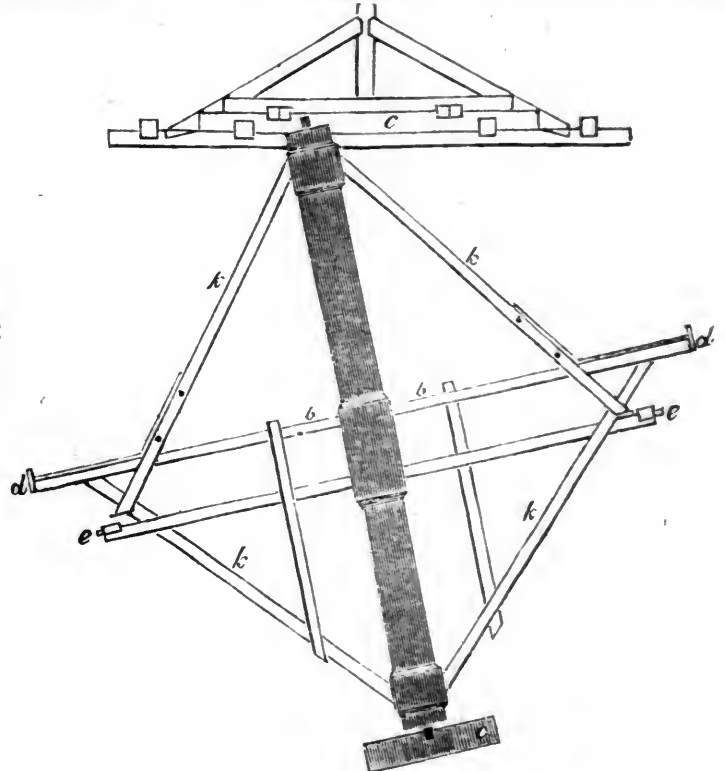


Fig. 3.



in certain situations." We copy also, by permission of Mr. Booth, the engravings to which the description refers :

" Fig. 2 is a section, showing the position of the tread-wheel, *dd*, with respect to its angle of elevation as compared with the horizontal portion of the roof *pp*. The shaft *a*, at right angles, and fixed to the tread wheel, turns on pivots at the top and bottom, which are inserted into strong timber-work. The cog-wheel *cc*, parallel to the tread-wheel *dd*, and also fixed through its centre to the shaft *a*, communicates its motion to such other parts of the machinery as may be required. The wooden spurs *k k k k* sustain the tread-wheel, above and below, uniting a little above the cog-wheel, and fastened at their ends into the shaft. The rim *dd*, being that portion of the circumference of the wheel on which the ox treads, is further supported by the timbers *bb*.

" Fig. 3 is a view of the cog-wheel from above, showing its communication with the other parts of the machinery, such as the fly-wheel *f*, the crank *h*, &c. The spurs *k k k*, &c. which preserve it steady in its place, are also seen.

" Fig. 1 is a ground plan of the whole building in which the tread-wheel stands. It is very high, and the main shaft is sunk in an excavation five feet deep in the ground-floor. The same letters of reference which mark the parts of figs. 2 and 3 also apply to this. A bar of boards, *l*, is fixed to prevent the ox from falling down into the pit below, should he accidentally get loose. The wooden gangway, *m*, enables him to get up from the stall below to the stage *n*, on which he walks without moving forward.

" We have abridged the description from the original, and consequently have left some of the letters of reference unnoticed; but we have doubtless said sufficient to be understood. When much power is wanted, the mill is sometimes supplied with three or four oxen together, in a team. The scale affixed to fig. 1 also applies to figs. 2 and 3.

It is one of Vienna fathoms, which are something larger than English, 100 of the former making nearly 104 of the latter."—pp. 38–41.

It will doubtless be in the recollection of our readers, that the Burton ale brewers, moved by what was said of their peculiar modes of practice in the second part of this work of Mr. Booth's, applied to the Court of King's Bench for leave to file a criminal information against the publishers of the Useful Knowledge Society; and that, in consequence of Mr. (now Lord Chancellor) Brougham's afterwards stating to the Court, on the part of the Society, that they had, after due inquiry, satisfied themselves that there was no ground for imputing to the plaintiffs the use of any thing, save malt, hops, and water, in the manufacture of their beer, the rule to show cause was discharged. It appears, however, from the extract which follows, that Mr. Booth himself (incredible as it may seem) " was never consulted " with respect to these proceedings; and that had he been consulted, as he ought to have been, the records of the court might possibly have told a very different tale :

" On referring to Chapter X., Part II., of the Art of Brewing, which treats of Burton ale, it will be seen, that, in recommending the adoption of certain ingredients, the writer was careful not to impute the use of them to the licensed brewers; he well knew, that for them every article except malt and hops was illegal, and subjected them to severe penalties. But the question arose, how much was insinuated, and how far such a suspicion might raise a prejudice against their beer—a circumstance directly opposite to the intentions of the author.

" One of the affidavits gratuitously acknowledged the occasional use of flour and salt, to assist the fermentation of the inferior ale; and the jalap, of which it only was said that ' some recommend ' for the same purpose (and the use of which is doubted at page 28, Part I.), may as well be left out of

the supposed-accusatory list of ingredients. These, then, are reduced to

Salt of steel	2 oz. to 20 barrels.
Honey	1 lb. per barrel.
Sulphate of lime	6 oz. per barrel.
Black resin	1 oz. per barrel.

" With respect to the proceedings in this prosecution, the writer of the alleged libel, though his character was in some degree at stake, *was never consulted*. It appears, from what followed, that several chemists were employed to analyse the ale, as well as the water of which it was made; and, had he known of their appointment, he would have told those scientific gentlemen, that the honey and resin (granting that they had ever been introduced) *would certainly escape their detection*—that the salt of steel, not being by weight one part in sixty thousand, would possibly be too minute for discovery; and that the sulphate of lime alone would probably be found. The result would have justified the prediction."—pp. 52, 53.

NEW METHOD OF HARVESTING GRAIN.—

We have examined the drawing of a machine to gather grain as it stands in the field without cutting. It is called the Locomotive Thresher; intended to be moved by horse power, and, with the assistance of three men or boys of fifteen years of age, is calculated to go over ten acres of wheat or other grain per day, and gather say two hundred bushels, leaving the straw standing on the ground threshed as clean as is generally done in the ordinary way, thereby saving all the expense of harvesting; and by ploughing in or burning the straw, it is supposed the ground may be tilled *ad infinitum* without diminishing its fertility. Should this invention succeed, it will afford another inducement for farmers to inhabit and cultivate those beautiful prairies which abound in the far west. The ingenious inventor is Mr. John T. Vail, of La Porte, Indiana, formerly of this town.—[Rahway Advertiser.]

NORFOLK, July 18.

Arrival of the Boxer—The U. S. Schr. Boxer, Lt. Com. Farragut, from the coast of Brazil, came up from Hampton Roads yesterday morning, anchored off the Naval Hospital, and fired a salute. The Boxer left Rio on the 8th of June, at 7 o'clock, P. M. Arrived at Bahia on the 12th, and remained there 3 days, and sailed for Pernambuco, where she remained one day; left there on the evening of the 22d, and arrived off the light, at 7 A. M. on Wednesday, making a passage of 37 days and 12 hours from Rio, and 23 days from Pernambuco. The Boxer left the U. S. ship Natches, Capt. Zantinger, at Rio, and the Ontario, Capt. Salter, at Monte Viedo—officers and crew all well.

The U. S. schr. Enterprize, Lt. Com. Campbell, bound to the coast of Brazil, went to sea from Hampton Roads yesterday morning.

The Hon. Mahlon Dickerson, Secretary of the Navy, and Commodores Rodgers, Chauncy, and Morris, Commissioners of the Navy Board, arrived here on Saturday in the Baltimore steamboat, on a visit of inspection to this Naval station.—[Herald.]

[Correspondence of the Journal of Commerce.]

WASHINGTON, 19th JULY, 1834.

It has been ascertained, at the Treasury Department, that the amount of the appropriations made by Congress, at the late session, is *twenty-two millions* of dollars; exceeding the Treasury Estimate by three millions and a half.

The charge upon the Treasury, for the present year, will, therefore, be as follows, viz:

Appropriations at late session,	\$22,000,000
Public Debt, principal,	4,760,082
Interest on	285,000

Former Appropriations unsatisfied at the close of last year,	5,964,572
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	\$32,909,653
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From the last item deduct as an ascertained excess of appropriations,	774,383
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	\$32,135,270
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The Receipts of the Treasury, for the year 1834, may be stated as follows, viz:

Estimated receipts from all sources	\$15,500,000
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Probable Excess of Receipts over Estimates	1,500,000
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In the Treasury on the 1st January, 1834,	7,985,790
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Total,	\$27,983,790
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Deficiency on the 1st of Jan., 1835,	4,201,460
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It is true that a portion of the appropriations may always be exposed to remain unexpended at the end of the year, and that the average of such unexpended balances, for the last four years, has been about five millions.

The Treasury will, therefore, be able to meet the demands made upon it, within the year, but will be in debt, at the end of the year, to the amount of the deficiency above stated.

If Congress had remained in session three weeks longer, they would unquestionably have appropriated, for public and private objects, some two or three millions more.

I see no reason why the appropriations should be less next year than they were this, but many why they should be greater. The appropriations for 1833 exceeded by three millions the appropriations of the previous year, and exceeded the Treasury estimates by three and a half millions; but they were less by half a million, than the appropriations of the present year. The Secretary of the Treasury in his Report at the commencement of the late session, remarks upon the heavy appropriations of the previous year, and forewarns Congress that "a similar amount of expenditure, authorized at the present session, might render it necessary to provide additional revenue earlier than is now contemplated." Even if Congress adopted at once "a guarded rule of appropriation," he thought it would be necessary, in two years from that time, "to impose duties on article that are now free, in order to meet the current expenses of the Government," inasmuch as, under the compromise act, the duties were to undergo a yearly reduction for ten years.

But it is obvious that the temper and constitution of Congress, especially since the augmentation of the number of representatives, are unfavorable to the "proper economy" and the "guarded rules of appropriation" recommended by the Secretary.

You may be assured, therefore, that the first care of Congress, at the next session, will be to add some five or six millions to the revenue, by restoring the duties on Teas and other articles now free of duty.

NEW-YORK AMERICAN.

JULY 20—23, 1834.

LITERARY NOTICES.

NARRATIVE OF AN EXPEDITION through the Upper Mississippi to the Itasca Lake, the actual source of this river: by Henry R. Schoolcraft. New York: Harpers.

LETTER FROM THE SECRETARY OF WAR, transmitting Lieut. Allen's Report of his visit with H. R. Schoolcraft, to the Northwest Indians, in 1832. Washington: [Pub. Doc. 323.]

Reader, did you ever look upon the Mississippi? Not the turbid big sewer of the Southwest, with its dirty current and swampy shores—the lengthened channel of the muddy Missouri that has been so grievously misnamed!—but the broad and limpid tide, that, swollen with the pure snows of the North, comes rolling from a thousand crystal lakes, through rocky bluffs that lift their battlemented turrets like the towers of by gone days along its waters, or lead off their grey walls so far into the prairie that miles of meadow intervene between their base and the flower-kissed current. Have you ever stood upon those frowning battlements, and looked down into the clear depths beneath you—there where a hundred green islands, like the floating gardens of Montezuma, seem dropt upon the sunny surface—or glancing from their shadowy copses, have you watched the salient points of the bold bluffs opposite assume a thousand changes as the gorgeous clouds of sunset would drift over the pearly sky above you? If so, you are to be envied for having seen one of the most beautiful rivers of the world, at a season when it wears its loveliest aspect—though, under whatever sky it may be viewed, no one will ever forget his glorious impressions when he first beheld the Upper Mississippi. And this is the stream, so grand and beautiful, whose very tide alone, did it but flow in a contrary direction, would steal one away from the vulgar haunts of men, and lure him on unconsciously into the wilderness, whose sources have been but now explored. The barbarous waters of the Nile and the Niger have had hundreds of victims; and the savage fountains of the Missouri and the Oregon have been long since tasted;—but it is only now, when the commerce of an Empire is floating upon its bosom, that we know where the Father of Rivers takes his rise.

The discovery, we do not hesitate to say, is primarily due to Mr. Secretary Cass, as the institutor of the present expedition; and next to him, the persevering Mr. Schoolcraft, and the accomplished young officer, Lieutenant James Allen, of Ohio, must divide the honor between them. Mr. Schoolcraft was, indeed, the head of the expedition; but, as we shall show hereafter, its difficulties and its dangers were more than equally shared by his military companion; while we apprehend that modesty alone, and not want of ability, has prevented Mr. A. from giving the result of his observations in a form to attract equal attention with the valuable work of Mr. Schoolcraft. Of the two accounts of the expedition, drawn up by these gentlemen, the unpretending and succinct official statement of the young officer, we do not hesitate to say, is the best written of the two; but the more ample and satisfactory publication of Mr. S. embodies a variety of information in relation to the general condition of the country, and the various Indian tribes through which the exploring party passed, that will make it sought with avidity, and will amply repay perusal. Indeed, next to Governor Cass, we can recollect no one to whom the public are more indebted for a laudable research, and industry displayed in illustrating Indian subjects, and untold the resources of our northern frontier, than to Mr. Schoolcraft. The former gentleman, (Governor Cass,) however,

has been by no means generous in giving the results of his own observations to the public; and we could wish that some would arise, who, to the zeal of the latter, would only add as much literary, as he possesses scientific, qualification. Such we know there are, among the accomplished young officers upon our frontier posts: but—whether from want of ambition, from mistaken modesty, or from lack of leisure, we are unable to determine: they have hitherto contributed so little to the small stock of national literature, that we almost despair of their ever being stirred up to a sense of what they are capable of doing, of what they owe to themselves, to the army, and to the country. There is not a post upon the frontier, but what numbers among its officers men whose talents and cleverness would make them an acquisition to literary circles, however exacting; and it is not to be longer borne, that, with the amplest and freshest materials among them for their exercise, they should still be squandered in obscurity. We take the official report of Lieutenant Allen to the Secretary of War, as a bond for his actual appearance hereafter in the court of literature, and dismiss him for the present.

The expedition of Mr. Schoolcraft, which was nominally undertaken by virtue of an act of Congress to vaccinate the Northwestern Indians within our territories, is the third national attempt that has been made to arrive at the true sources of the Mississippi. Gen. Pike's being the first, and a movement in that direction by Governor Cass, with an exploring party, the second. A ridiculous Italian, of whom a hundred laughable stories are told on the frontier, has in the meantime most absurdly claimed, in a book published abroad, to be the true discoverer of the fountain head. Lac La Biche, or Itasca Lake, as Mr. Schoolcraft more euphoniously calls it, has been long known to the Indian traders, but its position has always been laid down erroneously upon the map; and it is now found that the Mississippi after long running to the north till it reaches a high latitude, and diffuses itself in a hundred swamps and lakes, becomes again a distinct stream, and taking a sudden dip to the South, hides its head at last in a lake of clear water somewhere about the latitude of Fond du Lac, on Lake Superior. The discovery, approach to and examination of this important geographical point, is so interesting, that our readers will not blame us for giving here, the impressions of both the discoverers. The limits within which Mr. Allen was restricted, by the nature of an official report, prevented him of course from expatiating upon the scene; but his rapid glance at its general features must not be lost, and we therefore quote his journal.

We entered the Mississippi from a bay on the west side of Cass lake, and passed, in a short distance, through two small lakes and a savanne, above all which we still found a large river forty or fifty yards broad, and from two to six feet deep, which wound its way through a narrow valley of low, alluvial bottom, confined by pine hills, up to Lac Travers, forty miles above Cass lake. In this distance there are many rapids running over boulders of primitive rock, but there is no fall, and no rock is seen in place.

Lac Travers may well be arranged among the sources of the Mississippi. It is a beautiful lake, about ten miles long from north to south, and about half as broad, surrounded by pine woods, which rise into high hills on the north and northwest, forming a part of the chain dividing the waters of the Mississippi from those of Red river. The western shore is much indented with bays, but the east and southeast is beautifully regular and plain, with a sandy bank, and beach of pure white sand. The river empties into the south end of the lake, and runs out at the east side, not far from its entrance, leaving the great body of the lake to the north of our passage through it.—There is a trading house on the west bank, near the mouth of the river, which is occupied, in winter, by a clerk of Mr. Aitkin. From Lake Travers we passed by a broad channel one hundred yards long, into another small lake, and, half a mile above this, came to the forks of the river. The branches are of nearly the same breadth, about forty feet, but the stronger

current of the right hand branch denoted it much the larger. We ascended the left or east branch, as we had intended, which soon narrowed to twenty feet breadth, and in a distance of ten or twelve miles, brought us to Lake Rahbakkanna, or Resting lake, a pretty little lake, four miles in diameter, and nearly round, with a low beach of smooth pebbles all round it. We encamped a few miles above this lake, at 7 P. M., having come this day, by my estimate, fifty-five miles. Our course to Lac Travers was north-west; from the latter, nearly south.

JULY 12.—This was a rainy, disagreeable day, and the mosquitoes were numerous, hungry, and extremely annoying, but we travelled, notwithstanding, at our usual speedy rate. Our course has been south, and the valley of the river was savanna and tamarack and cedar swamp, but generally narrow, about half a mile broad, with low ridges and a miserable growth of pine bordering it on both sides. The river has become very small and somewhat rapid; and we have encamped after making a portage of two miles round a chain of rapids. One of our Indians killed a deer this morning, and we saw many more during the day. This country is so very remote and dreary, that the Indians seldom visit it, and the deer are more abundant than about the river below; ducks are also very numerous in the savannas where there is wild rice. Journey 52 miles.

JULY 13.—We ascended the river in our canoes ten miles farther, to a little lake, (Usaw-way, or Perch lake,) about two miles long and half a mile broad; the river was very narrow and crooked, through a low, narrow meadow, and a little above this lake we left it; seeing that we had now traced this smaller branch of the Mississippi into the very swamps and meadows, from the drainage of which it takes its rise.

From here we set off, over land, in a southwest direction, to reach Lac La Biche, represented as the source of the larger branch. Our canoes and baggage being very light, all was transported at one load, one man carrying the canoe, and the other the baggage of each of the party. In this way we made a portage of six miles in four hours, and struck the lake, the object of our search, near the end of its southeastern bay. The first mile of the portage was through a tamarack swamp, and the remainder, excepting a little lake of 300 yards diameter, was over pine ridges of the poorest character imaginable. The soil was almost pure sand, and the pine was stunted and mostly of the scrub species, (*pinus banksianus*), which, hung as it was with lichens, and no other growth, not even a bush or shrub, mixed with it, presented a picture of landscape more dismal and gloomy than any other part of this miserably poor country that we had seen. Not a bird or animal, scarce even a fly, was to be seen in the whole distance of this portage, and it would seem that no kind of animal life was adapted to so gloomy a region.

From these hills, which were seldom more than two or three hundred feet high, we came suddenly down to the lake, and we embarked and passed nearly through it to an Island, near its west end, where we remained one or two hours.

We were now sure that we had reached the true source of the great river, and a feeling of great satisfaction was manifested by all the party; Mr. Schoolcraft hoisted a flag on a high staff, on the Island, and left it flying.

Lac La Biche is about seven miles long, and from one to three broad, but is of an irregular shape, conforming to the bases of pine hills, which, for a great part of its circumference, rise abruptly from its shore. It is deep, and very clear and cold, and seemed to be well stocked with fish. Its shores show some boulders of primitive rock, but no rock in place, and are generally skirted near the water with bushes. The island, the only one of the lake, and which I have called Schoolcraft island, is one hundred and fifty yards long, fifty yards broad, and twenty or thirty feet elevated in its highest part; a little rocky in boulders, and grown over in pine, spruce, wild cherry, and elm.

There can be no doubt but that this is the true source and fountain of the longest and largest branch of the Mississippi. All our information that we had been able to collect on the way, from traders and Indians, pointed to it as such; and our principal Indian guide, Yellow Head, who has proved to us his close intelligence of the country, represents the same.—He has formerly hunted all around it, and says there is a little creek, too small for even our little canoes to ascend, emptying into the south bay of the lake, and having its source at the base of a chain of high hills, which we could see, not two miles off, and that this is the only stream of any description running into it. In fact, the whole country showed that there was

no stream beyond, for the lake was shut in on all sides by pine hills, and the only opening through them was that by which it discharged itself. To the west we could see distinctly a range of almost mountains, covered with pine, which was undoubtedly the chain dividing us from the waters of Red river.

It will be seen from my map, that Lac La Biche is but little west of south from Cass lake, and almost due south from Lac Travers, which is a different position from that assigned to it on published maps, where it is invariably represented north of Cass lake. There is, however, a little stream, Turtle river, entering Cass lake from the north, in the route or traders to Turtle lake and Red lake, but it is a very small and insignificant stream, and is only forty five miles in length.

We left Lac La Biche, from its northern bay, having coasted nearly its whole circumference, and found the Mississippi, at its very egress from the lake, a respectable stream; its channel being twenty feet broad and two feet deep, and current five mile per hour. Its course was northwest and soon ran through a chain of high pine hills, where the channel contracted very much, and numerous rapids occurred of very great fall over boulders of primitive rock; the river running, for the distance, in a deep ravine.—We descended twenty five miles and encamped.

After this general view, the more complete picture of Mr. Schoolcraft will not come amiss.

A fog prevented our embarking until five o'clock in the morning, (13th) and it was then impossible to discern objects at a distance. We found the channel above the Naiwa, diminished to a clever brook, more decidedly marshy in the character of its shores, but not presenting in its plants or trees, any thing particularly to distinguish it from the contiguous lower parts of the stream. The water is still and pond-like. It presents some small areas of wild rice. It appears to be a favorite resort for the duck and teal, who frequently rose up before us, and were aroused again and again by our progress. An hour and a half diligently employed, brought us to the foot of Osowa Lake. We halted a moment to survey it. It exhibits a broad border of aquatic plants, with somewhat blackish waters. Perch abound in it. It is the recipient of two brooks, and may be regarded as the source of this fork of the Mississippi. We were precisely twenty minutes in passing through it. We entered one of the brooks, the most southerly in position. It possessed no current, and was filled with broad leaved plants, and a kind of yellow pond-lily. We appeared to be involved in a morass, where it seemed equally impracticable to make the land, or proceed far by water. In this we were not mistaken; Oza Windib soon pushed his canoe into the weeds, and exclaimed, *Oma, mikunna*, (here is the portage.) A man who is called on for the first time, to debark, in such a place, will look about him to discover some dry spot to put his feet upon. No such spot however existed here. We stepped into rather warm pond water, with a miry bottom. After wading a hundred yards or more, the soil became firm, and we soon began to ascend a slight elevation, where the growth partakes more of the character of a forest. Traces of a path appeared here, and we suddenly entered an opening affording an eligible spot for landing. Here our baggage was prepared for the portage. The carbonaceous remains of former fires, the bones of birds, and scattered camp poles, proved it to be a spot which had previously been occupied by the Indians. The prevailing growth at this place, is spruce, white cedar, tamarack and grey pine. We here breakfasted.

Having followed out this branch of the Mississippi to its source, it may be observed, that its existence, as a separate river, has hitherto been unknown in our geography. None of the maps indicate the ultimate separation of the Mississippi, above Cass Lake, into two forks. Little surprise should therefore be manifested that the latitude of the head of this stream is found to be incorrect. It was not however to be expected that the inaccuracy should be so great as to place the actual source, an entire degree south of the supposed point. Such however is the conclusion established by present observations.

The portage from the east to the west branch of the river, is estimated to be six miles. Beginning in a marsh, it soon rises into a little elevation of white cedar wood, then plunges into the intricacies of a swamp matted with fallen trees, obscured with moss. From this, the path emerges upon dry land. It soon ascends an elevation of oceanic sand, having boulders, and bearing pines. There is then another descent, and another elevation. In short, the traveller now finds

himself crossing a series of deluvial sand ridges, which form the height of land between the Mississippi Valley and Red river. This ridge is locally denominated *Hautour des Terres*, where it is crossed in passing from Lac Plais to Ottentail Lake, from which point it proceeds northward, separating the tributaries of the River des Corbeau from those of Red River. It finally subdivides both branches of the Mississippi, putting out a spur between the east and west fork, which intersects the portage, crosses the west or Itasca fork about the point of the Kakabionce, or Little Rock Falls, and joining the main ridge, passes north-eastwardly of Lac Travers and Turtle Lake to Red Lake. It is, in fine, the table land between the waters of the Hudson's Bay and the Mexican Gulf. It also gives rise to the remotest tributaries of the river St. Louis, which, through Lake Superior and its connecting chain, may be considered as furnishing the head waters of the St. Lawrence. This table land is probably the highest in Northwestern America, in this longitude.

In crossing this highland, our Indian guide, Oza Windib, led the way, carrying one of the canoes, as his portion of the burden. The others followed, some bearing canoes, and others baggage. The whole party were arranged in Indian file, and marched rapidly a distance—then put down their burthens a few moments, and again pressed forward. Each of these stops is called a *post* by the voyageurs, and is denominated *Opugidjiwunon*, or a place of putting down the burthen, by the Indians. Thirteen of these rests are deemed the length of the portage. The path is rather blind, and requires the precision of an Indian eye to detect it. Even the guide was sometimes at a loss, and went forward to explore. We passed a small lake, occupying a vale, about midway of the portage, in canoes. The route beyond it was more obstructed with underbrush. To avoid this, we waded through the margins of a couple of ponds, near which we observed old camp poles, indicating former journeys by the Indians.

The weather was warm, and not favorable to much activity in bird or beast. We saw one or two species of the falco, and the common pigeon, which extends its migrations over the continent. Tracks of deer were numerous, but travelling without the precaution required in hunting, we had no opportunity of seeing this animal on the high grounds. It was observed in the valleys of the river, on both branches. Ripe strawberries were brought to me, by the men, at one of the resting places. I observed a very diminutive species of the raspberry, with fruit, on the moist grounds. Botanists would probably deem the plants few, and destitute of much interest. Parasitic moss is very common to the forest trees, and it communicates a peculiar aspect to the grey pine, which is the prevailing growth on all the elevations.

To the geologist, the scene is one of interest.—The boulders of granite, and other primitive strata, occurring on the surface, remind him of the original position of these masses, in the system of nature and indicate revolutions affecting the earth's surface, which have widely changed both the position and form of these solid materials. When the soil itself is examined, it adds further evidences of such changes. We may refer its sand to consolidated strata of this mineral which have been broken down by oceanic action, and distributed in the remarkable ridges and elevations, which now characterize the face of the country. In whatever light the subject is viewed, it seems difficult to resist the conclusion that water has been the cause, under Providence, in effecting these changes, and that the highest ground in this region, have been subjected to the peculiar influence which this element alone exerts in the work of attrition and deposition of strata, solid or diluvial. It might be interesting to inquire, in what manner this agent of change was withdrawn, and whether a current was created toward either of the cardinal points. It would aid this inquiry to observe in which direction the debris and soils were deposited in the heaviest masses? How far granite boulders had been carried from their beds? And whether wood, bones, and other organic remains had been subjected to like removals? We think these accumulations are abundantly witnessed in casting the eye down the Mississippi valley, with a measured decrease in the size and weight of the pulverized masses, in proceeding from the head to the mouth of this river. It is thus evident, that the heaviest boulders are found on its upper branches, while they become rare in its central plains, and disappear altogether, long before its entrance into the delta at its mouth. And this remark may be coupled with the accounts given by travellers of the bleak, denuded, and sterile character of the northern formations.

But we have no leisure to devote to this investi-

tion, and must proceed with the narrative that is before us. Every step we made in treading these sandy elevations, seemed to increase the ardor with which we were carried forward. The desire of reaching the actual source of a stream so celebrated as the Mississippi—a stream which La Salle had reached the mouth of, a century and a half (lacking a year) before, was perhaps predominant; and we followed our guide down the sides of the last elevation, with the expectation of momentarily reaching the goal of our journey. What had been long sought, at last appeared suddenly. On turning out of a thicket, into a small weedy opening, the cheering sight of a transparent body of water burst upon our view. It was Itasca Lake—the source of the Mississippi.

Itasca Lake, the *Lac la Piche* of the French, is, in every respect, a beautiful sheet of water, seven or eight miles in extent, lying among hills of diluvial formation, surmounted with pines, which fringe the distant horizon, and form an agreeable contrast with the greener foliage of its immediate shores.—Its greatest length, is from south-east to north-west, with a southern prolongation, or bay, which receives a brook. The waters are transparent and bright, and reflect a foliage produced by the elm, lynn, maple, and cherry, together with other species more abundant in northern latitudes. The lake itself is of irregular form, which will be best illustrated by the accompanying sketch. It has a single island, upon which we landed, after an hour's paddling from the spot of our arrival and embarkation. We found here, the forest trees above named growing promiscuously with the betula and spruce. The bones of fish and of tortoise, found at the locality of former Indian camp fires, indicate the existence of these species in the lake. We observed a deer, standing on the margin of the lake. And, here, as well as throughout the lakes of the region, found the duck, teal and loon, in possession of their favorite seclusions. Innumerable shells, (a species of small helix,) were driven up on the head of the island. Other parts of the lake yield small pieces of the unio, which were found strewn the bed of the outlet. And it may be here remarked, that this shell exists, in the largest and heaviest species heretofore known, in the lower parts of this stream—the Mississippi having its origin here.

The outlet of Itasca Lake, is perhaps ten to twelve feet broad, with an apparent depth of twelve to eighteen inches. The discharge of water appears to be copious, compared to its inlet. Springs may, however, produce accessions which are not visible, and this is probable both from the geological character of the country, and the transparency and coolness of the water.

The height of this lake above the sea, is an object of geographical interest, which, in the absence of actual survey, it may observe the purposes of useful inquiry, to estimate. From notes taken on the ascent, it cannot be short of one hundred and sixty feet above Cass Lake. Adding the estimate of 1330 feet, submitted in 1820, as the elevation of that lake, the Mississippi may be considered to originate at an altitude of 1490, say 1500 feet, above the Atlantic. Its length, assuming former data as the basis, and computing it, through the Itasca, or west fork, may be placed at 3160 miles, one hundred and eighty-two of which, comprises an estimate of its length above Cass Lake. Its general course, in ascending, above the latter point, is north of west as far as Lac Travers. Then south to its primary forks which is continued, following up the east fork to Kubbakunna Lake, and for some distance further. It then varies a short distance north and northwest, then southwest and south, and finally southwest, to its main source in Ossowa Lake. The portage thence to Itasca Lake, is west southwest. Both these lakes appear to rise in springs, on the height of land. They are separated by about six miles of country. Their latitude, we had no means of accurately determining. From daily notes of the courses and distances, kept by Lieut. J. Allen, as indicated by a compass and watch, their position, is, however, shown to be *southwest*, and not, as heretofore supposed, *northwest* of Cass Lake.—They are, in fact, a little south of west from Leech Lake, which is placed, on our best maps, in forty-seven degrees sixteen minutes. The highest northing attained by the Mississippi, is on the great diluvial plateau, containing the contiguous waters of Lake La Salle, Marquette and Travers, which cannot vary more than a few minutes, from forty-eight degrees. These facts will explain the error of the elder geographical writers, who supposed that the parallel of forty-nine degrees would intersect the Mississippi. Its origin in the remote and unfrequented area of country between Leech Lake and Red river, probably an entire degree of latitude south of Turtle Lake, which still figures on some of our

maps as its source, throws both the forks of this stream out of the usual route of the fur trade, and furnishes, perhaps, the best reason why its actual sources have remained so long enveloped in obscurity.

Such is the lonely and beautiful source whence the Father of Rivers derives his birth, Springing like a young warrior from the woods—with veins unpolled by one bad commingling current—overpowering and annihilating a hundred opposing others in his course—still, without change or a taint in his character, until in fierce encounter with one rude and fount-mouthed rival—powerful as himself—he vanquishes, indeed, but wears forever more a sullen stain upon his feature, and sweeps away a bloated conqueror, to hide his doubtful honors in the sea.

The fatigues and privations endured by the party in penetrating to this point, were such as never enter into the dreams of "Gentlemen who sit at home at ease." We have preferred, however, giving the glorious result of their labor to dwelling upon the anxious steps by which it was attended. We have elsewhere remarked, that more than an equal share of this exposure fell to the young officer who commanded the military escort of the expedition, and who, tho' eminently qualified by his attainments, his natural abilities and character to reap honor from such an expedition, is scarcely mentioned by his companion. It is now with extreme regret, that we find ourselves compelled, before closing this notice, to allude to an affair which places the conduct of Mr. Schoolcraft toward his young comrade in a light that calls for the severest reprehension. One cannot but admire the marked moderation with which Mr. Allen speaks of the singular and unaccountable desertion described in the following extract from his journal:

JULY 29, (SUNDAY).—Mr. Schoolcraft had made it a rule not to travel with his party, on this expedition, on Sunday, and, supposing he would observe the same on this day, I confidently expected to overtake him before night. I was particularly anxious to do so, inasmuch as I had now no gum for the repair of my canoes, and I knew he had an abundance; and I wished, moreover, to get, through his means, at the first Indian village, two Indians to steer my canoes; by which my men could be saved from much of the wading and consequent hardship and exposure, of the method of ascending rapids that the want of competent steersmen had forced me to adopt; and by which they were now so much exhausted, and bruised in their feet and legs, as scarce to be equal to the exertions still necessary, and required of them. I accordingly urged forward as much as possible, and got to the site of Mr. Schoolcraft's encampment in the afternoon, where I learned, by a note left for me by Dr. Houghton, that the whole party had left, two and a half hours before, with an intention on the part of Mr. S. not to wait for me any where on the route, but to proceed home with all possible speed, giving as a reason for this measure, that the river was falling, and any delay but increased the difficulty of ascending it. I was dissatisfied with this proceeding of Mr. S. and deemed it unwarrantable by the official relations in which we stood to each other, inasmuch as I was thereby deprived of the services of the surgeon and interpreter, to which I considered myself rightfully entitled within the intention of the department, so far as such services might be necessary for the safety of the detachment, and to enable me to execute my instructions. These gentlemen had been employed for the purposes of the expedition, and as the execution of certain of those purposes had been separately assigned to me, I had a right to expect that the means provided for their execution should not be withheld from me by the power to whom they were entrusted by the department to control; but by this sudden and unadvised withdrawal of those means out of my reach, I was not only embarrassed in the performance of an appropriate duty, but placed in a situation of extreme inconvenience, and even danger, which could not have been anticipated or intended by the department in the project of the expedition. It is not to be supposed that the department would require soldiers to travel through such a country as this, and encounter the extraordinary exposure and danger incident to their transporting themselves, without some provision of medical aid; and still less

could it be deemed practicable for a detachment of troops to effect a journey through an unknown, wild, inhospitable Indian country, without guides of any kind to direct, or an interpreter, through whose means to obtain guides or necessary geographical information. But such was my situation now; I had this route to travel, of which I neither knew the length or direction, the quantity or character of its difficulties, or the time and means that would be required to overcome them. For supposing that I was to travel it with Mr. Schoolcraft, who had guides, I had not made any useful inquiries respecting it. In this embarrassment, I would have turned back and sought another route home; but, from the number of rapids which I had already ascended, I supposed there could not be many more to the summit of the river; and that, consequently, it was as easy to go forward as back, and particularly as, with my present means, it was less difficult to ascend than descend rapids. Moreover, by the route of Prairie du Chien, I could not now hope to reach fort Brady for a long time, in which apprehensions, with the commanding officer there, for my safety, as he could not hear of me after the return of Mr. S., might, I supposed, lead to measures which a more speedy return by this route might avert. And again, Dr. Houghton informed me in his note that he would wait for me at La Pointe, in Lake Superior; that we might pursue a previous arrangement, by which he was to travel home with me, that we might make some further examinations along the lake; and, unless I called there for him, he could not, probably, get home this fall. These considerations induced me to continue the route, bad as the prospect was of finding it.

But of Mr. Schoolcraft, it is subject of just complaint that he has separated himself from me at a time when I most depended on him, and when, knowing, as he did, the unfitness of my men for the sole management of canoes on this difficult route, he must have been fully aware of the great exposure and fatigue which I must encounter in the accomplishment of this journey without his assistance, which he had now withdrawn, but which it was in his power and was his duty to afford.

Had Mr. Schoolcraft told me at Fort Snelling that it would be best for me to perform the remainder of the trip alone, and on my own resources, I might there have secured sufficient resources, or, being relieved from the escort duty of protection to his party, I might have returned home by another and less difficult route, which I probably would have done. But by a strange interpretation or disregard of his official relation to the escort, he has led it, ignorant of such a contingency, into a situation of difficulty not compatible with its separate means of resistance, and there left it to encounter the difficulty as it best might.

I continued a few miles above Mr. Schoolcraft's encampment, and stopped for the night, having given up all hope and prospect of overtaking him. My men having been in rapids most of this day also, much worn out and discouraged; and my canoes leaked badly, and could not be repaired for want of gum.

August 3.—The river has become so low that we have to wade over all the rapids, which seem to be interminable. Many of them, to-day, were over shelving sandstone rock; the fragments of which, broken and strewn in the channel, have cut up my men's feet, and the bottoms of the canoes, horribly. Made about the same distance as yesterday.

August 4.—Passed a long expansion of the river, grown over with wild rice, on the east side of which is an Indian village, of seven or eight lodges, with gardens of potatoes, squashes, and corn, adjacent. This is Keppameppa's permanent village; but all the Indians were now absent, hunting or fishing.—Twelve or fifteen miles above this village, we came to another expansion, or narrow rice lake, five or six miles long, the upper end of which receives Ox river; the St. Croix coming in below Ox river, on the west side. From my ignorance of the route, I was near getting lost at this place, by following up the wrong river. A broad, plain channel, with a current all the way, leads up, through the rice, to the mouth of Ox river; but the St. Croix, which is here the smaller of the two rivers, comes in, as it were, on one side of the rice pond, and has its mouth, in a measure, concealed by the grass growing in it. Each canoe passed in succession to the mouth of the former river, without noticing the latter; but I had remarked, as I passed, an opening in the woods, as though a stream came in; and after entering the mouth of the wrong river, I went back, to be satisfied as to this appearance, and found the stream; but from its being smaller than the other, was still in doubt which to take, till I had followed it up a

short distance, to a rapid, where I observed, on a rock in the bottom, a little red spot, which on examination, proved to be red lead paint rubbed from Mr. S's canoe, which had touched the rock. This little circumstance determined this to be the proper route, and saved me from the error of taking the other; which, if I had done, might have led to further error, and been attended with serious consequences; for, if I had been lost for many days in this poor country, till my provisions were exhausted, starvation would have been almost inevitable.

We do not know what excuse Mr. Schoolcraft proposes to himself for this unaccountable and inhumane desertion which is mentioned with so much mildness by his forgiving companion, but we do know that the rigid observance of the Sabbath among his men, which he takes so much pains to parade in his pages, does not weigh a feather with us when balanced against an act so un-Christian-like: an act which, even in that country, where life is certainly held a cheaper commodity than it is here, was regarded with indignation and dismay. The escape of Mr. Allen was almost a miracle: for he had not only, with the most inadequate means, to contend with the well-known difficulties of his situation—but unknown wholly to themselves—his little band were travelling through an enemy's country, and liable to be cut off at any moment. The Sauk and Fox war had broken out while the party were far in the wilderness, and scalps were in high request in their present neighborhood. Our view of this matter, however, will not prevent us from doing justice to some most valuable additions to our knowledge of Indian life in Mr. Schoolcraft's book when we again return to it, which we propose more than once to do.

NAVAL STORIES, by William Legget. 1 Vol. 18mo: New York, *Carvill*.—The Nautical Tales and Sketches, now for the first time collected in this little volume, have excited so much attention in the various ephemeral publications, where they have from time to time appeared, that we wonder at their not having been before embodied in a durable form. The reputation of their author, as one of our most vigorous and graphic writers in this kind of literature, will ensure their cordial reception in this new guise—nor will they, with many, need the recommendation conveyed by the following specimen of their contents. It is a thrilling description of an encounter at sea.

For more than an hour did the *Active* flee along in this way, like a wild horse foaming and stretching at his utmost speed, driven onward in the van of the tempest, and exposed to its fiercest wrath. At length, the first fury of the gale passed away, and the wind, though still raging tempestuously, swept over with less appalling force. The ocean, now, as if to revenge itself for its constrained inactivity, roused from its brief repose, and swelled into billows that rolled and chased each other with the wild glee of ransomed demons. Wave upon wave, in multitudinous confusion, came roaring in from astern; and their white crests, leaping, and sparkling, and hissing, formed a striking feature in the scene. The wind, fortunately, issued from the right point, and drove the *Active* towards her place of destination. The dun pall of clouds, which from the commencement of the gale had totally overspread the heavens, except in the quarter whence the blast proceeded, now began to give way, and a redish light shone out here and there in long horizontal streaks, like the glow of expiring coals between the bars of a furnace. Though the first dreadful violence of the storm was somewhat abated, it still raged with too much fierceness and power to admit of any relaxation of vigilance. The commander himself still retained the trumpet, and every officer stood in silence at his station, clinging to whatever might assist him to maintain his difficult footing.

"Light, oh!" cried the lookout on one of the cat-heads.
"Where away?" demanded the Captain.
"Dead ahead."
"What does it look like, and how far off?" shouted the captain, in a loud and earnest voice.
"Can see nothing now, sir; the glim is doused."
"Here, Mr. Burton," cried the commander, "take this night glass; jump aloft on the foreyard, sir, and

see if you can make out any object ahead. Hurry up, hurry up, and let me hear from you immediately, sir! Lay aft to the braces! Forecastle, there! have hands by your staysail sheets on both sides! foreyard, there!"

But before the captain had finished his hail, the voice of little Burton was heard, singing out, "sail oh!"

"What does she look like, and where away?"
"A large vessel lying to under bare poles—starboard your helm, sir, quick—hard a starboard, or you will fall aboard of her!"

This startling intelligence was hardly communicated before the vessel descried from aloft loomed suddenly into sight from deck, through the thick weather to leeward. Her dusk and shadowy form seemed to rise up from the ocean, so suddenly did it open to view, as the driving mist was scattered for a moment. She lay right athwart the *Active's* bows, and almost under her fore-foot—as it seemed while she pitched into the trough of an enormous sea—and the *Active* rode on the ridge of the succeeding wave, which curled above the chasm, as it to overwhelm the vessel beneath.

"Starboard your helm, quarter-master! hard a starboard!" cried the commander of the *Active*, in a tone of startling energy.

"Starboard!" repeated the deep solemn voice of old Vangs, who stood on the quarter-deckings, his tall figure propped against the mizzen rigging, and his arm wreathed round the shroud.

"Jump to the braces, men!" continued the captain strenuously—"haul in your starboard braces, haul!—ease off your larboard! does she come to, quarter-master!—Fo'castle there! ease off your larboard staysail sheet—let all go, sir!"

These orders were promptly obeyed, but it was too late for them to avail. The wheel, in the hands of four stout, and experienced seamen, was forced swiftly round, and the effect of the rudder was assisted by a pull of the starboard braces; but in such a gale, and under bare poles, the helm exerted but little power over the driving and ponderous mass.—She had headed off hardly a point from her course, when she was taken up by a prodigious surge, and borne onward with a fearful velocity. The catastrophe was now inevitable. In an instant the two ships fell together, their massive timbers crashing with the fatal force of the concussion. A wild shriek ascended from the deck of the stranger, and woman's shrill voice mingled with the sound. All was now confusion and uproar on board both vessels. The *Active* had struck the stranger broad on the bows, while the bowsprit of the latter, rushing in between the foremast and the starboard loreringigging of the *Active*, had snapped her shrouds and stays, and torn up the bolts and chainplates, as if they had been thread and wire. Staggering back from the shock, she was carried to some distance by a reflux wave, which suddenly subsiding, she gave such a heavy lurch to port that the foremast—now wholly unsupported on the starboard side—snapped short off like a withered twig, and fell with a loud splash into the ocean.

"The foremast is gone by the board!" shouted the officer of the fore-castle.

"My God!" exclaimed the captain, "and Charles Burton has gone with it! Fo'castle there! Did Charles Burton come down from the foreyard?"

"Burton! Burton! Burton!" called twenty voices, and "Burton!" was shouted loudly over the side; but there was no reply!

In the meanwhile another furious billow lifted the vessel on its crest, and the two ships closed again, like gladiators, faint and stunned, but still compelled to do battle. The bows of the stranger this time drove heavily against the bows of the *Active* just abaft her main-rigging, and her bowsprit darted quivering in over the bulwarks, as if it were the arrowy tongue of some huge sea monster. At this instant a wild sound of agony, between a shriek and groan, was heard in that direction, and those who turned to ascertain its cause saw, as the vessels again separated, a human body, swinging and writhing at the stranger's bowsprit head. The vessel heaved up into the moonlight, and showed the face of poor Vangs, the quarter-master, his back apparently crushed and broken, but his arms clasped round the spar, to which he appeared to cling with convulsive tenacity. The bowsprit had caught him on its end as it ran in over the *Active's* side, and driving against the mizzenmast, deprived the poor wretch of all power to rescue himself from the dreadful situation. While a hundred eyes were fastened in a gaze of horror on the impaled seaman, thus dangling over the boiling ocean, the strange ship again reeled forward, as if to renew the terrible encounter. But her

motion was now slow and laboring. She was evidently settling by the head; she paused in mid career, gave a heavy drunken lurch to starboard, till her topmasts whipped against the rigging of her antagonist, then rising slowly on the ridge of the next wave, she plunged head foremost, and disappeared for ever.—One shriek of horror and despair rose through the storm—one wild delirious shriek! The waters swept over the drowning wretches, and hushed their gurgling cry. Then all was still!—all but the rush and whirl of waves as they were sucked into the vortex, and the voice of the storm which howled its wild dirge above the spot.

We have a score of Magazines upon our table, which, as they have been twice crowded out of our list of Saturday's notices, shall be duly taken care of during the week.

[From the Journal of Commerce.]

VERY LATE FROM MEXICO.—The brig *William*, Capt. Martin, which arrived on Saturday in the very short passage of 16 days from Vera Cruz, brings papers from that city to July 2d, inclusive.

Almost the whole country has declared for the plan of Cuernavaca, or for other plans of similar import, i. e. for the overgrown power and innumerable abuses of the church, and against the reforms introduced by the last Congress. We are clearly of opinion that those reforms were too sweeping for the infancy of the nation's enlightenment, but the reaction which has now taken place, throws the country back nearly to the point where it stood when it first shook off the yoke of Spain. There is however no doubt of the complete success of the reaction. In addition to the States before mentioned which have fallen in with the plan of Cuernavaca, may be added Mexico, Jalisco and Morelia, besides innumerable cities and villages in every part of the Republic. Queretaro, which undertook to resist the new order of things, has been entered and garrisoned by a large body of government troops. Puebla was closely besieged, and may be considered as fallen. Thus far, no blood has been shed, of any consequence, and none probably will be. The revolution is virtually finished already.

A conducta arrived at Vera Cruz from Mexico on the 27th June.

Gen. Santa Anna had gone to Tacubaya for the benefit of his health.

The ecclesiastical establishments of the Federal District have volunteered a loan of \$40,000 to the government at 6 per cent.

The Mexico Fenix, which espoused the cause of the dispersed Congress, has been discontinued.

The City Council of Vera Cruz, on the 20th June, celebrated an Acta, declaring, among other things, that laws passed relative to matters of religion, contrary to the Constitution, were null and void. In consequence of this pronouncement, says the Censor of the 22d, "the political chief, the venerable parochial Curate, and the Secretary of the Chiefship of the department, accompanied by an immense and brilliant concourse of people last evening at 6 o'clock, opened the Churches and Convents of this city which had been suppressed by the unconstitutional decree of the Legislature of the State."

VERA CRUZ, JUNE 19.—Under the operation of the late laws, the people have seen the bishops and prebendaries persecuted,—the convents where they used to go to render their adoration to God and saints, shut up—the religious orders turned into the streets—the goods which they possessed with a legitimate title, confiscated, and applied to objects different from those for which they were presented—the temples seized by force, to be appropriated to profane uses,—and all this has made them think that the true meaning of the word Reform is Destruction. They have therefore become alarmed, and put themselves upon the defensive.

MEXICO, JUNE 13.—At Puebla the civic militia are deserting, and coming over in considerable parties to the forces of the supreme government. These forces are in possession of the out posts, and with 1500 men under the command of St. Bringas, will soon terminate the resistance of the factious without bloodshed. The scarcity of provisions in the town is already great, and as many families as can, are leaving it.

MEXICO, JUNE 18.—The dissidents at Puebla are driven nearly to the centre of the city, which will very soon be occupied by the troops of the Government. [There appears to have been very little loss of life.]

VERA CRUZ, JUNE 16.—The honorable Congress, which was called together for the 12th ult., has not convened, and probably will not; for of the Repre-

representatives, besides those composing the Council of the Government, some are in Mexico, others in Puebla, which has declared against the supreme Government of the Union, others in the parts of the State, which have declared against the reforms that have been enacted.

MEXICO, JUNE 12.—Of the measures of Congress which have excited the greatest disapprobation, one is the confiscation of the property of the Duke de Monte Leone.

TOHUCA, JUNE 7.—Generals Moctezuma and Cortazar have embraced the cause of religion and of the towns that have proclaimed it, thus disappointing the hopes of the enemies of order.

MEXICO, JUNE 15.—Only 20 days have elapsed since the pronouncement of the town of Cuernavaca, and already almost the whole republic has fallen in with the plan.

MEXICO, JUNE 13.—An uninterrupted series of pronouncements in favor of the plan of Cuernavaca, shows in the clearest manner the state of public opinion relative to the laws of proscription and rapid reform.

MEXICO, JUNE 10.—The documents which we insert, show that the town of Acapulco, Costa Chica, and the whole South, is at the disposition of the Government.

TUSULA, MAY 30.—The Rev. Bishop left San Cristobal on the 23d inst. via Palengue, in compliance with the decree of the General Congress of April 23d, banishing him from the Republic.

TWO DAYS LATER FROM ENGLAND.—By the *Virginian*, Capt. Harris, we have received our regular files of English papers to the 7th of June inclusive. They contain no news of moment.

A bill has been brought into Parliament to abolish imprisonment for debt, except in cases of fraud, and to amend the law of debtor and creditor: also a bill to render uniform the execution of wills, and of all deeds relating to personal property: and a bill to facilitate the enfranchisement of copyholds, and to bring gradually all lands in England and Wales under the same tenure of free and common socage.

Mr. Robinson also brought forward a motion for an address to the Crown "respecting the rights of British subjects to prosecute the fisheries on the coast of Newfoundland, and in the bays, harbors, and rivers thereof." After a short discussion the honorable member withdrew his motion, on the understanding that Government would immediately take up the subject.

Speaking of the present condition of parties, the *Times* says—

It is clear from the deprecatory tone adopted by Lord Grey towards the close of his speech in reply to the Earl of Wicklow, and when speaking of possible conclusions between the House of Lords and Commons, that the noble Earl is conscious of holding the reigns of power no otherwise than at the will and pleasure of the Conservative party, and that whether in cases of local or general reforms—whether in that of the Warwick election Bill or of the promised measure for the reform of the Church of Ireland—the determination of the Tory Lords is, that nothing shall be done which Ministers propose to do. Lord Grey and his party have already avowed their fear of the House of Lords, and the propriety of yielding to their wishes. The House will give the Ministers plenty of opportunities of submission, but is this a position for any Minister with a heart in his body to stand on?

Mr. ROBERT GRANT is, we believe it is now fixed, to proceed some time hence to the East Indies as Governor of Bombay, in the room of the Earl of CLARE, who comes home.

Mr. GRANT is Judge Advocate, and one of the Members for Finsbury. We have not heard whether there be any foundation for the rumored appointment of the Earl of RANDOLPH to the Post Office.—[*Courier*.]

We mentioned yesterday the arrival of Dr. Bowring from Paris with the Ordinance. By that we are pleased to see that the prohibition has been removed against importing cotton twist, which is henceforth to be admitted, paying a duty of from seven to eight francs the kilogramme. This change will take place on Sept. 1st. Cashmere shawls manufactured out of Europe are to be admitted, paying a duty of twenty per cent. on their value. Lace made of cotton is to be admitted paying the same duty as lace made of thread, namely, five per cent. on the value.

Iron cables are among the things admitted paying the same duty as iron in bars. Watches, Russia leather, rum, are also among the articles now admitted into France on the payment of duties. Various articles, such as raw and dyed silk, skins, &c., are also to be permitted to be exported on the payment of certain duties. The tonnage duties on British vessels is reduced from 3fr. 75c. to 1fr. This is the beginning of a more liberal commercial intercourse between the two countries, which we hope to see much extended.

[From the *London Times*, June 7.]

We have received, by express, the Paris papers of Thursday. The *Moniteur* states, that the French Government had received all the ratifications of the quadripartite treaty signed in London on the 23d of April. The *Journal des Debats* gives a summary of last Monday's proceedings in the House of Commons, taken from the *Times* of Tuesday, which had been received at the office of that paper from London, by express. The anxiety in the political circles in Paris, and the Bourse, about the result of the debate on Mr. Ward's motion, appears to have been very great on Monday, and had given rise to many rumors on that subject, some of which had affected the prices of the funds. The news from England, and from Portugal through England, had, as might have been expected, occasioned an unusual bustle at the Bourse on Thursday. The holders of Miguelite scrip had in vain exerted themselves to get rid of their blank paper at any price. Great efforts were used on the other hand, to persuade them that the Miguelite loan will be acknowledged by the Queen's Government. Some of the papers publish an official account, by General Voirol, commander *ad interim* at Algiers, of an attack made by a detachment of French troops, on the tribe of the Hadjoutes, in consequence of repeated depredations committed by the latter on the Beni Khalil, a tribe who are in alliance with the French. The Hadjoutes were defeated and dispersed, and their goods and cattle taken and made over to the Beni Khalil. The papers have no foreign news of any importance besides that which relates to England and Portugal.

The *Moniteur Algérine* of the 24th ult. contains the following order of the day of Lieutenant-General Voirol:—"The Lieutenant General commanding, *ad interim*, Corps of Occupation of Algiers, makes known to the army a new exploit of the brave garrison of Boujela. On the 29th of April, they Kabyles having advanced to attack our working parties on the side of the plain, the superior officer ordered the squadron of the 3d Regiment of Chasseurs of Africa to march against them, supported by several companies of Zouaves. These movements, effected with great promptitude, were attended with complete success. The Kabyles were overtaken and massacred by the cavalry. The few who escaped from them fell by the balls and bayonets of the Zouaves."

A letter from Algiers has the following:—"When I acquainted you with the treaty conducted between Abdol Kader and General Desmichels, I warned you against considering it as a guarantee for the perfect tranquility of the natives. My apprehensions have just been realized by the necessity for driving back the Hadjoutes to the center of their tribe. About 300 horsemen of the plain joined our cavalry, but they did not act with great energy, which must be attributed to the uncertainty in which the natives are kept with regard to our remaining in Africa.—We killed 60 of the enemy, and burnt one Douar.—On our side, we had five men more or less dangerously wounded."

Smuggling.—A novel attempt at smuggling was lately detected in France. A waggon with five horses, laden with enormous masses of stone, was stopped while entering the town of Lille, and upon breaking some of the stone there were found to have been hollowed, and filled with cotton twist and English net. The waggon was conducted to the Custom-house, and the driver sent to prison. It appears the waggon and horses had been hired for this expedition, and that the owner was a total stranger to the fraud.

LATER FROM EUROPE.—By the *Caledonia* from Liverpool, London papers of 16th June are received.

The pretender to the Spanish throne, Don Carlos, had arrived at Portsmouth Roads, on board the British line-of-battle-ship *Donegal*. He had not landed, as it was not yet determined what disposition was to be made of him.

As the *Donegal* left Lisbon, she spoke the British frigate *Stag*, going into Cascaes bay for provisions,

and having on board Don Miguel and his suit, with whom, after victualling, she was to proceed to Genoa.

Thus the two disturbers of the Spanish and Portuguese Peninsula being disposed of, the Governments of the two countries would be more at leisure to turn their attention to the needful reforms. A commencement, it will be seen—so far as decrees go—had been made in Portugal.

A Paris paper, having published a long article to prove that though war might decide political, it could not and should not financial questions, and hence argued that the loans contracted in 1833 for Don Miguel, must be respected and paid by Donna Maria's government—the Chevalier de Lima, Portuguese Minister in Paris, published an answer, in which, referring to a decree issued by the Regency in the name of Donna Maria, in 1830, declaring that no loans raised by Don Miguel would be respected by the Portuguese nation, he affirms that nothing had occurred to alter the decision, and that assuredly Donna Maria would not reimburse a loan, of which the proceeds had been spent in resisting her legitimate authority.

Spain had succeeded, it is said, in negotiating a small loan with the house of Rothchild; upon which occasion *le premier baron Juif*, as the great banker is called by the Paris wits, visited London, in order to have the cooperation of the English capitalists, in putting the finances of Spain upon a proper footing.

Parliament was in session, and mainly occupied about the Poor laws—which the *Times* complains absorb a time that might be more usefully given to the *Tithe bills*, and the bill for the relief of Disenfranchisement.

[From the *London Times* of June 16.]

The private letters by the *Donegal* frigate, which left Lisbon on the 2d instant, with Don Carlos on board, are highly satisfactory in regard to the state of Portugal. A decree, it appears has been issued, convoking the Cortes of that country for the 15th of August; another for suppressing all the orders of friars, and applying the revenues of the monasteries to the service of the State; and a third for depriving the Douro Company of all its exclusive privileges. Among the measures for the formation of a representative system of government in Portugal, is a decree for excluding from the Upper House all those noblemen who have acknowledged the legitimacy of Miguel. Less danger seems to be apprehended now that the convocation of the Cortes has taken place, from the consequences of political intrigue in Portugal, and it is hoped, even with respect to the most turbulent and enterprising of the rival commanders, that all will now settle down quietly.

PARIS, Saturday 4 o'clock P. M.—A courier arrived yesterday from Madrid, bearer of despatches of the 7th inst. for the French Government, and of the Madrid Gazette up to that date. The latter has a long decree of the Regent, regulating the liberty of the press. It appears by despatches, that some serious riots occurred on the night of the 4th or 5th, at the principal theatre, arising from the discontent expressed there by some part of the audience in consequence of what they chose to consider the lenient way in which Don Carlos and his pretensions had been disposed of. A strong military force was called into the theatre, but it was not without great difficulty that something like order was at length restored. The disturbance was entirely confined to the inside of the theatre. Tranquillity remained uninterrupted out of doors up to the departure of the courier.

The *Journal de Smyrne* of the 10th ult. states, after accounts from Samos of the 4th, that a great part of the population were looking anxiously for the arrival of the squadron sent out by the Porte, and were prepared to submit the instant it arrived. Logothetti had lost his influence, and had retired with a few followers to the fortress of Tigani, to the South of Vathi, whence he would effect his escape as soon as the squadron arrived.

The Austrian Observer of the 4th inst. has the following of the 20th ult. from Constantinople—"We learn from Smyrna that the squadron under the command of Hassan Bey, composed of one frigate, two sloops, four brigs, two schooners, and five cutters, arrived off Samos on the 5th, and that a Turkish officer had landed to demand the submission of the inhabitants. It was generally hoped that it would

not be necessary to resort to extreme measures, and that submission would be made without resistance. A letter dated Tripoli, April 25, contains the following:—"Mehemet, chief of the rebels, and nephew of Ali Pacha, being without sufficient money to purchase a supply of ammunition, and being consequently unable to carry on the civil war he has raised with the view of obtaining the supreme power, is engaged in contriving means of flight, in order to escape the punishment which he knows will be inevitable if he falls into the hands of his legitimate Sovereign, Ali Pacha. All his followers are equally discouraged."

It is matter of complaint in various English papers and periodicals, that the Lord Chancellor, with his "fiery habits of debate, and his love of victory in discussion," lowers the tone of habitual self-command and dignified restraint which heretofore characterized the proceedings of the House of Lords.

Among the recent deaths in England, is that of *Rudolph Ackerman*, well known, even in this country, as the publisher of various works of taste. He was a Saxon by birth, emigrated to London, where he followed for a time the trade to which he was bred, of a coach-builder, and carriage-draftsman. By this latter branch, he was brought into connexion with artists, and thence was led to commence business as a print-seller. He was a munificent publisher.

A panorama of New York was about to be exhibited in London, at the last dates; that of the "Falls of Niagara" attracted crowds. Among the shows of that city, we observe one advertised as "The Breathing Napoleon. It is thus described:

SUMMARY.

SPECK OF ANOTHER INDIAN WAR.—The National Gazette of last evening has the following paragraph.

Letters have been received in this city from General Levensworth's head quarters on the south-western frontier, near the Arkansas river, dated 17th June. This portion of that fine command has the prospect, it would seem, of an active campaign. The Pawnees will make peace when *compelled to do so*. We give an extract.

"The dragoons are crossing and we have thus commenced the campaign. Since the 1st of May, 300 miles of road have been completed. The dragoons are moving upon it to make a peace with the Pawnees. We expect to find them about 6 or 700 miles from here, and will have a peace with them, if we have to fight for it. They are killing our citizens daily, and robbing every one they can find."

A wharf at the north part of the city of Boston, on which nearly 800 tons of coal and some lumber were piled, gave way on Tuesday evening, and with all its superincumbent load, slid into the water—which is about 17 feet deep—so that the unfortunate owner of the coal will lose it wholly.

The public honors which were paid in Philadelphia on Tuesday to the memory of Lafayette, says the National Gazette, drew a large part of the city population into the streets, and a considerable number of spectators from the country. Many of the shops were closed, and business was generally suspended during some hours. No American city could furnish a Procession of a more imposing character in regard to the appearance and bearing of the men."

Congress appropriated, at its late session, *ten thousand dollars* as prize money to the officers and crew of the private armed brig *General Armstrong*, or to their legal representatives.

LEBANON SPRINGS.—A new Post-Office is established at the *Spring*, named "Columbia Hall," Columbia county, N. Y.—Henry Hull, Postmaster.

Consecration.—On the 12th of July, the new and elegant edifice erected for the accommodation of the congregation of Christ Church, Middletown, Connecticut, under the pastoral care of the Rev. Smith Pyne, formerly of New York, was consecrated to the worship of ALMIGHTY GOD, by the Right Rev. Bishop Brownell.—[Churchman.]

PACKET SHIP INDEPENDENCE.—Another new and magnificent ship has just been added to the Liverpool line of *Grinell, Minturn & Co.* We had the pleasure of passing an hour on board yesterday, and were truly gratified in examining so fine a vessel, so complete in all her parts, and so admirably adapted for the purpose of carrying numerous passengers, both in the cabin and in the steerage; and of stowing a large cargo without sacrificing the qualities of a fast sailer.

The *Independence*, built by Smith & Demon, and commanded by Captain Nye, is of the burthen of 730 tons, the largest merchant ship but one probably—the *Washington* of this port—in the United States; and yet when launched she will not, it is calculated, draw more than 14 feet water. Her extreme length is 141 feet, and her beam 34. Her deck, save in its shear, is like that of a frigate. The arrangement of the quarter deck is excellent: without being lumbered, it has every convenience for keeping the officer of the watch and the man at the wheel from unnecessary exposure; combined with an ice house capable of stowing two tons of ice, and with other modern improvements. The cabin, of great length and height, has 15 or 18 double state rooms, separated from the dining-room by partitions of curled and birdseye maple and satin wood of unsurpassed beauty. The polish given to these woods exceeds any thing we have before seen; and this polish, we were assured, is in no wise affected by the damp sea air. The polishers were Messrs. Stackhouse & Devereux. The joiner's work is by Mr. Latou. Among many comforts in the state rooms is a spirit lamp, so hung as to preserve always its vertical position. The ladies cabin, amidships, is most comfortably and tastefully furnished. Altogether, it is very tempting, certainly, to think that for a comparatively small sum, and with the certainty of good treatment from her gentlemanly commander, and of a passage much shorter than was made before the packet lines of this city were established—one might just step on board such a magnificent floating palace as this—make a tour in Europe, and be back in time to vote against the perish credit perish commerce candidates in November. The hard fates forbid us such enjoyment, but we do not the less say, "God speed" to the gallant ship and all who may "go down to the sea" in her.

Pennsylvania, too, it seems, from the annexed paragraph, may add gold to her more valuable products of iron, &c.

Gold Region of Pennsylvania.—It is stated in the *Lancaster Journal*, that veins of gold having large deposits, have been found in that country, which are thought to be as rich as any mine in the South. With her Iron and Coal, her veins of Gold, and above all, her hardy and industrious population, the Keystone State must ever continue to be a great and powerful commonwealth.

Shipwreck.—Yesterday afternoon, says the *Charleston Courier* of the 17th inst., the French brig *Edward Eulalie*, Capt. B. Frebourg, arrived off the bar in 23 days from Laguna. The E. was bound to Havre, with a cargo of dyewood. The first night out, in a gale, sprung the foremast and both lower yards, which caused them to make for this port to refit. At 5 o'clock yesterday afternoon spoke one of our pilot boats. One of the pilots from her came on board and inquired her draft of water—was informed she drew 12 feet 4 inches. He stated to the Captain he could not take charge of her in consequence of his branch being for less water, but directed him to another boat then near by, on board of which there was a full branch pilot. Capt. F. bore away and spoke him—requested him to come on board, which he refused to do, saying—there is not water enough on the bar now. I will come tomorrow and bring you in. At half past 1 o'clock this morning, while lying off and on, going in stays, struck on the North Breakers, beat over into water, and sunk. They had not time to save any thing, being indebted to the pilots of the *Cora* and *Georgia*, (who took them off the wreck,) for a sufficiency of clothing to cover them.

Mr. EDWARD EVERETT has consented, at the request of the young men of Boston, to deliver an oration on the death of *Lafayette*.

The New York University.—The following were the subjects of the orations delivered at the Commencement of the University on Wednesday last.—These exercises were followed by the conferring of degrees on the orators, who composed the senior class.

1. "Quo didicisse Nisi rupto jecore exierit caprificus."
2. Sympathetic emotion of virtue, R. R. Crosby, of this city.
3. Influence of fictitious writings, Mathew V. B. Fowler, Newburgh, N. Y.
4. Natural evil not inconsistent with divine benevolence, William R. Gordon, New York city.
6. Decision of Character, Washington Judah, New York city.
6. Discovery of Truth, Samuel Kellogg, New York city.
7. The harmony of intellectual and moral cultivation, A. H. Lambett, South Reading, Mass.
8. Popular education the best safeguard for free institutions, Wm. McMurray, jr. New York city.
9. Females of the American Revolution, Cornelius Matthews, New York city.

Military.—At an election held in the Second Regiment New York State Artillery on the 17th inst., Lieut. Col. *George W. Heelas*, was unanimously elected Colonel, vice *Samuel J. Hunt*, Esq., elected Brigadier General.

Brooklyn.—The Common Council have purchased two acres of ground situated at the junction of Fulton and Jorlamon streets, opposite to Duffon's tavern, as the site for their City Hall, and for which they have given fifty thousand dollars.

SOMETHING NEW IN THE WAY OF AMUSEMENT is promised by Mr. Robertson, the aeronaut, in an exhibition to be opened by him at Euterpean Hall. It promises to be singularly attractive, but not a word is said of its nature or form.

M. Poulney, President of the Bank of Maryland at the time of its failure, is under indictment for alleged dishonesty in administering the concern of that bank.

¶ We learn from Mr. J. S. Wilson, from Little Egg Harbor, that the British ship *Henry Grattan*, 5 days from Londonderry, bound to Philadelphia, with whiskey, 200 tons of coal, and 180 passengers, ran ashore on Long Beach, Little Egg Harbor, on the 19th inst., and a very heavy sea running at the time the ship bilged. Shortly after grounding, the Captain succeeded in getting ashore for assistance: the masts had her masts cut away, to keep the vessel from rolling. On Sunday, the 20th, the Wreckmaster succeeded in landing all the passengers and crew ashore on the beach. The passengers are in great distress. One of the crew was badly hurt by the falling of a mast. The ship and cargo is a total loss. Sails and rigging saved in a damaged state. Mr. Wilson further states, that the Mate with the Captain were low: took the ship's boat with 46 passengers, states, from the ship, about 6 o'clock Saturday, without any oars, rudder or sail for the beach, the current set them in and over breakers, and it was supposed, at Eggharbour, hands would be lost. The mate got four of the passengers to stand up on the seats and hold up a bucket for a sail. The wind blowing on the beach, went through all the breakers, and succeeded in landing on Tucker's beach at 1 o'clock on Sunday night, all safe.

The report of Cholera at *Montreal*, is narrowed down upon the authority of a gentleman who left city on Saturday last.

"He says that eight or ten deaths had occurred among the emigrants under the sheds provided them, which was not at all to be wondered at. or three citizens also died suddenly of Cholera bus, or perhaps of Asiatic Cholera, yet there nothing to warrant the alarm which appeared to be felt along the road, and which seems to be springing up in this city."

The Cincinnati Gazette of 12th inst. makes no mention to the existence of Cholera in that town; in the weekly list of deaths for the week ending 11th inst., six out of forty-three deaths, are reported Cholera;

Report of the Board of Visitors to the Military Academy.

WEST POINT, N. Y., JUNE 17, 1834.

To the Secretary of War:—Sir: In compliance with your request, the undersigned have attended, as a Board of Visitors during the general examination, at the United States Military Academy, just concluded, and have "directed their inquiries to a full and free investigation in regard to the course of instruction, both military and scientific, and to the internal police, discipline, and fiscal concerns of the institution." That these several objects of inquiry might be attended to as thoroughly and successfully as possible, the Board, at its organization, referred them to separate committees, who have presented full reports with regard to them, accompanied by some suggestions for the improvement of the institution. Copies of these reports are forwarded to you, and the Board take the liberty of referring you to them for details, while they confine their joint report to a general and brief view of the present condition of the Academy.

The fidelity of the Professors, and the assiduity and proficiency of their pupils, were tested by an examination, on the several subjects, extending over eleven days, and continued for each day eight hours.

The sciences not strictly professional, included in these examinations, were mathematics, taught here from the elements of arithmetic to the profound theorems of the integral calculus—natural philosophy, including mechanics and astronomy—chemistry, in connection with mineralogy and geology—and, lastly, rhetoric, and moral and political science.

The subjects of professional study are civil and military engineering, and infantry and artillery tactics, with the last of which are connected ballistics and pyrotechny.

A part of the first two years is devoted to the study of the French language, with which a competent acquaintance is required of the Cadet.

Lastly, great attention is very properly paid, in this Academy, to the art of drawing, of which the practical applications are so frequent and important in the military profession.

The subjects combined, certainly constitute an excellent preparatory education for officers of the army, and the examinations proved that they were faithfully and skillfully taught. Marked inequalities were indeed observed in the proficiency of the Cadets, and defects remain to be corrected in the organization of some of the departments, but still the exhibition was, on the whole, highly satisfactory and gratifying.

Frequent opportunities were presented to the Board witnessing the practical skill of the corps in infantry and artillery exercises, and their fine and soldier-like appearance in the ranks, and the accuracy with which they executed their various evolutions, proved that this essential part of the duties of Military Academy was sedulously attended to by the officers and cadets.

The discipline of the institution was carefully examined in its various bearings, and the Board have reason to think that it is in an excellent state. They seem to be executed with a stern regard to the end of the service, yet with a kind and paternal feeling, and the officers and professors are believed to be generally both beloved and respected.

The internal police of the institution was found to be carefully attended to. The rooms in the barracks, occupied by the cadets, exhibited a gratifying appearance of neatness and order, while, at the same time, they give rise to regret, on account of the inadequate accommodations which they offer. The table is well supplied with plain, but good and wholesome food. In the event of sickness, which the Board are happy to find has been lately of rare occurrence, suitable and comfortable accommodations are provided at the hospital, with the best medical attendance.

The Board directed an inquiry to be instituted, as much minuteness as circumstances would admit, into the fiscal concerns of the institution. The result, which will be found fully detailed in one of the reports sent herewith, is, that the accounts are in a correct and satisfactory manner—that the expenditures are made in accordance with the appropriations—and that a proper attention is paid to economy in the expenses of every kind. To prevent extravagance in the cadets, there is a regulation which prohibits to them the possession or use of money, or expenditure of it, except with the consent of the superintendent, who stands, with regard to them, in the place of a parent, and who, it is believed, exercises his authority with enlightened discretion.

The whole investigation of the Board, led them to

the conclusion that the Military Academy is a most valuable and essential part of the army establishment of the United States; that, at a cost so low as not exceeding that of a second rate man-of-war, it prepares, and can spread over the whole country, officers instructed and capable of giving instruction in the military art; and thus, without the danger arising to liberty from large standing armies in time of peace, enables the Government to fulfil the duty which the Constitution so solemnly enjoins, of "providing for the common defence," and lastly, that if our young citizens were commissioned in the army as lieutenants, in the first instance, as they must be if this institution be abolished, they could not obtain in four years, even the same military knowledge as the Cadets, while their probation and education would be far more expensive to the country.

(Signed) G. VAN SCHOONOVEN, President,

ALVIN BRONSON,

JAMES HOOKER,

CHAS. B. PENROSE,

H. G. COMINGE,

JNO. T. ANDERSON,

R. M. PATTERSON,

ACHILLE MURAT,

WM. P. DUVAL,

WRIGHT C. STANLEY,

P. LINDSLEY,

J. L. SMITH, Captain Corps

of Engineers,

JAMES LATIMER, Jr.

T. B. DALLAS, Secretary.

The undersigned freely subscribe the within report, without expressing an opinion with regard to the last paragraph.

(Signed)

WM. SMITH,

J. W. SCOTT.

HEAD QUARTERS OF THE ARMY,

Adjutant General's Office,

WASHINGTON, JULY 9, 1834. }

1.—Promotions and Appointments in the Army, by the President of the United States, by and with the advice and consent of the Senate, since the publication of the official Register for 1834.

1.—PROMOTIONS.

Regiment of Dragoons.

Brevet Second Lieutenant William Eustis, to be Second Lieutenant, 17th March, 1834, vice Bradford, deceased, (brevet 1st July, 1830.)

Brevet Second Lieutenant George W. McClure, to be Second Lieutenant, 31st May, 1834, vice Clyman, resigned, (brevet 1st July, 1830.)

First Regiment of Artillery.

First Lieutenant Joshua Howard, to be Captain, 6th March, 1834, vice Patrick, deceased.

Second Lieutenant Ebenezer S. Sibley, to be First Lieutenant, 6th March, 1834, vice Howard, promoted.

Second Lieutenant Wm. Maynadier, to be First Lieutenant, 31st May, 1834, vice Tyler, resigned.

Brevet Second Lieutenant David B. Harris, to be Second Lieutenant 6th March, 1834, vice Sibley, promoted, (brevet 1st July, 1833.)

Brevet Second Lieutenant Erastus A. Capron, to be Second Lieutenant, 31st May, 1834, vice Maynadier, promoted, (brevet 1st July, 1833.)

Second Regiment of Artillery.

Second Lieutenant John B. Grayson, to be First Lieutenant, 30th April, 1834, vice Fowler, deceased.

Brevet Second Lieutenant Ward B. Burnett, to be Second Lieutenant, 1st April, 1834, vice Cocke, resigned, (brevet 1st July, 1832.)

Brevet Second Lieutenant Theophilus F. J. Wilkinson, to be Second Lieutenant, 30th April, 1834, vice Grayson, promoted, (brevet 1st July, 1832.)

Second Regiment of Infantry.

Brevet Second Lieutenant Elbridge G. Eastman, to be Second Lieutenant, 4th March, 1833, vice Simonton, appointed First Lieutenant of the Regiment of Dragoons, (brevet 1st July, 1831.)

Third Regiment of Infantry.

Second Lieutenant Edwin B. Babbitt, to be First Lieutenant, 31st March, 1834, vice Archer, resigned.

Brevet Second Lieutenant William O. Kello, to be Second Lieutenant, 11th January, 1834, vice Cobb, deceased, (brevet 1st July, 1832.)

Brevet Second Lieutenant Henry Swartwout, to be Second Lieutenant, 31st March, 1834, vice Babbitt, promoted, (brevet 1st July, 1832.)

Fourth Regiment of Infantry.

Brevet Second Lieutenant Frederick Wilkinson, to be Second Lieut., 18th February, 1834, vice Ritter, deceased, (brevet 1st July, 1831.)

Brevet Second Lieutenant William W. S. Bliss, to

be Second Lieut., 31st March, 1834, vice McKean, resigned, (brevet 1st July, 1833.)

Sixth Regiment of Infantry.

Brevet Second Lieutenant James S. Williams, to be Second Lieutenant, 31st May, 1834, vice Johnston, resigned, (brevet 1st July, 1831.)

Seventh Regiment of Infantry.

First Lieutenant Francis Lee, to be Captain, 31st May, 1834, vice Bonneville, dropped.

Second Lieutenant Gabriel J. Rains, to be First Lieutenant, 28th January, 1834, vice Williams, appointed Assistant Topographical Engineer.

Second Lieutenant Stephen W. Moore, to be First Lieutenant, 31st May, 1834, vice Lee, promoted.

Brevet Second Lieutenant Roger S. Dix, to be Second Lieutenant, 28th January, 1834, vice Rains, promoted, (brevet 1st July, 1832.)

Brevet Second Lieutenant Richard C. Gattin, to be Second Lieutenant, 31st May, 1834, vice Moore promoted, (brevet 1st July, 1832.)

2.—Promotions by Brevet, conferred for ten years' service in one grade; or for faithful and meritorious service.

Brigadier Generals by Brevet.

Colonel Duncan L. Clinch, 4th Regiment of Infantry, to take rank the 20th April, 1829.

Colonel Matthew Arbuckle, 7th Regiment of Infantry, to take rank 16th March, 1830.

Colonel James House, 1st Regiment of Artillery, to take rank 8th May, 1832.

Colonel Roger Jones, Adjutant General, to take rank 7th June, 1832.

Byt. Colonel Abram Eustis, 4th Regiment of Artillery, 30th June, 1834.

Colonel Nathan Towson, Paymaster-General, 30th June, 1834.

Colonels by Brevet.

Col. Zach. Taylor, 1st Regiment of Infantry, to take rank 20th April, 1829.

Lt. Col. James B. Many, 7th Regiment of Infantry, to take rank 1st June, 1831.

Lieutenant Colonels by Brevet.

Major Henry Stanton, Quarter Master, to take rank 13th May, 1830.

Major R. E. DeRussey, Corps of Engineers, for faithful service and meritorious conduct,—30th June, 1834.

Byt. Major Henry Whiting, 1st Regiment of Artillery, for faithful and meritorious services;—30th June, 1834.

Majors by Brevet.

Maj. Trueman Cross, Q. M. and Capt. 7th Reg't. of Inf'y, to take rank 16th June, 1828.

Captain Thomas F. Hunt, 5th Regiment of Infantry, to take rank 16th June, 1828.

Captain Waddy V. Cobbs, 2d Regiment of Infantry, to take rank 31st March, 1829.

Captain Gustavus Loomis, 1st Regiment of Infantry, to take rank 7th April, 1829.

Captain Henry Wilson, 4th Regiment of Artillery, to take rank 20th April, 1829.

Captain Thomas F. Smith, 1st Regiment of Infantry, to take rank 25th April, 1829.

Captain Richard M. Sands, 4th Regiment of Infantry, to take rank 30th April, 1829.

Captain Wm. Hoffman, 2d Regiment of Infantry, to take rank 1st May, 1829.

Major R. B. Mason, Regiment of Dragoons, to take rank 31st July, 1829.

Captain Joseph S. Nelson, 3d Regiment of Infantry, to take rank 13th August, 1829.

Captain Fabius Whiting, 1st Regiment of Artillery, to take rank 10th September, 1829.

Captain Greenleaf Dearborn, 2d Regiment of Infantry, to take rank 30th September, 1829.

Captain Felix Ansart, 3d Regiment of Artillery, to take rank 28th Nov. 1829.

Captain Thomas Stanford, 2d Regiment of Infantry, to take rank 1st March, 1830.

Captain Thos. C. Legate, 2d Regiment of Artillery, to take rank 13th May, 1830.

Captain John L. Smith, Corps of Engineers, to take rank 29th August, 1830.

Captain Joseph Plympton, 5th Regiment of Infantry, to take rank 1st June, 1831.

Captain Wm. G. Belknap, 5th Regiment of Infantry, to take rank 1st Feb. 1832.

Captain De Lafayette Wilcox, 5th Regiment of Infantry, to take rank 1st April, 1832.

Captain Levi Whiting, 4th Regiment of Artillery, to take rank 21st May, 1832.

Captain Isaac Clark, 6th Regiment of Infantry, to take rank 27th August, 1832.

Captain Aeneas Mackay, 3d Regiment of Artillery, to take rank 31st December, 1832.

Captain Benj. A. Boynton, 2nd Regiment of Infantry, to take rank 8th January, 1833.

Captain Owen Ransom, 2d Regiment of Infantry, to take rank 25th January, 1833.

Brevet Major William G. McNeil, Top. Engineer, to take rank 27th January, 1833.

Captain Wm. L. McClintock, 3d Regiment of Artillery, to take rank 11th August 1833.

Captain John L. Gardner, 4th Regiment of Artillery, to take rank 1st November, 1833.

Captain Henry Saunders, 1st Regiment of Artillery, to take rank 4th November, 1833.

Captain N. Baden, 2d Regiment of Artillery, to take rank 1st April, 1834.

Captain William W. Lear, 4th Regiment of Infantry, to take rank 1st May, 1834.

Captain Nathaniel Clark, 5th Regiment of Infantry, to take rank 29th June, 1834.

Captain George Blaney, Corps of Engineers, to take rank 30th June, 1834.

Captains by Brevet.

Captain Jac. Schmuck, 4th Regiment of Artillery, to take rank 25th July, 1824.

Captain Richard Bache, of Ordnance, to take rank 15th June, 1827.

First Lieut. Thos. J. Leslie, Corps of Engineers, to take rank 31st March, 1829.

Captain Seth Johnson, 2d Regiment of Infantry, to take rank 1st May, 1829.

First Lieut. Henry S. Mallory, 2d Regiment of Artillery, to take rank 31st May, 1829.

Captain Wm. M. Graham, 4th Regiment of Infantry, to take rank 11th August, 1829.

First Lieut. Wm. Wells, 2d Regiment of Artillery, to take rank 28th August, 1829.

Bvt. Captain James D. Graham, Assistant Top. Engineer, to take rank 8th Sept., 1829.

First Lieut. John R. Vinton, 3d Regiment of Artillery, to take rank 30th Sept., 1829.

First Lieut. Richard B. Lee, 3d Regiment of Artillery, to take rank 31st Oct., 1829.

Captain John Clitz, 2d Regiment of Infantry, to take rank 31st Dec., 1829.

Captain S. Shannon, 1st Regiment of Infantry, to take rank 23d Feb., 1830.

Captain John Symington, of Ordnance, to take rank 17th May, 1830.

Captain J. M. Washington, 4th Regiment of Artillery, to take rank 23d May, 1830.

Captain Andrew Talcott, Corps of Engineers, to take rank 1st October, 1830.

Captain H. H. Loring, 3d Regiment of Infantry, to take rank 17th October, 1830.

Captain E. K. Barnum, 2d Regiment of Infantry, to take rank 31st December, 1830.

First Lieut. Samuel Cooper, 4th Regiment of Artillery, to take rank 6th July, 1831.

First Lieut. Harvey Brown, 4th Regiment of Artillery, to take rank 23d Aug., 1831.

First Lieut. Saml. Ringgold, 3d Regiment of Artillery, to take rank 8th May, 1832.

First Lieut. Charles Ward, 4th Regiment of Artillery, to take rank 20th July, 1832.

First Lieut. John Bradley, 2d Regiment of Infantry, to take rank 2d October, 1832.

First Lieut. W. S. Newton, 3d Regiment of Artillery, to take rank 31st Dec., 1832.

First Lieut. H. A. Thompson, 4th Regiment of Artillery, to take rank 31st Dec., 1832.

Captain Giles Porter, 1st Reg't of Artillery, to take rank 1st February, 1833.

First Lieut. A. W. Thornton, 4th Reg't of Infantry, to take rank 25th April, 1833.

Captain Joshua Howard, 1st Reg't Artillery, to take rank 1st Nov., 1833.

First Lieut. David Van Ness, 1st Reg't of Artillery, to take rank 4th Nov., 1833.

First Lieut. Justin Dimick, 1st Regiment of Artillery, to take rank 1st May, 1834.

First Lieutenant, C. A. Ogden, to take rank 30th June, 1834.

First Lieutenants by Brevet.

First Lieut. Wm. C. De Hart, 2d Reg't of Artillery, to take rank 1st July, 1830.

First Lieut. James A. Chambers, 2d Reg't of Artillery, to take rank 1st July, 1830.

First Lieut. Julius A. de Lagnel, 2d Reg't of Artillery, to take rank 1st July, 1831.

II.—APPOINTMENTS.

STAFF.

John S. Lytle, Ohio, to be Paymaster, 27th February, 1834.

John B. Wells, Maryland, to be Assistant Surgeon, 1st February, 1834.

John M. Cuyler, Georgia, to be Assistant Surgeon, 1st April, 1834.

Madison Mills, New York, to be Assistant Surgeon, 1st April.

William Hammond, Maryland, to be Assistant Surgeon, 1st June, 1834.

Topographical Engineers.

Brevet Captain William G. McNeil, Assistant Topographical Engineer, to be Topographical Engineer, with the brevet rank of Major, to rank from the 28th January, 1834, vice Perrault, deceased.

First Lieutenant William G. Williams, late of the 7th Regiment of Infantry, to be Assistant Topographical Engineer, with the brevet rank of Captain, to rank from the 28th of January, 1834, vice McNeil, promoted.

Military Academy.

Robert W. Weir, New York, to be Teacher of Drawing at the Military Academy, 7th May, 1834.

Regiment of Dragoons.

Second Lieutenant Isaac P. Simonton, of the 2d Regiment of Infantry, to be First Lieutenant of Dragoons, 4th March, 1833, vice Moore, of the 7th Infantry, declined.

Second Lieutenant Albert M. Lea, of the 7th Regiment of Infantry, to be 2d Lieut. of Dragoons, 4th March, 1833, vice Holmes of the 7th Infantry, declined.

3. The following named Cadets, constituting the First Class of 1834, having been adjudged by the Academic Staff at the June examination, competent to perform duty in the Army, the President of the United States has attached them as supernumerary Second Lieutenants, by brevet, to Regiments and Corps respectively, as candidates for commissions therein.

Corps of Engineers.

RANK.

1. Cadet Wm. Smith, of New York, to be brevet Second Lieutenant, 1st July, 1834.

2. Cadet John Sanders, of Florida, to be brevet Second Lieutenant, 1st July, 1834.

Regiment of Dragoons.

21. Cadet Henry S. Turner, of Virginia, to be brevet Second Lieutenant, 1st July, 1834.

First Regiment of Artillery.

4. Cadet Thos. A. Morris, of Indiana, to be brevet Second Lieutenant, 1st July, 1834.

5. Cadet Robert Allen, of Maryland, to be brevet Second Lieutenant, 1st July, 1834.

7. Cadet Epaphras Kibby, of Ohio, to be brevet Second Lieutenant, 1st July, 1834.

8. Cadet John F. Lee, of Virginia, to be brevet Second Lieutenant, 1st July, 1834.

12. Cadet C. B. Chalmers, of D. Columbia, to be brevet Second Lieutenant, 1st July, 1834.

16. Cadet L. A. B. Walbach, of United States, to be brevet Second Lieutenant, 1st July, 1834.

Second Regiment of Artillery.

3. Cadet Harrison Loughborough, of Kentucky, to be brevet Second Lieutenant, 1st July, 1834.

6. Cadet James Duncan, of New York, to be brevet Second Lieutenant, 1st July, 1834.

8. Cadet Wm. T. Stockton, of Pennsylvania, to be brevet Second Lieutenant, 1st July, 1834.

11. Cadet Curran Pope, of Kentucky, to be brevet Second Lieutenant, 1st July, 1834.

13. Cadet John E. Henderson, of Tennessee, to be brevet Second Lieutenant, 1st July, 1834.

Third Regiment of Artillery.

10. Cadet Charles A. Fuller, of Massachusetts, to be brevet Second Lieutenant, 1st July, 1834.

14. Cadet Morris S. Miller, of New York, to be brevet Second Lieutenant, 1st July, 1834.

Fourth Regiment of Artillery.

15. Cadet Wm. G. Freeman, of Virginia, to be brevet Second Lieutenant, 1st July, 1834.

First Regiment of Infantry.

35. Cadet Wm. H. Price, of Pennsylvania, to be brevet Second Lieut. 1st July, 1834.

Second Regiment of Infantry.

30. Cadet Richard S. Smith, of Penn. to be brevet Second Lieut. 1st July, 1834.

Third Regiment of Infantry.

17. Cadet James F. Cooper, of Penn. to be brevet Second Lieut. 1st July, 1834.

19. Cadet George P. Field, of New York, to be brevet Second Lieut. 1st July, 1834.

20. Cadet Cary H. Fry, of Kentucky, to be brevet Second Lieut. 1st July, 1834.

23. Cadet Thomas O. Barnwell, of S. Carolina, to be brevet Second Lieut. 1st July, 1834.

26. Cadet Joseph L. Coburn, of Vermont, to be brevet Second Lieut. 1st July, 1834.

28. Cadet Philip N. Barbour, of Kentucky, to be brevet Second Lieut. 1st July, 1834.

Fourth Regiment of Infantry.

31. Cadet Eustace Robinson, of Virginia, to be brevet Second Lieut. 1st July, 1834.

34. Cadet John Graham, of New York, to be brevet Second Lieut. 1st July, 1834.

Fifth Regiment of Infantry.

25. Cadet Goode Bryan, of Georgia, to be brevet Second Lieut. 1st July, 1834.

Sixth Regiment of Infantry.

32. Cadet Wm. S. Keitchum, of U. States, to be brevet Second Lieut. 1st July, 1834.

Seventh Regiment of Infantry.

18. Cadet Gabriel R. Paul, of Missouri, to be brevet Second Lieut. 1st July, 1834.

22. Cadet Seneca G. Simmons, of Vermont, to be brevet Second Lieut. 1st July, 1834.

24. Cadet Henry McKavett, of New York, to be brevet Second Lieut. 1st July, 1834.

27. Cadet James G. Reed, of Pennsylvania, to be brevet Second Lieut. 1st July, 1834.

29. Cadet Arnold Harris, of New York, to be brevet Second Lieut. 1st July, 1834.

33. Cadet Furber Britton, of Virginia, to be brevet Second Lieut. 1st July, 1834.

36. Cadet Alex. Montgomery, of Penn. to be brevet Second Lieut. 1st July, 1834.

III.—CASUALTIES.

Resignations.—First Lieutenants.

Daniel Tyler, 1st Artillery, 31st May, 1834.

John Archer, 3d Infantry, 31st March, 1834.

Second Lieutenants.

James Clyman, Dragoon, 31st May, 1834.

Thomas J. McKean, 4th Infantry, 31st March, 1834.

Albert S. Johnston, 6th Infantry, 31st March, 1834.

Henry Du Pont, (brevet) 4th Artillery, 15th June, 1834.

Asher Philips, 17th January, 1834—Pay Master.

Lucius Abbott, 31st March, 1834—Assistant Surgeon.

Richard Wayne, 31st January, 1834, do. do.

Charles W. Handy, 31st May, 1834, do. do.

C. R. Leslie, 15th April, 1834, Teacher of Drawing, M. A.

Declined.

First Lieutenant Stephen W. Moore, of the Regiment of Dragoons.

Second Lieutenant Theoph. H. Holmes, of the Regiment of Dragoons.

Deaths.

Brevet Major P. H. Perrault, Topographical Engineer, 28th January, 1834.

Captain Matthew A. Patrick, 1st Artillery, 6th March, 1834.

First Lieutenant Abraham C. Fowler, 2d Artillery, 30th April, 1834.

Second Lieutenant William Bradford, Dragoons, 17th March, 1834.

Second Lieutenant Samuel K. Cobbs, 3d Infantry, 11th January, 1834.

Second Lieutenant Joseph Ritner, 4th Infantry, 18th February, 1834.

Dropped.

Captain B. L. E. Bonneville, 7th Infantry, 31st May, 1834.

4. The officers promoted and appointed, will report accordingly, and join their proper stations and companies without delay; those on detached service, or acting under special orders and instructions, will report by letter to their respective Colonels;

5. The Brevet Second Lieutenants will join their respective Regiments, and report in person for duty, agreeably to Regulations, by the 15th day of October: and immediately, by letter, to their respective Colonels, who will assign them to companies.

By order of ALEXANDER MACOMB,
Major-General Commanding in Chief.

R. JONES, Adj. Gen.

MEMORANDA.

Army Register.—Correction and alteration of dates.

First Lieut. Timothy Paige, 4th Infantry, to rank from 4th March, 1833, vice Trenor, appointed Captain of Dragoons.

Second Lieutenant Bradford R. Alden, 4th Infantry, to rank from 15th September, 1833, vice Harford resigned.

Second Lieutenant Daniel P. Whiting 7th Infantry, to rank from 15th December, 1833, vice Carter, promoted.

Second Lieutenant Roger S. Dix, 7th Infantry, to rank from 28th January, 1834, vice Kanes, promoted.

In the caption, at page 4, in the place of "Former Commissions," substitute the words—*Brevet to and former Commissions.*

ROGER JONES,
Adjutant General.

TOWNSEND & DUFFEE, of Palmyra, Mass. *facturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Duffee, May & Co.* offer to supply Ropes of any required length (without aplice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Esq. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New York, }
January 29, 1833.

CAUTION.

GEORGE S. KINSMAN was, in October last, entrusted with the accounts due for this paper and for the Railroad Journal in the States south and west of Pennsylvania. He made collections at various places on his way to New Orleans, as we have since learned from subscribers, of which he has made no return, and the subscribers have not, therefore, credit on our books for the amount. As nothing has been heard from Kinsman since last winter, on his arrival in New Orleans, it is feared that some accident may have befallen him, and his papers have fallen into other hands. This is to caution subscribers not to pay to him, or to any person in his name, accounts due this office after this date, and to request any person who may know his present residence, or any thing of him within the last four or five months, to communicate the same to the subscriber without delay. New York, July 21st, 1834.

D. K. MINOR.

Messrs. E. & B. G. EASTON, of Cincinnati, Ohio, are authorized to collect the accounts due for the New York American, the Railroad Journal, and Mechanics' Magazine, in Ohio, Kentucky Tennessee and Indiana.

PUBLIC DOCUMENTS, SPEECHES, PROCEEDINGS AND REPORTS OF THE LAST SESSION OF CONGRESS. This day published and for sale at 35 Wall street—This book contains the MESSAGES and PROTESTS of the President, Reports of the Heads of Departments, with the most important Speeches and Proceedings of the Session, including the lengthy Debates upon the DEPOSIT QUESTION, the PATENT and the POST-OFFICE REPORT. It contains 230 large octavo pages.

A small edition only printed.

Jy 21 1f

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted. Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J31 6f corner of Maidenla. r.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty six nails, and about forty ten nails in a minute, and in the same proportion larger sizes, even to spikes for shingles. The nail is hammered and comes from the machine completely heated to redness, thus its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 f R M&F

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having counter-sink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J32 1am

H. BURDEN.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.



The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and sowing of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised in perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN.

347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better success can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

New York Farmer and American Gardener's Magazine, Mechanics' Magazine and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

New-York American, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them' by calling at 347 North Market street, Albany.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen B. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars 11
200 do. 1 1/2 do. 1/2 do.	lengths of 14 to 15
40 do. 1 1/2 do. 1/2 do.	feet counter sunk
800 do. 2 do. 1/2 do.	holes, ends cut at
800 do. 2 1/2 do. 1/2 do.	an angle of 45 de-
soon expected.	grees with spli-
	cing plates, nails
	to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 2 1/2, 3, 3 1/2, 4, 5, and 6 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

d71mcowr

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street,

Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction

of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.

Germant. and Norrist. Railroad

ml 1y

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen at that part of the New-York and Harlem Railroad, now in operation.

J 3 1f

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Hearte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing & Hearte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by my self, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, AUGUST 2, 1834.

[VOLUME III.—No. 30.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 2, 1834.

By a reference to the extract from the National Gazette, inserted on page 469, it will be seen that we have but partially understood the advantages of Railroads, or power of locomotive engines. Only think of a single engine moving over 600 passengers at the rate of 15 miles an hour! and that, too, when the application of steam to railroads is in its infancy. A greater freight will be carried at 25 miles per hour.

LIST OF RAILROADS IN THE UNITED STATES.

(Continued from page 453.)

NEW-YORK AND ERIE RAILROAD.—This road was chartered in 1832, with a capital of 10,000,000 dollars. The charter fixes two points, New-York and Binghamton, and requires it to pass entirely within the state of New-York. Some efforts were made during last season to effect a survey; it was not, however, commenced until the present summer. Judge Wright is now engaged with an efficient force in making the preliminary surveys provided for by a law of the last session of the legislature, and it is understood that the route, as far as examined, is even more favorable than was anticipated. It is believed that the entire route, about 400 miles, may be accomplished with only — stationary engines, and that reach the greatest part of the road will be found highly favorable for the use of locomotive engines.

The route not having been defined, the delineation on the map is of course merely conjectural.

MOHAWK AND HUDSON RAILROAD.—This was the first railroad chartered in the state of New-York. It was commenced in 1830, when there was of course very little information upon the subject of railroads in the country, and it therefore progressed slowly in its earliest stages. It has cost the company a large amount of money. The plan and profile are admirably designed, and justify the great expense which the heavy embankments and excavations have required. \$483,215 46 have been, and \$156,693 will be, expended in completing the work, according to the official report made to the Legislature of New-York

in January, 1832. This includes the cost of the second track. It is proper to state that about \$100,000 of the above sum should be deducted for land, (13 acres are owned in Albany alone,) depots, engines, waggons, &c.

The road commences on the bank of the Erie Canal, at Schenectady, and runs parallel to it for 20 chains—then a curve of 10 chains.

	Miles	Chains.	Grade.	Inclination.
From Schenectady to foot of inclined plane	0	32	level	
inclined plane	0	31	rise	1 in 18
Then runs	3	44	level	
" "	2	10	descent	1 in 450
" "	1	40	level	
" "	2	53	descent	1 in 225
" "	1	7	level	
" "	3	11	descent	1 in 270
" "	0	2	level to head of pl.	
Then Albany plane	0	17	descent	1 in 18
Then to dock head on the Hudson at Albany	0	32	descent	1 in 500
Total	15	69		

When excavation occurs in the grading, the width for a double road is 38 feet; when embankment occurs, the width on the level of the road is 26 feet.

The greatest height of embankment is 44 feet; and the deepest excavation is 47 feet.

On the first grade, at Schenectady, below the inclined plane, there is one curve, about 10 chains in length, on a radius of 700 feet. There is a curve at the head of each inclined plane, about 8 chains each, on a radius of 1100 feet: between these two there are two other curves, one on a radius of 4,200 feet, 9 chains long—and one on a radius of 23,000 feet, 6 chains long. The only other curve is between the foot of the Albany plane and the river, on a radius of 4,000 feet.

The wooden cross sleepers are 7 inches in diameter, and 8 feet long.

Stone blocks contain each 2 cubic feet, and cost 45 cents. They are laid 3 feet apart, from centre to centre, on a foundation of broken stone, well rammed.

The iron rail plate is a bar 9.16 by 2 1.2 inches, with the upper curves rounded to 1 7.8 inches width. The timber rails are yellow or Norway pine, 6 by 6 inches. The width between the tracks is 4 feet 9 inches.

The summit is 335 feet above the Hudson. The cost of the railway has been incurred for broken stone.

There are two stationary engines, one near each end of the road. Locomotive engines are mostly in use, although horses are occasionally used. The main line of the road approaches the Hudson below the city, where the company has warehouses for freight. There is also a branch road into State street to the depot, and also to the basin. It is, however, used only for passengers. This road has cost about \$40,000 per mile, yet it will be a good investment for those who hold the stock.

(See next page.)

ERRATUM.

In the last number of the Railroad Journal, page 453, in the account of the Tuscumbe Railroad, for "about 30," read "45 2-5 miles."

Long Island Railroad.—The Commissioners of the Railroad lately had a meeting, at which a resolution was passed, that books of subscription to the stock should be opened on the 1st Dec. next. The subscriptions were deferred to that time with a view that certain surveys of the route might be made in the interim. A committee was appointed to visit Boston, Providence, and Stonington, to ascertain what co-operation might be expected in effecting this new channel of intercourse between New-York and Boston. We are only enabled to say, that, so far as enquiries and examinations have been made, the prospect is encouraging.—[L. I. Star.]

SHIP CANALS.—Are ship canals necessary to the prosperity and rapid development of the resources of this country? If so, at what points are they likely to be most useful?

This question naturally leads to others: and first, where is the greatest body of fertile lands unoccupied? and secondly, what are its natural advantages for transportation?

To the first it may be answered, that section bounded on the north by Lakes Erie, Huron, and Superior; on the east, south, and west, by the rivers Ohio and Missouri. Within these limits is a territory which would in the old world be considered an *Empire*. In fertility and variety of climate it is not surpassed in the world. There is nothing necessary or convenient to the happiness of man, which may not be found or produced within those limits. Its resources are apparently inexhaustible; those resources are being rapidly developed, and it is therefore necessary that early measures should be taken to provide suitable outlets for its products. In reply to the second, it may be said that its natural advantages for that purpose are also not only equal, but superior to almost any other country. This may be also true; yet it does not follow that it has all, or even the necessary advantages, as the best of nature do not always equal artificial advantages. Taking things as we find them, New-York is the great centre of commerce of the United States. To it, and from it, flow all the great streams of business. Its location is such that this will long be the case, and therefore it is that her citizens should be upon the alert to open those great channels through which it must flow. It is, therefore, to the citizens of New-York that the question is put: Are ship canals necessary to the prosperity and rapid development of the resources of this country? The answer will be, I doubt not, THEY ARE; and it follows as of course, they are necessary to connect the Hun-

son, by the way of the Lakes, with the Mississippi. A ship or steamboat canal from the Hudson to Lake Ontario, from Lake Ontario around the Falls of Niagara to Lake Erie, and from Chicago, at the extremity of Lake Michigan, to the foot of the Illinois rapids, would open an uninterrupted (for most of the year) communication from New-York to New-Orleans of more than 3,500 miles; and this can all be accomplished by a cutting of less than three hundred miles, and for a sum less than 20,000,000 of dollars; an amount which New-York alone can raise without inconvenience, any time she chooses. An amount, however formidable it may appear, altogether insignificant, when compared with the increased value, its expenditure and the completion of the work would give to property within its influence. If the Erie and Champlain Canals cost ten millions, they have already produced an increase in the value of property of more than thirty millions over what it would have been had they never have been constructed; so the construction of ship canals through these sections would, in ten years, enhance the value of property in the United States at least from fifty to seventy millions of dollars.

LIST OF RAILROADS IN THE UNITED STATES. (Continued from page 453.)

The following account of the route of the Georgia Railroad, in continuation of the Charleston and Augusta Railroad, will be read with much interest, as it points out almost the entire route of one of the most important roads in this country. We have been very desirous to see this road progress, as it will have a great tendency to bring the far south and south-west in more immediate contact with us, of the North, and us with them. Easy communication will make many friends, as well as fortunes, and the natural result will be a better understanding, and knowledge of the character of each other. It will then be ascertained that we of the north are not all "peddlars of wooden nutmegs and horn gunflints," and they of the south not all "negro-drivers, nor hard masters."

ATLANTA, July 10, 1834.

To the Editor of the Railroad Journal.

SIR,—As you request an account of the Georgia Railroad, I give it cheerfully, so far as the project has gone. And first, as to the route, I refer you to Tanner's Map of the United States. We begin at Augusta, go down the Savannah River to Butler's Creek, up the valley of that creek, and gradually ascend the ridge between the head waters of Bear Creek, on the left, and Little River on the right. We pass a little to the north of Warrenton, directly through Crawfordville, seven miles north of Greensboro, a little west of Lexington, and cross the Oconee river at Athens. After ascending out of the valley of Butler's Creek, there is a continuous ridge the whole way until we come opposite Athens. The valley of the Oconee is deep, but it can be overcome by an inclined plane and stationary power, at a moderate expense, or by a viaduct, which last mode seems to be preferred by Col. Long.

Referring to the same map, we propose to cross the Middle Oconee, with the route beyond Athens, near Clarkeboro'. Thence there is another ridge, of remarkable evenness of outline, passing round the head waters of the Ocmulgee, a little north of Lawrenceville, to the Chattahoochee. Crossing that river we find another ridge, between the head waters of Tallapoosa on the south, and the Etowah on the north. We propose to cross the Coosa near the mouth of Will's Creek, perhaps higher up, and proceed, by a route yet to be ascertained, but practicable, by all accounts we have of the country, to connect with the Tusculumbia and Decatur railroad, (Ala.) at the last mentioned place. From Tusculumbia to Memphis, the country is now under examination; and will, we are informed, present no serious obstacle to the construction of a railroad. Col. Long, of the United States Engineer Department, is now engaged, (July, 1834,) in examining the route between Athens and Decatur.

You have here a sketch of the route which it is proposed to pursue in connecting the Mississippi with Charleston. It differs from what you had supposed to be the route, from the circumstance that, in this region, we find it best to keep on the ridges, instead of pursuing the valleys of our streams.

The charter of the Georgia Railroad Company is a very liberal one. It gives us the exclusive right to an extent of 20 miles on each side of our road. But we have no fears of competition, even without this exclusive right; for nature has settled that question. We have two years to begin our work in, and six to finish it; and our charter runs for thirty-six years after the completion of the road, so far as respects the exclusive privilege—but the corporation is perpetual. We are authorized to charge 50 cents per 100 lbs. for 100 miles freight; and 10 cents per cubic foot for articles of measurement the same distance; and 5 cents per mile for passengers.

The whole amount of stock is one million five hundred thousand dollars. Stockholders are entitled to a vote for every share they may hold; and the stock of the company is exempt from taxation; but seven years after the road is finished, the net profits may be taxed, not exceeding one-half of one per cent. per annum.

The distance from Augusta to Athens is, by the road now travelled, 96 miles. By the survey for the railroad, the distance is increased to 114 miles. The estimate is, that the road will cost, complete, about 10,000 dollars per mile. But many persons who are well acquainted with the facilities of the country through which the road will pass, think this estimate quite too large. Even at ten thousand dollars per mile, the investment must be a good one. Between fifty and seventy thousand bales of cotton must pass over the road annually; and the return freight will consist of the articles consumed by at least two hundred thousand people. Then add travelling, and the transportation of the mail; and to all this the amount of new business that always springs up where the facilities of transportation are increased. Our iron, marble, and limestone, of which we have an ample abundance of excellent quality, though now almost entirely useless as articles of export, and even of domestic consumption, will be called into requisition; and these will add something very considerable to the income of the road.

Our calculations are, that this road, even if it should go no further west than Athens, will receive a large share of business from East Tennessee. At present, they receive a great portion of their goods in that region by land from Baltimore, paying from five to eight cents per pound freight. By Charleston, Augusta, and Athens, they can receive the same goods at 31.2 cents per pound. They will not hesitate, therefore, we think, in their choice of routes.

But if this road has so good prospects, supposing it to stop at Athens, what must they be if it be pushed through to the valley of the Mississippi? In that event, we are confident that no stock in the world will be equal to it in the amount of its annual returns in the shape of profit.

Our charter provides for the construction of two branch roads, leaving the main road at the most advantageous point near Greensboro, and running, one to Eatonton, and the other to Madison, Morgan county. If, on due examination, it be found practicable to construct these roads, a very large proportion of the whole cotton-crop of Georgia must pass over the Georgia Railroad.

The people of Savannah, with praiseworthy enterprise, propose to construct a railroad from that city to Macon. We believe it is the true interest of the people of that city to direct their attention to a connection with the Georgia Railroad at Augusta. The trade, which would otherwise go to Charleston, may be thus intercepted for the benefit of Savannah; and the people of the interior, when they reach Augusta, having a choice of markets, can go either to Savannah or to Charleston, as may best suit their interest.

JAS. CAMAK,

President: Georgia Railroad Company.

SAVANNAH AND AUGUSTA RAILROAD.—A railroad is in contemplation between Savannah and Augusta, Georgia, with a view of securing a share of the business of the state. It is indeed highly essential for Savannah to make an effort of this kind, or she will lose almost the entire trade of the up country. With this road she may share with Charleston the business.

NORTH CAROLINA OR CENTRAL RAILROAD.—This road will probably be constructed within a few years as a connection between the great Atlantic Railroad, from the north, and the road from Augusta through Georgia and Alabama, to the Mississippi. It will probably intersect the Charleston and Hamburg road at some point about one hundred miles from Charleston, and 35 miles from Hamburg.

ency Governor Swan presided. Great unanimity of sentiment prevailed, and it is to be desired that the work may be undertaken in a proper spirit, and then prosecuted with vigor. There is no Atlantic state in the Union, perhaps, which will be more benefitted by such a work than North Carolina.

CAPE FEAR AND YADKIN RAILROAD.—This road commences at Wilmington on the navigable waters of Cape Fear River, and follows the direction of that river to Fayetteville, and from thence probably to Clinton, on the Yadkin River, in the county of Davidson, at which place it unites, or it is to be hoped it will unite, with the Central Railroad from Newbern through Raleigh. From this point, should the road be continued further, as it undoubtedly will, if the citizens of North Carolina duly appreciate their location, the natural advantages they enjoy, and their mineral wealth, it will probably pass through Morganton, in Burke, to Asheville, in Buncombe county, and from thence it will follow the French Broad river, to Knoxville, in Tennessee, where it will connect with the great road through the valley of Virginia to Richmond and Baltimore, and New-York, and Boston. North Carolina has much at stake in the prosecution of this work. She must make it in self-defence, if for no other reason. With the railroads of South Carolina and Georgia on the south, and Virginia and Maryland on the north, she will be lost in her own nothingness, unless she steps in and intercepts a share of the business which must pass to the Atlantic; and with her Central, and Cape Fear and Yadkin railroads, united at Clinton and extended to Knoxville, she may successfully compete with her neighbors: without them, she is lost. This road was commenced at Fayetteville on the 15th June.

ROANOKE, RALEIGH, AND FAYETTEVILLE RAILROAD.—This road is to be a continuation of the Petersburg, or rather the great north and south railroad through the Atlantic States to the Mississippi.

SOUTH CAROLINA, OR CHARLESTON AND HAMBURG RAILROAD.—The city of Charleston, or some of her enterprising citizens, are entitled to great credit for the construction of this work. It was the first work of the kind commenced in the southern states. As early as February, 1828, measures were taken to ascertain what would probably be the effects of such a work upon the general interests of Charleston. The result was an application for, and the granting of, a charter. The work was commenced in the winter of 1829 and '30, and has been continued with great perseverance, until its final completion in Sept. last, since when it has been in successful operation. The manner of constructing this road, of wood on piles, and in many cases on *treacle work*, does not please every one, but it was probably the only mode, a cheap one, which could at the time have been adopted. Its length is 135 miles, the longest railroad ever constructed. It rises 510 feet from Charleston, and then from this point, 16 miles from Hamburg, descends 360 feet to Augusta Bridge. There is an inclined plane of 3800 feet in length, and a descent of 180 feet. It has three grades of descent, the steepest of which is one in thirteen. From the foot of the plane, the remainder of the descent is overcome in 10 miles with an average inclination of 18 feet per mile. The road is a single track, with necessary turnouts, except at the inclined plane, where there is one mile of double track. At the inclined plane there is a stationary power of two twenty-five horse power engines working on one crank. Locomotive power is used on the road. It has cost, including motive power, cars, and every thing complete, ready for use, \$504,499, or \$6,625 92 per mile. This road will be continued; or rather the Georgia Railroad will connect with this, and pass through Athens, and thence westward, and connect with the Tusculumbia and Decatur, and the Tennessee Railroad, to the Mississippi River, thus forming one of the most important works in the Union.

The route from Charleston to Hamburg, 135 miles, is performed in less than twelve hours with great ease, and will be done in eight hours.

CHERAW, CAMDEN, AND COLUMBIA RAILROAD.—This road will probably be constructed within a few years as a connection between the great Atlantic Railroad, from the north, and the road from Augusta through Georgia and Alabama, to the Mississippi. It will probably intersect the Charleston and Hamburg road at some point about one hundred miles from Charleston, and 35 miles from Hamburg.

LEXINGTON AND OHIO RAILROAD.—This road, commencing at Lexington, passes through Frankfort and terminates at Louisville, Ky. It will be, when completed, 90 miles in length. That part between Lexington and Frankfort, 29 miles, has been completed at

an expense, including machinery, of \$400,000, and is now in use. The construction of this road is said to be equal to any, and superior to most other railroads in this country; it has no curve with a less radius than 1000 feet. The remaining 61 miles of the road will probably be completed for \$500,000, or about \$8200 per mile. Should it be completed in the same permanent manner with that now in use, it will do credit to the State, and to those who have had the superintendence of it: At present horse power only is used.

COLUMBIA AND NASHVILLE RAILROAD.—The same enterprise which projected the railroads already mentioned will soon extend them to other parts of the State, and amongst the first, as has been suggested, will probably be one from Columbia to Nashville, the capital of the State; and it has been also intimated that it was in contemplation to extend it to Louisville, Kentucky; thereby opening a choice of routes, either to New-Orleans, New York, via the Lakes, or via Charleston, S. C.

COLUMBIA AND TENNESSEE RIVER RAILROAD.—The route for this road has been surveyed, and the estimates of its cost made. (See Railroad Journal, vol. 3, p. 333.) It commences at Columbia, and passes in a south-westerly direction, crossing the Big and Little Buffalo rivers, to, or near Waynesboro', and thence to a suitable point on the Tennessee river, between Ellis's Ferry, and Roche's Farm, from whence it will probably be continued to Bolivar, or Jackson, and thence to the Mississippi river at Memphis, or near Covington. The distance from Columbia to the Tennessee is about 50 miles, and its estimated cost, on the plan of the Charleston and Hamburg railroad, is about \$360,000. Five routes have been surveyed, varying from 57 to 65 miles, and from \$374,970, to \$441,450.

MEMPHIS AND BOLIVAR, (TEN.) RAILROAD.—This railroad will be the final link in the grand Atlantic Railroad. It has been surveyed, and it is much to be hoped that its construction will be commenced without unnecessary delay. Let this be commenced, and the intermediate sections between Bolivar and Tusculumbia; and Decatur and Athens, Georgia, will speedily follow. It is designed also to connect this road with another, via Waynesboro', to Columbia and Nashville, and finally to continue it to Louisville, Kentucky.

MAD RIVER RAILROAD.—This road is designed to extend from Dayton, the present termination of the Miami canal, to Sandusky, on Lake Erie. It will pass through a very fertile section of the State, and open a direct and convenient communication from the Lake to Cincinnati and the lower Ohio. It will be, when completed, 153 miles in length. It passes in its route the villages of Springfield, Urbana, Bellefontain, Upper Sandusky, and Tiffin.

It is estimated to cost \$11,000 per mile. The route is said to be remarkably adapted to the use of locomotive power, as there is not an elevation on the line which would require the aid either of animal or stationary power. It will probably be made in a few years.

The other chartered railroads in Ohio are the following, some of which will probably be completed, whilst others will be railroads on the statute-books only. We have received no intimation that either of them has been, or is likely to be made immediately.

THE ERIE AND OHIO RAILROAD will pass from the Lake, at Ashtabula, or Fairport, through Warren, to Wellsville, on the Ohio river, a distance of about ninety miles, and perhaps the shortest route by which the two can be connected.

THE PENNSYLVANIA AND OHIO RAILROAD is designed to open an easy communication from the Ohio Canal at Massillon with Pittsburgh, passing through the valley of the Little Beaver river to the Ohio; by which it is hoped to divert to Philadelphia much of the trade which would otherwise go to New-York.

THE CHILlicothe and Lebanon Railroad will open a communication from Chillicothe through Hillsborough, Wilmington, and Lebanon, probably to the Miami canal.

THE RICHMOND, EASTON, AND MIAMI RAILROAD is, we believe, to commence at Dayton, at the head of the Miami Canal, and pass through Eaton, in Preble county, to Richmond, in Indiana.

THE CINCINNATI, HARRISON, AND INDIANAPOLIS RAILROAD will open an easy communication from Cincinnati through Harrison and Brookville, in Indiana, to the seat of government in that state, there to connect with the Madison, Indianapolis, and Lafayette railroad, incorporated by the Legislature of Indiana.

THE FRANKLIN, SPRINGBOROUGH, AND WILMINGTON RAILROAD is nearly a parallel road to the Chillicothe and Lebanon railroad; which we should suppose would be made to intersect at Lebanon, and thereby ensure the construction of one good one, rather than defeat the whole.

THE MILAN AND NEWARK RAILROAD is designed to open a direct communication from the Ohio Canal at Newark, in Licking county, with Lake Erie, passing through Knox, Richmond, and Huron counties—probably to the mouth of Huron river. This road will pass through a beautiful section of country, and will run nearly parallel to and not far from the Milan and Columbus railroad, as we infer from the title—from which indeed we have traced the course of most of these roads, not having received the different acts by which they are chartered.

The last mentioned road, from Columbus to Milan, and the Columbus, Delaware, Marion, and Sandusky Railroad, will pass through that section of country included between the railroad from Newark to Lake Erie and the Mad river railroad, passing through Urbana, in Champaign county, to Sandusky; which can in no place exceed seventy miles in breadth.

INDIANA RAILROAD.—This road is to commence at Madison, on the Ohio River, and pass through Indianapolis to La Fayette, on the Wabash River, a little below the termination of the Wabash and Miami Canal, and from La Fayette it is to be continued to the Lake, at Michigan. This road, when completed, will afford an easy mode of communication between the Lakes and the Ohio. The company has ten years to complete the road to Indianapolis, and five years thereafter to complete it to La Fayette.

WEST FELICIANA AND WOODVILLE RAILROAD.—This road commences at St. Francisville, on the east bank of the Mississippi river, and extends in a northerly direction to Woodville, in Mississippi. Its length is 30 miles. It was to have been commenced in December, 1832, and to have been completed in 1833. Of its progress and present condition, no definite information has been received.

VICKSBURG AND CLINTON, (MISS.) RAILROAD.—In March, 1832, a meeting was held at Hamburg, Miss., for the purpose of taking measures to construct a railroad from Vicksburg to Clinton. Of the result of that meeting no information has been received.

JACKSON AND MISSISSIPPI RAILROAD.—This road is to commence at Jackson, and terminate at one of the following places, as may be most suitable on the Mississippi, viz., Randolph, Fulton, Coal Creek, or Ashport. Its length will vary little, according to the surveys, from 53 miles, and its cost, the road to be made similar to the South Carolina road, is estimated, including every convenience for business, and to be completed early in 1837, at \$337,052.50, and its income, based upon the present business of the country, at \$100,500, its expenses at \$19,350, leaving a net income, per annum, of \$81,150, to divide among the stockholders.

This road will probably be continued to Columbia, either by the way of Bolivar, or to intersect in a more direct course, the Columbia road, at its crossing of the Tennessee. The Columbia road will also probably be connected with Tusculumbia, or Decatur, by the way of Pulaski, Elkton, and Athens. There appears to be a suitable spirit aroused in Tennessee upon this subject, and important results must follow. The vast resources of the State will be developed, and its mineral wealth will be enjoyed by those who now possess them, instead of being wholly reserved for succeeding generations.

NEW-ORLEANS AND PONTCHARTRAIN RAILROAD.—This road extends from the city of New-Orleans to Lake Pontchartrain, about 6 miles, and is designed as a link in the route to Mobile by steamboat. The road, machinery, real estate in the city and harbor on the lake, (which last, by the by, must have cost the largest proportion of the amount,) have cost \$443,443 76. It has been in use for passengers since the spring of 1832, and from the 23d of April to 23d October of that year, \$36,000 were received for passengers alone, which, after deducting expenses, gave a net income of \$25,000. It will materially reduce the expense of transportation between Mobile and New-Orleans.

TALLAHASSEE, (FLA.) AND ST. MARKS RAILROAD.—Something has been done towards a railroad from Tallahassee to some point on the St. Marks, or Wakulla river. 900 shares were subscribed, and application was to have been made at the last session for a charter.

LIST OF CANALS IN THE UNITED STATES.

MIDDLESEX CANAL, from Boston to Chelmsford, Mass.—This canal was constructed with a view of opening a communication with the Merrimac River, and of drawing the trade of that river to Boston. Its length is 30 miles, breadth at surface 30 feet, bottom 20, depth of water 3 feet, 136 feet fall, and 20 locks. Incorporated 1789; completed 1806, and cost \$528 000.

BLACKSTONE CANAL, extends from Worcester, Mass. to Providence, Rhode-Island, 45 miles.

Most of the articles carried up this canal are articles for consumption and manufacture. Those carried down are mostly manufactured articles.

The descent from Worcester to Providence is 451 feet, overcome by 48 locks, 80 feet by 10; width of canal at surface is 34, bottom 18, and depth of water 4 feet; completed in 1828, and cost \$600,000.

FARMINGTON CANAL, commences at New Haven, Ct. and when completed will connect with the Connecticut river, at Northampton, Mass. 65 miles. This canal is 38 feet wide and 4 deep.

The Farmington, like the Blackstone Canal, is not a profitable investment.

PAWTUCKET CANAL, in Lowell, for passing a fall of the same name, of 32 feet. It is 80 feet wide, 4 feet deep, and 2 1/2 miles in length.

SOUTH HADLEY CANAL, constructed to pass the falls in South Hadley, on the Connecticut River, is 2 miles in length, and has a lockage of 40 feet.

MONTAGUE CANAL, constructed to pass the falls of the same name in that town, is 3 miles long, 25 feet wide, and 3 feet deep—lockage, 75 feet.

ERIE CANAL, NEW-YORK.—Commenced July 4th, 1817. First navigated from Utica to Rome, fifteen miles, October 23, 1819. Tolls first received July 1, 1820. 280 miles of canal completed, and first boat entered the Hudson at Albany, from the north and west through the canal, October 8, 1823. Completed October, 1825. Length from Lake Erie to the Hudson river, 363 miles, viz.: Western section—Buffalo to Montezuma, on Seneca river, 157 miles, 21 locks, fall 186 feet; Middle do.—Montezuma to Utica, 96 miles, 11 locks, rise and fall 95 feet; Eastern do.—Utica to Albany, 110 miles, 52 locks, fall 417 feet. Total, 363 miles, 84 locks, rise and fall 698 feet.

Lake Erie is 565 feet above the Hudson river at Albany. The canal is 40 feet wide on the surface and 4 feet deep.

CHAMPLAIN CANAL.—Begun October, 1817; navigable November, 1819. This canal commences at the junction with the Erie Canal, nine miles north of Albany, and terminates at Whitehall, in the county of Washington, connecting the waters of the Erie canal and the Hudson river with Lake Champlain. It has a lateral cut connecting it with the Hudson river by three locks at Waterford, eleven miles north of Albany, as the Erie canal has connecting it with the same river at West Troy, by two locks.

Length from Lake Champlain, at Whitehall, to junction with Erie canal, nine miles above Albany, sixty-three miles. Number of locks, as follows: 7 locks rise from the lake to the summit level, 54 feet; 14 do. fall from the summit level to the Hudson, 134; Total, 21 locks, Rise and fall 188 feet.

OSWEGO CANAL.—Commenced, 1826; completed 1828. Length from Salina to Oswego, 38 miles; connecting Lake Ontario with the Erie canal. One half the distance is canal, and one half slack water, or river navigation, with a towing path on the bank. Fourteen locks, (13 of stone, and 1 of wood and stone.) Descent from Salina to Lake Ontario, 123 feet.

CAYUGA AND SENECA CANAL—commences at the Erie canal at Montezuma, Cayuga county, and terminates at Geneva, Ontario county, connecting the waters of the Erie canal with those of Seneca lake. This canal has also a lateral branch to East Cayuga village, on the Cayuga lake, thus connecting with the waters of that lake. It opens a lake navigation of more than 100 miles. Commenced 1827; completed 1829. Length twenty miles forty-four chains, from Geneva, on the Seneca lake, to Montezuma on the Erie canal. One half canal and one half slack water navigation: 2710 feet of tow-path bridges. Eleven wood locks. Descent 73 1/2 feet from Seneca lake to the Erie canal at Montezuma.

CHEMUNG CANAL—extends from the head waters of the Seneca lake to the Chemung (or Tioga) river, a branch of the Susquehanna, at the village of Elmira, Tioga county. Length 22 1/2 miles, with a navigable feeder from Painted Post, Steuben county, on the Chemung river, to the summit level, 13 1/2 miles, making

thirty-six miles of canal navigation. This canal thus forms part of a chain of communication from the Erie canal to the Susquehanna river. It has fifty-two wood locks, comprising 516 feet of lockage, and one guard lock, three aqueducts, five culverts, and seventy-six bridges. Distance from Elmira to Albany via this canal, Seneca lake, Cayuga and Seneca and Erie canals, 326 miles. Commenced 1839; completed 1833.

CROOKED LAKE CANAL.—extends from Penn Yan to Dresden, both in Yates county, connecting the waters of the Crooked and Seneca lakes, through a beautiful and fertile country. It is eight miles in length, and has 260 feet of lockage, which is overcome by twenty-seven wood locks. The other structures are one guard lock, twelve bridges, three culverts, and one waste weir. Commenced 1830; completed 1833.

CHENANGO CANAL.—An act of the Legislature was passed, February, 1833, authorizing the construction of the Chenango canal, to extend from the Erie canal, in Oneida county, to the Susquehanna river at Binghamton, Broome county. Length about ninety-five miles. Route as follows: commencing at Whitesborough, or Utica, passing through the valleys of the Oriskany and Sauquoit creeks, and Chenango river, and by the towns and villages of New Hartford, Clinton, Madison, Hamilton, Sherburne, Norwich, Oxford, Greene, and Chenango Forks, and terminating at Binghamton, where it unites with the Susquehanna river. Elevation from the Erie canal to the summit level, 706 feet; descent from thence to the Susquehanna river, 303 feet; total lockage, 1000 ft.

The estimated cost of this canal by Mr. Hutchinson, Civil Engineer, in 1828, was \$944,775 36; but the Canal Commissioners, in their report of January, 1834, estimate the cost at \$1,737,703 22.

During the season of 1833, surveys of different routes were made from Sherburne, a few miles south of the summit level, north to the Erie canal, and a preference given to the route terminating at Whitesborough. (The Legislature, at their session in 1834, decided to change it to Utica.) On this part of the canal there will be eighty-seven locks and four aqueducts; and it is proposed to construct the locks with wooden chambers, supported by a dry wall of stone masonry on the sides, excepting about eight feet below the upper gates. Some of the locks are to be of stone. The plan adopted for making this canal, and its different structures, will increase its aggregate cost beyond the sum for which a canal less substantial might have been constructed; but it is the opinion of the Canal Commissioners that it will prove the cheapest and most useful, requiring less expense for repairs. To supply the summit level with water, artificial reservoirs are to be constructed, and fed from ponds and brooks.

Contracts for the thirty-eight miles between the Erie canal and the village of Sherburne, (excepting the reservoirs and feeders,) have been made, and the 15th of October, 1836, is the time stipulated for the completion of the work. Surveys have been made from Sherburne to Greene, Chenango county, and the present season the surveys from Greene to Binghamton will be completed. These sections will be placed under contract as soon as convenient after the completion of the surveys and estimates.

One million of dollars have been appropriated to the construction of this canal, and an additional million is recommended by the Commissioners in anticipation of contracts.

Contemplated Canals.

GENESSEE AND ALLEGHENY CANAL.—Public attention has been frequently called to the subject of a canal proposed to be made from Rochester on the Erie canal, to Olean (or Hamilton) on the Allegheny river; and a bill was passed by the Legislature in 1834, directing a particular survey of the route, and estimate of the cost of construction. The route was superficially surveyed in 1825 by an engineer of the State, and in 1826 a report made to the Legislature by the Canal Commissioners. The canal is to commence at Rochester, following the valley of the Genesee river, through Monroe, Livingston, and Allegheny counties, until it reaches the Upper Genesee Falls, at Nunda, in the latter county, from whence it rises to the summit level 981 feet above the Erie canal. The length of the summit will be eight miles, and the whole fall, from thence to Olean, Cattaraugus county, on the Allegheny river, is seventy-eight feet. Whole lockage, ascending and descending, 1,059 feet. The length of canal from Rochester to Olean will vary little from 100 miles. The lockage is equal to 132 eight feet locks on the whole line; being about the same proportion of lockage as the Chenango canal. A passage from the Ohio valley to the Genesee valley is here 1488 feet above tide level, and is less elevated than any passage that has been examined

either to the Potomac or the Susquehanna valleys. With regard to a supply of water for the summit level, it is remarked by the engineer that the whole of the Ichnia Creek can be received into a summit pond; besides, the drainage of 190 miles of surface can be turned into it, so that the reservoir would be abundantly supplied with water. Mr. Roberts, engineer, gives the following account of the capacity of the streams in October, 1825.

Ichnia Creek, cubic feet per minute	750
Lime Lake, Beaver Lake, and Peacock Lake,	400
Oil Creek,	450

Together, per minute, 1600

In the report referred to, the estimated cost of the proposed canal is \$75,588 dollars.

The distance of Rochester from Albany, by the Erie canal, is 270 miles; from thence to Olean, by the proposed canal, say 90 miles; from Olean to Pittsburgh, by the Allegheny river, (which has been navigated by steamboats,) 260 miles.

The surveys have been commenced at the summit level, and will be continued in both directions. The work will probably be commenced next spring.

BLACK RIVER CANAL.—The Canal Commissioners report, March, 1831, that the cost of the proposed canal from Rome to the High Falls of the Black river, a distance of thirty-six miles, and including a navigable feeder of nine miles, at Boonville, with the improvement of forty miles of the river navigation from the High Falls to Carthage, is estimated at \$62,544 dollars.

The whole rise and fall from Rome to the Black river, is 1,078 feet.

Length of canal and river navigation, 76 miles.

The supply of water is to be obtained from the Black river, which, at Smith's mills, is estimated to afford 20,000 cubic feet per minute, in ordinary dry seasons.

Summary of Canals completed.

Miles long.	Cost.	Tolls, 1833.
Erie Canal.....363	9,027,456 05	1,290,136 20
Champlain do.....63	1,179,871 75	132,559 02
Oswego do.....38	565,437 35	22,950 47
Cayuga and Seneca do..20	236,804 74	17,174 69
Chemung do. and feeder 36	342,133 95	694 00
Crooked Lake Canal... 8	136,331 95	200 84

528 \$11,488,035 99 \$1,463,715 22

Navigable feeders on Erie, Champlain, and Cayuga and Seneca Canals, 11 miles,—making a total of 539 miles of canal navigation, completed and owned by the State. Average cost per mile, \$21,314.

Statement of Tolls collected on the Erie Canal at Rochester, and other places west of the Genesee River, in 1832 and 1833.

	1832.	1833.
Rochester.....	154,541 08	163,452 37
Brockport.....	13,025 81	18,554 55
Albion.....	10,219 43	15,178 84
Lockport.....	23,434 22	50,562 39
Buffalo.....	58,232 09	73,812 79

\$264,452 63 \$336,560 94

[N. Y. Annual Reg. for 1834.]

ONTARIO AND ERIESHIP CANAL.—It is not a new idea that a ship canal should be constructed around the Falls of Niagara. The importance of such a measure has long been maintained by men of discernment and judgment. Sooner or later it will be accomplished.

HUDSON AND DELAWARE CANAL, extends from the Hudson to Lackawaxen coal district; 140 miles.

MORRIS CANAL, N. J., connects the Delaware river at Easton, Pa., with the Passaic at Newark, and is to be continued to the Hudson at Jersey city. It is intended to facilitate the transportation of Lehigh coal to New-York; length 97 miles. On this canal, the elevation, which is over 1600 feet, is overcome by inclined planes, instead of locks, the only instance now recollected of their application in this country. Width, 32 feet; 4 feet deep; lockage, 206-9 by 75, wood and stone.

DELAWARE AND RARITAN CANAL, connects the Delaware river at Bordentown with the Raritan at New Brunswick, passing Trenton, Princeton, and Kingston, on its route. This canal is supplied with water by a feeder, also navigable, from the Delaware at or above Lambertville. Length of the canal 29 miles, breadth 75 feet, and depth of water 7 feet.

PENNSYLVANIA.—Internal improvements in this state are progressing with astonishing rapidity. It appears from the report of the Canal Commissioners, read in Senate December 6, 1832, that, of the works constructed by the State, there are completed in the canals now navigable, 479 miles; in hand and likely to be completed during the present year, [1833,] 1031 miles; independently of these, there are others constructed at the expense of corporations, and now in actual use, 2804 miles.

Canals constructed by the State.—1. Canal from Columbia, on the Susquehanna, to the mouth of the Juniata, and up the Juniata to Hollidaysburg at the eastern base of the Allegheny mountain—distance 171 miles 246 perches.

2. Canal from Johnstown on the Conemaugh, at the western base of the Allegheny, down the Conemaugh, Kiskiminetas and Allegheny, to Pittsburgh—distance 105 miles. [The above lines, connected by the "Portage Railroad," over the mountain, form the great east and west communication. It has a double connection with Philadelphia, one from Columbia, by way of the Pennsylvania Railroad, and the other from Middletown, nine miles below Harrisburg, and eighteen miles above Columbia, by the Union Canal.]

3. Canal from the mouth of the Juniata up the Susquehanna to the forks at Northumberland, then up the north branch to a point 2 miles below Wilkesbarre. Distance 96 miles 295 perches. [It is contemplated to extend this at some future day to the north line of the state, when a communication by canal and railroad may take place with the Erie Canal.]

4. Canal from Northumberland at the forks of the Susquehanna, up the west branch to the Muncy Dam—distance 26 miles 160 perches. [For extension see below.]

5. The French Creek Feeder, intended to supply with water the future communication between the Ohio and Lake Erie—length 19 miles.

6. A canal from Bristol to Easton on the Delaware—length 59 miles 240 perches. [This is the channel by which the coal trade of the Lehigh reaches Philadelphia.]

Canals constructed at the expense of Corporations, and now in actual use.—7. The Union Canal from the Schuylkill opposite Reading, to the Susquehanna at Middletown—length 82 miles 83 perches. Branch Canal and feeder, belonging to the Union Canal Company, 22 miles in length, with a railroad of four miles to the Pine Grove coal mines.

8. The Schuylkill Navigation, from Port Carbon on the Schuylkill to Philadelphia—length 108 miles.

9. The Lehigh Canal, from Easton on the Delaware up the Lehigh to Mauch Chunk—distance 46 miles.

10. A part of the Hudson and Delaware Canal, from Honesdale on the Lackawaxen to the mouth of that stream—supposed 20 miles.

11. Conestoga Navigation, an improvement of Conestoga creek by locks and dams, from its mouth up to the city of Lancaster—distance about 14 miles.

12. The Codorus navigation, an improvement of Codorus creek from its mouth up to the borough of York—length about 10 miles.

Total of canal navigation now in use, 759½ miles.

The canals authorized and now in progress at the expense of the State, and likely to be navigable by the end of this year, [1833,] are

From Muncy Dam on the West Branch up that river to the mouth of Bald Eagle creek. Distance 40 miles and 18 perches. [This is an extension of No. 4, and will complete the improvement contemplated in that quarter.]

From two miles below Wilkesbarre up the north branch of the Susquehanna to the mouth of the Lackawanna—distance 12 miles 316 perches. [This is an extension of No. 3, and will leave about 90 miles towards the north line of the State untouched.]

From the confluence of the Beaver with the Ohio, (20 miles below Pittsburgh,) up the former river to Newcastle—distance 24 miles 240 perches. [This is the commencement of a communication between the Ohio and Lake Erie, which will pursue a northerly direction up the valley of the Shenango to the summit at Conneaut Lake, thence to Lake Erie, at the town of Erie. At the Conneaut summit it will be supplied with water from French creek, by a feeder described above as No. 5. From Newcastle to Erie, by the route selected, will be about 78 miles.]

A canal and slackwater along French creek, from the commencement of the feeder to the junction of that creek with the Allegheny—distance 25 miles 224 perches. [This work does not form a part of any great communication.]

By this statement it appears that after the present year only 90 miles on the north branch of the Susquehanna river, and 78 miles between the Ohio and Lake Erie, will remain to complete the whole system of improvement adopted by the State of Pennsylvania, and upon which operations commenced in the summer of 1826, less than seven years ago. That system will embrace when completed:

1. A great line of communication from Philadelphia, passing by Lancaster, Columbia, Middletown, Harrisburg, Lewistown, Huntingdon, Hollidaysburg, Johnstown, Clarksville, Pittsburgh, Beaver, Newcastle, and Meadville, to the Borough of Erie, on Lake Erie. The whole distance 481 miles, of which 118 miles are by railroad, 20 miles by the Ohio river, and 343 miles by canal. Distance from Philadelphia to Pittsburgh 358 miles. [This passes through the great iron region of the Juniata, the salt and bituminous coal of the Conemaugh, Kiskiminetas, and Allegheny, and a country abounding in agricultural product.]

2. A great line from Philadelphia to the junction of the Tioga with the North Branch of Susquehanna, on the boundary of New-York, where a communication is now forming with the Erie Canal, by way of Chenango Point. This line diverges from the former at the mouth of the Juniata, and passes Liverpool, Selin's Grove, Northumberland, Danville, Berwick, Wilkesbarre, Pottsville, Towanda, and Athens. It passes through the Wyoming coal region, and opens a rich agricultural country to market. Whole distance 324 miles, of which 81 miles are by railroad, [and] 234 by canal—common to the great western route 81 miles of railroad and 43 of canal.

3. The West Branch Canal from the mouth of Bald Eagle to the Forks at Northumberland, where it unites with the line last mentioned. It opens the richest land in the State, the valuable iron of Bald Eagle valley, and the inexhaustible beds of bituminous coal on the West Branch and its tributaries. These articles will have their choice of markets, between Philadelphia and the interior of New-York, where both are needed.

4. The Improvement of French creek and the Delaware Canal, which at present are rather detached works than parts of any great system of communication.

Extract from the Common-Place Book of an Engineer.

"BEAVER DIVISION" OF THE PENNSYLVANIA CANAL.—This section of the Canal commences at the town of Beaver, on the Ohio River, at the junction of the Big Beaver River, 30 miles below Pittsburgh, and ascends the valley of the latter river, and that of its tributary the Shenango Creek, till its termination in Mercer county, a total distance of 30 miles and 240 perches. Of this distance, 8 miles and 100 perches are composed of canal, and the remaining 22 miles and 140 perches are of slackwater, composed by the pools of 7 dams, backing up the water variously from 2 to more than 7 miles. There are 18 lift and guard locks on the line, which for beauty and strength of workmanship are not surpassed by any in this country. The construction of these latter, together with that of the dams, has been very materially delayed, first by the want of the necessary appropriations, and afterwards by the unusually high and rapid freshets in the Shenango and Beaver Rivers. Still, however, under all these disadvantages, the canal will be finished by the end of 1834, and owing to the scientific and economical arrangement lately adopted by the state of Pennsylvania, in contradistinction to her previous course, this canal will be finished in the best manner, and handed over to the superintendent for the comparatively small sum of \$431,282 98 cents, or about \$16,650 per mile. Its construction was warranted by the prospect, when completed, of its yielding a handsome annual revenue.

MIAMI CANAL.—This canal extends from Dayton to Cincinnati, 66 miles, where it connects with the Ohio by locks which overcomes a difference of level of 112 feet.

OHIO AND ERIE CANAL.—This canal commences at Cleveland, on Lake Erie, and passes through the heart of the State to the Ohio river at Portsmouth. The main line of this canal is 310 miles in length, with 24 miles of navigable feeders. The work was completed in 1832, and with the Miami Canal, of 66 miles, making the entire navigable canals in the State, 400 miles, at a cost of about \$5,500,000. And it has beyond all question increased the value of the State more than three times that amount, as do all judiciously located and well constructed works of the kind.

WABASH AND ERIE CANAL.—This work is intended to connect Lake Erie with the Wabash, and of course with the Ohio and Mississippi. An easier communication can, probably, be effected between Lake Erie and the Ohio on this line than on any other, and although we have very little information relative to its cost and progress, yet from the general topography of the country, it may well be assumed that a more favorable route for such a work is seldom found. It is progressing rapidly to a state of completion, as we understand. Although no intimation has ever been given us that the route could be made of sufficient dimensions for steamboats, yet it appears to us susceptible of, and highly favorable for, being so enlarged as to admit such steamboats to pass as navigate the rivers. Should this be done, and the communication be made direct from Lake Erie, instead of the more circuitous route through Lake Michigan, this, instead of the Chicago and Illinois route, will be the most favorable, and as Indiana is in the field, and her canal now under-way, if she would enlarge it, so as to permit the use of the Lake and Mississippi craft, she will secure an immediate advance in her general prosperity of at least half a century. Thirty miles of this canal were under contract, in 1833, to be completed in 1834, and the work will probably be completed in 1835 or '6, for boats.

CHICAGO AND ILLINOIS CANAL OR RAILROAD.—This straight, or portage, may be termed the Panama of the United States. It will, ere long, be considered in that light by business men, and the result will inevitably be a steamboat canal from the Falls of the Illinois to Chicago, on Lake Michigan, which, together with a canal of similar construction around the Falls of Niagara, and from Oswego to the Hudson river, will give to the enterprise of the country an impetus which will astonish even the most sanguine of the present day. The distance from Chicago to the Falls is about 90 miles, through a country of the most favorable character for such an improvement. The elevation from the Lake is very trifling, only 25 feet, and the descent from thence to the foot of the Rapids, 175 feet in the distance of 80 miles, or a fraction over 2 feet per mile. Surveys have been made both for a canal and a railroad. A railroad would be preferable, unless the canal was of sufficient size for steamboats or sloops, which could also navigate the lakes. At all events, whether a canal or railroad shall be built, if soon effected, it will be amongst the most important works in the country. It would bring direct to New-York much that now goes to New-Orleans.

Mr. Bucklin, the engineer, who surveyed the route, estimates that a canal, drawing the water from the Lake or the whole distance, may be made for \$4,043,036; supplied with water from other sources, and locked down each way from the summit, it may be made for \$1,601,695. A railroad for \$1,052,488, and a McAdam road for \$1,041,624. A ship canal could probably be

made, locking both ways, for \$4,000,000; and upon a level with the Lake for less than six millions.

LOUISVILLE AND OHIO CANAL.—This canal is constructed around the falls of the Ohio River at Louisville, and is of dimensions sufficient to pass the largest steamboats; and greatly facilitates the immense business on that river.

[To be continued.]

[From the National Gazette.]

Extract from a letter dated Baltimore, 25th July, 1834:

"The display upon the Rail-Road here on Sunday last, exceeded any thing of the kind I have ever seen. I walked out to the Depot, where I met the train from the West; it consisted of 14 cars, amongst which were three, each running on eight wheels the longest carrying 100 passengers, and the other two about 60 or 70 each. The remaining eleven cars were of various dimensions, carrying from 18 to 40 passengers each, making the whole number, as I was informed, more than 600 persons. This immense load was drawn by a single engine, at the rate of 15 miles an hour, with perfect ease.

What a triumph does this spectacle afford, of the power of science, when directed by a sound judgment and aided by patient industry. It was believed that, on account of the frequent and short curvatures on the Baltimore and Ohio Railway, it would be found impossible ever advantageously to use steam as a moving power upon this road; and indeed, I believe that no engine upon the plan of the English locomotives would safely run on it; but by persevering in a series of experiments, and adapting the form of the engine wheels to the curves of the road, this company have finally succeeded in constructing engines in their own work-shops, which burn anthracite coal exclusively as a fuel, and which fully answer all the purposes desired.

It would have required sixty of our ordinary stage-coaches, two hundred and forty horses, and sixty drivers, to convey this number of passengers eight or nine miles an hour upon our best turnpike-roads; and yet the whole was carried at nearly double that speed by one engineer and one fireman, and at an expense which, I learn, is estimated not to exceed sixteen or seventeen dollars per day, including the cost of fuel and repairs."

BOSTON AND LOWELL RAILROAD.—The excavation of the ledge is now completed, all but levelling the unevenness of the bottom, and no doubt the whole route may be, and perhaps will be, completed in November; but it is not intended to put on the locomotive till the next spring. The work has been slowly, surely, and faithfully done, and when once it is said to be complete; the proprietors may congratulate themselves upon the certainty that no great deductions from the income will be necessary for repairs.

Two locomotives are now being built at the machine shop in this town, where the union of the best Yankee and foreign mechanical skill produces the highest perfection in machinery. One is to be called the "Double Speeder, and the other "David Crockett," and when they "go ahead," it will be in earnest.—[Lowell Journal.]

Avoylle Ferry, on Red River, La.,
June 4, 1834.

To the Editor of the Railroad Journal.

SIR,—Although our early part of the season was later and more backward than usual, owing to colds and rains, our crop of cotton is as promising, and more than was ever cultivated in this country. If the season should continue favorable, the present crop will far exceed any former year in this section of country.

Crops of corn are also generally promising; early plantings now in silk and tassel, and some in "roasting ears," (as our phrase is.)

P. G. V.

STRENGTH OF CORDAGE.—The Boston Hemp Manufacturing Company have lately put up a machine, at their ropery on the Milldam, for the purpose of determining the strength of their cordage, spun in the common method by hand. A great number of experiments have been made by breaking ropes of various sizes and kinds on this machine, and the following exhibits the average result of these trials.

The figures show the number of pounds required, by each inch of the square of the girth of the rope to part it.

Whale line spun by hand, best that could be produced,	776 lbs.
Whale line spun by machines,	994
Russia bolt rope, 1st quality,	723
Bolt rope of machine spun yarn,	915
Running rigging, 1st quality Russia,	442
Running rigging, American, spun by hand,	631
Running rigging of machine spun yarn,	717
Cotton line,	604
Côire rope,	215
Rope made of Manilla hemp,	610
Rope made of New Zealand flax, <i>Phormium Tenax</i> ,	722
Mean of all hand spun hemp rope,	633
Mean of all machine spun hemp rope,	875

Showing the machine spun rope to be 36 per cent. stronger than the hand spun. If, however, we reject the trials on Russia cordage, which is very weak, the superiority of the machine spun ropes is reduced to 24 per cent. over all others.

In no instance whatever, was the trial on machine spun ropes made on selected specimens, but the pieces to be tested were taken from common coils as made for use. Indeed, it happened that the machine spun ropes, except the whale lines, were made of hemp inferior in quality to that usually wrought in the machines. The modulus of cohesion, of the strongest ropes in these experiments, is 30,700; or a rope of this strength could be let down into a pit 30,700 feet, or 5-8ths of a mile, before it would be broken by its own weight. A rod of iron can sustain itself, according to Mr. G. Rennie, only for a length of 19,700 feet.

On the 27th of March, by the politeness of Mr. Treadwell, we witnessed the operations of the machinery for preparing the hemp and spinning the yarn; and we were also shown the method of impregnating the ropes with tar, which is done uniformly throughout their whole thickness, the tar being kept at a temperature below the boiling point. The ropes made of these yarns have the appearance of being stained rather than tarred.

The superior strength of the ropes made from yarn spun by machinery appears to consist in this, that the fibres in the middle of the yarn are nearly of the same tension as those of the outside, whereas, in the yarn spun by hand, they are much more tense in the middle; and the short fibres being the first to give way, the whole stress is thrown upon the outside ones, which, being fewer in number, consequently cannot bear so much strain as a rope made up of fibres of equal tension.

The machine for trying the strength of ropes is so constructed as to try them fairly and accurately. The following experiments on the strength of three ropes were tried in our presence, and we have no doubt of their correctness.

No. 1. Whale line spun by hand—girth 2 inches; broke by 2240 pounds.

No. 2. Whale line made by Boston Hemp Company, spun by machinery—girth 1 1/4 inches; broke by 3520 pounds.

No. 3. Running rigging made by the Boston Hemp Company—girth 2 1/4 inches; broke by 3440 pounds.

As No. 2 was one seventh smaller than No. 1, we should add 502 pounds to the weight it actually bore, making 4022 pounds, for the weight it would have borne, if it had been of the same size as No. 1; consequently it was 64 per cent. stronger than No. 1. Again, No. 3 was one ninth larger than No. 1; we must therefore deduct from the weight it actually bore 382 pounds, leaving 3058 as the weight it would have borne, had it been as small as No. 1. It was therefore 25 per cent. stronger than No. 1.—[The Mechanic.]

ORFFYREUS' WHEEL.—Gravesend, in his *Œuvres Philosophiques*, published some time about 1774, at Amsterdam, gives an account of a singular machine constructed by one Orffyreus, which was styled a perpetual motion. The facts in relation to it, as nearly as we can ascertain, were simply these: A large circular wheel, twelve feet in diameter, and fourteen inches thick, was made of very light thin deal boards, resembling a drum, as mechanics call it, for carrying bands. The sides, or rather ends, were covered with waxed cloth, to prevent any one from discovering the inside. Through the centre was an iron axle, the gudgeons of which rested on two upright pillars, in the manner of hanging a grindstone. On giving it a slight motion either way, its revolutions speedily increased to twenty-five a minute. For two months it never varied in the least from that motion. Being placed in a chamber, at the residence of the landgrave of Hesse, the door was fastened, and the seal of his highness placed on the lock. At the expiration of sixty days the apartment was opened, and the wheel found revolving at the usual speed. It was then stopped to prevent it from being worn out. The inventor was so incensed because Professor Gravesend undertook to examine it, that he broke it in pieces before his face. The landgrave once saw the inside, but, being sworn to secrecy, only said it was very simple. Both the inventor and his friend died soon after, and all knowledge of its construction is therefore lost to the world.—[*Scientific Tracts.*]

MIXED BLOOD OF AMERICANS.—"It is acknowledged," says Cicero, "that literature, polite arts, religion, agriculture, laws, and social rights, originated in Athens, and were thence distributed over all nations." The fertility of the soil, the excellence of the climate, the freedom of the government, and the enterprising spirit of the people, must have co-operated in producing this transcendent and pre-eminent state of human exaltation. And if a comparison was instituted in those respects between that country and ours, in what important part should we be deficient!

We are perhaps more favored in another point of view. Attica was peopled from Egypt, but we can boast of our descent from a superior stock. I speak not of families or dynasties; I refer to our origin from those nations where civilization, knowledge, and refinement, have erected their empire, and where human nature has attained its greatest perfection. Annihilate Holland, Great Britain, Ireland, France, and Germany, and what would become of civilized man? This country, young as it is, would be the great Atlas remaining to support the dignity of the world: and perhaps our mingled descent from various nations may have a benign influence upon genius. We perceive the improving effects of an analogous state upon vegetables and inferior animals. The extraordinary characters which the United States have produced may be in some measure ascribed to the mixed blood of so many nations flowing in our veins; and it may be confidently predicted, that the operation of causes, acting with irresistible effect, will carry, in this country, all the improveable faculties of human nature to the highest state of perfection.—[*Scientific Tracts.*]

Large Reflecting Telescopes applicable to Exact Theoretical Astronomy. [From the *Repertory of Arts.*]

Sir John F. W. Herschel has rendered large reflecting telescopes applicable to the nicer purposes of exact theoretical astronomy. Although the science of astronomy itself does not fall within the plan of the *Repertory*, yet the construction of astronomical instruments, we conceive, belongs strictly to the department of practical knowledge which it is our purpose to improve and to extend. In accordance with this view of the object of our journal, we now lay before our readers an account of the process by which, in the accomplished hands of Sir John F. W. Herschel, (whose inheritance of his illustrious father's talents embraces alike the ingenuity required for the construction of astronomical instruments, and the accuracy, skill, and profound acquaintance with the subject necessary for their successful employment in the solution of the higher problems of astronomy,) the only obstacle which remained to the application of large reflecting telescopes to the nicer purposes of exact theoretical astronomy has at last ceased to exist.

In the second part of the *Philosophical Transactions* for the past year is an elaborate paper by Sir John Herschel, consisting of observations of nebulae and clusters of stars, made at Slough, with a twenty-foot reflector, between the years 1825 and 1833. An appendix explains the manner in which the reduction of the observations, of which the paper itself is a collection, has been executed by the author. It is in the course of this explanation that the final improvement of the reflecting telescope is described. A difficulty presented itself in the reduction of the observed polar distances to mean polar distances at a fixed epoch, arising from considerable fluctuations in the value of a certain expression, which was a function of the times of the transit of the objects observed over the vertical wires of the eye-piece of the telescope. These fluctuations in value, to which the function alluded to was found to be liable in very variable degrees at different epochs of the observations, were occasioned by instability of the instrument, which was partly due to hygrometrical changes, but by far the worst and most intractable part of the fluctuations appeared "to have taken its rise from the shifting of the line of collimation, owing to the mirror taking a new bearing in its cell." "I regret," continues Sir J. Herschel (*Phil. Trans.*, 1833, p. 488), "that I did not earlier perceive this cause of error. It has only recently occurred to me, and the remedy almost at the same instant suggested itself in a simple, and what, I trust, will hereafter prove an effectual application, of the collimation principle of Rittenhouse and Kater. It consists in attaching to the inside of the wooden tube of the reflector a small achromatic telescope, having its object glass turned towards the speculum, and its eye end projecting at right angles to the axis of the tube through an aperture in the side, the cone of rays being deflected outwards at a right angle by a small mirror 45° inclined to its axis. In the focus of the object glass (thus rectangularly deflected,) is fixed a cross of fine spider-lines, strongly illuminated by a lamp (capable of being shut off when not wanted,) which also serves to illuminate the field. The cross is so situa-

ted, that its image, seen in the telescope as an object infinitely distant, (according to the principle of the collimator,) makes, with all its arms, angles of 45° with the horizontal and vertical wires of the sweeping eye-piece. In the beginning of a sweep, the intersections of both crosses are brought to exact coincidence (by a method presently to be explained); and it is evident that if in the progress of the sweep the slightest shifting of the mirror in its cell should produce a motion of the line of collimation, it cannot fail to be detected by the apparent recess of the two crosses from their original common intersection. A relative motion, to the amount of two seconds of space, either laterally or vertically, cannot possibly escape detection, as I have convinced myself by many trials; and so satisfactory has this mode of overcoming the difficulty in question proved, that I have no hesitation in saying, that the only obstacle to the use of large reflectors for the nicer purpose of exact theoretical astronomy (viz. the error caused by the shifting of the mirrors in their cells, by reason of their great weight, and the danger of securing them by strong pressure,) has ceased to exist. It is not, however, sufficient to have the means of readily detecting error, without possessing that of correcting it with equal readiness, or at least measuring its amount. A very simple and effectual contrivance accomplishes this. The two adjusting screws by which the mirror case is supported against the bottom of the tube are terminated outside of the latter by large disks or wheels of wood about six inches in diameter, grooved at their edges. Round these re-entering cords are conducted over pulleys, to a convenient point within reach at the mouth of the tube, forming a kind of reins, which hang loose when not in use, but by tightening or drawing one or other of them, any motion, however large or minute, may be given to the line of collimation at pleasure. By the aid of this mechanism, the perfect adjustment of the line of collimation (to the full extent of the optical powers of the instrument) is performed in an instant, and may, if we please, be repeated at every observation, being attended with no trouble; nay, the line of collimation may be purposely deranged to any extent, and immediately corrected. So that by graduating the grooved disks, and adopting an index to each, a very complete distance and position micrometer, for the measurement of double stars, might be formed, in which, if necessary, two lucid points might imitate the two stars to be compared."

To the foregoing account of his application of the collimating principle, Sir J. Herschel annexes the following note:

"My first collimator consisted of a small object glass, by Fraunhofer, of about one inch and a half in diameter, and twelve inches focus. When applied to the twenty-foot reflector, as described in the text, it formed an admirable microscope with its full aperture—an extraordinary proof of the perfection of its construction, this being, doubtless, the severest test to which an achromatic object glass can be possibly subjected. The most beautiful object I can remember to have seen in telescopes was Jupiter entering, perfectly defined, and with all the appearance of a real globe, into the image of a small glass globule, placed in the focus of the collimating telescope. It

seemed like the mutual penetration of two solids, or rather two essences of different natures, the one bright and ethereal, the other dark and adamantine. This most exquisite specimen of workmanship was destroyed by an accident. That with which I have been forced, temporarily, to replace it, bears no comparison with the original."

On the Employment of Filters in Chemical Analysis: By Dr. TURNER, Professor of Chemistry in the University of London. [From the Repertory of Arts.]

In my own researches I am in the habit of determining the weight of substances collected on a filter in one of three different ways. One of these, introduced by Berzelius, consists in burning the filter in a platinum crucible, and deducting the weight of its ashes. This method is peculiarly applicable to the analysis of minerals where such substances as silica, alumina, and lime, are frequent. Even some substance of easy production, such as peroxide of iron and sulphate of baryta, may be safely treated in the same way; but in these cases it is advisable, not only, as usual, to separate the mass of the precipitate from the filter before setting it on fire, but to moisten both with a little nitric acid, and to insure very free exposure to the air during the burning of the paper and the subsequent ignition. For such purposes I commonly use some excellent Swedish filtering paper, kindly procured for me by Berzelius.

Another method is that of the double filter, introduced by Dr. Thomson, which I have used in all the experiments where filtration is spoken of in the present and for-

mer communication. Both Berzelius and Dr. Thomson himself seem inclined to doubt the accuracy of this method; and it is certainly liable to objection, except with certain precautions and with very compact filtering paper. The paper which I use for the double filter is considerably thicker than the Swedish paper, and of such compact texture, that recently precipitated oxalate of lime, or sulphate of baryta, thrown down by Glauber's salt in a neutral solution of the chloride of barium, may be filtered by it. The precautions employed are these: The paper, folded into filters, is macerated in dilute nitric acid for two days, is then fully washed with warm distilled water, and dried at a temperature of 212° Fahr. After acquiring its hygrometric moisture, two of the filters of nearly the same weight are poised against each other, and any small difference marked in pencil on the lighter one. Before being used a pin-hole is made in the outer filter, in order that any accidental imperfection in the inner filter should be made apparent. After filtration both filters are dried at the same temperature, and are afterwards allowed to recover their hygrometric moisture completely before removal to the balance. In repeated trials I have found a pair of filters to recover, after use, their original relation in weight to within the 100th part of a grain; nor have I ever noticed a greater deviation than may well be expected in every process where filtration is concerned. Additional testimony of the same kind will be found in my Essay printed in the Philosophical Transactions for 1819 [1829], where, in two sets of experiments, the same point is investigated by the use of

double filters, and by evaporating the precipitate to dryness without filtration.

A third method consists in employing a single filter, which is dried, before and after filtration, at some fixed temperature, as at 212° Fahr.; and when so dried, is inclosed in a light silver vessel, the cover of which is tightly fitted by grinding. The filter may thus be deliberately weighed without absorbing moisture during the operation. In case of its being inconvenient to employ an uniform temperature, the filter may be dried at a variable heat, be allowed to absorb hygrometric moisture, and afterwards kept at about 50° Fahr. for two hours in a closed bottle, the bottom of which is covered with pulverized quicklime. In this method, while operating at least with paper of English manufacture, it is essential, more so than with the double filter, to have previously macerated the filter in dilute acid; for all such paper which I have examined contains lime.—[Phil. Trans., 1833, Part ii. p. 542.]

[From the New-York American.]

TABLE OF GOLD COINS.—We are indebted to Mr. Reid, the writer of the able Lecture from which we published an extract on Wednesday, for a Comparative Table of Gold Coins, which, by the recent laws, are made current in the United States, and of those coins only.

The table we published some time ago from Bicknell's Reporter, included a great many gold coins, about which, as they are below the minimum standard of fineness required by our laws to constitute them a legal tender, it is not a matter of interest to concern ourselves. The table now published includes all the coins, and none others, made by the late bills a legal tender.

TABLE OF FOREIGN GOLD COINS.

Which it is declared by the recently enacted Foreign Gold Coin Bill "shall pass current as money, and be receivable in all payments, by weight for the payment of all debts and demands, from and after the 31st day of July, 1834," viz: 1. The Gold Coins of Great Britain, Portugal, and Brazil, of not less than 22 carats fine, at the rate of 94.8-10 cents per pennyweight: 2. The Gold Coins of France, nine-tenths fine, at the rate of 93.1-10 cents per pennyweight: and 3. The Gold Coins of Spain, of the fineness of 20 carats 3.7-16 grains, at the rate of 89.9-10 cents per pennyweight.

NOTE.—The Gold Coins of Mexico and Colombia not being 20 carats 3.7-16 grains fine, are not included in the Table, because they are not legal tenders for the payment of debts and demand

1. Gold Coins of G. Britain, Portugal and Brazil, 22 Carats fine.

	Weight.	Contents in pure gold.	Value in U. S. Currency at 94.8-10 cts. per dwt.	Value in U. S. Currency estimated by the quantity of pure gold compared with the pure gold in the new Eagle of 232 grains.
	dwt. gr.	grains.	d. c. m.	d. c. m.
G. BRITAIN—				
Guinea, (half and 7a. piece in proportion.)	5 939-89	118 6	5 11	5 11 2
Sovereign, (half in proportion.)	5 3171-623	113	4 86 9	4 87*
PORTUGAL—				
Dobraon of 24,000 Rees. (half in proportion.)	34 12	750	32 70 6	32 71 9
Dobra of 12,800 Rees.	18 6	401.5	17 30 1	17 30 6
Moldore.	6 22	152.2	6 55 7	6 64 2
Milree, 1755.	193-4	18.1	0 78 0	0 78 0
BRAZIL—				
Dobraon.	34 12	750	32 70 6	32 71 9
Dobra.	18 6	401.5	17 30 1	17 30 6
Moldore.	6 22	152.2	6 55 7	6 64 2

N. B.—There are several Gold Coins of Portugal and Brazil, the Joannese, the pieces of 16, 12 and 8 festoons, and the old and new crusado, which are not included in the above Table, because they are not 22 carats fine, and of course are not legal tenders, the words of the Act being express—"the gold coins of Great Britain."

* Portugal and Brazil of not less than 22 carats fine."

2. Gold Coins of France, Nine-tenths fine.

	Weight.	Contents in pure gold.	Value in U. S. Currency at 93.1-10 cts. per dwt.	Value in U. S. Currency estimated by the quantity of pure gold compared with the pure gold in the new Eagle of 232 grains.
	dwt. gr.	grains.	d. c. m.	d. c. m.
Double Louis, coined since 1786, (single in proportion.)	9 20	212.6	9 15 4	9 16 3
Double Napoleon, (single in proportion.)	8 7	179	7 71 8	7 71 5
New Louis.	4 3-2	90.5	3 85 9	3 85 7

NOTE.—The Double Louis, Louis and Demi-Louis, coined before 1786, not being nine-tenths fine are not included in the Table, because they are not legal tenders. Neither are the Double and Single Napoleon, or the New Louis exactly nine-tenths fine, but the deficiency is so very small that it is believed it is covered by what is called the remedy of the Mint.

3. Gold Coins of Spain, 20 Carats 3.7-16 grains fine.

	Weight.	Contents in pure gold.	Value in U. S. Currency at 89.9-10 cts. per dwt.	Value in U. S. Currency estimated by the quantity of pure gold, &c. &c.
	dwt. gr.	grains.	d. c. m.	d. c. m.
Quadruple Pistole or Doubloon, coined before 1772, (double, single and half in proportion.)	17 8 1-2	375.3	15 59	16 17 6
Quarter Pistole, or Gold Dollar, coined before 1772.	1 3	24.2	1 01 1	1 04 3
Doubloon of 1772, (double and single in proportion.)	17 8 1-2	372	15 59	16 03 4
Half Pistole of 1772.	2 4	46.3	1 94 7	1 99 5
Quarter Pistole of 1772.	1 3	23.9	1 01 1	1 03

NOTE.—The Quadruple Pistole, Double Pistole and Pistole of 1801, as well as the Coronilla, Gold Dollar or Vintem of 1801, not being 20 carats 3.7-16 grains fine, are excluded from the Table, not being legal tenders. The law, in fact, as far as the Spanish Coins are concerned, will be nearly a dead letter, because the other Coins enumerated in the above Table are considerably more than 20 carats 3.7-16 grains fine. Their value as currency at the rate put on them by law, therefore, is less than their value as bullion. Thus the Doubloon coined before 1772 is only worth as currency at the rate of 89.9-10 cents per dwt. \$15 59, while as bullion it is worth \$16 17 6.

* In the above Table the Coins are all presumed to be of full weight, but fractional parts of a mill have been disregarded in the calculation of their value. It will be found to be a sufficient approximation to the truth for all ordinary purposes. To those who wish perfect accuracy, I would observe that the quantity of pure gold in the Sovereign is 113 18-11,214 grains, and that the true value of the Sovereign compared with the new Eagle of 232 grains is \$4 87 100. This is also the true par of Exchange between the United States and London, and is equal to a premium of 9.7-10 per cent., as near as can be calculated, on the nominal par of \$4 44 or 109 7-10 for 100.

W. REID.

AGRICULTURE, &c.

Cultivation of the Grape. By R. T. To the Editor of the New-York Farmer.

I am glad to observe you are disposed to devote some space in the columns of your useful periodical to draw the attention of the agriculturists of this country to the cultivation of the vine.

It appears this is destined to become one of the leading branches of industry that will not only richly reward the enterprising and public spirited individuals who have embarked in it, but will at the same time afford them the pleasure of knowing that they are promoting the great objects of temperance, by substituting the pure juice of the grape, a healthy beverage, sanctioned by the authority of our ablest physicians, for the "liquid poison and poisonous liquors" that are blasting the physical and mental energies, the health and happiness, of a large class of our fellow-creatures.

You will, however, find some difficulties to overcome, some prejudices to remove, growing out of the unsuccessful attempts that have been made to introduce the foreign vine instead of those which are indigenous to our own soil, before you can convince the owner of every well cultivated farm in the United States, that it would be conducive to his interests that a vineyard should occupy a portion of it.

I rejoice that there is no necessity for the cultivation of foreign vines for our tables, or for the manufacture of wine, for there is now, fortunately, sufficient information on this subject to speak without the fear of contradiction, that they cannot be profitably propagated by open culture in this climate. We have the Isabella, Catawba, York, Madeira, and other native vines, which thrive admirably well, make excellent wine, and are good table fruit, largely cultivated in Pennsylvania, have commenced in New-Jersey, with very fair prospects, and in the southern part of the State of New-York. These will unquestionably succeed; and the more light and information you can diffuse among the agricultural portion of our population upon this interesting subject, that may well claim the patronage of every friend of temperance and national economy, the sooner will they be able to tender their acknowledgments to you, for promoting their interests, and making them instrumental in consummating the great temperance reformation that is taking place in this country.

WHEAT WORM.—It is said that the wheat in this and the neighboring counties is suffering great injury from the ravages of a worm. It is the *Vibrio tritica*, and a full description of it is to be found in the Penny Magazine, for August, 1833.

The only remedy against a recurrence of the evil is to steep the seed wheat in water thrown upon unslaked lime.—[Schenectady paper.]

PRICE OF LAND IN VIRGINIA.—The salt tide region of Virginia possesses such great advantages for farming, and offers so many inducements for the investments of capitalists, that it seems to a stranger not only remarkable, but unaccountable, why agricultural profits and improvements should be generally so low, and the prices of land still more depressed: poor lands, but such as have abundant and cheap means for being enriched, often selling at from \$1 to \$2 the acre—and even such as are already rich, at from \$5 to \$20. Many tracts

at such prices are on waters among the best in the world for navigation—and all are convenient to them, and to some one or more of the market towns of the Chesapeake.—[Farmers' Register.]

AGRICULTURAL FAIR IN GERMANY.—A correspondent to the London Gardener's Magazine thus writes.

I know not whether, during your stay here, you observed the great meadow before the town, where what is called the October festival is held. This meadow is enclosed on the west by a range of gentle acclivities, disposed somewhat in the form of an amphitheatre. Every year, in October, a great multitude of people from all parts of the kingdom assemble at this festival, which was established by the Agricultural Society, for the exhibition of agricultural produce, and for the granting of premiums to the producers of objects worthy of reward.

Those farmers who distinguish themselves by their agricultural labors, or by the quality and genuineness of the breed of their horses, bullocks, sheep, and pigs, receive publicly, from the hands of the minister for the home department, and in the presence of the king and the whole court, the prizes previously awarded to them by the decision of agricultural judges. Public games and horse-races are connected with this solemnity. Thus, besides the great utility of this annual festival in encouraging and improving agriculture, it affords to the mere spectator a most pleasing spectacle and much genuine enjoyment. On these amphitheatre-like heights, where the Bavarian people, like the ancient Greeks at the Olympic games, annually assemble, a picturesque plantation has been laid out by order of the king. This plantation is to serve as an enclosure and background to a building, which is to have the character of a monument, and in which the busts of eminent national artists and men of letters will be placed. The plantation is in the natural style of landscape gardening; and, though it is as yet of little height, it has a very picturesque effect, which will be greatly increased when the architectural objects are finished.

Munich, July, 1833.

OBITUARY.—*G. Sinclair.*—Died, at New Cross Nursery, Deptford, March 13, Mr. George Sinclair, F. L. S., H. S., &c., nurseryman, in the forty-eighth year of his age. Mr. Sinclair was many years gardener to the Duke of Bedford, at Woburn Abbey, and conducted there, under the direction of Sir Humphry Davy, an extensive series of experiments to determine the nutritive powers of the British grasses and herbage plants. It was there also that Mr. Sinclair composed the *Hortus Gramineus Woburnensis*, a national work, which embodies the results of the experiments alluded to, and is the most important of its kind that ever was published. Mr. Sinclair was also the author of various other publications or articles, the last of which, we believe, was the *Treatise on Useful and Ornamental Planting*, published by the Society for the Diffusion of Useful Knowledge. In the history of British agriculture, the name of George Sinclair will hold a conspicuous station in all future times, as the introducer of a new and improved system of laying down lands in grass. Mr. Sinclair had a considerable knowledge of chemistry, and was a good vegetable physiologist; hence all that he wrote bore a character of scientific inquiry, as well as of practical skill. As a man, few stood higher in our estimation; and it may be truly said, that he was esteemed and beloved by all who knew him. His early death, we believe, may be chiefly attributed to the profound grief which preyed on him after being suddenly bereaved of an only daughter, who died in April, 1833, about the same time that Mr. Sinclair lost his father and his uncle.—[London.]

NEW-YORK AMERICAN.

JULY 26—AUGUST 1, 1834.

LITERARY NOTICES.

We have still some letters of our Western correspondent lying beside us; and though they will probably appear in another form, some time during the Autumn, we shall still occasionally select one for publication in the meantime. The following describes the gradual change of scenery, from the populous and rich agricultural districts in the western part of Kentucky, to the broken and rude region that extends along its eastern boundary.

Forks of the Kentucky, April.

After discharging my tavern bill, on the day that I left Lexington I rode over about noon to the house of a friend in another part of the town, where an early dinner had been courteously provided solely for myself and the new travelling companion mentioned in my last; and our time not allowing us to pay that devotion to the excellent Madeira and old sherry which their richness and flavor would naturally claim, a bottle of each was quietly deposited in a basket, with some other accompaniments, and a servant despatched by our kind entertainer to guide us on the first stage of our journey.

Emerging soon from the beautiful environs of Lexington, we rode for an hour or two through narrow roads, where the moist, rich soil was fetlock-deep for our horses. But the inclosures, which were generally shut in by a worm-fence on either side, were exceedingly beautiful; and the woodland and arable were so intermixed, that the tall and taper trees of the former, now ranging in open avenues along a hill-side, and now disposed in clumps upon the meadows, as if set there by the eye of taste, produced the impression of riding through a magnificent park, whose verdant swells and embowered glades have been only here and there invaded and marred by the formal fences drawn through them.

We were in a celebrated grazing district, and entering the gate of a plantation towards evening, this park-like scenery continued to grow upon us. There were neither roads nor lanes through the plantations, but the respective owners having merely an open right of way through each other's grounds, nothing could be more devious than our route from gate to gate. It lay chiefly through the wooded pastures for which Kentucky is so celebrated, and the fresh young grass was at this early season like an elastic carpet beneath our horses' feet. The new foliage of the spring was still too tender to rustle in the evening breeze, and the moonbeams, which silvered the tops of the lofty tulip trees, and played through the acacia's slender screen, fell soft as sleep upon the greensward. Sometimes the frequent clumps would thicken into groves, whose depths it was idle to attempt to pierce; and then again where a rich fringe of underwood indicated the bank of a rivulet, enormous vines pendent from some ancient walnut, would fling their verdurous canopy over its fountain head.

After fording a number of fine brooks, whose full currents more than once washed our saddle girths, we came at last to our destination for the night. It stood upon an eminence; a spacious old fashioned building, erected during the early settlement of Kentucky, and now in a state of considerable dilapidation. Our black guide, who was an old family servant well known to the proprietor, was our only letter of introduction, and the hospitable manner in which we were received and made at once at home, showed that we needed no more. The young planter, our host, was of an old Virginia family, and the room in which I slept was decorated with several family pictures in the costume of Charles the Second's time, whose faded colors and tarnished frames were in better keeping with the ancient exterior of the dwelling, than the neat apartment wherein I passed the night.

After an early breakfast, our horses were led to the door by three slaves—our entertainer's, a fine blooded gelding, having his saddle covered by a bear-skin, of which his master's rifle had robbed the original owner. All being ready for mounting, it was not yet without considerable difficulty that we got permission to start—our friendly host, who, the

night before, would scarcely hear of our leaving him in the morning, still insisting upon our "giving him at least a few days."

An hour after found us riding through a country of the same character as that already described but, the land beyond it seemed to lie in ridges against the sky; and topping one of these again, we saw for the first time a blue line of mountains darkening the horizon. It was so long since I had seen any thing of the kind, that I confess the effect upon me was almost thrilling. The sweeping prairies, the broad rivers, and magnificent vegetation of the West, were at once forgotten; and I thought only of the pine covered mountains of my native state, the rocky banks of its gushing streams, and the lonely lakes from which they take their rise—and I felt the while an inscribable longing to be "over the hills and far away." Those blue summits before me were the spurs of the Alleghanies, and though the main chain was yet hundreds of miles in advance, with a dozen intervening ridges of as many different names between, it was something, at least, I thought, to be once within their cool defiles. I now write to you from one of their inmost glens, and the feeling has hardly abated. To realize the delight I take in their rough embraces, you must, whatever may be your love of mountain scenery, have passed months upon the smooth prairies, or floated for weeks along the alluvial-banked rivers of the West.

From this point we rode for a short distance over a very indifferent soil, through a wood of oaks, in the centre of which we came to a spot that will, probably at no very distant day, be celebrated as a place of public resort. On the banks of a clear brook, that winds through the forest, there are no less than four or five mineral springs, within as many rods of each other, and each of a different quality. The two which have attracted most attention, are a sulphur and an oil spring; the last of which, from the quantity of oleaginous matter always floating upon its surface, is quite a natural curiosity. The proprietor, who contemplates creating an establishment upon the spot, lives in a log hut near the springs, and treated us very hospitably. His little establishment was neatly ordered; and he set before us a most acceptable repast of fish, ham, eggs, and coffee, for which he would not hear of receiving compensation.

The day by this time was half spent, and our host of the night before having out of mere politeness accompanied us thus far on our way, was compelled to return upon his tracks. He insisted, however, upon piloting us out of the wood, and then taking a kind farewell, he struck the rowels in his blooded horse, who, unembarrassed by the baggage which encumbered our patient roadsters, wheeled with a snort upon his hindlegs, and was instantly lost in the forest from which he had just emerged.

The country became now more and more broken, and less suited to cultivation, but watered by numerous rills from the hillsides; the feeders, probably, of a turbid torrent called the Red River, to whose banks we came just after sunset. The ferry-boat had been carried away by a recent freshet; and urging our horses to the rushing brink, we were only prevented from trying to ford or swim the stream by a number of persons who hurried to the spot from a mill hard by, and begged us to desist. How to get over though, otherwise, was the question; and it was so rapidly growing dark, that each moment rendered the delay more disagreeable. But the difficulty was soon solved by a bystander; who, guiding us to a spot further up the stream where he kept a canoe, it was soon loosened from its moorings, and placing our valises and horse furniture on the bottom, we crossed one at a time, swimming our horses over beside the canoe. They both in succession landed safely, though the office of getting them up the steep and slippery bank on the opposite side was no sinicure. It was quite dark before we re-ascended and started anew; and after dodging about for some time in the woods to find our road, we discovered by the moon, as she got above the tops of the trees, the print of a wheel in the bud of a brook, and followed this novel kind of turnpike up, until we came to the house of a tanner, where we obtained permission to pass the night. We were now entering what is called the knobs of Kentucky, a part of the State but little settled, and barren in comparison with the populous and fertile districts I had hitherto visited. Being off the main roads too, the accommodations are of course very different from what may be found upon more travelled routes, and my companion and myself were both compelled to take upon ourselves the duty performed by slaves the night before, and feed and groom our own horses. L. however, I find, has all the adaptability about him required on such a tour; and as for myself, you know I've been long since broken in.

Rising with the sun, the next morning found us by breakfast time, in a little village called Irvine. It was small, and, to appearance, any thing but flourishing; but its singular seclusion among these lonely-looking hills, with the bright green Kentucky—now for the first time crossing our route—flowing in front, had a pleasing effect. There was a new store lately opened in the place; and stopping to purchase some trifles, to the amount of a few shillings, the proprietor was so punctilious as actually to give a bill of sale for the amount, from which you may draw your own conclusion as to the customary business of the place. L. and myself had both a shrewd suspicion that we had added not a little to the capital of the town. I should not like the place the less, though, for wanting the bustle of more active life; and upon the whole, when I recall its appearance, as it broke upon me from the top of a neighboring hill, a day or two since, with the pale blue smoke curling up from its scattered chimnies, and courting the kindred mist that hung upon the wooded brows of the pyramidal hills around, I don't know what more quiet disposition I can make than to leave you till my next letter in the little town of Irvine. H.

A HISTORY OF THE UNITED STATES, from the discovery of the American Continent to the present time; by GEORGE BANCROFT. BOSTON: CHARLES BOWEN. This is the first volume of a history, which may, it is computed by the author, extend to "four, or perhaps five, volumes." The period embraced in this, is from the first discovery of America to the restoration of the Stuarts.

We consider it a source of congratulation to the whole nation, that so accomplished a scholar, so patient an investigator, and so eloquent a writer, has undertaken the much needed task of writing a worthy history of these United States. In the volume before us, we see abundant evidence that, while truth will—at any expense of labor in ferreting it out from the original authorities, instead of relying, as is so common, upon the copies of copies—be fearlessly spoken, no prescription of time or great names will be allowed to sanction error.

Mr. Bancroft has well weighed the extent and importance of his undertaking; and he enters upon it with a full appreciation of the labor it will impose upon him, and of the years that must be consumed in perfecting it. From these he does not shrink; but, as he himself well expresses it, "unwilling to travel so long a journey alone," and "desirous as he proceeds to correct his own judgment by the criticism of candor," he now publishes the first volume. It will be received, we feel well assured, as a worthy offering to his country, from one of her able and best qualified sons.

We must make room for some extracts, in order to give our readers an idea of the style of the writer. Take, for instance, the following animated account of the march of *Ferdinand de Soto*, in Florida.—Soto had been a favorite and fortunate companion of Pizarro, in the conquest of Peru, by which he had amassed great riches, and these he ventured, as well as fame and life, upon the conquest of Florida, often before attempted in vain, and which then was supposed to be rich in gold:

Now began the nomadic march of the adventurers; a numerous body of horsemen, besides infantry, completely armed; a force, exceeding in numbers and equipments, the famous expeditions against the empires of Mexico and Peru. Everything was provided that experience in former invasions and the cruelty of avarice could suggest; chains for captives, and the instruments of a forge; arms of all kinds then in use, and bloodhounds as auxiliaries against the feeble natives; ample stores of food, and, as a last resort, a drove of hogs, which would soon swarm in the favoring climate, where the forests and the Indian maize furnished abundant sustenance. It was a roving expedition of gallant freebooters in quest of fortune. It was a romantic stroll of men whom avarice rendered ferocious, through unexplored regions, over unknown paths; wherever rumor might point to the residence of some chieftain with more than Peruvian wealth, or the ill-interpreted signs of the ignorant natives might seem to promise a harvest of gold. Religious zeal

was also united with avarice; there was not only cavalry and foot soldiers, with all that belongs to warlike array; twelve priests, besides other ecclesiastics, accompanied the expedition. Florida was to become Catholic, during the scenes of robbery and carnage that were to follow. Ornaments, such as are used at the service of mass, were carefully provided; every festival was to be kept; every religious practice to be observed. As the troop marched through the wilderness, each solemn procession, which the usages of the church enjoined, was scrupulously instituted.

Then follows an interesting record of the wanderings and sufferings of this ill-fated band, through Florida, and regions which now constitute part of Georgia and Alabama, until, on the 25th April, 1541, *Soto*—the first of Europeans,—beheld the magnificent Mississippi. Within little more than a year, on the 21st May, 1542, worn out with exposure and suffering, and broken hearted by disappointment, he died on its banks. "His miserable end," says our author, "was the more observed from the greatness of his former prosperity. His soldiers pronounced his eulogy by grieving for their loss; the priest chanted over his body the first requiems that were ever heard on the waters of the Mississippi. To conceal his death, his body was wrapped in a mantle, and in the stillness of midnight was silently sunk in the middle of the stream: the discoverer of the Mississippi slept beneath its waters. He had crossed a large part of the continent in search of gold, and found nothing so remarkable as his burial place."

On the subject of the first introduction of African slaves into the isles and continent, there is a dissertation at page 184, and *seq.*, which is instructive, and which entirely vindicates Las Casas from the imputation of having first, through a short sighted humanity for the Indians, introduced this curse. When he made his petition to the Court of Spain, for the substitution of negroes for native Indians in working the mines, Negro slavery was already firmly established in Hispaniola, and the slave trade so common and lucrative, that it is shown by our author, even the Virgin Queen, Elizabeth of England, was a partner with Sir John Hawkins in his *Slave Voyages*, and "became at once a smuggler and a slave merchant."

But we must take our leave of this attractive volume,—attractive both by the excellence of its literary and mechanical execution. We do so, by the following account of the voyage and landing of

The Pilgrims.—And now [1620] the English at Leyden, trusting in God and in themselves, made ready for their departure. The *Speedwell*, a ship of sixty tons, was purchased in London; the *Mayflower*, a vessel of one hundred and eighty tons, was hired in England. These could hold but a minority of the congregation; and Robinson was therefore detained at Leyden, while Brewster, the teaching elder, conducted the emigrants. Every enterprise of the Pilgrims began from God. A solemn fast was held. "Let us seek of God," said they, "a right way for us, and for our little ones, and for all our substance." Anticipating their high destiny and the sublime doctrines of liberty, that would grow out of the principles, on which their religious tenets were established, Robinson gave them a farewell, breathing a noble spirit of Christian liberty, such as was hardly then known in the world.

"I charge you before God, and his blessed angels, that you follow me no farther, than you have seen me follow the Lord Jesus Christ: The Lord has more truth yet to break forth out of his holy word. I cannot sufficiently bewail the condition of the reformed churches, who are come to a period in religion, and will go at present no further than the instruments of their reformation. Luther and Calvin were great and shining lights in their times, yet they penetrated not into the whole council of God. I beseech you, remember, 'tis an article of your church covenant, that you be ready to receive whatever truth shall be made known to you from the written word of God."

The Pilgrims were accompanied by most of the brethren from Leyden to Delft-Haven, where the night was passed "in friendly and Christian converse." As the morning dawned, Robinson kneeled

ing in prayer by the sea-side, gave to their embarkation the sanctity of a religious rite. A prosperous wind soon waits the vessel to Southampton, and, in a fortnight, the Mayflower and the Speedwell, freighted with the first colony for New England, leave Southampton for America. But they had not gone far upon the Atlantic, before the smaller vessel was found to need repairs; and they enter the port of Dartmouth. After the lapse of eight precious days, they again weighed anchor; already they are unfurling their sails on the broad ocean when the captain of the Speedwell, with his company, dismayed at the dangers of the enterprise, once more pretends, that his ship is too weak for the service. They put back to Plymouth, to dismiss their treacherous companions, though the loss of the vessel was "very grievous and discouraging." The timid and the hesitating were all freely allowed to abandon the expedition. Having thus winnowed their numbers of the cowardly and disaffected, the little band of resolute men, some with their wives and children, in all but one hundred and two souls, went on board the single ship, which was hired only to convey them across the Atlantic; and on the 6th day of September, 1620, thirteen years after the first colonization of Virginia, two months before the concession of the grand charter of Plymouth, without any warrant from the Sovereign of England, without any useful charter from a corporate body, the passengers in the Mayflower, under the guidance of a faithless Captain, who had received a bribe to thwart their purposes, set sail for a new world, where the past could offer no favorable auguries.

Had New England been colonized immediately on the discovery of the American continent, the old English institutions would have been planted under the powerful influence of the Roman Catholic religion; had the settlement been made under Elizabeth, it would have been before activity of mind in religion had conducted to a corresponding activity of mind in politics. The Pilgrims were Englishmen, Protestants, exiles for religion; men disciplined by misfortune, cultivated by opportunities of extensive observation, equal in rank as in rights, and bound by no code but that which was imposed by religion, or might be created by the public will.

The eastern coast of the United States abounds in beautiful and convenient harbors, in majestic bays and rivers, the first Virginia colony, sailing along the shores of North Carolina, was, by a favoring storm, driven into the magnificent bay of the Chesapeake; the Pilgrims, having selected as the place for their settlement the mouth of the Hudson, the best position on the whole coast, were, by the treachery of their captain, conducted to the most barren and inhospitable part of Massachusetts. After a long and boisterous voyage of sixty-three days, during which one person had died, they espied land, and in two days more, were safely moored in the harbor of Cape Cod. Dutch cupidity and English intolerance combined to effect the first settlement of New England.

Yet, before they landed, the manner in which their government should be constituted, was considered; and, as some were observed "not well affected to unity and concord," they formed themselves into a body politic by a solemn voluntary compact.

"In the name of God, amen; we whose names are underwritten, the loyal subjects of our dread sovereign King James, having undertaken for the glory of God, and advancement of the Christian faith, and honor of our king and country, a voyage to plant the first colony in the northern parts of Virginia, do by these presents, solemnly and mutually, in the presence of God, and of one another, covenant and combine ourselves together, into a civil body politic for our better ordering and preservation, and furtherance of the ends aforesaid; and by virtue hereof, to enact, constitute, and frame such just and equal laws, ordinances, acts, constitutions, and officers, from time to time, as shall be thought most convenient for the general good of the colony. Unto which we promise all due submission and obedience."

This instrument was signed by the whole body of men, forty-one in number, who, with their families, constituted the one hundred and one, the whole colony, "the proper democracy," that arrived in New England. John Carver was immediately and unanimously chosen governor for the year.

Men, who emigrate, even in well-inhabited districts, pray that their journey may not be in the winter. Wasted by the rough and wearisome voyage, ill-supplied with provisions, the English fugitives found themselves, at the opening of winter, on a barren and bleak coast, in a severe climate, with the

ocean on one side and the wilderness on the other. There were none to show them kindness or bid them welcome. The nearest French settlement was at Port Royal; it was five hundred miles to the English plantation at Virginia. As they attempted to disembark, the water was found so shallow, that they were forced to wade; and, in the freezing weather, the very act of getting on land sowed the seeds of consumption and inflammatory colds. The bitterness of mortal disease was their welcome to the inhospitable shore.

The season was already fast bringing winter, and the spot for the settlement remained to be chosen. The shallop was unshipped, and it was a real disaster to find, that it needed repairs. The carpenter made slow work, so that sixteen or seventeen weary days elapsed, before it was ready for service. But Standish and Bradford, and others, impatient of the delay, determined to explore the country by land.

"In regard to the danger," the expedition "was rather permitted than approved." Much hardship was endured; but what discoveries could be made in Truro and near the banks of Paomet creek? The first expedition in the shallop was likewise unsuccessful; "some of the people that died that winter, took the original of their death" in the enterprise; "for it snowed and did blow all the day and night, and froze withal." The men, who were set on shore, "were tired with marching up and down the steep hills and deep vallies, which lay half a foot thick with snow." A heap of maize was discovered; and further search led to a burial-place of the Indians; but they found "no more corn, nor any thing else but graves."

At length the shallop was again set out, with Carver, Bradford, Winslow, Standish, and others, with eight or ten seamen. The cold was severe; the spray of the sea froze as it fell upon them and made their clothes like coats of iron. That day they reached Billingsgate point at the bottom of the Bay of Cape Cod, on the western shore of Wellfleet harbor. The next morning the company divided; those on shore find a burial place, graves, and four or five deserted wigwags; but neither people, nor any place, inviting a settlement. Before night, the whole party met by the sea-side, and encamped on land together near Nameket, or Great Meadow Creek.

The next day they rose at five; their morning prayers were finished; when, as the day dawned, a war-whoop and a flight of arrows announced an attack from Indians. They were of the tribe of the Nausets, who knew the English as kidnappers, but the encounter was without further result. Again the boat's crew give thanks to God, and steer their bark along the coast, for the distance of fifteen leagues. But no convenient harbor is discovered. The pilot of the boat, who had been in these regions before, gives assurance of a good one, which might be reached before night; and they follow his guidance. After some hour's sailing, a storm of snow and rain begins; the sea swells; the rudder breaks; the boat must now be steered with oars; the storm increases; night is at hand; to reach the harbor before dark, as much sail as possible is borne; and the mast breaks into three pieces; the sail falls overboard; but the tide is favorable. The pilot, in dismay, would have run the boat on shore in a cove full of breakers; "about with her," exclaimed a sailor, "or we are cast away." They get her about immediately, and passing over the surf, they enter a fair sound; and get under the lee of a small rise of land. It is dark, and the rain beats furiously; yet the men are so wet and cold and weak, they slight the danger to be apprehended from the savages, and, after great difficulty, kindle a fire on shore.

Morning, as it dawned, showed the place to be a small island within the entrance of a harbor. The day was required for rest and preparations. Time was precious; the season advancing; their companions were left in suspense. The next day was the "Christian Sabbath." Nothing marks the character of the pilgrims more fully, than that they kept it sacredly, though every consideration demanded haste.

On Monday, the eleventh day of December, Old Style, the exploring, forefathers land at Plymouth. A grateful posterity has marked the Rock, which first received their footsteps. The consequences of that day are constantly unfolding themselves, as time advances. It was the origin of New England; it was the planting of the New England institutions. Inquisitive historians have loved to mark every vestige of the pilgrims; poets of the purest minds have commemorated their virtues; the noblest genius has been called into exercise to display their merits worthily, and to trace the consequence of their daring enterprise.

The spot, when examined, seemed to invite a set-

tlement, and, in a few days, the Mayflower was safely moored in its harbor. In memory of the hospitalities, which the company had received at the last English port, from which they had sailed, this oldest New England colony obtained the name of Plymouth. The system of civil government had been established by common agreement; the character of the church had for many years been fixed by a sacred covenant. As the Pilgrims landed, their institutions were already perfected. Democratic liberty and independent Christian worship at once existed in America.

THE COMPANION TO THE BIBLE, 2 vols. 12mo.: revised and altered from the English edition, by Rev. F. H. CUMING—Prot. Epis. Press, N. Y.—These two little volumes are admirably adapted to the use of Bible classes, Sunday Schools, and indeed families. They give a history of the Bible, its antiquity, with the proofs thereof, and of its authenticity; and with remarks and explanations connecting its various histories. They are well printed; and questions in the ordinary form, now adopted in school books, are prepared for each chapter.

LA REVUE FRANCAISE—Juillet. N. Y., Hoskins and Snowden.

LA FRANCE LITERAIRE—Nos. 2 and 3 of Vol. IV. N. Y., 36 Ann street.

These two French periodicals seem, we are glad to find, to prosper; and they deserve to do so. They are made up of selections from the choicest contributions of modern French literature, interspersed occasionally with articles translated from English periodicals. In the *Revue Francaise*, for this month, we were particularly struck with the well told and well sustained narrative—true, too, but of a truth more marvellous than fiction, as indeed the whole of the war of *La Vendée*, of which it is an episode, was—of *Jambe d'Argent* and *Daramfeu*; and by the wholly fictitious but interesting story of *Un Nom*. In No. 3 of *La France Literaire*, the article *Fragments d'histoire*, by Victor Hugo, and *Trafalgar* and *St. Cloud*, are among those that chiefly interested us. We again recommend these cheap periodicals to all learners and admirers of French.

AYESHA, THE MAID OF KAR; by the author of *Zohrab* and *Haji Babi*: 2 vols. Philadelphia: Carey, Lea & Blanchard.—Leaving the domain of Persia, Mr. Morier here appears on Turkish ground; and with the same success which attended his Persian stories, he brings before us the living Turk with his apathy, the offspring of fatalism—his cruelty and disregard of human life—his ignorance and intolerance. The story is improbable enough. We do not mean to reveal it; but the incidents—the pictures of real life—the usages and customs of the Musselmans—are, we do not doubt, given with as much fidelity as spirit. We give a couple of extracts. Osmond, the hero, son of an English Peer, having been seen talking to *Ayesha*—a grievous offence in that country of harems and secluded women—his arrest is ordered. It is thus described:

Bogos, by this time, with fear and trembling, had opened the door of his house to the Pasha's officers. The first salutation which he received, was a blow over the head for having detained them so long, and then he heard the question, "Where is the Frank infidel who lives here?"

"Effendi—Sir," said the poor man, slow in betraying his guest, yet secretly charmed that the visit was not intended for himself, "he sleeps up stairs. But what is there at your service?—be pleased to sit;" at the same time he roared out to his wife to bring coffee and pipes. "You have done me honor; my house is exalted by your presence."

The Turks, who can never withstand the temptation of a cup of coffee, on this occasion proved themselves true men; and the two chokhadars, heedless of their commission, sat themselves down on the Armenian's cushions, awaiting the promised treat, thus giving time to the whole household to secrete such things as were likely to be seized if seen by their visitors, and which on such occasions they felt themselves justified in doing. The guard remained stationed at the street door.

Mustafa, who had the sharpest nose for the smell

of coffee of any one of the sons of Islam, no sooner heard the well-known sound of the mortar in which the roasted bean was braying, then he dressed himself in all haste, and making the wonted *Salam aleikum* to the unexpected guests, sat himself down in all dignity by their side, and lighting his first morning's pipe (ever a great luxury to the true smoker,) awaited the coming stimulant with as much unconcern as if that was the first object of consideration, whilst the reason of their visit was apparently quite of secondary importance.

They all sipped in solemn silence, after the coffee had been handed about by the obsequious Bogos, and smoked between whites. When it was over, Mustafa duly said, "*Afiyet ollak*—much good may it do you!" to which the others responded the same, and stroked their whiskers.

After a long interval, in which nothing was said, and little else done than inhaling and emitting smoke, Mustafa bethought himself that it might be as well if he inquired the object of this their early intrusion, so far as it concerned his master.

"Sir," said the head officer with gravity, "I am the head chokhadar of the Pasha; I am come to invite the Frank to take himself to the Pasha's presence."

"I," said the other officer, "I am deputy chokhadar; I am come to help to invite the Frank to come to the Pasha."

"*Pek ayi*—very well, said Mustafa, "upon our heads be it; *yavash, yavash*—slowly, slowly, we will proceed. The Bayzadeh at present sleeps; when he wakes, upon our heads be it, we will go." This Mustafa said in the full persuasion that these persons were sent on the part of the Pasha to do his master honor, for he was not in the least aware that any thing had occurred which could give rise to a different treatment.

The officers, who had an eye to an immediate *backish* or present, and who had also calculated how much the reversion of future donations or extortions might be worth to them, appeared to agree with Mustafa in taking a conciliatory view of the case; and although the chief, who was also the spokesman, said "Very well," and "by and by," and "slowly, slowly," at first; yet, as the day began to show forth, he gradually threw haste into the composition of his speeches, and said "*Haidé, chabouk, gidelim!* Come along, quick, let us go!" until Mustafa was obliged to proceed to his master, and to inform him of the Pasha's message, and of his wish to see him without loss of time. However, before he went, he thought it right to inquire what might be the real object of the Pasha's wish to see Lord Osmond, since the armed men and the violence of the intrusion produced a doubt in his mind whether it might be honor or the contrary which was in preparation.

"*Bak*—see? said he to the officer, in a mysterious whisper: "is there any thing wrong?" at the same time winking his eye and shaking his head.

"What do I know?" said the other as mysteriously: then putting his two forefingers together in a parallel line, he said, "the Frank has been seen with a woman."

"Is it so," said Mustafa in astonishment; "that is bad," shaking his head at the same time.

"Truly it is bad," answered the officer; "our Mufti is much of a devil, and visits a *zamparalik*—a piece of scandal, with great severity; but, if you will put the affair into my hands, I can do many things."

Mustafa, who easily understood the hint, and who had taken fright at this disclosure, was not backward in putting a gold piece into the hand of his informer, as a retainer for his good offices. He then, with an accelerated step, sought his master, cogitating how the circumstance might have happened, and full of anger at his master's imprudence.

The intenseness of Turkish jealousy is proverbial: behold the form in which it displays itself—

"I was chanting the Azan at the usual time," replied the Imam; "I had half gone through it, when, from the minaret which looks upon your terrace, I saw a woman with a man. Curses be on all Infidels! May heaven pour misfortunes on their heads! The man was the Giaour we saw at the Pasha's the other day—of that I will take my oath upon the blessed Koran. The woman, Allah best knows who it was! I have said it, what more can I do?"

Suleiman Aga, during his speech, was gradually expanded into rage; his naturally placid face became sullen, and occasionally flashed with looks of revenge; low spoken sentences broke from his lips, he cursed in whispers, he clenched his hands, put them by turns on the head of his dagger, and his whole appearance might be compared to a pent-up volcano.

He said, nothing more to his informer, but seemed to be nailed to the spot upon which he sat, as if he were ready there to receive the announcement of any more misfortunes which might be preparing for him. A long silence ensued, when the priest said in a low voice, "Suleiman Aga, what shall we do?"

The only answer he got was, "I will send ruin to his father and mother," whilst his eyes looked upon vacant space, and his head remained fixed in one position.

"Speak, O man," continued the priest: "what is to be done?"

"*Pezetenk!*—rogue!—wretch!" softly breathed the jealous Turk.

"*Ai Gardach!*—brother, are you turned mad?—speak!" said the Imam louder than before.

"*Kiupek!*—*Giaour!*—dog! infidel!" whispered the other.

At length, all of a sudden, as if he had been bitten by a snake, he bounded off the sofa upon which he sat, and without looking either to the right or left, flung out of the room, leaving the man of the minaret in utter amazement at this unexampled feat.—All he could say was, "He is mad!" then straightway quitting the house, he proceeded to the Mufti, open-mouthed, with the intelligence.

The wretched Suleiman had sprung through the corridors in his way to the women's apartments, when he discovered that he had left his slippers behind him: this little circumstance most providentially broke the violence of his determination. A Turk never loses sight of his dignity; seeing his feet without their pouffes, he slowly turned back to seek them, and by the time he had put them on, his mind had in some measure turned also. First, he released the head of his dagger from his fast-clenched hand; then the fury of his wife's temper came to his thoughts, and acted as a check upon his own; and last of all, the charms of the unoffending Ayesha became present to his imagination, and very materially put to the rout that host of satanic impulses which were goading him on to crime and bloodshed.

With less precipitation, and more uncertainty of purpose, he now proceeded to the harem. Raising the heavy curtain which hung over the door, the first objects he perceived were his wife and Ayesha, talking together with great earnestness. Upon seeing him, they retreated into the room before described, whither he followed them. In a manner totally unusual to him, and never before witnessed by his wife, he said "Woman! stand up and speak for yourself; you are a sinner, and if a sinner, God protect you!"

"What do you say, Suleiman Aga?" exclaimed Zabetta; "are you run out of your senses? I a sinner, indeed! What abomination are you eating? If I am a sinner, what are you?"

"This is no child's play, woman," said the angry man; "tell me, as you value your life, as you value that child whom you see there, what devilry has got into your head, that you should leave your husband and seek infidels for your company?"

Zabetta was not quite prepared for this, and as guilt is ever a coward, her usual prowess in an encounter with her husband forsook her, and she turned pale. "I do not understand you," said she; "you are not a man if you come here with a lie in your mouth to oppress a woman."

"A lie, do you say?" exclaimed the Suleiman; "men do not dream when with their eyes wide open they see a Mussulman woman and an Infidel together; that has been seen this very evening: you are that woman, the Giaour at the next door is the man; do you call that a lie?"

"*Bé héy!*—what's this?" exclaimed Zabetta, regaining her assurance. "A lie! I do call it a lie; whoever said it is as great an oaf as you are, and that's much. Why do you bring your beard here to be laughed at? Go to the ass that sent you here, and tell him, 'I send him a bigger ass back in return.'"

"Woman!" said Suleiman sternly, his wrath rising with her impertinence, "your words are of no avail against proof. You have been seen this very evening, before the Azan, in company with the Frank Infidel: tell me plainly what happened, or, by Allah! the consequences will be fatal to you. Suleiman is not easily excited, but when he is, let me tell you it is time to place your trust in God—speak!"

Zabetta, seeing that the subject was too grave to be treated lightly, did not answer this question otherwise than by calling out to the black slave. "Mourzadeh," said she, "come hither; say where have I been all this evening until the Azan?" The girl's face, bearing marks of recent tears, and not in the least aware of the importance of the question, answered, "You were asleep the first part, you were

logging me the next, and then you said your prayers. What more can I say?"

"There," said the wife, turning round with exultation towards her husband, "till me after this that I was on the terrace with an Infidel. *Haif! Haif!* shame! shame!"

It should be added, in explanation of the tone of Zabetta, that she was completely the mistress of the house, and that poor Suleiman was one of those respectable characters, so numerous in Christian countries, and not unknown, it appears, among the many-wived Mussulmans—a hen-pecked husband.

HINTS TO PARENTS ON THE IMPORTANCE OF EARLY ATTENTION TO THE TEETH OF THEIR CHILDREN. 1 vol. 12mo. by W. K. Northall, Jr., Dentist. N. Y. Goodrich & Wiley.—A dentist giving advice how teeth may be best preserved, is certainly rendering a disinterested service to his fellow-citizens, since it is rather by their decay and destruction that he must make his living. Such a service is, nevertheless, rendered in this little volume, which points out forcibly the evil consequences of injudicious, and mis-called, kindness, on the part of parents, in neglecting to attend in early life to their children's teeth.

THE CHURCHMAN'S ALMANAC FOR 1835! New York Protestant Episcopal Press.—The thing that seems to have struck every one about this almanac, is the arrangement on the cover, of the Creed, in the form of a cross. We may add, that within, it contains much profitable knowledge. It seems like hurrying us on, however, rather rapidly in the career of life, thus to present us with an almanac for next year, when the present one is little more than half expired.

AN INQUIRY INTO THE CAUSES OF THE PUBLIC DISTRESS—pamphlet: reprinted, with corrections, from the American Quarterly Review. New York: G. & C. & H. Carrill.—This practical, sound, and well reasoned argument, to which we have before referred more than once in these columns, is now presented in a separate form, with some material errors, which occurred in the haste of printing in the Quarterly, corrected, and with some additions. Of the latter, the following statement of the condition of the Bank of the United States on the 1st inst. will be deemed interesting.

Specie on hand,	\$12,823,997
Funds in Europe,	3,750,242
Balances from State Banks, and State Bank notes on hand,	1,973,283
	\$18,547,522
Nett circulation,	\$16,641,997
Deposites, { Public, 2,675,433 { Private, 6,735,869	9,411,303
	\$26,053,301

That is to say, the Bank of the United States which the Government has discarded as a fictitious agent, has two dollars of specie, or equal to specie to redeem three dollars of debt.

PUBLIC DOCUMENTS, 23d CONGRESS, 1st Session 1 vol. 8vo. New York, Minor & Challis.—A volume this of nearly 900 pages, of double column comprising all the principal documents and leading speeches connected with the last session of Congress—in some respects, possibly, the most important session held since the adoption of the Constitution. The whole for \$3!

To render it more specially valuable as a book of reference to New Yorkers, it has, in an Appendix, the Governor's opening message, his special message about the six million loan, the Act for the loan, the report of the Bank Commissioners, &c.

We hope the encouragement that may be extended to this publication, will induce the publisher to continue it habitually during the sessions of Congress.

A correspondent, under the initials C. R. G. pro-

out to our notice, the second article in the last No. of the New England Magazine, as of a tendency to render that periodical unworthy of the praise which certainly has been bestowed upon it in our columns; and which, after such a paper as "the Thoughts on Optimism," we hope will not be repeated. We have not the number at hand, and have not read the paper referred to, but if it is of the character described by our correspondent, it should, and undoubtedly will, detract from the favor with which that periodical has been heretofore received.

We are glad to find in the Buffalo Whig, a new paper, which we had occasion to welcome to our editorial table a week or two since, a very favorable notice of Dr. Metcalf's "New Theory of Terrestrial Magnetism," a work which we thought, at the time it appeared, would attract much attention, but which, since our original notice, we do not recollect to have seen mentioned. The essay is divided into two parts.

"In the first," says the author, "we endeavor to show, that capillary and cohesive attraction are owing to the unequal distribution of caloric, and to its attraction for ponderable matter—that the attraction of distant masses of vapor, by mountains, clouds, &c. is owing to the same cause, operating on a large scale." In this subdivision, also, the author treats at large upon atmospheric electricity, galvanic electricity, and light, of every description, from the rays of a candle to the solar beams, as identical with caloric. This puts out of views the theory of two varieties of electricity; and in place of the frequent distinctions of *positive* and *negative* electricity, he considers it, as did Franklin, but one substance, varied in its effects by the *quantity* present. Upon the identity of heat and electricity, he proceeds "to show that they are radically the same subtle, impalpable, and all-pervading element; and that its unequal distribution throughout nature, is the cause of all the various powers and attractions of ponderable matter with which we are acquainted. A complete history of caloric would embrace an account of all the changes and transmutations perpetually going on throughout matter. It is the grand instrument of the Almighty, by which he executes the laws of nature. It is caloric thunders in the heavens, as the voice of Omnipotence, which raises mountains from the ocean, and piles them, like turrets, in the sky. It expands in the deeps below, and the earth trembles; rocks are melted, and pyramids of flame ascend above the clouds."

The author's explanation of the *aurora borealis*, or northern lights, is at once clear, simple and satisfactory. We quote: "It is a well-known law, that matter gives out caloric, in passing from a rarer to a denser state; and we know that the density of the atmosphere greatly increases as we advance from the lower to the higher latitudes. We also know that the atmosphere, like all other bodies, owes its bulk to caloric. Hence it follows, that caloric must be given out by the atmosphere, as it passes from a rarer to a denser state." Premising thus much, the author proceeds to the explanation of the cause and manner of production of the *aurora borealis*, which has so often baffled the philosopher, and so often engendered fears and fables in the minds of the multitude. "It is highly probable" (page 43) "that the auroræ are formed in the upper and rarified regions of the atmosphere—and that the different apparent heights of the columns are owing to their different distances from the point of observation. It is worthy of notice, that the northern lights are most numerous and vivid during the long winter nights, while the cold is most intense, when the upper current from the equator, in its passage to the pole, is greatly condensed; and that they are then exhibited in much lower latitudes than during summer." In proof of the positions assumed many facts are adduced. Captains Scoresby, Parry, and others, when in high northern latitudes, most frequently saw the auroræ south of them, and on the line bounding the region of extreme cold—and where, if this theory be admitted, they could only be formed, as the warm air from the equator, in passing thence, would be condensed so as to give out its heat in light. North of this, in the region of perpetually severe cold, thunder and lightning are unknown—and for the same reason. To the question which would naturally arise, namely, why all this expulsion of heat does not modify the rigors of the polar state, we find (page 43) the following very satisfactory answer:—"Notwithstanding the a-

mount of caloric given out by the upper equatorial currents, as they pass to the poles, very little effect is produced by it, in moderating the climate, as it escapes into the regions above—where, not being compressed by the atmosphere, it expands like the electric spark in an exhausted tube, into broad bands or zones and columns—filling the sky with halos, or crowns of lambent light or undulating coruscations."

GREENOUGH'S STATUE OF WASHINGTON.—Our readers, as well as ourselves, are very much indebted to Mr. Morse, for furnishing for publication the annexed capital letter of his accomplished friend GREENOUGH. The forcible observations it contains were suggested chiefly by some remarks which appeared in these columns several months since, on "the design of the Statue of Washington, which Greenough the sculptor had adopted." These remarks were called forth by an extract of a letter from that distinguished young artist to Mr. Morse, which was published in the Journal of Commerce.

"In answering Greenough's letter," says Mr. Morse, "I sent him a copy of your Journal, containing the remarks, and although differing generally from the critic, I seconded his opinion in respect to substituting the book of the Constitution for the *Sword*. I have just received a letter, with some valuable thoughts on the nature of his Art; and as the principal remarks on the subject were spread before that portion of the public who read your Journal, I have thought it but just to your readers and to Greenough that you should have the opportunity first, if you thought fit, to publish his letter."

We again repeat, that we are much indebted to Mr. Morse for an opportunity of presenting our readers with such a characteristic letter, by a master of his art, and which contains some comments that, apart from their immediate application, have a very significant bearing upon a much disputed point of taste. The proper costume of an historical portrait, whether in marble, or upon canvass, is a matter that we apprehend, will always remain unsettled; but we do not remember having seen the classical side of the question put more strongly, than by the distinction drawn by Greenough between the proper mode of representing such men as Howard, or Fulton, or Watt, "or any other simple improver of the arts or institutions of society," and of depicting characters of the heroic mould. The delightful essays of Sir Joshua Reynolds, wherein he dwells so often upon this subject, and in the preparation of which he is supposed to have been aided by the strong common-sense views of Johnson, and the elegant taste of Burke, supply, to the best of our recollection, no more valuable hint upon the subject. Sir Joshua indeed went so far in his love of classic figures, that when West was painting Wolfe's storming of Quebec, he could hardly be prevailed to look upon an historical picture where the British uniform was introduced; nor was it till the severe pencil of another artist, engaged upon the same subject, had raised a general laugh by representing officers whose faces were familiar to the public, going *puris naturalibus* into an engagement, that Reynolds withdrew his countenance from the scholarly Englishman, to bestow it upon the daring young American—daring, because he had broken through the most received rules of art, in the very presence of its highest minister. And who will say that West was not right? For, apart from the inherent absurdity of representing a battalion of modern infantry in the guise of "a Macedonian Phalanx," for instance, the complexion of their costume is really an historical feature in an historical picture. Strike the distinguishing insignia of Bonaparte's Cuirassiers or his Imperial Guard from the actions in which they figure, and you may dispense with the little cocked hat himself. But it is very different with the portrait of a single individual. It is a likeness there, and not

an event that you record. It would be alike ridiculous to represent Napoleon seating Marie Louise beside him on the throne of Charlemagne, either in the dress of the Gothic Emperor's time, or in a state of classic nudity. But no one would be shocked with an undraped bust of the Austrian princess, nor would the iron crown of the conquering Charles misbecome an effigy of his warlike successor.

But we are dwelling too long upon this distinction between characters and scenes, which being lost sight of by so many writers upon art, has occasioned so much confusion in their views. In the effigy of a single individual, unless where the character, like that of William Penn, was identified with his dress, his counterfeit presentment should be made in that guise which is least offensive to the eye of taste.

We will be forgiven, for detaining the reader so long upon the latter part of Mr. Greenough's letter, by allowing him to proceed at once to the sculptor's eloquent, and triumphant defence of his own original design.

FLORENCE, MAY 24, 1834.

My Dear Morse: I am not displeased that my statue calls forth remarks; now is the time to hear and profit by them. I trust I shall be found open to conviction and desirous to learn; but I fear the making a statue of this kind, requires more attentive and instructed thought than most of our able men can spare from their occupations. I am pleased that the artists find my design significant. Your hint, or rather Mr. King's hint, about the constitution, is surely valuable; and if the object of the statue were to instruct people about Washington it might have been anticipated by me. To put into his hand a scroll or a book would be easy; but as books are very like each other on the outside the meaning would be uncertain; and doubt in a statue is feebleness. We raise this monument because Washington's face and form are identified with the salvation of our continent. That sword, to which objections are made, cleared the ground where our political fabric was raised. I would remind our posterity that nothing but that, and that, wielded for years with wisdom and strength, rescued our rights, and property, and lives from the most powerful as well as most enlightened nation of Europe. I look on the military career of Washington as being, though not perhaps his highest glory—our greatest obligation to him. I can conceive of his having died at the close of that struggle without any very bad consequences to our institutions. But a sword in the hand is an accessory which adds little to the contents in any way; in art it is important. If people would consider the abstract nature of sculpture—its elements—its limits—they would cease to look to it for information on points which are better explained by other arts in other ways. They would as soon expect to hear Washington's dress described in a 4th of July oration as to see it sculptured in an epic statue. It is to the man and not to the gentleman that we would do honor. To embody in the work the abstract of a political creed, or the principles of a political party, might ensure protection for my work just now. But just now I can do without it.—I am pleased that you and your friends think my composition, in the main, significant. Those who imagine that I would dress Washington in a Roman costume misunderstand me. The time is past when civilized nations are distinguished by their dress.—If the United States ever had a national garb, I can conceive patriotic zeal interested in its preservation. But what distinguished the dress of Washington from that of Peter, Leopold, or Voltaire, or Burke? In many statues the dress of the time is most useful. In a statue of Howard, or Fulton, or Watt, or any other simple improver of the arts or institutions of society, I should think it very proper then to mark the date of his career, by exhibiting him in that circle of usages which he merely served. But the man who overthrew a tyranny, and founded a Republic, was a hero. When he sits down in marble immortality in the Hall of the Capitol, his dress should have reference to the future rather than the past; there should be about him nothing mean and trifling, or above all, ridiculous; which latter adjective, I hold to apply in its full extent, to the modern dress generally, and to that of Washington's time particularly. Three statues have been made of Washington: one by Houdon, representing the General, made with every advantage, and with an accuracy of detail that will ensure it, in its way, the

first place among the representatives of the man: one by Canova, representing a Roman in the act of thinking what he shall write; one by Chantry, representing him holding a scroll in one hand and a piece of his cloak in the other. I have heard these statues, in their time, examined and criticized by the country. I find nothing in the interest they excite to tempt me to follow either. I choose to make another experiment. If it fails, the next sculptor who attempts the subject will have another beacon in this difficult navigation: the rocks will not increase: the sooner light-houses are on them the safer. Only don't send us landmen for pilots. I am, my dear Morse, yours, H. GREENOUGH.

SUMMARY.

Frederick Rapp.—This gentleman, who was extensively known in the West, as the principal man at Economy, Beaver county, Pennsylvania, died a few days since, after a lingering illness, in the sixtieth year of his age. He was a man of great enterprise and industry. [Cinc. Gaz.]

It is an extraordinary circumstance, certainly, that three times within four days the New York Mail, and all that the Post Office, have entirely failed. [Nat. Intel.]

Lieutenant Slidell, of the United States Navy, author of "A Year in Spain," has been presented, to the Queen of England, by the American Charge.

The Buckeye.—This is the title of a new and handsome newspaper, the publication of which has been commenced by W. C. Jones & Co. at Chillicothe Ohio, at the cheap price of \$1 50 per annum. It bears the following motto, from a discourse of Dr. Drake, delivered before a literary association in Cincinnati last fall: "The Buckeyes of the West—theirs is the only power which can permanently unite the Hemlock of the North with the Palmetto of the South in the same National Arbor"—The following editorial paragraph is full of good sense, from which—and we say it respectfully—many professors of religion might deduce a useful hint:—

"It is stated in some of the exchange papers, that 'upwards of two thousand dollars have been raised in Philadelphia and elsewhere, for the establishment of a high school at Athens in Greece; and it is proposed to form societies in this country to support common schools all over Greece.'"

We cannot see the propriety of our citizens thus establishing societies and sending their money abroad, for the support of schools in other countries, while there are so many children in our own land, (where it is so highly necessary that all should be enlightened) without the means of procuring an education of the most ordinary kind. We are no enemies to the cause of education in Greece; on the contrary, we wish to see the lamp of knowledge lighted up in every clime; and more especially would we be pleased to see its general rays shed over old Greece, till she assumes more than her ancient splendor. But our countrymen should remember that "charity begins at home;" and until schools are established for the education of every child in the union, their philanthropy should be confined to its more appropriate sphere. While any considerable portion of our population are left to grope their way through the mists of ignorance, the corrupt and intriguing politician will have influence; and there will be no real security for the permanence of our free form of government."

Avon Springs.—A very interesting account of these celebrated springs from the pen of Dr. Francis is contained in the last Mirror.

Periodicals in China.—According to the French papers, the taste for literature is on the increase even in China. A new daily literary paper, and a monthly review, have been established at Pekin.

Deaths in Philadelphia last week, 142. Consumption 9, Cholera Morbus 4, Diarrhoea 5, Summer Complaint 40, (all children,) drowned 5, intemperance 2.

The Earthquake at Santa Martha.—We have before us a letter from Santa Martha, South America, dated June 15th. One third of the houses had been thrown down by the late earthquake, and of the rest, a half were rendered uninhabitable. The church of San Domingo was demolished, and the tower of the Cathedral thrown down. Nine-tenths of the inhabitants had left the city. The desolation of its appearance was extreme. The shocks still continued up to the 25th. There had been seventy or eighty during the period of twenty two days—[Boston Transcript.]

FROM MEXICO.—Capt. Rogers of schr. Flor del Mar, arrived on Friday from Vera Cruz, informs us that a private conducta with \$400,000, had that day arrived from the interior. The great conducta had not left on account of the revolution. Gen. St. Anna was besieging the city of Poibla, which was expected not to hold out much longer. Rumours were current at Vera Cruz, that Gen. St. Anna had met with a slight defeat at Poibla, he had however, rallied his troops and cut off the supplies of that city. The cry of the party now is, "Religion and Santa Anna!" who, it is reported, receives 80,000 dollars per month from the church and the aristocratic party, with which he appears to have united himself.

[From the Daily Advertiser.]

LATEST FROM BUENOS AYRES.—By the ship Brutus, Capt. Adams, we have received Buenos Ayres papers to the 14th June, from which we make the following extracts:—

Buenos Ayres.—All the news of the week will be found carefully detailed in our columns of this day; the most important part of which is the resignation of office tendered by the Government to the House of Representatives, on Thursday last. Such an event has been for some time expected, and the names of their successors have been also bruited. It is probable that our next number will contain the particulars of the appointment of a new Government.

We have not read the note of the Governor to the House; but we understand it states, that the Government had endeavored to conciliate all parties, and to attract as much as possible the support of the most influential persons: that success had not attended their efforts, therefore no other alternative remained but to resign office.

Catamarca.—Private accounts state that a change has taken place in the government of this Province, which was brought about by its House of Representatives, during the absence of the Governor at Tucuman. The details of this event are not known, nor if serious consequences are likely to ensue therefrom.

Cordova.—It is reported that an invasion of this Province by the Chilean Indians, is likely to take place. It appears that the Government of Cordova have received official notice from Chili, that the Indians, in number about 2000 men, were preparing to pass the Cordillera. The Government of Chili have provided every means in their power to frustrate the intended incursion; and that of Cordova have taken measures to repel it, should it be put in practice.

Santa Fe.—A Bulletin (No. 10) dated 4th instant, has been published by General Estanislao Lopez, Governor of the Province of Santa Fe, giving an account of further successes which he has obtained over the Indians.

Mendoza.—A despatch, dated 27th ult. has also been published from the Governor of Mendoza, (Pedro Molina,) detailing successes gained over a body of Indians who hovered around that Province.

Chili.—A mail from Chili arrived on Saturday last, by which we received the Mercurio of Valparaiso, to 16th ult. They contain no particular news as it regards that Republic, if we may except the fate of the convicts, whom we mentioned in a former number, had escaped from the island of Juan Fernandez, in the Chilean schooner Estrella. It appears that after quarrelling among themselves, one Idalgo got the upper hand, and put a number of his companions, with the women they had on board, in a launch, in order to land them on the coast between Cobija and Iquique; but it is supposed they perished on their voyage thither. Idalgo and others got on shore at Pissagua, and proceeded into the interior with the passports of the individuals who were on board the Estrella when she was seized by the convicts, and who were left by them at Juan Fernandez.

Peru.—The news from Peru comes down to 1st March. The issue of the civil war in that country was thought to be somewhat doubtful, for although public opinion was against Gamarra, and he was regarded as a tyrant and the author of all the miseries of the country, yet he has a strong military force with him, and is likewise in possession of the departments of Junin, Cuzco, Puno, Ayacucho, &c.

The President (Orbegoso,) had been invested with extraordinary powers during the continuance of the civil war; and General Gamarra, Elaspuru, Bermudez, J. M. Frias, and Vargas, had been struck off the army list. The same was to be practised against a number of other officers if they did not within a certain time present themselves to the legitimate authorities. In the meantime General Nieto, Miller, Necochea, and Plaza, at the head of their

divisions, were actively exerting themselves in favor of the government of President Orbegoso, and had obtained some successes; and several emigrant Argentine officers who had served with General Lavalle, viz. Colonels Perdernera, Acha, Irigoyen, Terres, and others had taken service in favor of the legitimate authority; Acha and Irigoyen had been appointed aides-de-camp to Gen. Necochea.

Montevideo.—We have received journals of the above city to 2d inst. They contain an official despatch, dated Head Quarters, Cuareim, 16th ult., from the President of the Oriental Republic, (Fructuoso Rivera,) to General Oribe, Minister of War and Marine, at Montevideo; giving an account of the total defeat of General Lavalleja's force. The President states, that after incessant and laborious marches, he had on the 15th ult., at dawn of day, succeeded in surprising the advanced posts of Lavalleja, consisting of Indians; that Lavalleja himself, with 80 to 100 men, was close at hand; but wishing to prevent the effusion of blood, a summons was sent to him to surrender; the officer who conveyed it, was, however, fired upon; therefore no alternative was left but immediate action. The President accordingly formed his troops, and attacked and routed the anarchists, who fled in all directions, leaving behind them a number killed, wounded, horses, &c. &c. General Lavalleja, and others, escaped &c. The President states that his loss in the encounter only consists of one killed and ten wounded; among the latter is Commandant Arellano, but not dangerously. The conduct of the Government troops is also highly eulogized.

The President, in a letter to his wife dated 21st ult., says that the brother of General Lavalleja (Manuel Lavalleja,) was killed in the above action.

MINE OWN.

I need not token flowers to tell
How deeply dear thou art,
Still on my ear thine accents dwell,
Thy virtues in my heart;
Thy beauty floats before mine eyes
In soft, celestial light,
Alike at orient day's uprise
And pensive shut of night.
Although afar—although afar—
Yet art thou with me still,
When evening's star, and morning's star,
Gleams o'er the twilight hill;
Thy beauty streams thro' all my dreams,
The lone night watches through;
And cloudless skies recall thine eyes,
The archangel's tearless blue.
The sinking and the swelling heart
Of fond yet fearful love,
Thy blush to meet, the pain to part,
It hath been ours to prove;
The wild embrace of blessedness,
By absence made more sweet,
The separation's pangs, which press
Its life-blood from the breast.
But think not months, however long
(For long all months must be,
Theme of my blessings and my song:
Which sever me from thee)
Shall e'er undo one tender tie
Affection's fingers weave.
Shall make less deep the daily sigh
Which absence owes to love.
Farewell! thou shalt not be forgot,
My beautiful, mine own!
Oh, may the sorrow of our lot
Bow down my head alone,
And these dried flowers, which, given to me,
Were moist with morning rain,
Shall bloom of thee, and breathe of thee,
Until we meet again.

LOVE AND DEATH.

"YOUNG Love and Death, by chance one night,
Stupped at a but together,
While raged the storm with lurid light,
To shelter from the weather:
Love gave the host, with strict behest,
His darts to keep till morning;
Death, too, gave his, with looks—stern guest:—
Of future life a warning.
Each to his chamber then retired:
But when the sun was peeping,
The Travellers of the host required
Their charge, left in his keeping:
The host complied; but, as we're told,
Too fatally mistaking,
Gave Death Love's arrows tipped with gold,
Young Love in turn Death's taking.
Whichever course the archers went,
They caused a sad confusion!
Old age, on whom Death's aim was bent,
Felt playful Love's delusion:
While victims maids and youths became,
Where luckless Cupid wandered:
Young hearts droop'd in a blighted frame,
And passion's bliss was squandered!
Love soon his fellow traveller met,
And straight with sobs and sighing,
Complained that all he'd aimed at yet
Were either dead or dying!
Said Death, "Dry up your tears poor boy!
Take back your own bright quiver,
And give me mine." Love did with joy—
They parted then for ever!"

FOREIGN INTELLIGENCE.

SIX DAYS LATER FROM EUROPE.—By the packet ship *Roscoe*, Captain Delano, we have received London papers to June 23d, and Liverpool to the 24th inclusive. By the *Rhone*, Captain Rocket, we have French papers to the 18th.

The Swiss Cantons have received insulting and threatening communications from the Austrian Cabinet, in consequence of their refusal to give up some German refugees to the vengeance of their despots. It is said that even an invasion of Switzerland is menaced.

In England, Parliament still advances, by gradual but determined steps, in its gigantic task of reform.

By a return just laid on the table of the House of Commons, it appears that in 1831, 1832 and 1833, twenty-eight vessels, the tonnage of which was 7,172, have carried cargoes of timber from the north of Europe to America, and have then reimported it into England. The cargoes were chiefly fir timber. In 1831 and 1832, there were only five vessels which made this roundabout voyage; and twenty-three made it in 1833.

PORTSMOUTH, JUNE 18.—Don Carlos, his consort, the princesses, and suite, landed this morning at half-past seven, under a salute, with manned yards, from his Majesty's ship *Donegal*, and on their landing were received under a salute from the batteries, and a guard of honour of the royal marines, under the command of Captain Menzies, R. N. The *George Hotel*, from the influx of strangers, not having sufficient accommodation, a spacious house next to the lieutenant-governor's has been hired for their reception, but how long they will sojourn here, or their ultimate destination, is unknown.

The elections for the lower House of the Cortes are to take place in Spain on the 30th June; it is believed the returns will show a stronger liberal vote than will be acceptable to the Court party.

The packet ship *UTICA*, Capt. DEFEYSTER, from Havre, whence she sailed on the 26th June, arrived here yesterday morning. We have received our regular files of Paris and Havre papers to the 24th and 25th inclusive. We are also indebted to Capt. Defeyster for Galignani's Messenger of the Evening of the 25th, and a London Price Current of 24th, from which the following extracts are taken:

The principal intelligence of interest relates to the result of the recent elections of members of the Chamber of Deputies. The result was a great ministerial triumph, 270 Deputies out of 320 having been returned in their favor. Among the unsuccessful candidates were several of the most important members of the opposition in the last Chamber. The papers contain the names of the newly-elected Deputies.

Louis Philippe will visit Toulon in July.

The nobility of the Roman States, with several princes at their head, have presented a petition to the Pope, complaining of the enormity of the land tax, and praying that this tax, the *Agno Romano*, should be estimated at 8,000,000 scudi, instead of its present amount of 12,000,000 scudi.

A letter from Rome, dated the 13th inst., states that Torlonia's house has just received a privilege for the establishment of steam-coaches between that city and Naples.

The *Austrian Observer* states that it has received a letter from Seala Nova, dated 14th May, announcing that the Island of Samos has completely submitted, but does not take upon itself to guarantee the correctness of the fact, though the same intelligence has been communicated to several Consuls by their agents.

The *Moniteur Algérien* of 10th inst. states, that a regular correspondence between Algiers and the other ports of the Regency is about to be established by means of steam-boats, which were expected to commence their voyages on the 15th. It also promulgates two Orders of the Day, one for protecting the property of the natives and others, during the season of gathering in the fruits of the earth; and the other, prescribing the precautions to be taken by the troops during the continuance of the great heat, and directs that no soldier shall leave the barracks, except in cases of absolute necessity, between ten in the morning and four in the afternoon. All the men engaged in working parties go out at four in the

morning and remain till half-past five, when there is great emergency, but not otherwise.

[From the Journal of Commerce.]

ONE DAY LATER FROM LONDON.—By the packet ship *Samson*, Capt. Chadwick, we have received a London paper to June 24th.

LONDON, JUNE 24.

City—Monday Evening.—Since the morning, we have received no addition to the political information from the Continent and the Peninsula. Money has been more difficult to-day, and the apathy of speculation in the British funds is said to be mainly caused by the want of confidence in the pending measures of the present ministry.

It will also be seen, that the foreign market equally partakes of the gloom of the British, and the rage for speculation is suspended.

Great Protestant Meeting.—We are authorized to state that a general meeting of the Protestants of Ireland will be held in the city of Dublin in the 1st week of July—the week after next, attended with circumstances of such a character as must insure the attendance of gentlemen of the most remote provinces in the kingdom. Subjects will be discussed and resolutions be adopted—sentiments will be uttered and speakers present themselves calculated to inspire our friends with hope—to fill our implacable foes with consternation and dismay. Brighter and happier days are in prospect for us; and we hope in our next to be able to give the requisition, and to go somewhat into the detail of the particulars at which we only at present glance; but we make this announcement for the purpose of giving our friends timely notice, so that they may make their arrangements for being present.—[Dublin Evening Mail.]

Health of the Metropolis.—During the last few days diarrhoea has been unusually prevalent, and there is reason to apprehend, from the early appearance of this disease, that Cholera may again visit us. Bowel complaints are common at the end of summer or beginning of autumn, but are very rare in May. The disease now prevalent is preceded by indigestion, languor and lassitude, sinking at the pit of the stomach, and great debility; in fact, the symptoms which preceded Cholera in the years 1832 and 1833. Ordinary methods arrest it, and the timely application is indispensable. Regularity of living, nutritious diet, and moderate mental and corporeal exertion are the best preventatives.—Vegetable food, more especially salads, lettuce, &c. ought to be used sparingly, if at all.—[London Medical and Surgical Journal.]

Several engineers have arrived at St. Omer to prepare the plans for a Railroad between Paris and Lisle, with a branch to Dunkirk.

BERLIN, JUNE 16.—A Dantzic timber merchant is gone to Poland, to purchase large quantities of timber. Orders have been received for 2000 wooden houses to be taken to pieces and embarked at Dantzic for Toulon, and thence to Algiers, to be employed in building a new town or suburb. The entire stock of zinc here, even that which has just arrived, has been bought up at a high price for the Russian Government.

The celebrated navigator Captain Ross proceeded, in May last, to Sweden and Norway, in order to have some ships built of deal, the pliability of this material being important for the new voyage which he has undertaken to the Polar regions.

Arctic Land Expedition.

Despatches were received yesterday morning by the Royal Geographical Society from Captain Back, and the following extracts, containing the most interesting portions of his narrative, are published for the information of the public. It is gratifying to observe the good spirits in which he writes, and the entire success of the preliminary operations:

Fort Reliance, East-end of Great Slave Lake, December 7th, 1833.

I overtook Mr. King at Cumberland-house, and got him fairly off, with the two boats heavily laden with 123 packages of 90lb. each, by the 7th of June.

The accounts I had received from different persons of the low state of the water in some of the rivers, foreboded considerable detention to the boats; and, other circumstances considered, it was evident to me that they could not reach the eastern end of Slave Lake before the commencement of cold weather. Giving up all hope of seeing them again before the accomplishment of my plans I stimulated my crew to the utmost, and actually worked them, until my arrival at Fort Chippewyan, which was about the end of July, for 18 hours a day. On my route I met Mr. McLeod, an old acquaintance of mine, and for

whom I had a letter from the resident Governor, Mr. Simpson, intimating a wish that he should accompany the expedition; and I am sure you will be happy to learn that he immediately consented to place himself under my orders, and undertake the management of the Indians at our winter quarters.

On our reaching Fort Chippewyan, we made every inquiry relating to the direction of the rivers that debouched at or about the Fond du Lac, and though there evidently appeared to be a nearer way to the Barren Grounds than by the circuitous one originally intended to be followed, yet the vague and unsatisfactory answers of the Indians, together with their obvious ignorance of the distance to the Great Fish River, made me at once decide to go by Great Slave Lake.

It was the 7th of August when we landed at Fort Resolution, owing to the detentions incurred by sending to the Salt Plains, (a little to the westward to the Slave River) for a winter's stock of that invaluable article.

Many Indians were assembled at this trading post, and their Chief, Le Grand Jeune Homme, was waiting my arrival, under a sort of promise held out to him that he should accompany me. But as I was fully aware that his services must be purchased at a greater rate than our limited means could afford, and that he knew nothing about the country to the eastward, I was glad to compromise the affair, and reward him for his loss of time by a present of the value of 40 beaver skins.

The season was advancing too fast to admit of any more delay, and being unable to procure a guide to the Thlew-ee-cho-dezeth from among the Indians, not one of whom possessed a knowledge of its locality or direction, I determined on leaving Mr. McLeod to bring the stores, while I preceded him in a half sized canoe, with a crew of two 'half breeds,' a Canadian, an Indian, and an Englishman. With this motley and most rickety craft I commenced the survey towards the north east. Our course first lay in the direction of the Riviere a Jean, and along the low swampy shores of the lake, then across to numerous islands, which led us to the north side of the lake. The scenery there was composed of the most craggy and picturesque rocks—mostly primitive, and consisting of flesh-colored feldspar and quartz, with a few trees of inconsiderable size.

As we advanced, the appearance became more imposing, from the circumstance of the granite, or rather the last formation, yielding to the trap, which displayed itself in long parallel ranges of natural precipices, that not unfrequently extended to the horizon.

In two places the southern shore approaches within a mile of the northern, and the detroits thus formed have never been known to freeze.

More than one island had a columnar or basaltic form on the precipitous or south-west side. The water, unlike the turbid yellow we had left, was now of transparent blue, and so cold that ice often formed during the night.

I had now got to lat. 62 deg. 51 min. 40 sec. N., and long. 109 deg. 25 min. W., and could perceive a long blue point stretching to the S. E. which my Indian said we must round, or make a portage to get to the eastern extremity of Great Slave Lake. 'There,' continued he, 'you will find a river which [I know not what the Great Chief may do but] we who are born here cannot ascend.' Upon further inquiry I found he was right, and that some time would be saved by taking a more indirect course, which could only be effected by following the uncertain trending of the stream that he called 'Hoar Frost River.'—On our rounding a point, this presented itself in a cataract of 70 feet descent, and discouraging as this was, and still more so the range of mountains through which it forced its passage, we commenced the operation of transporting the canoe and baggage over hill and valley, full 1700 feet, the greatest difficulty consisting in conveying the canoe through the fallen and entangled wood. The numerous rapids in the river annoyed and delayed us; but the next day we passed the last woods, and entered a large lake in the barren grounds. The lat. of its southern extremity is 63 deg. 24 min. 33 sec. N., long. 108 deg. 11 min. W., or a little to the northward of the Chesadawd Lake of Hearne, which, however, is not known by the natives.

In making a succession of portages from lake to lake, I crossed the same traveller's line of route, and fell on a lake of such magnitude as to be bounded on the E. by E. by the horizon. In a N. E. direction it led us to a river, which we went up, and again launched the canoe on another extensive sheet of water. We were bewildered several times among

the islands and deep bays, still I kept going to the N. E. in which direction I was the more assured the river must be, from the general flatness of the surrounding land, and particularly from the north west dip of a few sand hills that were occasionally seen to the northward.

After being 3 days on the same lake, I encamped on some sand-nilla at the bottom of the bay, and despatched the men in two parties to look for the Thlew-ee-cho-dezeth, the source of which I accidentally discovered while occupied in taking some angles from the summit of a hill.

On the third day the people returned, having fallen on the river at some distance from us. The canoe was immediately carried to its stream, which is narrow in some parts, and connected with a chain of small lakes by detours and rapids. I could not forget giving my poor voyageurs a glass of grog on this occasion, after which grateful ceremony we pursued the meanderings of the current, sometimes with ice on each bank, till the 1st of September, when my little canoe was so shattered, the nights were so cold, the country totally destitute of wood, and the men fairly exhausted, that I could not with any degree of prudence incur further risk this season.

The place whence I returned is in latitude 62 deg. 41 min. N., and longitude 108 13 min. W., about 115 miles E. of Fort Enterprise, and only 109 miles from the nearest part of Bathurst Inlet.

We had been fourteen days without wood, and on the 5th of September got to the first dwarf pines, about two feet high, and on the 7th concluded the journey, by arriving at the east end of the Great Slave Lake, where I had previously directed Mr. McLeod to commence the building of our establishment.

The two boats under Mr. King got to us exactly a week after, and it is satisfactory to state, that most of the stores, &c. were undamaged.

Our winter house I have called "Fort Reliance," from a feeling of dependence on that Providence which will support us amidst every trial to which we may be exposed. It is situated on a sandy point in a deep bay, which receives two small rapid streams from the northward, and is surrounded by mountains and red micaceous granite and gneiss.

"Fort Reliance is in lat. 62 deg. 48 min. 15 sec. N., and long. 109 deg. 10 min. W. the variation of the needle being 25 deg. 41 min. E. and considering this and the entrance of the Mackenzie River as the two extremes of the Great Slave Lake it will be found to equal Lake Michigan in length and may therefore be considered as the second largest lake in America.

"I have a very compact observatory built where the needle is performing its diurnal functions with more or less regularity, according to the appearance of the aurora, or other atmospheric phenomena. The dip, magnetic force, &c. have also been ascertained; nor am I conscious of having omitted anything that the friends and projectors of the scientific part of this expedition may have expected from me."

[From the Daily Advertiser.]

TWO DAYS LATER FROM EUROPE.—By the ship Jubilee, we have received files of papers to the day of sailing, the 25th June, inclusive, which were politely furnished us by Capt. Luce, to whom we are indebted; as also to Capt. Pennoyer, of the steam packet William Gibbons, for his kindness in towing up our news-boat, thereby putting us in possession of this news some hours earlier than we otherwise could have obtained it.

A treaty of commerce has been concluded between Hanover and Brunswick, to which Oldenburg, Mecklenburg, and the Hanse Towns are invited to accede. This alliance would form a sort of counterpoise to the Prussian system of Customs.

In Parliament, June 23, Mr. Stiel inquired whether government had taken any precaution to avert the consequences of that famine with which Ireland was threatened. Mr. Littleton replied that inquiry had been instituted, and he had the gratification of stating that the distress was by no means so general as it appeared to be.

The accounts from Calcutta have been anticipated, and the same may be said of those from Sydney, to the 8th of February; they, however, state that the quantity of wool ready for shipment to England was then very great. Indeed there was enough for all the shipping lying out there, provided they had sufficient dead weight to carry. Thus every arrival brings some indication of the value of these colonies, and points out unerringly the advantage of cultivating a future home, or rather international trade with colonies whose very distance to a maritime Power adds more to their useful importance,

and will, perhaps, add more to the national wealth and power than all the steam, and railroad schemes in projection.

We have received a file of the Tasmanian, which gives an interesting account of the most important discoveries in the South Pacific Ocean, by Captain Briscoe, of the brig Tula, accompanied by the Live-ly cutter. It is supposed that the land discovered forms part of a great Continent, extending from about long. 47 31 E., to long. 69 29 W., or from the Longitude of Madagascar round the whole of the South Pacific Ocean, as far as the longitude of Cape Horn. Captain Briscoe is said to have clearly discerned the black peaks of mountains above the snow, but was prevented by the state of the weather, and the ice, from approaching nearer than about 30 miles. The stormy petrel was the only bird seen. Captain Briscoe named the land Enderby's Land, in long 47 31 E lat 51 30 S. An extent of about 300 miles, was seen. The range of mountains, was E S E. Captain Briscoe subsequently discovered land to the S E, in long 49 29 lat 67 15, which is found to be an island near the headland of what was supposed to be the Southern Continent. On the island, about four miles from the shore, was a high peak, and some smaller ones. About one-third of its height was covered with a thin scattering of snow, and two-thirds were composed of snow and ice.—This island Captain Briscoe named Adelaide Island, in honor of her Majesty. Mountains were seen to the South, at a great distance inland, supposed about 90 miles. Captain Briscoe landed in a spacious bay on the mainland; and took possession in the name of his Majesty King William IV. The appearance of the island was one of utter desolation, there being no vestige either of animal or vegetable life.—[London Morning Herald.]

The wool trade in Germany has lately been carried to a very extraordinary pitch. At Stettin, there were brought to market: 18 000 quintals in one day.—The prices are higher, attributed to the new German system of customs.

In the night of the 18th inst. a barn in the small town of Ilutwyl, in Switzerland, was struck with lightning, and the flames spread so rapidly that in the space of two hours, twenty-eight houses, two hotels, the town-house, the church, and the parsonage, with other buildings, making in all no fewer than forty, were entirely destroyed, depriving 370 persons of their homes and furniture. Happily no lives were lost. The bells of the church were melted.

FRANCE.—The ministerial majority in the Chambers will be overwhelming, caused by the rapid march of the government to absolutism, and the immense power it is wielding.

It was reported in Paris, that the Duc de Bassano (Maret) would be appointed Gov. Gen. of Algiers.—M. Lafitte had been elected Deputy for two places, Bourbon-Vandee and Rouen.

The municipal authorities of Calais have determined to light that town with gas.

At Bordeaux, on Saturday, the thermometer rose to nearly 30 deg. above zero of Reaumur, or 99 1/2 of Fahrenheit.

Liberalism was on the increase at Madrid, and all was quiet at Lisbon.

In Spain two Royal orders have appeared, one dissolving a body called the Diputacion de los Reinos, which was a nominal permanent Parliament of the Representatives of the several provinces, but whose office is now to merge in that of the approaching Cortes; and the other containing some regulations for the Church, with regard to the appointment of Vicars, which proves, if it does nothing else, that a watchful eye is to be maintained on that overgrown establishment.

Letters from Odessa express fears that the next harvest will not be abundant.

There have been great rejoicings at Constantinople, on the occasion of the marriage of the princess Saliba.

A Bad Speculation.—The Conservative capitalists who lent their money to Don Miguel, are likely to lose every farthing of it. They made the loans after receiving due warning from the Queen's government that they would never be paid, and as the whole of the money has been spent in carrying on the war against her, they can hardly expect that she will pay for the cannon, powder, and bullets, with which her soldiers have been despatched. The loans are therefore, be a total loss.

The Duke of Richmond is engaged in a suit of importance in the French Courts. It appears that a number of the French connexions of his family claim that the estate of Aubigny should be divided amongst them, in conformity with the French law

of 1792, which abolished the rights of primogeniture. On the other hand, it is contended for the Duke, that his title was expressly recognized in the treaties of 1814 and 1815; and that this estate is therefore exempt from the laws which govern the descent of real property generally in France. The judgment of the Court will be given in a few days.

During 1833, the linen cloths exported from Belgium amounted in value to 15,446,660fr., of which 14,505,037fr. were sent to France. The exportation of flax and hemp amounted to 518,162 kilogrammes, of which 438,142 kilogrammes went to England.

John Fuller.—This eccentric gentleman died at his house, Rose-Hill, in the county of Sussex, which county he represented during several successive Parliaments, for a period of more than twenty years, and was made celebrated by a well known scene in the House of Commons, when he called the Speaker "a little insignificant fellow in a wig," for which he was committed to the custody of the Sergeant-at-Arms. He was distinguished throughout life by much eccentricity, mingled with a kind heart, that displayed itself in actions of princely munificence.

Mr. Fuller died extremely rich. The bulk of his fortune, consisting of estates in Sussex and in the island of Jamaica, are left to Augustus Elliot Fuller, Esq., brother to Capt. Fuller, R. N. and a nephew of the deceased, as also of Lord Heathfield. The estates in London are left to Sir Peregrine Acland, another nephew; besides which, there are numerous legacies.

The following anecdote of Mr. Fuller, which may be relied on, is not generally known:—During Mr. Pitt's administration, a messenger arrived at Rose Hill with the offer of a peerage, on the condition that Mr. Fuller should vote in a particular manner on some question of the day. Mr. Fuller, who at the moment had a large party of friends assembled at his dinner-table, directed the messenger to be ushered into the dining-room to receive his answer. In his presence, and that of his guests, Mr. Fuller threw the letter into the fire, telling the messenger, at the same time, to acquaint the Minister with the manner in which his offer had been received, and adding, "I was born Jack Fuller, and Jack Fuller I will die."

Mr. Fuller stood successfully a severely contested election with Colonel Serpisson, which lasted sixteen days, and cost the former 20,000l., in addition to a subscription purse of 30,000l., made by the county. The expenses incurred by Mr. Serpisson were, we believe, equally heavy.

Medical Responsibility in France.—The Visigoths had a law, that if a physician were called in to a case, and took charge of it, he was bound to effect a cure. If the patient died, the physician was immediately delivered up to the friends of the deceased, that they might do what they liked with him. Some of the French journalists complain piteously that this law is affecting the profession in France at the present day are not less severe. A case lately occurred at Evreux, in which a M. Thouriet Noroy, in consequence of alleged malpractice, by accidentally injuring the brachial artery, so as to render amputation necessary, was mulcted in heavy damages; and having appealed to a higher tribunal, had 400fr. more laid on him, by way of interest on his former fine.—[Medical Gazette.]

Shower of Sulphur.—By a letter from Rodelheim, near Frankfort, of the 3d May, we hear of the following:—It rained brimstone. During a heavy fall of water, such a quantity of sulphur fell in combination with it, that as the water flowed down the streets the surface was covered with it, and quantities of sulphur were gathered from the pavement.—[St. Petersburg paper.]

Grecian Antiquities.—The Munich Gazette says—"There has been discovered on the ground where the battle of Cheronæa was fought the colossal lion which the Thebans erected on the spot, in memory of their fellow citizens who died in defence of their country. This monument will, it is said, be restored. Several other relics of antiquity have been found at Zea Knydos and Denos, and deposited in the Museum at Greece. Among the objects found at Zea is a bust with this inscription—'Epithalamium of Sophocles the Heraclian.'"

Steam.—At the rate at which the splendid new steamboat Dundee performed its first voyage from Dundee to London and back again, the distance being nine hundred miles, it would be possible to cross the Atlantic and reach New York in between nine and 10 days. The Dundee registers 1200 tons, and her engines are of 300 horse power. We believe that she is the largest and finest steam ship ever built.

A few days ago the workmen engaged in the alterations in Hinchbrook House, uncovered two stone coffins, containing human bones; the skeleton in one of them was quite perfect from the head to the hips, but in the other the bones were displaced and scattered about the coffin, having probably been opened nearly a century ago, during the progress of some repairs, when the lower part of the other skeleton was most likely destroyed or taken away. There were no figures or inscription on the coffins, but there can be little doubt that the remains are those of two of the prioresses attached to the Nunnery previously to the dissolution of Religious Houses in 1536, and the spot in which they were found, it is supposed, then formed part of the cloisters. The coffins are cut out of solid stones, one having a circular, and the other an elliptical place for the head, and running taper from the shoulders to the feet, the width at the head being 2 feet 4 inches, and only 1 foot at the other end; and they must have been interred, on the most moderate calculation, nearly 500 years, and probably some centuries longer. After a sketch of the coffins and skeleton (which is that of a very small figure) had been taken, they were again carefully re-deposited in their ancient resting place. —[Cambridge Chronicle.]

Fashionable Bankruptcy.—MEETING OF CREDITORS.—A meeting of the creditors of Sir W. Anstruther, Bart., took place on Thursday last; and a spacious meeting it was! It will be recollected that Captain Anstruther, formerly of the Guards, became so reduced by his fashionable and expensive follies, that he for some years subsisted by playing at the Margate and other provincial theatres, under the name of Beresford, on £1 per week. The accidental death of his nephew, a boy at Eton, suddenly elevated him to the Baronetcy, with a fortune of £14,000 per annum, and sundry personals. This unexpected freak of fortune occurred about three years since; and, will it be believed, that in six-and-thirty months the Baronet has contrived to dissipate nearly his whole rental, and also enthrall himself with £60,000 of bill and bond debts, besides the simple contract debts. Out of this wreck, all that is now left for Sir W. Anstruther's creditors is £2400 per annum scarcely enough to pay the interest on the bills; and out of this he wishes his creditors to allow him £1000 per annum. His personal effects at Westray House, Scotland, may, it is said, produce about ten or twelve thousand pounds more; and this is all the creditors can hope for.—[Eng. paper.]

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none but the best establishment excepting those raised expressly for export, are used; and those kinds imported cannot be raised in perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Manget Wurzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,

347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:

NEW YORK FARMER and American Gardener's Magazine, MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without aplice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jarvis, Eng. M. & F. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New York, January 20, 1833.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads No. 264 Elizabeth street, near Bleeker street, New-York.

RAILROAD COMPANIES would do well to examine Car: a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, FLANGE TIRES turned complete.

ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS E. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Noth's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and at fair rates. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and a specially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

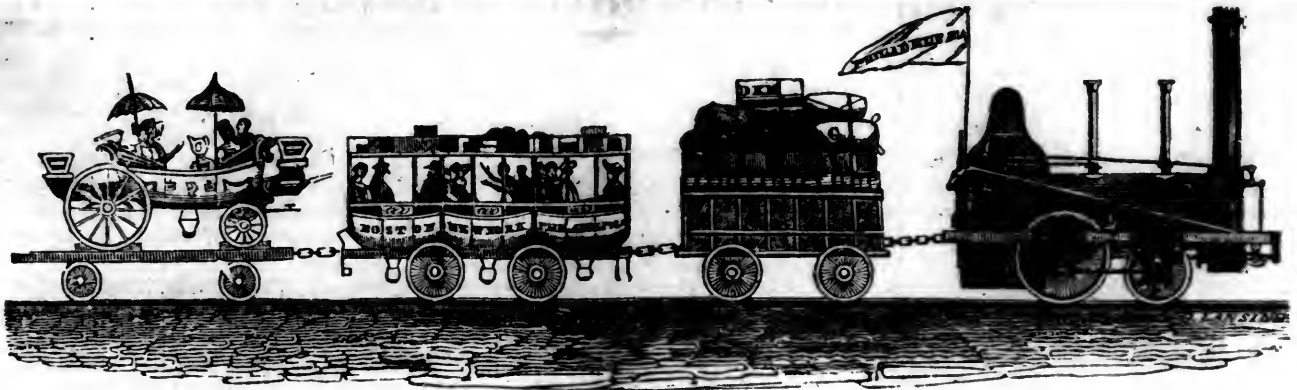
By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

	Flat Bars in length of 14 to 15 feet counter sunk
Ninety-five tons of 1 inch by 1 inch, 1 1/2 inch, 2 inch, 2 1/2 inch, 3 inch, 3 1/2 inch, 4 inch, 4 1/2 inch, 5 inch, 5 1/2 inch, 6 inch, 6 1/2 inch, 7 inch, 7 1/2 inch, 8 inch, 8 1/2 inch, 9 inch, 9 1/2 inch, 10 inch, 10 1/2 inch, 11 inch, 11 1/2 inch, 12 inch, 12 1/2 inch, 13 inch, 13 1/2 inch, 14 inch, 14 1/2 inch, 15 inch, 15 1/2 inch, 16 inch, 16 1/2 inch, 17 inch, 17 1/2 inch, 18 inch, 18 1/2 inch, 19 inch, 19 1/2 inch, 20 inch, 20 1/2 inch, 21 inch, 21 1/2 inch, 22 inch, 22 1/2 inch, 23 inch, 23 1/2 inch, 24 inch, 24 1/2 inch, 25 inch, 25 1/2 inch, 26 inch, 26 1/2 inch, 27 inch, 27 1/2 inch, 28 inch, 28 1/2 inch, 29 inch, 29 1/2 inch, 30 inch, 30 1/2 inch, 31 inch, 31 1/2 inch, 32 inch, 32 1/2 inch, 33 inch, 33 1/2 inch, 34 inch, 34 1/2 inch, 35 inch, 35 1/2 inch, 36 inch, 36 1/2 inch, 37 inch, 37 1/2 inch, 38 inch, 38 1/2 inch, 39 inch, 39 1/2 inch, 40 inch, 40 1/2 inch, 41 inch, 41 1/2 inch, 42 inch, 42 1/2 inch, 43 inch, 43 1/2 inch, 44 inch, 44 1/2 inch, 45 inch, 45 1/2 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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, AUGUST 9, 1834.

[VOLUME III.—No. 31.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 9, 1834.

IMPROVED WHEELS FOR RAILROAD CARS.—

We have in our possession, which may be seen at any time, a piece of the rim of a Railroad Car Wheel, made upon a plan which we think will prevent accidents which sometimes occur from the failure or breaking of a wheel, when going at high speed. The wheel is entirely of cast iron, except a hoop of half inch wrought iron wire, enclosed or cast in the rim of the wheel, and which, even in case of the fracture of the cast iron, prevents the wheel from falling apart until another can be supplied. It serves also to produce an equal chill, or degree of hardness, in the cast iron, which, we are told, has heretofore been difficult to attain, in consequence of the increased thickness, or body of material, at the curve forming the flange—the point where this rod, or hoop, is enclosed—and thereby prevents the more rapid wear of that, than the other part of the rim. The introduction of this wrought iron must, we think, produce beneficial results, unless it should, as it may in some instances, produce imperfection in the cast iron; to detect which, should it exist, the wheel must in all cases be subjected to a severe test.

The part left at this office is of a wheel broken with a sledge, to test its utility. The cast iron was broken in many places, yet the wheel kept its shape, and could only be separated by cutting the rod with a cold chisel—which had, in the operation of casting, become annealed.

We find, on reference to the last annual report of the President of the Baltimore and

Ohio Railroad Co. that they have been introduced on that road, and are thus spoken of by him: "Besides the improvements in the locomotive engine, others have been made in the machinery used by the company, and particularly in the construction of the wheels of the cars—by which an iron rod is introduced into the wheel when cast, which not only adds to the hardness of the surface, by perfecting the chill, but increases, in a great degree, the safety of the wheel itself."

With such testimony in its favor, we may, with great confidence, recommend it to railroad companies in want of wheels, either for passenger or freight cars, as we do, and would refer them to Mr. Dean Walker, care of Messrs. J. W. & E. Patterson, Baltimore.

Mr. Walker, we are informed, is the patentee and manufacturer, and offers to supply wheels of this description on as reasonable terms as they can be supplied without the rod, and also to have them proved before they are paid for.

PORTSMOUTH AND ROANOKE RAILROAD, Va.

—This road is now complete and in use 17 miles, to Suffolk. Passengers and freight pass daily on it. Horse power is used at present, yet so level is the route, that the distance is performed in about two hours and a quarter. The following is from a Norfolk paper of July 30th.

We invite attention to the notice in our advertising columns, respecting the running of the Cars on the Railroad between Portsmouth and Suffolk. The train is now in regular operation, and those who desire it may be gratified with a ride on the Railroad, without the inconvenience of a preliminary walk of a mile and a half to the depot, as carriages are in waiting at the ferry wharf in Portsmouth, every morning, at the proper hour, for the accommodation of passengers from Norfolk. The cars for the present are drawn by horses; but passengers are carried at a speed (in comparison with the swiftest travelling on the stage road) beyond all example. The distance is run in from two to two and a half hours, including stoppages.

NEW ROUTE TO MOBILE AND NEW-ORLEANS.

—We have noticed that efforts were making to open a new and less difficult route for tra-

vellers between the Atlantic cities and Mobile. New-Orleans, and the far south, but were not until very recently aware of the precise route selected, nor of the means by which it is designed to be effected. We have now before us, however, a map of the route, and understand that it is the intention of some enterprising gentlemen to establish a line of steamboats from Savannah, Geo., to the head of navigation on Black Creek, a tributary to the river St. Johns, and another line from the head of navigation on the Santafty or Santa Fe, (a tributary to the Suwanney or Little St. Johns, emptying into the Gulf of Mexico,) and Mobile, to be connected by a line of good stages between those two points, a distance of only 41 miles, and on an uncommonly favorable location for a road—indeed, the same route designated by the Government engineers for a canal.

The following extract will give a better view of the route. We shall refer to the subject again.

"Black Creek has a clear navigation of 17 miles, and probably higher up the river, and if so, the route of the Road will be shortened.

"The present circuitous road, from Ganey's to Summerlin's, is reputed to be from 50 to 56 miles. It is, besides, badly located, because, at the East, from Ganey's to Monroe's (15 miles,) passes through a region hilly, broken, scrubby, and sandy; whilst at the West, from Newmanville to Summerlin's, it passes through a region, 7 miles, of a hilly, broken, and rocky surface, unfavorable to the speed of stage coaches.

"Santafty river is wider than Black creek, and has a navigable stream of 28 miles, by its windings from the Suwanney to the Natural Bridge, except in dry weather, when the waters are unusually low, and then to within two miles, where there is a slight obstruction of loose stones, which may be removed at little expense; and below this place, there is also some drift timber to be removed."

At the instance of the Mississippi and Atlantic Railroad Company, the Secretary of War has sent Col. Long, of the U. S. Civil Engineers, to examine into and report upon the practicability of a Rail road from Memphis, on the Mississippi, to Charleston, S. C. A part of the country which has been already examined, is said to be quite favorable for the construction of the work in question.

Swedish Roads.—The roads in Sweden are uncommonly beautiful and excellent. The surveyors never allow a stone to be used larger than a walnut. Their roads appear flat—but have a slight convexity. —[Knickerbocker.]

The following communication refers to a subject of much importance to this community—and it will probably attract the attention of those who are particularly engaged in the construction of railroads and railroad carriages. We hope soon to have a further account of these cars.

Bolivar, Ten., July 2, 1834.

To the Editor of the Railroad Journal.

SIR,—I am much obliged to you for the promptness with which you sent me your Journal for the last eleven or twelve months. I am much pleased with it; and, whenever an opportunity occurs, shall endeavor to induce others to add their names to your subscription list. I have glanced over the contents of these numbers with a view of finding something on the subject of railroad cars; but all attention seems to be absorbed in the improvement of locomotive engines, and the construction of roads, railing, &c., leaving out of view the car, the great connecting link in the chain of improvements. I will, therefore, introduce to the notice of the public, through the medium of your valuable journal, an improved car, possessing the following properties, viz.: 1st, Of carrying double the weight drawn by a horse or engine upon the ordinary car; 2d, of turning a curve with mathematical accuracy; 3d, of running more steadily and accurately upon a straight line than the common car; 4th, of possessing greater safety for passengers; and 5th, of being less liable to run off the rails. By the first of these improvements, a locomotive engine of three tons weight can transport a load which now requires a six-ton engine. By the second, a train of cars of any required number can pass a curve of large or small radius down to one hundred feet, with slight or no difference from the facility of following a straight line. The conical surface is not resorted to for this purpose. By the third, that see-saving motion caused by "the self-adjusting conical wheel," in its constant effort to keep the axle in a line at right angles with the railing, or rather its tendency to deviate from that line, will be obviated.

I mention these results in order not to be misunderstood. I wish to state the effect and object, without aiming at any description of this car.

In making these statements I am fully aware how far I am falling in the way of incredulity, before the public have had an opportunity of witnessing the experiments, or of knowing the principles upon which they are founded; but I make them under a conviction based upon geometrical demonstration and mathematical estimate, combined with actual experiment, and therefore speak with a confidence derived from sure sources.

Any company wishing for this increase in the power of locomotion, and accuracy in the movement of the cars upon their road, by giving me official notice thereof, shall soon be satisfied that what I have said is no fiction; or, if I fail, the cost shall be all mine.

It may be proper to add that this car can be made as strong, as durable, as commodious, for freight or passengers, and, as I think, as cheap, as the ordinary car. I am not positive what the comparative cost of the two may be, but believe they will vary but little.

Your opinion, as well as that of experienced engineers, upon the utility of such an improvement, is respectfully solicited. Yours, &c.,

S. BAILEY.

The Rhine.—The scenery of Switzerland may now be reached in a few days, at a very moderate expense, and by a most beautiful route. The steam communication from London to Strasbourg is complete, and another line of steamboats forward the traveler to Basle. In the course of the voyage from London to Strasbourg the tourist visits the city of Rotterdam, celebrated for its pictures and antiquities; Coblenz and Mayence, two of the strongest fortresses in Europe; and passes through the scenery of the Rhingau, and by the mouth of the romantic

Mayne and the beautiful Neckar. Above Strasbourg the banks of the river are not less charming all the way to Basle.

On the Phenomena of Flame. By J. O. N. RUTTER, Esq. [From the London Mechanics' Magazine.]

"As in mathematics, so in natural philosophy, the investigation of difficult things by the method of analysis ought ever to precede the method of composition. This analysis consists in making experiments and observations, and in drawing general conclusions from them by induction, and admitting of no objections against the conclusions but such as are taken from experiments, or certain other truths. For hypotheses are not to be regarded in experimental philosophy."—[Sir Isaac Newton.]

The design of the following paper is to bring together a variety of experiments which may be considered as illustrative of the phenomena of flame. By applying to them the canon of philosophical research so beautifully described by Newton, we may, perhaps, arrive at conclusions at once instructive and satisfactory. It is very agreeable, and sometimes very convenient, to take shelter beneath the influence of great names. This love of ease, when the investigation of an intricate subject is concerned, tends very often to perpetuate error. Whenever acknowledged difficulties present themselves, they ought to be fairly met, rigidly examined—and, if possible, immediately removed. A course the very opposite to this is frequently pursued by very excellent and very learned men; among whom are some of the most popular scientific writers of the present day. With book-makers it is a common practice to transfer the opinions, and, in many cases, the very words of others, to their own columns, without examination; and, not unfrequently, without acknowledgment.

As the papers of Sym and Davies on flame, referred to by Dr. Thompson, in his Treatise on "Heat and Electricity," 8vo. London, 1830, p. 310, are not accessible to me, I have no means of ascertaining whether the following experiments have or have not been already described. If I have been anticipated in the whole of these investigations,* I can see no reason for rejecting or undervaluing, on that account, the information they supply.

1. If a piece of wire-gauze be brought down gradually upon the flame of a taper, or candle, the section of the flame, when viewed from above through the wire-gauze, will appear as a ring of light surrounding the wick, but not in contact with it.

2. A jet of coal gas will present a similar appearance. The orifice of the jet may be very distinctly seen in the interior of the flame.

3. If the wire-gauze be brought down in the way already mentioned upon a flame of coal gas, issuing from an Argand burner, the section of the flame will exhibit two distinct rings of light, and the thickness of the burner will determine the distance between the rings.

4. If an Argand lamp, with a wick supplied with oil, be employed, the thickness of the wick will determine the distance between the rings.

5. When the air is excluded from the interior of an Argand burner, the flame, whether it be that arising from gas or oil, which was previously cylindrical, assumes a conical form. Let the wire-gauze be brought

down upon this flame, and there will be, as in the case of the taper, or the jet, (1, 2,) one ring of light corresponding with the exterior surface of the wick, or burner, (3, 4.)

6. The flames of alcohol, and of hydrogen gas, present in every respect the same phenomena as those described (1, 2, 3, 4, 5,) excepting, of course, in the quality of the light.

7. Phosphorus, if inflamed in contact with the atmosphere, and the wire-gauze brought down upon it, exhibits a ring of light. The experiment requires a little caution and dexterity. The opacity of the interior of the flame may, however, be very distinctly recognized.

8. If we take about three fourths of an inch of wax taper, insert it in a piece of glass tube the same length, employing as a foot to the taper so inclosed a disc of cork, sufficiently large to keep it steady; then, in a saucer or evaporating dish, coil some filaments of lamp cotton, so as to form a ring about two inches in diameter, and three fourths of an inch in height; saturate the ring of cotton with alcohol, light the taper, place it in the centre of the ring and inflame the alcohol, the taper will be extinguished. The heat in the interior of the flame of the alcohol will be sufficiently intense to vaporise the wax, which vapor will be decomposed and inflamed at the summit of the alcoholic flame, imparting to it a characteristic brilliancy; but the wick of the taper will not be inflamed if the process be properly conducted. To insure success in this experiment, we must guard against any agitation in the surrounding atmosphere, by moving about the room, opening or shutting doors, or breathing too freely in the immediate vicinity of the alcoholic flame. After observing all these precautions, we shall probably find that the flame will be in a continued flutter, occasioned by a current of rarefied air, and the taper will be alternately extinguished and relighted, just in proportion as the unsteadiness of the flame prevails or subsides.

9. Instead of a taper (8), if we place a piece of phosphorus in a small metallic spoon,* inflame it and pass it into the interior of the alcoholic flame, the phosphorus will be extinguished; suddenly withdraw it, it will inflame; pass it again into the interior, and it will again be extinguished.

The phosphorus, as already remarked of the taper, may be vaporised; and the vapor will become luminous as it enters into combination with oxygen at the summit of the alcoholic flame. Should it happen that the phosphorus has not been properly dried, small particles of it will be thrown out on every side: these will inflame the instant they come in contact with the external atmosphere.

10. We may vary this experiment by placing in the interior of the alcoholic flame (9) a small metallic cup,† containing alcohol, ether, or spirit of turpentine. These materials may be vaporised, but they will not flame in the cup as long as the alcoholic flame preserves its conical form.

11. If phosphorus (9) be placed in the centre of the flame of an Argand burner, (3, 4,) to which atmospheric air has access, it will inflame. If the further ingress of air be

* I observe that Mr. Watson, Mechanics' Magazine, No. 551, page 362, has anticipated one of my experiments. I am hence induced to hold them all with a loose hand.

* A spoon for this purpose may be conveniently formed by flattening one end of a piece of copper wire.

† For cheapness and convenience, say part of a child's thimble.

prevented, the flame will become conical (5), and the phosphorus will be extinguished.

12. The result will be still more instructive, if we repeat the last experiment in an Argand burner supplied with coal gas, the ingress of air to its interior being prevented. Let the phosphorus be ignited and passed into the interior of the gas flame, the phosphorus will be extinguished. Turn off the gas, the phosphorus will be inflamed; turn on the gas, that will be inflamed, whilst the phosphorus will be again extinguished (10). If we employ alcohol, ether, or spirit of turpentine, in an Argand burner, supplied with oil, or coal gas, the results will be more uniform and satisfactory than with a large flame of alcohol, for the reason already stated (8).

13. A lighted taper placed in the interior of the flame of an Argand burner will continue to burn so long as air has access to it: exclude the air (5), and the taper will be extinguished. We may vary this experiment by employing a jet of coal gas instead of the taper. The result will be the same in both cases.

14. If a coil of platinum wire be held above the flame of alcohol, the wire will become incandescent. If we pass the wire into the interior of the flame, its incandescence will cease. In this experiment the effect will be more intelligible if we employ a spirit lamp with an Argand wick. The incandescence of the wire may be determined or prevented, by the admission or exclusion of air (11).

15. Instead of an Argand wick we may employ a common fibrous wick of cotton, say one inch in diameter, and it may be supplied with tallow, oil, or alcohol. The phenomena will be the same as those already described (5, 8, 9, 10.)

16. If a stream of oxygen gas be projected from below into the interior of a conical flame (5, 6, 15,) we shall observe the unusual phenomena of one flame within another.

17. A stream of oxygen gas, or of atmospheric air, projected upon any of the materials before mentioned, viz. phosphorus, ether, alcohol, spirit of turpentine, a jet of coal gas, or a taper, will produce an inflammation; but the inflammation will continue in the respective materials only so long as the supply of gas, or of air, is maintained.

18. If any of the materials just enumerated be placed in actual contact with the flames of tallow, oil, alcohol, or gas, whether interiorly or exteriorly, inflammation will ensue; but the combustion of the respective materials will be less perfect and less energetic when enveloped in the flame of some other body than when they are inflamed, under ordinary circumstances, in contact with atmospheric air.

19. The flame of an explosive mixture of coal and oxygen gases is of a pale blue color, and the greater the proportions of oxygen, within the limits of saturation,* the smaller is the flame, and the fainter is its hue, as compared with an equal volume of coal-gas when burning in the usual way. Similar phenomena present themselves in an explosive mixture of coal gas and of atmospheric air. In the latter case, the color of the flame is somewhat deeper.

* I employ this term for want of a better. By the limits of saturation, I mean those proportions of oxygen with coal gas most favorable to inflammation or explosion.

20. It is almost unnecessary to remark, that the flame of an explosive mixture of oxygen and hydrogen gases is of so pale a color as to be scarcely perceptible in daylight. This is not its most remarkable quality.

21. If a stream of hydrogen gas be ignited at the point of a jet, by bringing down upon it a piece of wire-gauze, (2), we may ascertain that the flame is hollow. If a stream of oxygen gas be projected from a similar jet, in the same direction, and in immediate contact with the hydrogen, we shall find that, notwithstanding the additional supply of gas, (the proper proportions being half a volume of oxygen to one volume of hydrogen,) the flame will be immediately very sensibly diminished in size, and it will no longer appear hollow. Further: in the flame from hydrogen alone, the greatest intensity of heat will be found near to its extremity, at the apex of the cone. It is not so with the oxy-hydrogen flame—the point of greatest intensity in that being near the base of the cone, where the greatest quantities of the two gases first enter into chemical union.

22. The analysis of coal gas teaches us that when it is of good quality, (sp. gr. 475 h. 550,) each volume will require for its complete combustion nearly two volumes of oxygen: one volume of oxygen, combined with an equal volume of carbon, producing carbonic acid; the other volume of oxygen, by its union with two volumes of hydrogen (condensed into one volume as it exists in carburetted hydrogen,) forming water.

23. The analysis of coal gas also enables us to understand the habits of explosive mixtures, and especially those of carburetted hydrogen (fire damp) and atmospheric air. Thus, when the relative proportions of inflammable gas and of air are as one volume of the former to five volumes of the latter, the mixture is not explosive; but if the quantity of air be gradually increased from five to ten, or even twelve volumes, the mixture detonates with increasing violence at every additional volume of air, up to the point of saturation.*

24. That mixtures of explosive gases, whose relative proportions are adapted to form most readily new compounds, will detonate with the greatest violence; and *vice versa*.

25. Explosive mixtures of coal gas, or carburetted hydrogen, and of oxygen, are subject to the same laws as mixtures of the same inflammable gases with atmospheric air. The former explode more uniformly and more promptly than the latter. This is a result we may expect, since in the former instance the particles of inflammable gas and its supporter must be in more inti-

* See preceding note. As a familiar illustration of these phenomena, we may suppose 100 cubic inches of coal gas to be mixed with 500 cubic inches of atmospheric air. The mixture will not be explosive, because it will not contain a sufficiency of oxygen to support its inflammation—500 inches of air containing only about 100 inches of oxygen—and 100 inches of coal gas requiring 200 inches of oxygen for its complete combustion. If, however, 100 inches of coal gas be mixed with a thousand inches of air, the mixture will be explosive, since it will contain the relative proportions of the inflammable gas, and the supporter most favorable to inflammation or explosion. We know that when coal gas, or the fire-damp of mines, is mixed with air in proportions of one volume of the two former to any number of volumes intermediate between 5 and 10 of the latter, the mixture is explosive, but it is only so to a certain extent. When the proportions of air exceed 12 or 12½ volumes of inflammable gas, the mixture is not explosive—an excess of oxygen having, in this respect, the same effect as its deficiency.

mate union than can possibly happen in the latter instance, through the interference of the azotic gas present in atmospheric air.

26. Those mixtures of explosive gases inflame the most readily through narrow tubes, and the interstices of wire gauze, whose relative proportions are best adapted for forming new compounds. We have no difficulty in understanding how it is that explosive mixtures inflame so readily in narrow tubes and in close vessels, if we bear in mind that the elements of combustion are arranged, in such mixtures, under the most favorable circumstances; and hence they require no aid from fresh accessions of oxygen externally applied.

27. If we apply a blow-pipe to the flame of a candle, a lamp, or a jet of coal gas, we shall find a greater intensity of heat will be obtained by projecting a stream of air across the flame near its base, than by projecting a similar stream across the upper portion or apex of the flame. We may obtain satisfactory proofs that these views are correct, if we consult any intelligent artificer who is in the habit of using the blow-pipe.

28. If we pass a piece of wire gauze across the base of a jet of coal gas (in the blue portion of the flame), the gas will continue to burn above the gauze as well as below it, and no free carbon will be deposited on the under side of the gauze; nor will there be any set at liberty from the flame above the gauze. By passing the gauze upwards, and holding it near to the apex of the flame, we shall perceive a different result. Free carbon will be deposited in abundance on the under side of the gauze, the flame above it will be extinguished, and, as the gauze becomes heated, a dense vapor of carbon will pass through, which may be inflamed.

29. This experiment may be varied, by substituting for a jet of coal gas the flame of a wax taper, a common candle, or an oil lamp. Instead of wire gauze, if we pass a piece of writing paper, or card board, into the blue portion of the flame, it will not be tarnished; we may repeat the same process about half way up the flame, and with the same result; but if we ascend towards the apex of the flame, the paper or the card will be blackened by the deposition of free carbon. Finally: if we hold the paper or card above the flame, it will not be blackened, a proof that no free carbon escapes into the atmosphere.*

30. An equal quantity of oxygen will combine with a given quantity of coal gas, or of carburetted hydrogen gas, under circumstances very dissimilar, and producing in one case a very feeble, and in the other a very brilliant light. Thus, two volumes of oxygen being mixed with one volume of coal gas, and the mixture inflamed as it issues from a jet, the flame will be small, of a pale blue color, and afford a very feeble light (19). One volume of coal gas, with ten volumes of air, will produce a similar effect, the flame being of a somewhat deeper color (19). When coal gas is inflamed in an atmosphere of oxygen gas, the flame is larger than ordinary, and the light from it exceedingly brilliant; and, as already mentioned, the same quantity of oxygen combines with a given quantity of the inflammable gas, as in

* The process of introducing and withdrawing the paper or card must, of course, occupy only a moment. The flame employed should be so trimmed as to be free from smoke.

the two former instances. The resulting compounds are alike in quantity and in character in each case (22).^{*} The phenomena that accompany the combustion of coal gas, under ordinary circumstances, for the purpose of artificial illumination, are so well known that they can need no particular description.

31. If the flame of an explosive mixture of coal gas and oxygen, or atmospheric air, be treated with wire gauze or card board, as already described (23, 29), it will be found that no free carbon will be liberated at any part of the flame, either within it or above it.

32. If there be projected upon a flame of coal gas a strong current of air, the flame will immediately be diminished in size, and it will exhibit all the properties of the flame of an explosive mixture (19, 31.)

33. In an attentive observation of the combustion of an explosive mixture of coal gas, or carburetted hydrogen and atmospheric air, within a safety lamp, we shall be sure to notice how speedily the flame from the wick will be extinguished. It will not, I suppose, be denied that this is occasioned by the absence of oxygen.

34. It may be ascertained by mere inspection, that the flame of the mixture within the lamp is hollow. Towards the top of the lamp the flame will sometimes assume a more brilliant aspect than at any other part. It more frequently happens, however, that free carbon (smoke) will escape from the top of the lamp.

35. If it be inquired whence arises the luminosity of the flame at the upper part of the lamp, or, in its absence, the free carbon (smoke), already mentioned, I reply, that whilst the explosive mixture burns within the cage, the heat evolved will be sufficient to carry on the evaporation of the oil in the reservoir of the lamp. This vapor occupying, in a partial degree at least, the interior of the flame, will be converted into oil gas; and if there be present in the explosive mixture a large proportion of oxygen, a part of the gas will be decomposed, exhibiting its peculiar brilliancy (45). But should there be only a small proportion of oxygen present, the nascent oil gas will not become luminous, although it may be decomposed, and hence the separation of free carbon (smoke).

36. That the view here taken of the vaporisation of the oil is correct, may be satisfactorily proved, by employing in a similar mixture of explosive gases two safety lamps, one with the wick and the reservoir of oil adapted in the usual way, the other with a temporary wax wick attached to the reservoir, but without any oil therein. The relighting of the wick, on the re-admission of oxygen to the lamp containing oil, is, under these circumstances, perfectly intelligible (16, 17.)

37. An explosive mixture will burn tranquilly within a safety lamp, without raising the wire gauze to a temperature that will communicate inflammation to the surrounding atmosphere of explosive gases, so long as that atmosphere remains undisturbed; but if the lamp be exposed to a current of the explosive gases, the flame within the lamp

will be driven against the wire gauze at the side opposite to that whence the current flows, and then the gas will become sufficiently heated to permit the flame to pass through, or to communicate inflammation to the external atmosphere.

38. Those explosive mixtures, the proportions of whose elements assimilate the nearest to two volumes of hydrogen and one volume of oxygen, yield by combustion the greatest quantity of heat from a given volume of the mixture. Hence it is easy to understand that the relative proportions of a third element, as carbon in carburetted hydrogen, and azote in atmospheric air, determine the specific temperature of the mixtures in which they may be present.

39. The security afforded by the use of a cage of wire gauze in an explosive atmosphere is not entirely due to the radiating properties of the metal. The temperature, at any particular part of a large cylindrical film of flame of an explosive mixture, burning tranquilly within a safety lamp, will be very inferior to that arising from the combustion of the same materials under different circumstances. The vaporisation of the oil (35) will engage a portion of the heat given out by the combination of the gases. But there is another condition that demands especial notice. Whilst a current of the explosive mixture is flowing *inwards* through the interstices of the gauze at the base of the cage—which current, from its temperature and direction, cannot possibly communicate inflammation to the external atmosphere—a similar current of non-explosive materials (aqueous vapor, carbonic acid gas, free carbon, and azotic gas,) must be necessarily flowing *outwards* near the top of the lamp.^{*} When these tranquil currents are disturbed by a sudden rush of the explosive atmosphere, or of comparatively fresh air, then it is that explosion ensues.

40. The phenomena that accompany the tranquil combination of explosive mixtures, at a temperature below that which is sufficient to inflame them, are so numerous and so interesting, especially when viewed in connection with Mr. Faraday's late researches into the action of platina upon gaseous bodies, that they will require a separate notice.

41. Having thus enumerated with a minuteness that it is feared will be considered by some as unnecessary, a variety of phenomena connected with flame, it now remains that we should inquire if the facts eliminated support and illustrate the theory of flame, as announced by Sir H. Davy, and the views which are advanced by other writers, some of whom stand deservedly high in the scientific world.

42. It is stated by Davy, in his Treatise on the Safety Lamp, 8vo., London, 1825, p. 46: That "the flame of combustible bodies, in all cases, must be considered as the combustion of an *explosive mixture* of inflammable gas, or vapor and air: for it cannot be regarded as a mere combustion at the surface of contact of the inflammable matter; and the fact is proved by holding a taper or a piece of burning phosphorus within a large flame made by the combustion of alcohol, the flame of the candle, or of the phosphorus, will appear in the centre of the other

flame, proving that there is oxygen even in its interior part."

Dr. Ure, Dict. Chem., 4th edit., London, 1831, has quoted verbatim the above paragraph, Art. Combustion, p. 357, without acknowledgment. He has also enriched his pages by copious extracts from Davy's work throughout the same article.

Dr. Graham, Chem. Catechism, 2d edit., London, 1829, Art. Combustion, p. 589, also quotes without acknowledgment a part of the paragraph. In a note there is the following piece of information: "The form of flame is conical, because the greatest heat is in the centre of the *inflammable mixture*."

Dr. Thompson says, in his admirable Treatise on Heat and Electricity, 8vo., London, 1830, p. 309: "Flame is the rapid combustion of volatilized matter. The tallow or the wax is melted and drawn up to the top of the wick of a candle. Here it is boiled and converted into vapor, which ascends in the form of a column. This vapor is raised to such a temperature that it combines rapidly with the oxygen of the surrounding atmosphere, and the heat evolved is such as to heat the vapor to whiteness. Flame, then, is merely volatile combustible matter heated white hot. The combustion can only take place in that part of the column of hot vapor that is in contact with the atmosphere, namely, the exterior surface. The flame of the candle, then, is merely a thin film of white hot vapor, enclosing within it a quantity of hot vapor, which, for want of oxygen, is incapable of burning."

Dr. Lardner, Cab. Cyc., Treatise on Heat, p. 358, seems to entertain similar views to those expressed by Dr. Thompson. By the frequent interchange of the terms "gas," and "vapor," the passage in the Cab. Cyc. is, however, rendered somewhat obscure.

43. If we observe with attention the flame of a combustible body with whose habits we are familiar, say, for example, a common tallow candle, it will be found to exhibit the following phenomena. The tallow being liquified by the proximity of a burning body, rises, by capillary attraction, between the filaments of the wick. As it approaches the flame it is converted into vapor, from which state it readily passes into that of gas. The flame not being in actual contact with the wick (1), the vaporisation of the tallow goes on simultaneously at every part of the wick surrounded by the flame. The blue portion of the flame, at its base, as well as the fainter film of blue that surrounds its other parts, denote the chemical union of carburetted hydrogen and oxygen gases (19, 30, 31.) As this union is a continuous process, accompanied by the evolution of heat, a temperature is speedily attained of sufficient intensity to decompose a great proportion of the nascent inflammable gas. By this decomposition successive portions of carbon are separated from hydrogen. The hydrogen combines with oxygen, forming water; the carbon at this elevated temperature becomes luminous, and combining also with oxygen, yields carbonic acid gas (22).

44. It will be seen that I do not agree with Dr. Thompson (42), who maintains that the flame of a candle "is merely a thin film of white hot vapor." We are accustomed to say, that the vapor of certain bodies, as of alcohol, or ether, is inflammable, but I consider the inflammability of these vapors is due entirely to the facility with

^{*} Such frequent reference is made to coal gas, because now that gas light is making rapid progress among the provincial towns of this kingdom, there will be greater facilities than formerly for obtaining it in researches of this kind. I object to the employment of the generic term, carburetted hydrogen, in a sense synonymous with coal gas.

^{*} The comparatively low temperature of the flame of explosive mixtures present in coal mines, is doubtless owing, in a great measure, to the vast quantities of azotic gas contained in those mixtures.

which they are convertible into gases under certain specific conditions, and the influence of a certain temperature.*

45. If the view we have taken be correct (43), it seems that the combustion of a tallow candle involves a somewhat complicated, yet, if carefully analyzed, an exceedingly beautiful process. It is a conical film of luminous matter (1), changing gradually upwards, from blue to white. It contains, in its interior, nascent inflammable gas; but no oxygen (15, 16.) At the very base of this film of flame, at a temperature which may be termed specifically its own, we may perceive indications that a chemical union is going on between carburetted hydrogen and oxygen gases; aqueous vapor and carbonic acid gas being projected from the flame at this part.† The supply of inflammable gas from within being constant and regular, and an equally uninterrupted supply of oxygen being established by the rarefaction of that portion of air in the immediate vicinity of the flame, the heat given out by the sudden union of one portion of inflammable gas with oxygen is sufficient to decompose a large portion of the same material. To the latter part of the process are we indebted for the illuminating properties of the flame. Hence also those important distinctions perceptible in different parts of the same flame (30).

46. The flame of combustible bodies cannot, therefore, "in all cases be regarded as the combustion of an explosive mixture of inflammable gas, or vapor and air," but as the tranquil and progressive combination of inflammable gas with oxygen. The combustion of explosive mixtures differs from that of a common candle or coal gas, (19, 20, 30, 31, 43, 44, 45,) inasmuch, that in one case there is an immediate combination of all the inflammable gas with oxygen; in the other, a part only so combines, whilst the greater portion undergoes decomposition previous to its ultimate combination (29). The results are the same in both cases; but the conditions that produce them essentially differ.

47. What has been said respecting the flame of a candle may be applied, without difficulty, to the flame of those combustible bodies with which we are familiar in the ordinary affairs of life. The flame of a tallow candle, an oil lamp, and a coal fire, present not only similar, but identical phenomena. The flame of coal gas differs from each of the preceding. In the three former there is a vaporisation of the elements of the combustible body,—a spontaneous, or, if I may employ the term, an extemporaneous transition of this vapor to gas; then follows inflammation, decomposition, and re-composition.

* Some have maintained that the bodies we designate gaseous are nothing more than vapors. I here only speak of things as we find them. If gases are vapors, we know them to be more complex and refined, as regards the arrangement of their particles, than vapors, in the popular acceptance of the term. Should it be objected that vapor of certain inflammable bodies detonate, if mixed with oxygen, in the same way as explosive mixtures of gases, I have only to reply that the detonation is the result of the sudden and spontaneous evolution of gas, and its re-union with the oxygen present. These processes may be the work only of 1-100th or 5-100th part of a second.

† To ascertain this fact by experiment, the following simple means may be employed: If a piece of cold glass or polished metal be held near the blue part of the flame, aqueous vapor will be projected upon it. 2. If a drop of a saturated solution of lime (lime-water) be held at the end of a small glass rod or tube near the blue flame, the water will become turbid—carbonic acid gas combining with the lime and separating it from the water. This latter experiment must be the work of a moment, or we may be deceived by simply vaporising the water.

In the latter case, the gas being previously generated, inflammation is the first stage in the process of combustion: the subsequent stages are identical.**

48. That all the vapor arising from a combustible body is not, excepting under particular circumstances, converted into gas, is abundantly evident by the free carbon (smoke) that arises from a candle, a lamp, and a coal fire. Equally evident is it that certain conditions must be observed in effecting the combination of all the elements of a previously prepared gaseous body with oxygen. This we learn by the free carbon (smoke) given off from coal gas, when too much is admitted to the burner.

49. Those bodies which contain a large portion of carbon, as compared with their other elements, require different management from those whose elements of inflammability assimilate in more exact proportions. It will be sufficient to mention, and to place in juxtaposition,

Ether	-	-	Spirit of turpentine.
Sperm oil	-	-	Coal tar.

In ether and in sperm oil, hydrogen and carbon exist in such proportions, that they readily pass through the several stages already described (47), and form with oxygen new compounds.† Spirit of turpentine and coal tar, containing, on the contrary, an excess of carbon, require a different treatment to effect their entire combination with oxygen.

50. It is inexplicable why Davy employed a larger flame of alcohol in his researches in preference to a smaller one, since it is so difficult to conduct with the former a fair and accurate experiment, whilst with the latter the results are uniform and conclusive (8, 12); we have no difficulty in ascertaining that flame is hollow (1, 2, 3, 4, 5, 6, 7;) we have the most conclusive evidence that oxygen exists not in the interior of flame (8, 9, 10, 12, 13, 14, 15, 16, 17); not even in that of explosive mixtures (33). And equally certain is it that the habits of explosive mixtures are very unlike those exhibited by combustible bodies under ordinary circumstances (19, 20, 21, 23, 30, 31.) Further, we may not only satisfy ourselves that the flame of a candle or lamp is conical and hollow, but we may ascertain that it does not consist only of a thin film of luminous matter, and that combustion takes place only at the surface where the inflammable gas comes in contact with oxygen. Thus, the flame from an Argand burner, when air has access to its interior, is not only cylindrical, but hollow, *i. e.* it consists of two concentric cylinders, or films of luminous matter (3, 4,) whilst the flame from the same burner, when air is excluded from its interior, consists only of one cylinder, or an external film (5). Difficult as it may be to understand how so

* The quality of the light from different bodies will depend—all other circumstances being the same—on the qualities of the combustible body. The most intensely white light evidently contains a greater portion of olefiant gas than a dull yellow light. It is not, however, unworthy of remark, that very much depends on the management of the materials. A tallow candle, with a small compact wick, will yield a more brilliant light—I mean as to its quality—than a similar candle with a large fibrous wick. What is usually termed the perfect combustion of the materials is, in fact, only another term for the perfect combination of all the inflammable elements with oxygen.

† It may not be improper to remark, that when aqueous vapor exists in an inflammable body, as in alcohol and ether, there must of necessity be oxygen present. When, however, the vapor of this body is converted into gas (44), the oxygen does not act the part of a supporter; but by combining with half its volume of oxygen, yields carbonic oxide, which, under favorable circumstances, becomes, by the addition of another half volume of oxygen, carbonic acid.

eminent a philosopher as Davy could have erred in relation to this subject, I think we have no alternative but to reject his theory of flame, since it is wholly unsupported by fact and experiment. This will be done, I have no doubt, by all who, unbiassed by prejudice, and unswayed by great names, will take the trouble to investigate the matter for themselves.

J. N. O. RUTTER.
Lymington, Hants, May 14, 1834.

NEW LOCOMOTIVE ENGINE.—[From a correspondent at Liverpool.]—On the 22d June, a new Locomotive Engine, made by Messrs. Forrester & Co. of Vauxhall Foundry, was tried on the Liverpool and Manchester Railway. The experiment was crowned with the most brilliant success; the engine, which is called the Vauxhall, was proved to be the most powerful and rapid engine ever on the line.

At eleven A. M. she left the Liverpool station with an extra train of carriages and luggage, and arrived at Manchester, (32 miles,) in 57 minutes. On her return she brought a very full train of first class carriages, a private carriage mounted on a surry, and a heavy luggage waggon, in 67 minutes.

She mounted the inclined planes in grand style. The distance has been run in less time, but never with any thing approaching the weight this engine drew.

She is intended for the Dublin and Kingstown railway, the Directors of which, attended by C. B. Vignoles, Esq. their Engineer, accompanied the engine to and from Manchester, and were highly pleased with the satisfactory result of the experiment.

To the Editor of the Railroad Journal.

SIR,—I have observed in several late papers an account of an invention by which accidents, like those that have lately occurred upon the inclined planes of the Columbia and Philadelphia and the Albany Portage Railroads, may be prevented. In my humble opinion the inventor has gone to a great deal of useless trouble and expense in making rack-work, cog-wheels, and what not. The same end may be obtained by a very simple contrivance, that has long been in use upon the planes of the Baltimore and Ohio Railroad. It is simply a piece of timber, say 2½ inches square, by 5 feet long, shod with iron at one end, trailing behind the car, on a pivot or hinge, so that the instant the rope gives way, the iron point digs into the ground and arrests the descent of the car. The danger with regard to ascending trains is thus very easily guarded against. It is otherwise with descending ones, as it is obvious that any sudden check applied to a car going with any rapidity would either destroy the car, or shoot forward the load from the car. In descending trains, therefore, the conductors should be ever on the alert, and the moment they perceive any thing give way apply the ordinary brake, which, if properly constructed, will gradually moderate the velocity until it is safe to use the more effective check before described.

SAFETY VALVE.

Mr. Burden's Boat.—We are sorry to learn, says the Albany Evening Journal, that the injury to Mr. Burden's steamboat is more serious than we supposed yesterday. Both cylinders are entirely destroyed. The loss, we understand, will not fall below \$25,000. Nor did the accident occur, as we first heard. The channel was obstructed by vessels, between one of which and the dam the boat had to pass. Finding the passage too narrow, the pilot first rang his bell to "stop her," and then to "go back." This last bell the Engineer mistook for one to "go ahead," which brought her up on the dam.

Animal Mechanics, or Proofs of Design in the Animal Frame. Part II., showing the Application of the Living Forces. [From the Library of Useful Knowledge.]

(Continued from page 405.)

* The valves have no power of accelerating the motion of the blood; they only prevent its retrograde motion, and cause the whole power of the heart to be employed in directing the blood forwards in the course of the circulation. But when they are ruptured, when the valve first described is rent, or the cordæ tendinæ are broken, then the membrane, which we have said is like a sail, is carried back from the second into the first cavity. It is like the sail torn from the sheets and flying out before the wind: the effect is terrible: the pulse of the heart, the whole force of which should be given to carry the blood forwards in the arteries, has half its force directed backwards upon the veins.

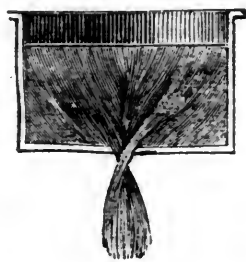
In the same manner the semi-lunar valves in the root of the aorta may have their margins torn. We have described the margin of these valves to be strengthened by a tendon or cord run along their edge, like the rope which is sewed to the edge of a sail. There is an obvious intention in strengthening the valve here, but when textures of this kind become impaired in the human frame, this may give way and be torn, and then the re-action of the artery, when the heart has given its stroke, is lost; for, instead of impelling the blood forwards, the blood runs backwards into the heart. The effect of these accidents is extreme debility of circulation, with symptoms varied according as the defect falls on the circulation through the lungs, or through the body—that is, whether on the right or the left heart of man. But such accidents are rare, and never take place until disease has impaired the strength of what we may call the tackle of the valve.

The next remark is founded more directly on the hydraulic principle.

This ring and these valves, at the beginning of the great artery, imply a certain constriction or diminution of the tube at this part, and we have now to show that such a contraction of the tube at this precise part does not diminish the diameter of the column of blood. This appears an inconsistency; but if a stream of water flow from a cistern, through a hole in that cistern, the column of water will be diminished at a certain point of its exit.

The water flowing through the bottom of the cistern may be represented by converg-

Fig. 9.

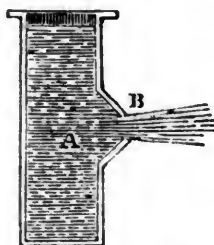


ing lines; and their united forces impelling the stream forward, contract it just beyond the exit—the *Vena Contracta*. Nature, taking advantage of this law, has constructed the narrow ring which we have shown is necessary to the accurate adjustment of the

valve, at the precise part where the blood, issuing from the cavity of the ventricle, is necessarily contracted to the smallest space. The column of blood would be contracted at this point, even if there were no coats of the artery to confine it there.

We had thought of this as a thing indicated by reasoning, but we find that an appropriate experiment has been made which proves it.

Fig. 10.



A being the side of a reservoir, and B a short tube giving issue to the water, it will deliver as much water by this conical constructed mouth as if the tube were of equal diameter with the hole in the reservoir. The reader will perceive how satisfactorily this indicates what is designed by the difference in the size of the mouth of the ventricle which gives entrance, and that which gives issue to the blood.

With a view to explain the motion of fluids in tubes, and finally the motion of the blood in the blood-vessels, let us consider what takes place in the motion of the column of water which is not contained in a tube.

When water is poured out, and descends in an uninterrupted stream, the column contracts as it descends, until it has acquired such a velocity that the atmosphere opposes it and scatters it; we do not mean the contraction illustrated by fig. 9, but that gradual diminution of the diameter of the stream, owing to the height from which it falls. We apprehend that this is on the principle that falling bodies are accelerated as the square root of the height from which they fall. The stream being more rapid at its lower part, is necessarily smaller in diameter, until having acquired considerable velocity the resistance of the atmosphere separates its filaments, and it becomes broader again.

A very different appearance is presented in a jet d'eau; here the ascending stream

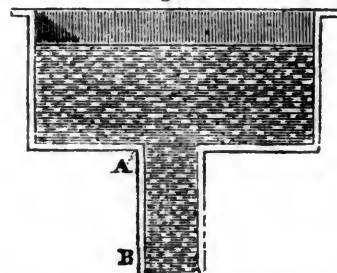
Fig. 11.



widens as it ascends. The explanation of this we conceive to be, that the fluid is re-

tarded as it mounts, and that the stream propelled from below is forced between the filaments* of the column above, and disperses them, so as to give the column a conical form.

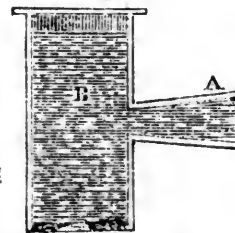
Fig. 12.



This reservoir will be emptied more rapidly, if, instead of a hole in the bottom at A, the water be discharged by a tube, A B, of the diameter of the hole. Here the column of water being perpendicular, it will be accelerated at its lower part; but instead of diminishing its diameter, as it would do if not confined by a tube, it will draw an additional volume of water down, and accelerate the discharge.

It will be very different if the force be altogether from behind, as when water is propelled into a horizontal tube.

Fig. 13.



The tube A being conical, will discharge more fluid from the reservoir B than if it had been of equal length, and its diameter throughout the same as at its commencement. Because, as it appears to us, the weight of the descending column being the force, and this operating as a *vis a tergo*, it is like the water propelled from the jet d'eau, and the gradual expansion of the tube permits the steam from behind to force itself between the filaments, and disperses them, without producing that pressure on the sides of the tube which must take place where it is of uniform calibre. These principles will give great interest to the following fact.

The celebrated John Hunter took great pains to prove that the artery had its diameter enlarged as it proceeded from the heart, and that the areas of the branches of an artery were greater than the diameter of the parent trunk.

That is to say, the section of the trunk, at A, was not so great as the two sections, at B, taken together; that the two sections at B taken together were not so great as the four sections at C; that the conjoined diameters, therefore, of the branches of an artery were greater than the diameters of the artery itself. This fact has been sometimes expressed by saying that the artery was a cone with its apex in the heart.

When we stand by a rapid river, we can perceive that the surface of it is not level.

* Those who treat of hydraulics divide a column of water into ideal lesser columns, which they call filaments, with a very different meaning from the fibres of the anatomy.

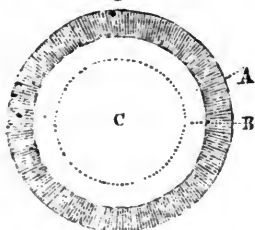
Fig. 14.



The stream is rapid in the middle, and there the water is highest. The friction of the water against the bottom and the sides retards the stream, whilst the greater velocity of the current in the centre draws the water to it, which is the reason of its elevation there.

For the same reason, if an engineer estimate the quantity of fluid to be delivered through a tube without estimating the friction of the sides, he will be disappointed in the result of his calculation; for as the water of the river is delayed by the bottom and sides, so is the fluid in the tube retarded by the attraction or friction between the water and the tube. And if we can imagine a section representing the tube and the flowing

Fig. 15.



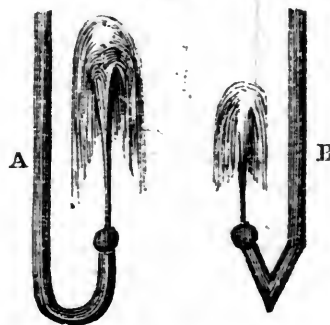
water, A will be the solid tube, B the water retarded or arrested by the friction against the tube, and the space C, within the inner circle, would represent that part of the stream which is in uninterrupted flow. The engineer will, therefore, lay a tube larger than would be necessary, were there neither attraction nor friction between the solid and fluid. It must further appear that the smaller the calibre of the tube, the surface of attraction or friction will be proportionally greater. Does not this explain the anatomical fact which we have been contemplating, that the area of the smaller branches is comparatively larger than the trunk from which they are derived?

Two beneficial effects result from this: for we must observe that the blood-vessels of the body are reservoirs as well as conduit pipes. A man of middling stature has 33 lbs. of blood in his circulating vessels; if the vessels did not enlarge as they receded from the heart, there would be no place for the deposit of this great quantity of blood. The advantages, then, of this particular form, are, *first*, that a quantity of blood necessary to the economy is contained within the vessels; and, *secondly*, that the blood is more easily urged forwards by the action of the heart. The reader will not now be surprised in learning, that a pipe of a conical form, that is, enlarging as it proceeds, gives the least

interruption to the flow of water from a reservoir.

Water flowing in a tube will be retarded by any sudden angle in the tube. If the ad-

Fig. 16.



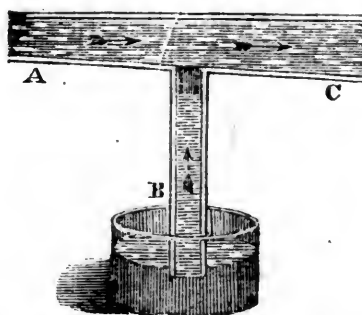
jutage of a jet d'eau have not a gentle and uniform sweep where it is turned, the jet of water will not reach the height which it ought to do by calculation of the height of the reservoir of water from which it descends: it will go higher from the tube A than from B. This circumstance explains the uniform and parabolic curve which the great artery of the body takes in first ascending from the heart. It explains also why the branches of the great artery go off at different angles, according to their distance from the heart, or, in other words, why they pass off at smaller angles with the stream the farther the artery recedes from the heart.

In the distribution of water pipes, it is very necessary to attend to the angle at which the small pipe is attached to the greater one, not only because a pipe being bent abruptly causes loss of motion from the impulse of the fluid against the side, but also from another well known law of hydraulics.

a pipe be fixed into another so as to join it at an angle contrary to the direction of the stream, the discharge into that lateral branch from the larger tube will not only be much smaller than, we might estimate by the diameters of the tubes, but, in certain circumstances, it will discharge nothing at all; nay, on the contrary, the water would be drawn from the lesser tube into the greater, until the lesser tube be emptied, and air be sucked in.

Bernoulli found that when a small tube, B, was inserted into the side of a horizontal

Fig. 17.



conical pipe, A, in which the water was flowing towards the wider end, C, not only none of the water escaped through the small tube, but the water from a vessel placed at a considerable distance below was drawn up through the tube B into the pipe A.

The Duke of Sutherland was unanimously elected President of the British Institution, at a recent meeting of the Directors and Governors of the Institution.

AGRICULTURE, &c.

Remarks on the Leafing of Oak Trees, and the Tints of the early Foliage. By the Rev. W. T. BREE, A. M. [From Loudon's Gardener's Magazine.]

[The following article is deserving the attention of all those who study landscape gardening. It exhibits the accurate observations and taste of this writer.—Ed.]

The most inattentive observer can hardly fail to have remarked that there is a very considerable difference, (a difference, perhaps, of not less than a month or six weeks,) in the period at which different individuals of the same species of oak, (*Quercus Robur*.) expand and shed their leaves: those, of course, which assume their foliage earliest in the spring, losing it earliest in the autumn; and *vice versa*. Accordingly it is very common to see one oak tree in full verdure, while its next neighbor, only a few yards distant in the same wood or hedgerow, is perfectly bare, or, at most, with its buds only bursting. It is an equally obvious remark, that these trees vary no less in the tints which they exhibit on first coming into leaf; and, again, nearly as much so when they are preparing to lay aside their honors in the autumn. "The budding oak," says Gilpin, "displays great variety." Of the vernal tints, which, if not so rich and luxuriant in the eye of the painter, are yet exceedingly tender and beautiful, some are of a delicate green, others rich brown, yellow, bright sulphur-colored, red almost approaching to scarlet, with innumerable intermediate gradations of color. It strikes me that these obvious facts might be turned to good account by the planter, whether his chief object in planting be profit or ornament. If there be any truth in the received opinion, that "of trees of the same species, those which expand their leaves last in the spring, and shed them last in the autumn, afford the best timber," it would surely be worth any one's while, who plants for profit, to select his oaks accordingly. Again, in mere ornamental planting, much advantage might result from paying attention to the different tints exhibited by the foliage, respectively, both in spring and autumn. It is easy to conceive the happy effect which might be produced by either harmoniously grouping together individuals of the same hues in their early foliage, or by judiciously contrasting those of different ones. A whole grove or avenue might be formed, which, at that most interesting season of the year, when the leaves are yet tender, should display, throughout its entire extent, a regular series of graduated tints, or any other combination of color, according to the taste or fancy of the planter; and a corresponding effect would, if I mistake not, be visible also in the autumn. In one part of the park or pleasure-ground it may be desirable that a particular spot should be occupied by oaks which come into leaf the earliest of their kind; while, in another, it may be no less an object to introduce such as retain their leaves to the latest period in the autumn. Even in the case of single trees, it may, according to circumstances, be of some importance to the landscape, whether the one selected for a particular situation be early or late in its period of leafing, of one color or another. Innumerable, in short, are the arrangements, the agreeable contrasts and combinations, which might be formed by paying attention to the above circumstances. I do not pretend to lay down precise rules for the guidance of the planter; I merely throw out a few hints in the hope of drawing attention to an interesting subject, which appears to me to have been more neglected than it deserves. With most planters, and, I believe I may say, with all nurserymen, oaks are oaks, and that is all: no regard whatever is had to the individual varieties of our native oak, unless, indeed, these be of a very marked and unusual character. Now, if there were a call, on the part of purchasers, for the

early or the late leafing varieties, or for those of this or that particular tint or form of foliage, nurserymen would soon learn to sort their oaks accordingly, in order to meet the demand of their customers, or planters, by sowing the acorns and raising their own oaks, might adopt the same method themselves. Nothing could be easier than to do this; for the oak is a tree which develops the peculiar characters which I have above alluded to, at a very early stage of its existence; even the very first season it springs from the acorn, as will be obvious to any one who will but examine a seed-bed when the young trees are first coming up in the spring. There he will see some in broad foliage, while others are only just emerging above the ground. Every variation of color, also, will be perceptible, as much as in trees of mature age; and these peculiarities, it is to be observed, are constant in the individuals, and are retained throughout life: as is the infant seedling, in regard to its period of leafing, and the tints of its foliage, so is the full-grown oak. Even extreme old age is not found to retard the expanding of the leaves, or to affect their color. I consider a bed of seedling oaks, exhibiting, as it does, such diversity of color and of form in the foliage, a most interesting object for contemplation; and I have sometimes fancied that even more of the future characters of the mature tree, such as its propensity to run tall or short in the stem, spreading in the

limbs, and the general style and figure of the head and branches, might almost be predicted at this early period: but this, perhaps, is mere idle speculation.

I may add, that the same discrepancy in the period of assuming and shedding the leaf is observable in other trees besides the oak, especially in the horse chesnut, the beech, and the ash.

W. T. BREE.

Allesley Rectory, February 21, 1834.

A Parasite Tree.—I have recently, on a visit to Mr. Gee's plantation, three miles south of Quincy, Gadsden county, in this territory, observed a natural curiosity; the following description of which may be interesting to you and many of the readers of the American Journal of Arts and Science: It is a yellow pine tree bearing another in a perfectly healthful and flourishing state, like itself and those in the woods around them. The trees, as represented in this sketch, are united about thirty-five feet from the ground, where they entwine around each other. The one that is borne (marked A) extends down to within about two feet of the ground, and is alive and healthful to its lowest extremity. These trees have been in the condition in which they now are for a period longer back than the first settlement of the country by the present population. They were pointed out by the Indians as a curiosity to the first Americans who came to Florida. The stump of the tree which is borne has long since disappeared, and the place which it occupied is now grown up in small bushes of grass.—[Letter in Silliman's Journal.]

METEOROLOGICAL RECORD, KEPT AT AVOYILLE FERRY, RED RIVER, LOU.

For the months of May and June, 1834—(Lat. 31.10 N., Long. 91.59 W. nearly.)

Date.	Thermometer.			Wind.	Weather, Remarks, &c.
	Morn'g.	Noon.	Night.		
1834.					
May 1	72	81	80	s	clear—thunder and rain, evening—Red River rising
" 2	70	79	68	..	.. —cloudy morning—Red River at a stand
" 3	69	76	74	..	cloudy—hail and rain and thunder at night
" 4	74	84	76	..	clear all day—Red River falling
" 5	62	76	74	w	..
" 6	67	75	72	NW	..
" 7	52	63	62	w	.. —at 1 p. m. thunder showers, rain and hail
" 8	50	62	72	high	..
" 9	58	81	68	..	..
" 10	64	85	78	..	..
" 11	62	78	76	calm	..
" 12	64	82	76	..	cloudy
" 13	66	82	70	..	.. —rain in the evening
" 14	60	62	62	NE	.. —rain all day and night
" 15	60	64	62	..	..
" 16	62	72	72	calm	clear all day
" 17	60	73	75	..	.. —cloudy at noon—wind, NE
" 18	64	78	72	SE—high	cloudy all day
" 19	67	72	70	calm	.. —rain
" 20	63	76	71	SE	..
" 21	66	78	79	..	..
" 22	68	82	77	calm	clear
" 23	68	83	78	..	..
" 24	66	84	78	N—light	..
" 25	67	84	79	calm	..
" 26	69	85	82	..	..
" 27	70	86	82	..	..
" 28	72	88	84	..	..
" 29	70	78	63	..	cloudy—heavy rain in evening and night
" 30	66	76	76	..	clear all day (8 ft. 7 in.)
" 31	68	78	88	..	.. —Red River fell this month 4 ft. 8 in.—below high water mark.
June 1	74	86	82	..	cloudy—Red River falling
" 2	74	86	84	..	clear—sowed first crop red clover hay
" 3	74	88	84	..	..
" 4	76	86	84	s—light	cloudy morning—clear day—digging Irish potatoes
" 5	77	88	84	..	clear
" 6	73	90	83	..	.. all day
" 7	72	89	84	calm	..
" 8	73	87	92	..	.. —cutting oats
" 9	72	86	82	s	..
" 10	72	90	83	..	..
" 11	74	88	82	sw	.. —evening calm and cloudy
" 12	63	86	80	w—light	cloudy morning—evening clear—wind N
" 13	70	90	84	calm	clear all day
" 14	71	90	82	sw—light	.. —flying clouds
" 15	70	88	82	..	.. —evening, distant thunder—tomatoes ripe ;
" 16	73	83	76	s	..
" 17	73	82	74	..	.. —evening, cloudy and distant thunder
" 18	74	84	78	calm	cloudy— .. —finished cutting oats
" 19	70	89	82	..	clear— ..
" 20	72	88	80	N—light	.. —ochre for use
" 21	70	80	69	calm	.. —foggy morning—evening, a light shower
" 22	70	88	80	NE—high	.. —clear evening—at 1 p. m. to 7 p. m. a severe gale & heavy rain—corn (blown down)
" 23	76	88	82	..	..
" 24	74	81	76	s—light	cloudy—light shower
" 25	74	86	74	s	..
" 26	72	89	84	..	.. evening—heavy thunder shower
" 27	74	89	84	s—light	clear— ..
" 28	74	88	82	..	..
" 29	72	88	82	..	..
" 30	75	90	—	..	.. —evening rain—Red River fell this month, 8 ft. 6 in.—now below high (water mark, 17 ft. 1 in.)

P. S.—The storm on the 21st of June injured our crops of corn very much.

NEW-YORK AMERICAN.

AUGUST 2—8, 1831.

LITERARY NOTICES.

THE PRINCIPLES OF PHYSIOLOGY APPLIED TO THE PRESERVATION OF HEALTH, AND TO THE IMPROVEMENT OF PHYSICAL AND MENTAL EDUCATION; 1 vol.; by Andrew Combe, M.D. Fellow of the Royal College of Physicians of Edinburgh. New York: Harper & Brothers.

It is long since we met with a work of the same size which contained such a mass of useful knowledge as does the little 18mo before us. It is an elementary book on physical education, wherein every principle laid down is illustrated by some fact that instantly impresses its truth upon the mind.

The work is already so generally spoken of, and approved, that it is not necessary to go into a minute examination of its contents; but we have marked a number of passages for quotation, which will give some idea of the philosophic thought and study, which Mr. Combe has brought to the most familiar subjects, and the enlightened application he has made of ordinary facts, to elucidate his principles.

Happy would it often be for suffering man could he see beforehand the modicum of punishment which his multiplied aberrations from the laws of physiology are sure to bring upon him. But, as in the great majority of instances, the breach of the law is limited in extent; and becomes serious by the frequency of its repetition rather than by a single act; so is the punishment gradual in its infliction, and slow in manifesting its accumulated effect; and this very gradation, and the distance of time at which the full effect is produced, are the reasons why man, in his ignorance, so often fails to trace the connexion between his conduct in life and his broken health. But the connexion subsists, although he does not regard it, and the accumulated consequences come upon him when he least expects them.

Thus, pure air is essential to the full enjoyment of health; and reason says, that every degree of vitiation must necessarily be proportionally hurtful, till we arrive at that degree at which, from its excess, the continuance of life becomes impossible. When we state this fact to a delicately constituted female, who is fond of frequenting heated rooms, or crowded parties, theatres, or churches, and call her attention to the hurtful consequences which she must inflict on herself by inhaling the vitiated air of such assemblies, her answer invariably is, that the closeness and heat are very disagreeable, but that they rarely injure her: by which she can only mean, that a single exposure to them does not always cause an illness serious enough to send her to bed, or excite acute pain; although both results are admitted sometimes to have followed. An intelligent observer, however, has no difficulty in perceiving that they do hurt her, and that although the effect of each exposure to their influence is so gradual as not to arrest attention, it is not the less progressive and influential in producing and maintaining that general delicacy of health by which she is characterized, and from which no medical treatment can relieve her, so long as its active causes are left in operation.

The debility so generally complained of in spring by invalids and persons of a delicate constitution, and which renders that season of the year so formidable in prospect, and in reality so fatal, seems to result more from the accumulated effects of the preceding winter months than from any thing directly inherent in the season itself. At the commencement of winter, such persons feel comparatively strong from the beneficial influence of exposure to the open air, light, and exercise, during the preceding months of summer and autumn. But in proportion as they are deprived of these advantages by the advance of winter, and are subjected to the evil influence of confinement to close rooms, deficient exercise, cold damp air, and deprivation of the stimulus of light, the stamina of the constitution become impaired, and debility and relaxation begin to be felt, and make progress from day to day, till on the arrival of spring they have reached their maximum, and either give rise to positive disease, or gradually disappear at the return of the invigorating influence of longer and warmer days. * *

It is believed by many, that marsh miasmata and other poisons are absorbed by the skin, and Bichat considered the fact as established in regard to the effluvia of dissecting-rooms. There are many reasons for concurring in this belief. The plague, for instance, is known to be much more readily communicated by contact than by any other means, and this can happen only through the medium of absorption. Again, it is certain that flannel and warm clothing are extremely useful in preserving those who are unavoidably exposed to the action of malaria and of epidemic influences; and these manifestly act chiefly by protecting the skin. A late writer on the Malaria of Rome strongly advocates this opinion, and expresses his conviction that the ancient Romans suffered less from it, chiefly because they were always enveloped in warm woollen dresses. This opinion, he says, is justified by the observation, that since the period at which the use of woollen clothing came again into vogue, intermittent fevers have very sensibly diminished in Rome. Even in the warmest weather the shepherds are now clothed in sheep skins. Brocchi, who experimented extensively on the subject, obtained a notable quantity of putrid matter from the unwholesome air, and came to the conclusion, that it penetrated by the pores of the skin rather than by the lungs. Brocchi ascribes the immunity of the sheep and cattle, which pasture night and day in the Campagna, to the protection afforded them by their wool. These remarks deserve the serious attention of observers,—particularly as, according to Patisserie, similar means have been found effectual in preserving the health of labourers digging and excavating drains and canals in marshy grounds, where, previous to the employment of these precautions, the mortality from fever was very considerable.

It is a general law, that every organ acts with increased energy when excited by its own stimulus; and the application of this law to the different functions of the skin may help to remove some of our difficulties. The skin exhales most in a warm dry atmosphere, because the latter dissolves and carries off the secretion as fast as it is produced; and the same condition is unfavorable to absorption, because nothing is present upon which the absorbents of the skin can act. In a moist atmosphere, on the other hand, the absorbents meet with their appropriate stimulus, and act powerfully; while exhalation is greatly diminished, because the air can no longer carry off the perspiration so freely. Apparently from this extensive absorption, we find the inhabitants of marshy and humid districts remarkable for the predominance of the lymphatic system, as has long been remarked of the Dutch; and as malaria prevails chiefly in situations and seasons in which the air is loaded with moisture, and is most energetic at periods when absorption is most active and moisture is at its maximum, the probability of its being received into the system chiefly by cutaneous absorption is greatly increased, and the propriety of endeavoring to protect ourselves from its influence by warm woollen clothing becomes more striking. In the army and navy, accordingly, where practical experience is most followed, the utmost attention is now paid to enforcing the use of flannel and sufficient clothing, as a protection against fever, dysentery, and other diseases, particularly in unhealthy climates. In the prevention of cholera, flannel was decidedly useful.

The advantages of flannel as a preservative from disease in warm as well as in cold climates are now so well understood, that in the army and navy its use is cogently, and with great propriety, insisted on. Captain Murray, late of H. M. S. Valorous, told me that he was so strongly impressed from former experience with a sense of the efficacy of the protection afforded by the constant use of flannel next the skin, that when, on his arrival in England in December, 1833, after two years' service amid the icebergs on the coast of Labrador, the ship was ordered to sail immediately for the West Indies, he ordered the purser to draw two extra flannel shirts and pairs of drawers for each man, and instituted a regular daily inspection to see that they were worn. These precautions were followed by the happiest results. He proceeded to this situation with a crew of 150 men; visited almost every island in the West Indies, and many of the ports in the Gulf of Mexico; and, notwithstanding the sudden transition from extreme climates, returned to England without the loss of a single man, or having any sick on board on his arrival. In the letter in which Captain Murray communicates these facts, he adds, that every precaution was used, by lighting stoves between decks, and scrubbing with hot sand, to ensure the most thorough dryness, and

every means put in practice to promote cheerfulness among the men. When in command of the Recruit gun-brig, which lay about nine weeks at Vera Cruz, the same means preserved the health of his crew, when the other ships of war anchored around him lost from twenty to fifty men each.

That the superior health enjoyed by the crew of the Valorous was attributable chiefly to the means employed by their humane and intelligent commander is shown by the analogy of the Recruit; for although constant communication was kept up between the latter and the other ships in which the sickness prevailed, and all were exposed to the same external causes of disease, yet no case of sickness occurred on board the Recruit. Facts like these are truly instructive, by proving how far man possesses the power of protecting himself from injury, when he has received necessary instruction, and chooses to adapt his conduct to his situation.

For those who are not robust, daily sponging of the body with cold water and vinegar, or salt water, is the best substitute for the cold bath, and may be resorted to with safety and advantage in most states of the system; especially when care is taken to excite on the surface, by the subsequent friction with the flesh-brush or hair-glove, the healthy glow of reaction. It then becomes an excellent preservative from the effects of changeable weather. When, however, a continued sensation of coldness or chill is perceptible over the body, sponging ought not to be persisted in: dry friction, aided by the tepid bath, is then greatly preferable, and often proves highly serviceable in keeping up the due action of the skin.

HISTORICAL AND DESCRIPTIVE ACCOUNT OF PERSIA, from the earliest ages to the present time. By *Jas. B. Fraser, Esq.* 1 vol. Harper's Family Library.—Any one who has been hurried through the vivid and deeply interesting pages of "*The Kuzilbash*," by the varied scenes of peril, and stirring pictures of oriental life, detailed by the bold adventurer, will allow that the task of compiling the present work could hardly have fallen into better hands than those of Mr. Fraser. Sir John Malcolm's book, indeed, must ever remain a standard work upon this interesting country, and Porter and Morier (the author of the new novel, *Ayesha*) will always be read by those who wish to obtain a minute account of the antiquities of Persia, but none of them, we venture to say, have brought together such a variety of information in relation to the resources of Government, Natural History, and character of the inhabitants, as is here detailed by Mr. Fraser.—The reason—a very simple one—it is due to these eminent writers should be stated. Mr. F. has boldly and liberally availed himself of their labors; and we may add, of those of almost every other author that has written upon Persia. A personal acquaintance with many parts of the country, and a residence there, we believe of some years duration, has made him so master of his subject, that he is enabled to collect the various and sometimes contradictory matter from these various sources, and, passing it through the crucible of his own mind, produce a result at once clear and satisfactory. The Messrs. Harper have certainly been very fortunate of late in the works selected for their Family Library. Two books like those of Combe and of Fraser, within a few weeks, make no mean contribution to one's sources of instruction and amusement.

THE NORTH AMERICAN REVIEW, No. LXXXIV.—July.—It is with equal pride and pleasure that on each returning quarter we still find this excellent publication stoutly holding its way, and maintaining, amidst the existing degeneracy of criticism, a vigor of style, and independence of tone, that reminds one of the palmy days of the old Edinburgh. The present No. contains, we think, more than the usual variety of articles, and there are one or two—particularly that on "the Free Cities of Flanders"—to which it may be advantageous to return, and make the subject of future comment.

In the meantime, we will confine ourselves to one, the subject matter of which is somewhat lighter,

though we apprehend hardly more familiar to many of our readers. We find some very clever observations on "*The Life and Writings of Crabbe*," which do not read the less agreeably, that we have not forgotten the exquisite criticisms of Jeffrey, made at the time the different works of this highly original author appeared. The poetry of Crabbe, we are inclined to believe, will never become popular in this country. Our idea may be fanciful—but we believe it too practical for our people—too much of every-day life, for an every-day-life people—who, when they do take an excursion into the realms of fancy, delight just as much in the gay flutter, the dance of scarfs and pennons, the gleaming of lances, and the clang of the herald's trumpet in one of Scott's or James's tournaments—or, changing the scene for one still more sumptuous, the citron groves and roseate bowers that Moore's voluptuous fancy loves to revel in—delight in these, we say, full as much as the rich and luxurious noble, who dwells so earnestly upon Crabbe's pages, because they paint life wholly different from what he sees it around him. The writings of Crabbe we hold to be a perfect tonic for an indolent, luxurious-minded man—agreeable, from their stimulating properties, and wholesome in their effect. But, he who has to toil and wriggle through this phcezy world, with hundreds among the panting and sweating creatures around him, to prevent his forgetting the coarser traits of humanity, requires no such vigorous mental applications as Crabbe's forbidding pictures of life, to make him remember his share in its concerns—and when he flings off the trammels of business to amuse himself for an hour, if Poets are his companions, he selects those that will bring other muscles of his mind into play than those which have just been over-exercised. He delights in abstract delineations of the play of human feelings on Byron's wandering page. He gives a gloveless hand to the hearty gallant, half knight and half freebooter, in Scott's stirring lay. He flirts in a Paphian bower with Moore's meretricious muse, or he watches the woodland shadows move, and hears the leaves whisper in one of Bryant's delicious groves. And yet we like Crabbe: he is the great utilitarian poet of the age,—the first that ever stripped from the real ills of humble life the absurd and injurious veil that the pastoral poets had thrown around them. Absurd, because characters and situations like those in Pope's pastorals, for instance, are as true to the laws of mental, as is the conformation of a mermaid to those of corporeal physiology. Injurious, because by softening the asperity of the ills endured by the humble poor, in the eyes of those more happily situated—their charities would be blunted, and their thankfulness to heaven for their own enviable lot abated. We do not doubt that many a reflecting Englishman has gone, from the perusal of Crabbe's Tales, into an immediate examination of the Poor Laws of his country.

LITTELL'S MUSEUM OF FOREIGN LITERATURE AND SCIENCE AND ART—for July. Carville.—A bold and characteristic sketch of O'Connell and Shiel, form the frontispiece to this number, which contains a very good selection of articles. One of these from the Foreign Quarterly tries to be quite sharp upon our countryman, Dr. Dekay, because, in speaking of the English, he adopts the vein of Muskau and Haussez, rather than the self-adulatory tone of one of the modest Islanders themselves. Another paper from the same publication (we wish it was more known among us,) contains a most interesting view of Swedish periodical literature, from which we make an extract, that would do well in an appendix to Knickerbocker's History of New York.

We feel hugely tempted to leave these simple, but curious, and to our mind, interesting annals of Scandinavian discovery to the reader's consideration,

even as he now has them, neither troubling him with any of the multifarious disquisitions they have produced amongst the learned of Sweden and Denmark as to the precise points of the North American coast to which they refer, nor balancing the rival pretensions of Newfoundland, Baffin's Bay, and Labrador, of Virginia, and of every State lying between the mouth of the Potomac and the St. Lawrence. As the Norwegians have not as yet advanced any claim of proprietorship, founded upon prior discovery or occupancy, no question of political importance is involved in that of disputed locality; and old Sturleson's account is too plain and straightforward, we think, to admit any doubt of his voyages, at least those of the Erikson race having reached a southern latitude without fixing the precise degree. The only part of his narrative that appears to us at all perplexing, is his describing the natives of his Vinland as Esquimaux. This difficulty Schröder solves by the supposition, that the Esquimaux may formerly have possessed a larger portion of the continent, and been subsequently driven northwards from the more genial regions by the Red Men; and assuredly we know nothing of the early history of the New World that should justify our rejection of the hypothesis as impossible. But it is to be observed, that such indications of a different race of inhabitants from the present Indians, as have yet been found in North America, lead to the conjecture, that the predecessors of the Red Men were more civilized, not more barbarous, than themselves. We must refer this question to Transatlantic antiquaries, offering, however, to the general reader this one additional suggestion, that to the fair, stately, and arrogant Northerners, all savages might seem sufficiently alike, to make the description of those they knew best answer for the better looking strangers. And now, after expressing our wonder that the whole Greenland colony did not transplant itself bodily to the fair and fruitful Vinland, where, as their numbers would assuredly have enabled them to resist the *Skraelings*, they might have lived in comfort, we proceed to the later connexion of Scandinavia with the New World.

About the year 1625 one Wilhelm Usseling, or William Useling, (for his name is written both ways) an Antwerper, said to have been in some way connected with the Dutch West India Company, proposed to Gustavus Adolphus of Sweden to establish a Swedish commercial company, upon similar principles with the Dutch, for the creation of a trade with America, and the advancement of the general commercial prosperity of Sweden. The ardent and patriotic monarch was pleased with the suggestion, and granted a privilege or charter for the incorporation of such a company, under the title of General or Southern Company, which is dated the 15th of June, 1646. In this company his Majesty's own royal self became a partner, the queen-mother, together with the chief of the nobles and bishops, to say nothing of official personages, municipal dignitaries, and the inferior clergy, following his example. In his more properly capacity, Gustavus Adolphus was to receive both a duty of 4 per cent. and a fifth of all minerals, with the tenth of all other colonial produce, while Useling's services were to be rewarded with one-tenth per cent. upon all purchases and sales. The following year this charter was sanctioned by the national diet; but the foreign politics of Sweden, especially the share taken in the Thirty Years' War by Gustavus Adolphus, and afterwards that great king's untimely death, had nearly strangled the scheme in its birth. Subsequently, however, at the instigation of one Peter Menuet, a Dutchman, and a discarded servant of the Dutch West India Company, Axel Oxenstierna, the great Swedish chancellor and statesman, revived the project, and declared himself president of the company, and obtained from Charles First of England, a cession of all British claims to the land upon the banks of the Delaware.

"Well supplied with colonists, provision, ammunition, and merchandize adapted for barter with, or presents to the Indians, Menuet was despatched from Gotheborg (Göteborg) with two vessels; in the spring of 1638 he reached the mouth of the Delaware, and landed in what is now the State of that name, near Cape Henlopen, which he called Paradise Point, and the site of the present Lewis Town, Paradise. A district of country extending from that point up the Delaware to Santickan Fall, (now Trenton in New Jersey,) and thence as far inland as was desired, was purchased of the Indians as the perpetual property of the crown of Sweden. The treaty was drawn up in Dutch, and the Indians set their hands

and marks thereto. Payment was made in awls, needles, scissors, knives, hatchets, guns, powder and ball, (the Swedes were less cautious than the Norwegians,) blankets and coarse cloths. Land-surveyer Kling, who had accompanied the colony, measured and mapped the country. It was named *Nya Sverige*, (New Sweden,) and its boundaries were marked by posts set in the ground. In length it was something better than twenty Swedish miles, and in breadth unlimited, or, extended as far as the purchasers chose. Upon the hill beside the present Wilmington in Delaware, Menuet founded a fortress, named after the then reigning Queen of Sweden, *Christine Skans* (Christina's Castle.) The Hollanders, who were settled upon the River Hudson, had once had some forts even upon the Delaware, whence they had been driven by the Indians, who had utterly destroyed their buildings. These Dutchmen kept some of their number nevertheless constantly resident upon the eastern bank of the Delaware, to watch the movements of whoever should visit those parts. Their purpose was to secure at least the peninsula (now New Jersey) between that river and Nieuw Amsterdam (now New York.) As soon as it was observed that Menuet was laying the foundation of a castle, the Director-General of the New Netherlands protested against the act in the name of the Dutch Company, upon the ground that the river belonged to them. But these remonstrances produced no effect upon Menuet, and on the Dutchmen's side the matter did not for some time proceed beyond words."

The Swedish colony was henceforward managed much like the colonies of other nations. An attempt was made to transport convicts thither, but we are told that "the neighboring nations and the Indians" so much disliked the measure, that the first jail cargo was returned upon the hands of its shippers, and the idea was given up. Speculations in silk, wine, and salt were set on foot, and the company were endowed, after many changes of plan, with a monopoly for supplying the mother country with tobacco. Meanwhile New-Swedish towns were building, not only in the present New Jersey, but also in what is now Delaware, Maryland, and Pennsylvania. We are told,

"In this direction the Swedish possessions extended to the great falls of the Susquehanna, in the present Pennsylvania, of which the first European cultivators were Swedes. With the Indians they lived upon good terms, and learned their language, but with the Hollanders incessant disputes arose. Our countrymen considered themselves as the rightful owners of the land they had bought, and resisted the pretensions and invasions of the Dutch. These again complained of the intolerable arrogance of the Swedes, who, they averred, paid no more attention to Dutch protestations than 'if a cow should fly over their heads.'"

This beautiful illustration is ticked off in the original, as though extracted from some Hollando-American state paper or other document, and we have carefully transcribed the marks, because, if the figure of speech be at all applicable, we must say it makes strongly against its employers. If the Swedes paid as much attention to the Dutch protests as they would have paid to a phenomenon so awful and so unwonted as that of a flying cow, (some vague nursery reminiscences of a cow reported to have jumped over the moon cannot invalidate the adjective "unwonted.") we should pronounce them the most attentive, and most polite too, of diplomatists. At least for ourselves, we confess, that not all the possible protocols which could be concocted by all possible conferences, nay, we believe no political occurrence short of internal revolution or foreign conquest, would commote our inward man a half, or a hundredth part as much as the sight of one of the "milky mothers" who daily perambulate the environs of London, gently rising from the road, yard, or field, and hovering over our own individual heads. But our present business not being to criticize Dutch reasoning or Dutch eloquence, we return to the colonial disquisitions between the two nations.

"Should the Swedish governor?" writes Adrian van der Donck, (we suspect, but cannot positively assert, the brilliant inventor of the flying-cow comparison,) "receive reinforcements in time, we shall have more trouble with him than we had with the English or any of their governors."

The government at Stockholm does not appear to have duly exerted itself in behalf of the active colonists, not even supplying means of conveyance for those who were eager to seek, cultivate, and defend the new and more fertile Sweden. The Dutch built Fort Casimir on the western bank of

the Delaware, despite the earnest protestations of Printz, the second governor; and he, in despair at the neglect under which his promising colony languished, committed his authority to his son-in-law, Papegoija, as vice-governor, and in 1652 returned home. In 1654 Papegoija received the long-looked-for reinforcements, and Rising, who came out with them as governor's assistant-counsellor, and secretary to the College of Commerce, immediately upon landing took Fort Casimir. Papegoija now made over his authority to Rising, who, assuming the Dutch title of Director-General, concluded a new treaty of closer friendship with the Indians, during the negotiation of which, we are told that the interpreter employed by the Swedes being graced with a magnificent beard, the bald-chinned aborigines insisted that he should shave off one half the honor of his manhood ere he should presume to exercise his office on their behalf.

But the Dutch yielded their possessions only to such as were too strong for them, which the Swedes were not. In the course of the following year, troops were despatched from the United Provinces to Nieuw Amsterdam, at the head of which Governor Stuyvesant first recovered Fort Casimir, then compelled Rising to capitulate in *Christine Skans*, and finally overran the colony, leaving the colonists no choice except that of selling their property, or taking an oath of allegiance to the States General. A few Swedes and one Finn became Dutch subjects, rather than abandon their new homes; but the greater number, remaining temporarily for the avowed purpose of selling their property, managed, in conjunction with the Indians of New Sweden to maintain themselves in a sort of independence during the short remaining period of Dutch Sovereignty in North America. Lars Lock, the Lutheran clergyman who had accompanied the pious Swedes at the very first founding of the colony, remained with his flock; and the Hollanders, who had been less diligent in supplying their spiritual than their corporeal wants, now participated in his pastoral care.

Rising, upon his return to Sweden, vehemently urged the government to recover the colony. But Charles X. who now wore Christina's abdicated crown, was engaged in wars that fully occupied his resources. He therefore merely endeavored to obtain from Holland, by negotiation, some compensation for his overthrown company, and abandoned all pretension to *Nya Sverige*. It did not, however, long remain under the government of the United Provinces. In the year 1664 the English took the Dutch colony, subduing alike conquerors and conquered; and the new masters of the province readily allowed their Swedish subjects the free exercise of their religion.

THE MECHANICS' MAGAZINE, Vol. IV. No. 1, for July, contains upwards of fifty articles, several of which are exceedingly well prepared.

THE NEW ENGLAND MAGAZINE and THE KNICKERBOCKER, for August, are both already upon our table; but though well pleased with their contents, we must wait till the American Monthly comes to hand, before we examine them here. In the meantime, we quote from the Knickerbocker some floating memoranda, which invite attention, as bearing the initials of the venerable Mathew Carey, of Philadelphia.

Don Quixote.—It is not generally known, that a long period intervened between the appearance of the first and second parts of *Don Quixote*. Cervantes, it is supposed, had no intention of continuing his work—but finding that some person had published a spurious second part, he felt indignant; set fairly to work, and produced the second part, which completes the story of his hero. When young, I read the spurious edition in French. D'Israeli, who was given us in the *Curiosities of Literature* some anecdotes of the author and his work, makes no mention of the spurious second part; and it is therefore presumable that he was ignorant of its existence.

A successful appeal.—Bell, a Scotch bookseller in Philadelphia, who flourished during the revolutionary war, published a number of pamphlets, and some books, which he sold at exorbitant prices. A person came into his store one day, and asked for a pamphlet of less than one hundred pages, for which Bell asked a hard dollar; whereas a hard half a dollar would have been its full value. The person was surprised at the exorbitant demand, to which he made some objection. Bell took the pamphlet from the counter, and was about to place it on the shelf, saying, with a very pompous and significant air, "Sir,

this book was made for gentlemen." This tickled the vanity of the purchaser, who, not to lose his claim to that proud title, threw down the dollar, and took up the pamphlet.

'Manner and Matter.'—Virgil's celebrated sentence,

"Gratior est virtus veniens in corpore pulchro."

applies to books as well as to human virtue and "the human face divine." There can be no doubt that a very elegant edition of a work will make incomparably more impression on the mind, than the same work, ill printed and on bad paper. The first time I ever was struck with this idea was at the sight of a splendid edition of that delightful work, the *Economy of Human Life*, adorned with elegant engraved vignettes and tail pieces; a work, of which, it is true, I always thought favorably—but its beautiful morals made a much deeper impression on me, when I saw them in their court dress, "in corpore pulchro," than when they appeared in the dishabille in which I had been accustomed to behold them. The same idea often forcibly struck me afterwards—and on consulting a lady of a refined taste, she perfectly agreed in the theory. Whether, however, it is not merely fancy, may perhaps be questioned.

'Satisfaction.'—Dean Swift had a quarrel with a pompous, pragmatical attorney, on whom he determined to have satisfaction by his pen. Accordingly he turned *Æsop's* fable of the apples and the odore into verse—and when he came to the address of the latter to the former,

"How we apples swim,"

he subjoined—

"Thus at the bar, that booby Bettsworth,
Though half a crown outpays his sweat's worth,
Who knows of law, nor text, nor margin,
Calls Singleton his brother Sergeant."

Singleton was a first-rate lawyer, who stood as high in Dublin as our Binneys and Sergeants do here.

Bettsworth, stung to the quick, went very pompously to Swift, and holding out the paper, asked him, with a menacing voice and gesture: "Sir, are you the author of this infamous attack on me?" "Sit down, Sir," says Swift, very calmly—"Do not be in a passion, but let me tell you a short story.—When I was young, my dear father—heaven rest his soul!—seeing that I had a turn for scribbling, and fearful of the consequences, one day told me that he was afraid that propensity would some time or other bring me into trouble. 'And, my dear son,' added he, 'let me give you a piece of advice.—Should any libellous matter appear in any newspaper, and any fool or knave call on you to demand whether or not you are the writer—say no;—and therefore, Sir, I say no to you.' Bettsworth had no remedy, and went off grumbling—saying Swift was like one of his own vile Yahoos, besmearing people with his filth, and out of the reach of punishment.

Cardinal Wolsey.—All who know any thing of his history, know that he was proud and ostentatious, and accustomed to the use of gorgeous costume, in which he piqued himself in outshining all the other courtiers of Henry VIII. One day, a prodigal nobleman, who was deeply in debt, and paid nobody, came into court in a dress, the splendor of which outshone that of Wolsey, who being piqued, addressed the nobleman, and said, "My Lord, it would be more commendable in you to pay your debts, than to lavish so much money on your dress." "May it please your reverence," replied the nobleman, "you are perfectly right: I humbly thank you for the hint, and now make a beginning, to show how I value your kind admonition. My father owed your deceased father a groat for a calf's head: here is sixpence—let me have the change."

Old Clocks.—I love to contemplate an old clock—one of those relics of by-gone times, that come down to us wrapt in veneration—telling their tale of simple yet touching interest. How erect and prim it stands in yon corner, like some faded specimen of maiden antiquity! Its face bears evident marks of beauty—of beauty decayed, but not obliterated. It is plain it has seen its best days, but equally evident is it that it was the pride and ornament of its day—unrivalled among its companions. How many eyes have watched the even tenor of its ways, as it moved on in the never-ending yet still beginning journey of the hours. Hours! aye, years have gone by, since that aged monitor of time first started on its course. And they who sat out with it, in the morning of life, whose motions were as active, and whose principles of vitality—if that may be called so which animates a clock—were as strong—where are they? Do they yet linger in the walks of the village? Can they be seen under the old oak tree, or at the door

of the cottage? I see them not there; yet there stands the old clock, clicking blithely and patiently as ever. The voice and footsteps are silent of those who journeyed up with it to the period of a good old age. A new race has sprung up, long and far removed from the other; and as they too watch the progress of the old clock, their hours are fleetly passing by, and time with them will soon be at a close. How impressive then the lesson taught by that old clock, and the simple inscription on its dial-plate—"Tempus fugit."

FOREIGN INTELLIGENCE.

FROM EUROPE.—By the packet ship *Hibernia*, Capt. Wilson, which sailed from Liverpool on the 1st of July, we have received our regular files of English papers up to the day of her sailing. There is no news of special importance. Spain and Portugal are gradually becoming quiet, and the question between Holland and Belgium is again said to be on the point of being decided. In France, the election returns are generally in favor of the Government; but almost all the opposition Deputies of eminence, who had lost their elections in those places where they were first candidates, had subsequently been elected in others. M. Lafitte had been returned from Rouen, and two other places. Odillon Barrot and Dupont de l'Eure have also secured seats.

The *Moniteur* contains the provisional treaty of friendship, commerce, and navigation, between France and the Republic of New Granada.

M. de Chateaubriand has published a letter. He had not been elected by any of the Carlist colleges, and now declares that had he been chosen he would not have taken the oaths.

In England it is now understood that Parliament will not rise till the second week in August. The debates in that body are confined almost exclusively to local questions.

On the complaint of the Lord Chancellor, the printer and editor of the *London Morning Post* had been brought before the House of Peers, for a libel on the Chancellor. The printer had been discharged, but Mr. Biddleston, the editor, was under examination when the last accounts came away.

The subject of Post Office reform had been taken up, and excited considerable discussion in Parliament.

The British government has resolved to form a new settlement on the southern coast of Australia, near Spencer's Gulf, which contains a harbour, named Port Lincoln, of sufficient capacity to contain in its three coves all the navy of England.—Captain Stuart, of the 39th regiment, reports that 5,000,000 acres of the richest land he ever saw approximates on St. Vincent's Gulf, and abuts on the Murray River, which is navigable for large craft for 100 miles in an easterly direction; Kangaroo Island lies off the entrance of these two gulfs, and abounds in salt, fish, seals, kangaroos, and possesses a good soil. The whole lies in latitude from 34 to 36 S. and in longitude E from 136 to 140. An interesting feature in the establishment is, that all the land is to be sold, and the produce is to be expended in the encouragement of agricultural families to emigrate. It is, according to the evidence of several officers who have examined it, a land of corn, wine and oil.

Dreadful Fire and Great Destruction of Human Life: fifteen persons killed and burnt to death.

OLDHAM, 30th JUNE.—On Saturday morning last, about two o'clock, a most dreadful fire took place at the Union Mills, about a mile from Oldham, belonging to Mr. Lea Birch. The cause of this great calamity appears to have thus originated:—A machine-maker, whose lathes, &c. were turned by Mr. Birch's engine, and whose shop adjoined the cotton mill, was very busy, and was permitted, in consequence, to have the use of the engine during the night. Some part of the mill-wright work, by which his lathes, &c. were turned, wanted oil or grease, and as the speed was great, the shaft-necks or bearings became heated, and thus set fire to the place.—Although the fire-engines and military were soon on the spot, they were found both to be perfectly useless, the fire having in the mean time made such rapid progress. As to the cause of such waste of life, the following may be depended

upon:—A young man, in rather an early part of the fire, by the falling of some part of the building and machinery, had got entangled by the legs, and he could not extricate himself. This being seen by the bystanders, excited, as may be supposed, their feelings in the highest degree, and, throwing aside all fear and all prudence, too, every one seemed foremost to assist in saving the poor fellow from a roasting death. Whilst thus laudably employed, a wall unexpectedly fell, and buried 15 in the ruins, besides many others being seriously injured. At 3 o'clock on Saturday, only 7 bodies had been dug out; since that time 7 more have been found—some presenting a spectacle too horrible to behold: some without head, others without both head and legs, and some without either head, legs, or arms. But I must drop a narrative like this. The parties thus suddenly snatched away are chiefly young persons. The destruction of the property is most complete. The amount of damage has not been ascertained: the property, both machinery and buildings, were insured, and it is believed fully. There were many hands employed, all of whom, who have escaped, will have to find fresh employers, which the hands will regret, inasmuch as this mill was by the hands generally deemed a first rate mill for the employed.

Don Carlos, of Spain, family, and suite, had left Portsmouth for Gloucester Lodge, Brompton, which had been hired for their residence. His other attendants, 160 persons, had gone to Hamburg.

The honest Spanish Patriot, Gen Mina, was complimented with a splendid dinner at the Albion Tavern, London, given to him by noblemen and gentlemen, on the 29th ult. The full account of this dinner occupies nearly two columns of the *Morning Herald*, for which we have not room.

IRELAND, JUNE 27—*Dreadful Affray and wholesale Slaughter in Kerry.*—One of the most sanguinary faction fights that ever disgraced this unhappy country, took place on Tuesday at the races of Ballyheag, 13 miles from Tralee, between two clans, the Cooleens and the Lawlors, who have been at feud above half a century, and still defy both the law and the gospel, in taking vengeance of each other whenever opportunity offers from generation to generation. Rumors of the intended fight having been in circulation some days previous, and information having been given to the country magistrates, they applied to the officer commanding at Tralee, for a force sufficient to keep the peace at the races. Accordingly, on the day previous, (Monday) a strong detachment of the 69th Regiment with three officers marched from Tralee barracks to Ballyheag, and on Tuesday took up a position on the race-ground, on the bank of the river Cashen, to be ready to interfere on the first symptoms of the expected riot.—The two factions soon appeared on the ground in great numbers, but remained quiet until the races were over, at 3 o'clock. Then the appointed battle began in earnest on the river strand with sticks and stones. A gentleman who witnessed the contest describes it as one of the most savage and merciless scenes he ever witnessed or could imagine to have taken place in a Christian country. The soldiers could do nothing to stem the torrent of fury and blows that raged on every side. At least 1,000 men were engaged; for in addition to the resident parties, numbers came from miles around to take part in the conflict against men whom they had never seen before; all for the pleasure of a fight!

PORTUGAL.—By the Pike Packet, from Lisbon on the 15th, and Oporto on the 19th, arrived at Falmouth, which is the bearer of several passengers, both Carlists and Miguelites, we have the *Chronica de Lisbon* to the 14th instant. In the number of the 11th there is a despatch, addressed to the Marquess de Saldanha, relative to the National Battalions, which states, that although, by the decree of the 10th of June, 1832, their services were obligatory only until the termination of the civil contest, yet seeing the state of disorganization consequent upon that contest, and the time necessary for the formation of a national guard, the Minister of War felt assured that these battalions would be impressed with the necessity of maintaining their present organization until a national guard, of which they would form a part, should be embodied: their services, in the meantime, being restricted to reviews, religious and national festivities, and to such extraordinary circumstances as should be indicated by special order from the Minister of War. The *Chronica* of the 13th contains the regulations approved by the Regent for the government of the Society of Primary Instruction, to which we yesterday alluded, and from which we extract so much as relates to the object of the institution.

It is said of the new Chancellor of Oxford, that he has already transacted more actual business of the University than his predecessor during the whole of this official career.

The Dean and Chapter of Exeter, in new paving and beautifying their ancient cathedral, found the leaden coffin of Bishop Bitten, who died in 1307. Near the bones of the finger was discovered a sapphire ring set in gold, in the centre of which is engraved a hand, with the two fore-fingers extended in the attitude of benediction.

Several heavy failures among the houses engaged in the grain trade have occurred in Glasgow. It is understood that one of these is to a very considerable amount.

It is amusing to see the name of Joseph Bonaparte among the stewards for the dinner given to Mina, who became the idol of his countrymen in consequence of his determined opposition to Joseph's pretensions as Sovereign. Who could have anticipated such a circumstance in 1810!

There are at present living in the small village of Heighington, in the county of Durham, where the population does not exceed 400 or 500 souls, 24 individuals, whose united ages amount to 1,977 years. The oldest is 90, and the youngest 79 years of age.

Mr. Pea Green Hayne has been discharged from the Insolvent Court. The debt named in his schedule amount to £20,995. He proved that for many years past he had lived under very prudent management, but the folly of a former period bore him down.

The election for Edinburgh took place lately, when Mr. Abercrombie was returned without opposition.

A new valuation of the West Riding of Yorkshire has just been completed for the county-rate assessment. The town of Leeds, which, in 1816, was assessed at £30,000, is now valued at £190,000, and the other large towns have been proportionately increased.

The Duke of Wellington; it is said, has expressed his determination to adopt some strong measures to check the destructive system of credit hitherto so ruinously permitted among the students at Oxford.

During the past year, the receipts of the Society for Promoting Christian Knowledge have been rather more than £74,000, the expenditure \$72,000. The publications have amounted to 2,152,000 including 82,000 Bibles.

An explosion of 60lbs. of powder took place on Friday week, at Dartford Mills, by which a man named Bennett was dreadfully burnt, and three other workmen slightly wounded. During dinner hour, the workmen amused themselves in a meadow where the steam-engines were situated, when a ball on which some gravel had collected was struck into the mill, and rolling under a five tons stone, produced so much friction as to cause explosion.

Mr. Powell, the unhappy gentleman who shot himself, in consequence, as it has been supposed, of hearing of the death of his son through a fall from his horse at Ascot, had the affliction of losing all his sons, five in number, in the course of a year. The remains of the last were consigned to the new cemetery in the Harrow-road, London.

The House and estate of Mr. Wilberforce, at Highwoodhill, near Hendon, Middlesex, are at present on sale. The situation is one of the most beautiful in the neighborhood of London.

Lord Huntingtower has set out 38 gardens for the labourers of Great Ponton, and it is his intention to follow the same laudable plan upon his estates in other parishes.—[Stamford Mercury.]

The Vienna Congress closed its proceedings on the 12th instant.

It appears by the German papers, that the English Mediterranean squadron is again making hostile demonstrations against Turkey, on the surface, but Russia at the bottom, and that a French fleet is hastily fitting up to co-operate.

Don Miguel sailed from Cascaes Bay for Genoa on the 6th instant, in the Stag, accompanied by the Nimrod. Admiral Napier gets £16,000 prize money by his gallant capture of the Miguelite fleet.

A curious statement has been published by one of the papers in Madrid, respecting the number and revenues of the Spanish clergy. From it, it appears that the number of buildings appropriated to religious purposes throughout Spain, is 28,249; that that of the clergy is 159,322, and that of the friars and nuns 96,878. The entire amount of the ecclesiastical revenues is calculated to be \$50,000,000, and of this

sum the part consumed by them is shown to exceed the whole revenue of the State, by some \$8,000,000.

M. Dupin, in a letter to a friend at Paris, says: "I cannot conceive why the English should be reckoned a grave people. Everywhere I go I see none but people bursting with laughter."

"Taking for Granted," is the title of a new work upon which Miss Edgeworth is at present engaged, and which will soon be given to the public. We take it for granted that it will be looked for with a good deal of interest.

M. Sismondé, the historian of the Franks and the Italian Republics, in publishing a History of the Fall of the Roman Empire, in two volumes, for Lardner's Encyclopædia.

The corporation of Madrid have paid a handsome compliment to the memory of the great Cervantes, by erecting a handsome marble tablet on the house where he resided, in the Calle de los Francos, and which chances to be that in which Mr. Scott, the Attache to the Legation, at present lives.

The Duchess of Berri has, it is stated, at last signed a formal act of renunciation of the guardianship of her son, the Duke of Bourdeaux. This, it appears, was insisted upon by Charles X., upon the occasion of her last visit to Prague, and in consequence of her marriage. Notwithstanding all that has been said, there is every reason to believe that Mad. Luchessi Palli is in *mauvaise odeur* with the rigidly moral *doctrinaires* at Prague, where her indiscretions are more deprecated than any other misfortune which has befallen the legitimate cause.

Ibrahim Pasha at Nazareth.—One of the most curious circumstances that I saw in Nazareth was Ibrahim Pasha's visit to the church of the Convent, where, in a grotto, having a double exit and under the high altar, the friars show the spot which they call that of the incarnation. He examined all the church with proper attention, and appeared much struck with the splendid vestments, the gifts of European sovereigns, which, he said, far exceeded any thing worn by the Moslems. He promised that the convent should be treated with justice. This visit to a Christian church before he went to the Mosque in the town is said to have been dissatisfactory to some rigid Mahomedans, but Ibrahim appeared not to regard their prejudices.—[Letter from Damascus.]

Correspondence of the Journal of Commerce.

U. S. SCHR. SHARK, MARSEILLES, }
28th May, 1834.

We started from this place on the 16th, leaving the Delaware, 74, and Constitution frigate there; but we were doomed to make an early return, by having run foul of the French steam vessel of war, "Rapid," in what we considered a shamefully careless manner; or what is worse, intentionally. Had she *designed* the encounter, it could not have been done more effectually than it was, or more damage inflicted upon us. We had beaten out the Bay of Toulon, and were about doubling the Cape which forms the Bay, and this steamboat was going in; of course before the wind. She had therefore the choice to pass astern of us; or if a contact was probable, to stop her wheels and let us pass sufficiently ahead to be entirely free of collision. The Rapid continued to approach us, and *rapidly* too; for she had full steam on, besides the power of the wind and sea forcing her towards us; and evinced a determination on the part of her Commander to pass *ahead* of us, of which, when we were aware, it was too late to tack, because we would have luffed directly into his vessel, and given plausible appearances of *intentional* contact on our part. We therefore pursued the only course left, by keeping away, though on a lee shore, and were using our utmost efforts to avoid her, when she finally struck us; carried away our flying-jib boom and rigging attached; then dropping astern, she struck our fore-chains, being thrown upon us by a heavy sea, and carried away the main rail, besides injuring the channels and altering the shape of our bulwarks there. With the next sea she was thrown upon our main chains, and did nearly the same mischief there. Having thus done us all the harm he could, he began to retrograde with the paddle of his (too well known to us) Rapid, and was soon clear of us: he would not even burst his boiler for our satisfaction, and took good care to injure his vessel as little as possible. What manifested mostly a malicious intention on the part of the Commander of the steamboat, was his not stopping her wheels until *after* she struck; when he must have known a short time before the meeting, that such was inevitable. We made the best of our way back, and with the assistance of all the Delaware's mechanics, we were soon refitted, (such a vessel as that, is a little world

to ours,) and we finally got away on the afternoon of the 18th. Any person the least gifted with his senses, on viewing the damage done to the two vessels in the encounter, and the situation of these damages, cannot but decide that the Shark was not in the least to blame; yet this modest, *unretiring* Frenchman when called upon, ascribed with perfect non-chalance, all the blame to us. Yours, S. H. K.

[From the Barbadian of 5th July.]

FROM THE WEST INDIES.—On the 1st of August will commence the grand experiment of releasing the black population of the entire British islands from slavery. The result of a few years will go far to test the experiment of their capacity for self-government and self reliance. It is our earnest hope that it may be successful, for although the beneficial results of the St. Domingo emancipation are worse than doubtful, it does not follow as a *certain* consequence that they may not be more felicitous in the British Islands.

The qualifications of the British act of Parliament for the liberation of slaves we are not particularly informed of. One of its provisions, however, seems to be, that during the period of their apprenticeship or semi-servitude, the power of inflicting corporal punishment upon them is taken away from the master and conferred upon the Magistrate. In reference to this subject, the Barbadian of the 29th June remarks:—"Near as the 1st of August is, we think that proprietors would rejoice at this plan being at once the law—but with the slaves generally we apprehend the alteration is unpalatable. They seem to dread this change of authority. We have heard of one respectable proprietor having explained to the slaves under his charge the approaching change of system; and on his proposing to them to give up at once the power of punishing them himself, and referring to them, they one and all expressed their aversion to being complained of before a magistrate, and begged him to continue to exercise his own authority, and to punish them in his own way if they offended. The time is coming when justice—tardy justice, will be done to the general character of the slave proprietors."

In Antigua, the eventful first of August has been set apart by a Proclamation for solemn religious observance, in commemoration of the unqualified freedom of the slaves which then commences. The legislature of that Island convened on the 6th June, and the bill that had been passed for the unrestricted freedom of the slave population received the sanction of the Governor on the 14th of the month.

SUMMARY.

Harvard University.—The President of this institution has submitted a report of its recent difficulties to the Board of Overseers, convened at the Council Chamber, in Boston, and the report was referred to a committee consisting of Messrs. J. Q. Adams, Levi Lincoln, B. T. Pickman, A. H. Everett, and the Rev. D. Codman. This committee will report at the next meeting of the board in September.

UNIVERSITY OF VIRGINIA.—Charlottesville, (Va.) July 25.—The session of the University closed on Saturday last. A large and intelligent audience attended the exercises of the public day. Three very handsome essays were read by Mr. Young of Richmond, Mr. Minor of Louisa, and Mr. Holeman of Fluvannah; three eloquent orations, the finest we ever heard on a similar occasion, were delivered by Mr. Frazier of Augusta, Mr. B. F. Minor of Albemarle, and Mr. Lindsey of Miss. They were all in the happiest style—but we have no space nor tongue for eulogy—suffice it to say, they were the best effusions of the kind we ever listened to. Various gentlemen received honours (dearly earned and richly merited.)

This noble institution is now in a most flourishing condition. Governed by able Professors, who possess in an eminent degree the capacity of stimulating others to the acquisition of science, it cannot fail, while conducted on the same wise and liberal system, which has heretofore characterized it, to bestow incalculable blessings on our country. Yearly, it will return, as it has just done, to the bosom of society, many a bright ornament—many a chivalrous and devoted patriot.

Mr. Madison recently resigned his seat at the Board of Visitors, which has been supplied by the appointment of Wm. C. Rives, Esq. Joseph C. Cabell, Esq. has been made Rector—vacated by the resignation of Mr. Madison. Dr. Warner, of Baltimore, a gentleman of distinguished eminence in his profession, and who has been for several years con-

nected with the Summer School, in that city, has been elected by the Visitors; Professor of Physiology, Anatomy, and Surgery, in the place of Dr. Johnson, resigned.

Mr. CLAY has arrived at his residence at Ashland, Ky. in improved health and spirits.

At Lexington, Ky. on the 26th ult. funeral honors to the departed Lafayette were paid, and a Eulogy on his life and character was delivered by HENRY CLAY, Jr. It was pronounced in presence of more than five thousand spectators, and the papers speak of it as an impressive and eloquent production.

Detroit.—A Detroit paper just received mentions the occurrence of several sudden deaths in that place, caused, as the editor believes, by the extreme heat of the weather and the imprudent use of cold water; and this paper takes occasion to notice and contradict the reports which had been circulated of the existence of cholera in Detroit. There is, it says, no shadow of foundation for such reports.

A Floating Village!—The Steam Boat North America, Capt. Hoyt, arrived here on Tuesday Evening, from New York with six hundred Passengers! A few more such boats would empty the commercial Emporium. With such a steamboat as the North America running for fifty cents, it is so much cheaper to travel, that People cannot afford to stay at home.—[Alb. Eve. Jour.]

NEW GOLD COIN.

Treasury Department, Aug. 2.

The annexed letter will enable the public readily to distinguish the new from the old coins.

As the date could not, by law, be altered, but the cap and motto might be legally omitted, and would serve plainly to distinguish the new impression, that course has been adopted at the mint till the commencement of the next year, when the motto will probably be restored, and the date of the new year, instead of the omission of the motto, will be found sufficient to indicate the change in the coin.

MINT OF THE UNITED STATES, }
Philadelphia, 1st Aug. 1834. }

Sir:—I have the honor to inform the Department, that the coinage of Gold, according to the new ratio of gold to silver, commenced this morning, being the earliest day permitted by the provisions of the act.

In making this communication, it may be satisfactory to recur to the peculiarities by which the new gold coins are to be distinguished from those of former issues. They are the following:

On the face, the new coins will be readily distinguished by a head of Liberty disencumbered of a cap.

On the reverse, the surplus motto "E Pluribus Unum," which for many years has occupied a portion of the disk above the figure of the Eagle, is now omitted.

These changes, independently of the facility to be derived from them, in distinguishing the future from the past emissions of our gold coins, are recommended by a nearer adherence to the provisions of the law, as well by the rules of taste and classic authority. The views in these respects, presented in my communications of the 9th ult. having met your approbation, will, I doubt not, be sustained by the judgment of the public.

In regard to the omission of the motto above referred to, the same improvement was introduced in the quarter dollar in 1831, the subject having, by communication of the 29th January of that year, been submitted to the President, through the Department, and approved.

The Eagle of the former issues weighs 270 grains, the Half Eagle 135 grains, and the Quarter 67 1/2 grains. The Eagle under the present law, will weigh 258 grains, the Half Eagle 129 grains, and the Quarter 64 1/2 grains. These weights are recited because desirable to be kept in mind, rather than as affording a farther criterion of distinction between the two classes of coins—since an inspection, much more cursory than that of weighing, will distinguish them by the preceding characteristics.

The Eagle and Half Eagle of the new coinage will be less in diameter than those of the former emissions, and that in a greater proportion than the diminution of weight would indicate. This, however, though a decided amendment of our coinage is of less value as a distinctive mark, since the comparison would require the presence of coin of both classes.

I have the honor to be, with great respect, your obedient servant,

SAMUEL MOORE,
Director of the Mint.

HON. LEVI WOODBURY,
Secretary of the Treasury.

Henry Gahn, Esq., Swedish consul at this port, was found dead in his chamber on Sunday morning. The body was sitting, and leaning upon a table.—The death was probably occasioned by a fit. Mr. Gahn was about sixty five years of age, and much esteemed.

Western Marine.—The fine new brig Illinois, arrived a short time since at Chicago. This vessel will carry 250 tons, and is intended as a packet between Buffalo and Chicago.—[Courier.]

Thomas Moon, a waiter at Congress Hall, Saratoga, died suddenly on Saturday last, by drinking cold water. He left a large family in dependant circumstances—and as soon as the fact became known, a purse of \$330 was made up for their relief by the people at the Hall.

MONTREAL, JULY 29th.—The hopes generally entertained at the end of last week of the disappearance of the prevailing malady, were sadly disappointed by a serious increase of mortality on Saturday, Sunday and yesterday, which deprived us of several most valued and estimable members of the community. We are gratified in being able to state, that a most favorable change in the general health has manifested itself to day, fewer cases, and those of a less severe description, having been seen by our leading physicians for the last twenty-four hours.

The New Orleans Bulletin of the 17th of July makes a favorable report of the health of that city.—The weather had been warm, but good health prevailed. The Bulletin concludes its paragraph with the following statement, to the truth of which the editor testifies from his own personal observation:—

"There is a matter which deeply concerns the health of the people, an abuse, which has been too long suffered to exist. If it should be told abroad that in New Orleans the water was taken up from the Gutters and sold to the citizens to drink, it would not be believed, yet such is the fact. We have seen water sellers filling their casks from the gutters of canal street. The water of the river is filthy almost beyond endurance, but with the addition it receives by washing over the rotten offals and other nuisances deposited in gutters, it must be little less than poison."

BALLOON ASCENSIONS.—[These feats of aeronautic daring have become quite numerous of late in this country: several Americans having taken up the business with all the spirit, and we may say with all the success, of the most accomplished foreigners.—The mail of Saturday brought us accounts of two ascensions,—one at Washington by Mr. Ash, and the other at Boston by C. F. Durant, Esq. of Jersey City. The account of the ascension of the latter, as given by himself, in the Boston newspapers, is, from the singular intrepidity displayed by Mr. Durant, unusually interesting.]

To the Editors of the Morning Papers:

GENTLEMEN: At 5 hours 50 minutes, by my time, I arose clear of the Amphitheatre, with barely sufficient buoyancy to keep the balloon in a horizontal position, until passing over the common, I threw over two bags of sand ballast, when the ascending power increased and the balloon rose finely, forming an angle with the horizon I judged of 30 or 40 degrees. This gradual ascent continued until 9 minutes past 6 when the barometer fell to 23.22. The view now and a few minutes previous was the most varied and interesting I ever beheld. On one side the vast ocean, with hundreds of vessels for many miles round. The ocean presented an almost unbroken surface, covered apparently with a light mist or fog, and the sun striking the sails of the vessels, gave them much the appearance of feathers floating on the smooth surface of a pond. I could perceive in the wake of those nearly beneath me, a difference in the appearance of the water, caused by their motion; it was very perceptible in the wake of a steamboat which I passed near Nahant; it had much the appearance of heavy lines in engraving, diverging at or near right angles from the ground work. This gave me an idea of their course and probable wind, which I judged was more favorable to reach Cape Ann. I descended very slow to ascertain at what height the wind would haul, yet perceiving no sensible difference until one-eighth of a mile from the ocean; here, by ranging with a schooner which a few minutes before was ahead of me, standing out under a heavy press of sail, though now she had fallen in the rear, I could perceive from her that my course within one eighth of a mile from the ocean would strike the eastern point of Cape Ann—but it was impossible to keep the balloon within that distance of the surface

without a great expenditure of ballast or striking the water, or soaring above into the lower edge of the upper and more westerly current, which would have carried me to the eastward of Cape Ann; therefore I resolved on letting go both anchors to trail in the water. They struck at 6hrs. 30m. with 3 or 400lb. of cable, a few miles beyond Nahant, though the aerostat was moving with such velocity as to prevent the anchors sinking more than 10 or 15 feet from the surface, and indeed the velocity frequently caused them to skip over the surface. This gave the balloon an undulating motion, sometimes 2 or 300 feet high, and sometimes barely touching the water; by this means I was enabled to secure all the advantages of the wind, and was making a straight course for the Cape, when a heavy flaw of wind struck the balloon with such force as to throw it in a horizontal line with the car, which struck the ocean and filled with water.

My car being of open wicker work, I judged by throwing out some of the ballast the water would run out, and I should be enabled to rise clear, but it was drawn with such force that the water could not run out. This occurred at 6h. 37m. and left me partially immersed in water. Judging it difficult and dangerous to continue as far as Cape Ann in that situation, and seeing a sloop to the leeward of me, and within a quarter of a mile from the course I was taking, I judged by retarding its progress as much as possible, she would be able to intersect the line I was making, and arrest the balloon; but, instead of bearing down with the sloop, the small boat was manned, and before they could intersect my course, I was a mile beyond them.

A sheet, which I carry to fold the balloon, and my flag I had spread as much possible across the car to retard my progress for this boat. This sunk me to the waist in water, and materially increased the danger and difficulty of reaching the cape. At this time a schooner at the eastward was bearing down, and my car being so far in the water, she came up with me at 7 o'clock. I exchanged a few words with the captain, requesting he would pass me close under my lee and throw a line. I saw a man attempting to throw a dipsy line, and told them it would not hold me, when they caught up a very stout line which I made fast to the car. This line proved to be the halliards, and the schooner on the wind, with the force of the wind on my balloon, and the line drawing from mast head, carried me up 30 feet, when I descended with such velocity as to be for the first time completely immersed in water.

A second time I was carried up in like manner, and when about 300 feet high, a flaw of wind upturned the balloon so as to exhaust the gas in an instant. In falling, I was under water half a minute, though I had on a gum elastic life preserver, which Mr. Dorr of the Roxbury factory, had the kindness to lend me. Yet I was so entangled with the cords, that thirty seconds elapsed before I could extricate myself and come to the surface, where I was comfortably resting myself on the life preserver, when Captain Spaulding, of the schooner Miner, of Thomaston, came to me in a small boat and took me and the aerostat on board. With so much fatigue, and having tasted nothing but water since breakfast, you may imagine, gentlemen, that I felt much relief in my new quarters.

I was shown every attention by Capt. Spaulding, who gave me clothes to shift, and soon prepared me tea, which I partook of with a fine appetite. I rested well on board, and this morning, on arriving in the harbor, Captain Spaulding had breakfast prepared, which, in company with Mr. T. W. Partridge, a passenger, and Capt. Spaulding, I partook of in fine cheer, and arrived at my lodgings, Tremont House, at half past 9, enjoying my usual good health and spirits. I feel under many obligations to the citizens generally for their kind attentions, and to the gentlemen who kindly assisted me to fill the balloon. In consequence of the violent wind, I deemed it prudent to leave the rabbit and parachute, which would have been very cumbersome. When over Boston, I found my barometer half way through the car, the ring by which I suspended it having broken off; and while attaching a cord a few inches from the top, I broke the thermometer. This left me nothing but the barometer, which, at starting, stood 20.01—ther. 77 deg.; at 6h. 1m. Bar. 24.2; at 6h. 5m. 23.52; at 6h. 9m. 23.32.

The balloon is much injured, and if it can be repaired, it must require two weeks. I shall ascertain in a few days; and if it can be done, I shall be ready and willing in three weeks to make another ascension for a liberal Boston public.

Yours, &c. C. F. DURANT.
Tremont House,
Boston, Aug. 1, 1834. }

[FOR THE NEW YORK AMERICAN.]
DESCRIPTION OF THE GRAND PAWNEE VILLAGE.
(Continued from page 367.)

Immediately after our wild welcome by the different Pawnee chiefs, we started onward for the village. It appeared as if every man, woman and child had looked upon the day of our arrival as one of jubilee; the boys had thrown aside their bows and arrows, the females had abandoned their drudgery, and the old men had ceased their songs of former victories, to sit themselves up for the festival; and now that the reception was over, and all the requisite awe of annihilation had been impressed upon us, they threw aside the stern, unbending character of the Indian warrior, and pressed around us as we rode along, with all the kind hospitality of hosts, in receiving their most welcome guests.

In different directions, small bands of the young men would amuse themselves by dashing around the party at the full speed of their horses, and attempting to oust each other from their saddles by the violent collision of their animals. Occasionally a few would start off in a race across the plain, exerting their utmost skill to outstrip their competitors, and endeavoring by whooping and screaming, and by clattering their arms in the ears of their frightened steeds, to excite them even beyond the mad rate at which they were then sweeping over the prairie.

Others of the young men hung around the party, making their remarks concerning its different members, and occasionally exciting loud peals of laughter from their comrades, which, however, were frequently cut short by a stern word from one of the chiefs.

The whole road, from the plain to the village, was lined with women and children, who had not dared to approach during the formalities of our reception, but who now all eagerly pressed forward to gaze upon so unwonted a sight as that of a white stranger entering freely into their village; and all anxious to gratify that curiosity which is peculiarly strong in the bosom of an Indian, more especially if that Indian be a female.

They were nearly all mounted upon the backs of the little stiff maned drudge horses of the village, sometimes singly, but generally in clusters of two and three.

In particular, one wilted, gray headed old squaw, with a family of four children under her charge, attracted our attention. She was mounted upon a little wall-eyed, cream-colored poney, with a roach mane and a bob-tail. There was a lurking devil looking out of his half-closed eye, the very antipodes of his rider, who sat upon his back like the picture of patience. Her charge she had arranged as well as could be expected from a person in her situation. One little fellow, whose two eyes gleamed like sparks of fire from beneath the long tangled hair, which nearly covered his face, was striding almost upon the neck of the horse, armed with a heavy Indian whip; one little one was dozing in her arms, another was clinging tightly to her back, and the face of a fourth, like the head of a caterpillar, just ready to emerge from a cocoon, was peering from the mouth of a leather bag, which was lashed between her shoulders.

But though the old lady thus scrupulously divided the burden with her steed, he seemed far from satisfied with his situation, and at last determined in good earnest to rid himself of his incumbrance.

Tossing his head in the air, he commenced waltzing and capering around upon his hind feet, to the great discomfiture of the old squaw, who, reaching out both hands, clung with might and main to the high pommel of the Indian pack saddle, while two of the children, left to their own guidance, like so many monkeys, clung around the body of their protectress.

The horse, finding that the first experiment had not succeeded to his satisfaction, altered his plan of action; and planting his fore feet firmly upon the sod, in the next instant he flourished his heels as high in the air as his head was the moment before; but still his rider continued to cling desperately to the saddle, making use of every expression of Indian oburgation and soothing, in a vain appeal to the sensibilities of the restive animal, who still continued his capers, to the great delight of the naked little elf who was perched upon his neck, evidently aiding and abetting the mutiny by a sudden switch of his whip, and occasionally casting back his sly laughing black eye upon the old lady and her brood, who were screaming and chattering behind.

At last the animal finding that no physical force of his could free his back from the burden, and coming to the conclusion that the less time he spent in accomplishing his journey the shorter would be his

ordeal, he started off at a full gallop for the village, and we caught our last glimpse of him as he dashed between the lodges of the town, urged on by the lash of his imp-like little rider.

When the party had once commenced its march, it was not long before they reached the point of destination; for though the Indians crowded forward to satisfy their curiosity by gazing upon the arms and accoutrements of the whites, they yet remained at such a distance as to offer no obstacle to their progress.

This rule of etiquette was, however, occasionally transgressed, by the troops of untrimmed, goblin-looking little urchins who hung upon the heels of the party, crowding in droves around the baggage-wagons, and gazing with a mixture of terror and wild delight upon the wearied movements of the oxen, who, with lolling tongues and reeling steps, were almost inch by inch winning their way to the village.

Several times when a circle of little curious faces, anxious to see, but ready to run, had formed around the team, a sharp, shrill scream from some more mischievous of the gang, would in an instant disperse all their rallied courage, and send them scampering at full speed over the prairie.

Another grand object of attraction was a negro belonging to the party, who trudged on in front, surrounded by a rabble crowd of women and children. From the first moment of our arrival he had been an object of intense curiosity, and had been gazed at with a mixture of fear and astonishment by the whole nation.

But there is an old saying, that "familiarity breeds contempt," and in this case it was verified, for, by degrees, the circle which formed around him at a respectful distance, became more and more compressed. It was in vain that he attempted to rid himself of their company; they swarmed around him like ants—if he quickened his pace, they did the same; if he lingered along, they were equally slow; and if he turned upon them, they scattered in every direction; but after a while even this wore off, and they finally hemmed him in so that it was almost impossible to move for the crowd. When they had thus closed upon him, the lurking spirit of deviltry began to show itself; they tugged at his coat tail, they pulled his pantaloons, and they jostled him until the perspiration, the effect of fear and his exertions, poured in streams down his face. At length one toothless gray headed old crone, attracted by the glistening appearance of a black leather cap, which was mounted upon his head, made a violent snatch, and seized hold of it; a hot scramble then ensued for the possession, which, after much derangement to the wardrobe of the negro, and much detriment to the hides of the Indians, was obtained by the rightful owner, who had no sooner regained his property, than he opened his shirt, and placing it next his bosom; he buttoned his coat over it up to the chin, evincing his respect to the nation by performing the rest of the journey *uncovered*. He was afterwards known among the Indians by the title of (Wah-sah-be), the Black Bear.

The Pawnee village is situate in the open prairie, at the foot of a long range of hills, and within about fifty yards of the Plate river, which at this place is about two miles broad, and is very shallow, being constantly forded by the squaws, who visit the different islands, and obtain from them the only fuel and building material to be found in this part of the country.

The lodges in the town are numerous and built close together, without the least regard to regularity; they are hemispherical in their shape, and are covered with earth to the thickness of several feet; they vary from twenty to thirty feet in height, and some of them are nearly ninety feet in diameter; the large circular or domelike roofs of the buildings are supported from the interior by pillars formed from the upright trunks of trees, and large berths, or cribs, for sleeping, are ranged around the interior, against the wall of the building.

In the centre, a hole is dug to contain the fire, the smoke of which is permitted to eddy through the building and escape at its leisure through a small hole in the roof, which forms the chimney, and at the same time serves to let in the only light which reaches the interior of the lodge.

On account of the scarcity of wood, several families congregate together in the same lodge, and are seen throughout the whole day, lounging and sleeping before the fire, or gorging themselves from the large kettle filled with buffalo flesh, which is perpetually over the fire.

Upon entering the village, we found the tops of the lodges completely covered with women and

children, whilst the area in front of the Chief's dwelling was equally crowded. When we reached the front, the Chief, who had ridden in advance of the party, stepped from the dark passage which formed the entrance to his abode, to meet us. He was completely enveloped in a robe of white wolf skin, upon which was painted an hieroglyphic account of all the achievements he had ever performed in his different war parties. Upon the approach of Mr. E., he advanced towards him, and taking the robe from his own shoulders, presented it to him, requesting him (through the Interpreter) to keep it for his sake. He then ushered the party into his dwelling, and pointing out the place allotted for the reception of the contents of the wagons, he called together a number of Indians, and gave them directions to assist in unloading, while in person he stood at the door, watching the movements of his men, to prevent any attempts at purloining—a crime too common among the lower classes of an Indian village.

Nearly half an hour had elapsed in this way, during which time the lodge was becoming more and more crowded. One dark form after another glided with a noiseless step over the threshold, moving across the lodge until they reached the darkest corners. Here they seated themselves upon the ground, and shrouding their shaggy robes around them, so as completely to screen the lower part of their faces, they fixed their unwavering gaze upon the strangers, while from the dark parts of the building their eyes seemed to shine out like glowing balls of phosphorus.

Not a word was spoken—no undertoned conversation was carried on—but all was silence, save the hurried footsteps of those who were busied according to the directions of the Chief. No jests were uttered, for we were now under the roof of their leader, and any word spoken in derogation of his guests would have called down a speedy return of vengeance.

Upon our first entrance into the lodge a large kettle, which would contain about five gallons, had been filled with buffalo flesh and hard corn, and placed over the fire; and now that we had become fairly settled in our abode, and the bustle of unloading had in a measure passed away, the wife of the chief (by-the-by he has five of them) poured the whole of its contents into a large wooden bowl, and arming each of us with a black dipper made of buffalo horn, made signs for us to fall to.

We did not wait for a second invitation, but immediately commenced an attack with both fingers and dippers into the mountain of food which was placed before us. We had not eaten since daylight it was now late in the day; and the appetites of the party, never particularly delicate, having increased in proportion to the length of their fast, the devastation was enormous. But every excess brings with it its own punishment; and our case was not an exception to the general rule; for scarce had we finished our meal, when a little Indian boy, half covered with a tattered buffalo skin, forced his way into the lodge, elbowing in among the warriors with all that transient air of consequence worn by little characters when charged with some mission of importance: he came to the side of the chief who was sitting near us, with his legs doubled under him, after the Turkish fashion, and whispered in his ear.

The chief then rose, and announced that the Long Hair, the second warrior of the village, had prepared a feast in honor of our arrival, and was waiting for the party to come and partake. There was some demurring as to the acceptance of this second invitation; but the Interpreters informed Mr. E. that there was no resource, as eating your way into the good will of the savages is one of the necessary accompaniments to the successful negotiation of an Indian treaty, and to plead that we had already eaten sufficient was useless, for that is a thing incredible to an Indian, who always carries with him an appetite proportioned to the quantity to be eaten and the opportunities of doing so; and let the latter come as often as it may, it invariably finds him prepared.

After some consultation, and seeing no remedy, we left the lodge, and followed our little guide through the intricacies of the village, to the dwelling of the Long Hair. When we entered he was sitting upon the ground, and motioned us to a seat upon some dirty cushions of addressed hide, which had been placed for us by one of his wives.

He was a stern, gloomy looking man, with an anxious wrinkled brow, a mouth like iron, and an eye like fire: he evidently made efforts to be sociable; but it was not in his nature; and during the whole feast, the stern unbending character of the Indian warrior was continually peering out from beneath the show of hospitality. He urged us to eat,

and he even attempted to smile; but it more resembled the angry snarl of a wild cat, than the outpourings of any pleasurable emotion. In short, we liked him not, and hurried through our feast as soon as possible. When we had finished, and while a number of the party were smoking, in turn, from a large red stone pipe, which the Chief passed around, Dr. M——, the physician attached to the party, rose up and slowly sauntered around the lodge, until he observed a small bundle of bones and skin, which hung from a pole crossing the centre of the lodge. Curious to know what it might contain, he reached out his arm to take hold of it,—from the moment that he had left his seat, the brow of the chief had darkened, but he said nothing; contenting himself by narrowly watching the motions of his guest,—but no sooner had he touched the bundle, than the effect upon the frame of the Indian was like an electric shock: he half started from his seat; the veins on his forehead swelled like whipcord; and his eyes shot fire—while, with clenched fists and extended arms, he shrieked out something between a yell and an imprecation, upon the head of the astonished transgressor.

The secret was soon explained by the frightened interpreter. The bundle that had attracted the curiosity of the Doctor, was the "medicine bag" of the lodge; and by changing its position, he had been guilty of one of the greatest outrages which could have been inflicted upon the superstitious feelings of an Indian—and at another time, might have paid dearly the forfeit of his rashness. As it was, at the earnest solicitations of the interpreter, he resumed his seat, and the anger of the chief passed away. Shortly after this, another courier arrived to invite us to a third feast; and taking our leave, we followed him to the lodge of this other chief. This feast was exactly the same as the former; and ere we had finished, invitation after invitation came pouring in upon us, until after visiting about ten or fifteen lodges, one after another, the different members of the party gave out, and returned to the abode of the chief.

Upon our return, Mr. E—— assembled the different warriors, and after some consultation, the following day was appointed for holding a Council, to agree upon the terms of the treaty.

When this had been settled, the Chief turned and spoke a few words to the heralds,† who immediately started through the village, proclaiming to the nation the time appointed for the approaching Council.

While Mr. E. was thus engaged, the rest of the party had drawn together around the fire, and were discussing the different events of the day, when their attention was attracted by the motion of the bear skin, forming the inner door of the lodge, which was slowly raised, and a female stepped timidly from the passage into the interior, and moved rapidly, and evidently with a desire to escape observation, into the darkest part of the lodge. Her whole appearance bespoke her a stranger. She was beautiful; and though a fearful being, she moved with the step of a queen among the wild horde around her. She was the wife of the Keoway Indian, and her dress was of a richness agreeing with his own. A bright band of silver was fastened around her neck, a small jacket of scarlet cloth, the spoil of some pillaged caravan, edged with silver lace and beads, was secured around her waist and breast, with scarlet ribands, and a long garment of blue cloth enveloped the rest of her form. Like her husband, she wore medals of silver upon her breast, and bracelets of the same upon her wrists; her moccasins, also, were

* Every lodge in an Indian village contains what is termed its Medicine Bag, which is hung up in the most conspicuous place, and regarded with the greatest veneration, not only by that individual family, but by the whole tribe. Little is known of their contents, as they are seldom opened, and always with the greatest formalities; while the greatest care is observed in excluding strangers, whose presence or interference is regarded as a certain source of future misfortunes.

† These heralds are self-elected, and are composed of the oldest men of the village, who having spent their younger days in war, now solace their old age by boasting of what they have done, and by occasionally running through the town to spread the orders of the Chief. When no such service is required, they amuse themselves by stalking around the village, yelling out advice to the young men, with voices that might be heard at the distance of a mile, but which, as far as I was able to judge, was attended to about as much as if it had never been uttered.

more finely ornamented than those of the Pawnee women, who were seated around, and who were engaged in offering to her all those nameless civilities due to a stranger and guest.

From the moment of her entrance into the lodge, she had been the object of attraction to all eyes, and finding that it still continued, she withdrew into one of the berths, and dropping in front of her a screen of grass matting, she remained there for the rest of the day.

FOREIGN ITEMS.

The late Miss Frances Wright, who rendered herself so notorious in the United States by the extravagance of her opinions, has taken to herself a husband, and is lecturing in London under the name of Madame Darusmont.

A German translation of the pamphlet entitled the *Reform Ministry and the Reformed Parliament* has been published at Carlsruhe; it is from the pen of Mr. Maurice Bernays, and has been circulated all over Germany.

A panoramic view of the city of New York is at present exhibiting in London. The point of view from which the picture is taken is the Park, and it includes the Broadway, the Bay, with its islands, and all the most striking objects in the neighbourhood of the city. The execution of the picture is unusually good.

Poor Debtors.—At the last meeting of the Society for the Discharge and Relief of persons Imprisoned for Small Debts, fifty-five poor debtors were set at liberty at the society's cost. During the last year this society has liberated 152 debtors, at an expense of £348 7s. 5d. As the whole costs of the society are included in the sum, the debts for which these unfortunate persons were deprived of liberty cannot have amounted to much more than forty shillings! By the Attorney General's new bill abolishing imprisonment for debt, except in case of fraud, the operation of the benevolent society will in future be rendered unnecessary.—[London paper.]

Madame de Stael and Sir James Mackintosh.—The genius and popularity of English living poets, the high estimation of the art, the marvelous events and extraordinary excitement of the time, the influx of distinguished foreigners from the different countries of Europe, rendered certain circles in London brilliant beyond example. Lord Byron was now at the height of his eccentric career; and Madame de Stael, after having paraded herself and her grievances, during ten years, from city to city on the continent, came to London for the purpose of gathering homage through every gradation, from Grub-st. to Holland House. Sir James Mackintosh quandered his mornings, and evenings, and his faculties on those dazzling circles. He did the honors of the genius of Madame de Stael; he escorted, introduced, and exhibited her; he was himself among those whose acquaintance was sought by strangers, as one of the leading intellects of his nation: his presence was thought necessary wherever distinguished talents and the best company were combined for social enjoyment or for ostentation. But what were those frivolous successes of society, those perishable vanities of an hour, compared with the sacrifice of so large a portion of the small compass of human life, which might have been devoted in the solitude of his cabinet to the production of lasting monuments to his reputation? The only remains of his labors at this period are a few occasional papers in the Edinburgh Review. Of his contributions to this publication some obtained a certain celebrity, and were known to be his; others are less known to the general reader, and were not read as his beyond the literary circle of London.—[Life Sir J. Mackintosh.]

Sagacity of a Newfoundland Dog.—The Asia was one of the fastest ships in the fleet, and we stretched away to the westward for several miles, till a gun from the Commodore gave us notice to close. We had seen nothing of the boat, but we saw a strange schooner, Yankee-rigged, that was standing towards the rocks, and we hoped that it the long-boat was yet in existence, there would be a chance of her being picked up by the schooner, though the general idea was, that she had gone down, and every soul had perished. We had scarcely wore ship for the purpose of joining the convoy, when a dense haze obscured them from sight, and as evening was closing in fast, every officer was stationed in different parts to keep a look-out. We had retraced about half our distance, and the passengers were conversing in melancholy mood upon the events of the past night, and the probable fate of the long-boat, when a noble Newfoundland dog, that had lain sleeping on

deck, suddenly raised his head, and gave a short growl. The Captain was pacing to and fro with the chief mate, but stopped near the animal, and addressing it, said, "Halloo, Nep! what's the matter with you, old boy?" The creature wagged his long bushy tail at hearing his master's voice, and then composed to slumber again; but in less than a minute he resumed his growling, and raised himself upon his fore-paws. "He hears something beyond our knowledge," exclaimed the Captain: "up, Nep, up my boy, and see to 'em!" The animal at first rose lazily, stretching his limbs and shaking his coat, but in an instant he stood immovable in the fixed attitude of attention, and then sprang away upon the poop-ladder, running from side to side, and barking most vehemently, till at last he took his station to windward, and seemed perfectly furious. "We cannot be within six miles to the fleet," said the captain, "and yet I am confident there is something near us. Weather cat-head there, do you see or hear anything to windward? Silence, Neptune—down, boy! down!" and the animal became perfectly tranquil, wagging his fine tail, and rubbing his head affectionately against his master's hand. The officer on the lookout replied in the negative, as did also several others who had cautiously looked round, and attentively listened. "I'll stake my existence on the dog's sagacity," said the captain, addressing the chief mate. "By heavens! it may be the missing boat!—haul up the main sail and square the after-yards: keep her course quarter master, till I tell you to luff to the wind, and let there be silence fore-and-aft." The orders were immediately and punctually obeyed, and then the captain, patting the head of the huge animal, exclaimed, "Now, Nep, we must trust to you, old boy; look for 'em, Nep! seek 'em out!" The dog whined with a languid playfulness, as if satisfied that he had awakened attention, when there arose a low, hollow moan, that seemed like a heavy groan, issuing from the very bowels of the ocean. The ship, though moving through the water, was greatly retarded by the shivering of the after-sails, and the dashing noise occasioned by her velocity had ceased. "Folkstle, there," cried the captain, "do you see anything on the weather-beam?" "No, sir," replied the officer, "but there was a sound came down upon the wind just now—though I fear—" he stopped short, but added in a whisper—"it was no living creature uttered such a groan as that!" "The boat—the boat, Nep!" said the captain, patting the dog, "look out for the boat, sir." The animal raised his fore-paws, laid them on the rail, and crouching his head upon them, looked intently to windward, moving his ears rapidly. In a few seconds he gave a shrill howl, and then barking, jumped down, and then fawned upon his master. "Lanterns in the fore and main rigging!" shouted the captain; "clear away a gun there, forward; and Mr. —, burn blue lights," when, caressing the dog, he added, "There my good Neptune, see to 'em, lad—look to 'em." Neptune appeared to comprehend what was said to him, for jumping on a coop, he snuffed the wind and fixed his eyes steadfastly about a point abaft the weather-beam. The lanterns were displayed, and blue lights sent forth their clear blaze, when again that hollow moan was heard, and the dog, with loud barking, leaped from his station, and fawned upon the captain, who exclaimed, "Brace the yards sharp up—aboard main tack; and, quarter-master, keep her clean full and by;—at all events, we'll see the end of this!" The sails were nicely trimmed, and the gallant ship upon a bowline bent to the breeze, and dashed the spray from her bows. Blue lights were still burnt occasionally, the lanterns were shown abaft, and in half an hour the ship was hove in stays, and soon was reaching away on the star-board tack. In another half-hour (for the captain timed it with his watch) the mainsail was hauled up, and the after-yards were in the act of being squared, when the officer at the weather cat-head exclaimed, "A boat to windward—board on the weather-bow!" Every eye was instantly directed towards the spot, and there was visible amidst the gloom a small dark speck; but at the same moment was heard the sound of many voices simultaneously shouting, and warm congratulations were exchanged among all classes on the deck, as there now could be no doubt that it was the missing party. The main and mizen topmasts were thrown to the mast; the small cutter was lowered from the quarter and sent away to tow the long-boat astern, and in another half-hour seventy-six individuals, who, in all probability, would have otherwise perished, were safe upon our deck.—[Leaves from my Log Book.]

NEW YORK AND OHIO CANALS.—In consequence of a combination among the owners of the great forwarding lines on the New York and Ohio Canals, by which the rates of transportation from Albany to Buffalo were advanced from 67 cents per 100 lbs., to 82 cents per 100 lbs., and the good effects of the reduction of tolls on the canals thereby counteracted; the Canal Commissioners of Ohio, at a meeting on the 21st of July, ordered that hereafter double rates of toll shall be charged on all goods upon which the charge for transportation exceeds the following rates per 100 lbs., viz:

From New York city to any place on the Ohio Canal	On heavy goods.	On light goods.
Between Cleveland & Akron (inc. the latter.)	\$1 27	\$1 41
Akron and Massillon, do.....	1 34	1 48
Massillon and Trenton, do.....	1 52	1 66
Trenton and Dresden, do.....	1 61	1 75
Dresden and Newark, do.....	1 65	1 79
Newark and Carroll, do.....	1 73	1 87
Car. & Colum. or Circleville, do.....	1 80	1 94
Circleville and Chillicothe, do.....	1 83	1 97
Chillicothe & Portsmouth, do.....	1 86	2 00

I certify the above to be a true copy.
Attest—**L. A. LAPHAM**
Sec'y Board Canal Com.

Canal Commissioners' Office,
Columbus, July 23, 1834.

The Duke of Northumberland has presented the proprietor of the Surrey Zoological Gardens with the Leucoryx antelope, brought by Lord Prudhoe from Dongola. This rare and beautiful animal is about the size of a small horse, of a pure white color, and its horns are three feet in length. It is the most celebrated of all the antelope genus, and is supposed to have given the ancients the idea of the unicorn, such as it is painted on the Royal Arms of England. These animals are represented on many of the Egyptian monuments, but are only found in Dongola and other provinces of Central Africa.

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality. The greatest care and attention has been bestowed upon the growing and saving of seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine. It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated. Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel-Wurtzel, Yellow Locust, Rota Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,
347 N. Market at (opposite Post Office).
Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit—
NEW YORK FARMER and American Gardener's Magazine.
MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the
NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine-shop of Mr. John Humphrey, in the village of Lansingburgh.—August 13, 1833. A29 (f) RM&F

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without aplice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Servis, Eng. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Garbontale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, {
January 29, 1833.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with assortment of Engineering Instruments, manufactured by
E. & G. W. BLUNT, 154 Water street,
corner of Maidenlane.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four-ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.
WILLIAM NORRIS, Secretary.

December 2d, 1833.
For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

		Flat Bars in
Ninety-five tons of 1 inch by 1/2 inch,	lengths of 14 to 16	
200 do. 1 1/2 do. do.	feet counter sunk	
40 do. 1 1/2 do. do.	holes, ends cut at	
800 do. 2 do. do.	an angle of 45 de-	
800 do. 2 1/2 do. do.	grees with spli-	
soon expected.	cing plates, nails	
	to suit.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, and 5 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

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ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new; among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.
Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Germantown and Norristown Railroad

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STEPHENSON.

Builder of a superior style of Passenger Cars for Railroads.
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J35 f

RAILROAD CAR WHEELS, BOXES AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.
J8 **ROGERS, KETCHUM & GROSVENOR.**

NOVELTY WORKS.

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Rollers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.
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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, AUGUST 16, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 16, 1834.

PARNELL ON ROADS.—We are indebted to the Messrs. Harpers of this city for a copy—indeed, the *only* copy to be found in New-York—of a treatise on roads, by the Right Hon. Sir H. Parnell. It is said—and we can only speak of it at present from hearsay—to be a very valuable work. If we find it so—and we cannot doubt it—our readers will have an opportunity to judge of it for themselves, as we shall publish it, or most of it, in the Journal, and afterwards in book-form, at a cheap rate. We shall, at any rate, make copious extracts from it.

We publish in this number of the Journal the official decree of the Colombian government, upon the subject of a rail, or other, road across the isthmus of Panama, together with a well-written article from the Washington Globe upon the same subject. Several attempts have been made within the last 12 years, by different persons, to project a plan by which this grand object could be effected; but all have failed. The present one will not, we hope, share the fate of the others.

There are men in this city who might, with their own funds, accomplish the undertaking; and in doing it *treble* their wealth, as well as immortalize their names. Who would not be more proud of *such* a victory than of conquering the conqueror of the world, if the latter must be attended with the misery which usually attends military achievements? Who is there that would not prefer to have his name coupled with such a work, than to be the victor of Waterloo? The latter consigned thousands to the grave—the former would be the means of furnishing

hundreds of thousands with the means of happiness and wealth.

We should be exceedingly gratified to learn that the work is to be accomplished by American enterprise and American capital.

RAILROAD TRAVELLING.—It appears, says the Baltimore Gazette, that the amount received by the Baltimore and Ohio Railroad Company from persons travelling between Baltimore and Frederick, during the month of July last, exceeded *Eight Thousand Dollars*. A gentleman who took an excursion on the railroad a few days ago, informs us that there were between three and four hundred persons in the two trains that ran to Ellicott's Mills in the afternoon. They were drawn by new locomotive engines, of American construction, using anthracite coal for fuel, and working with a degree of ease, power and swiftness, fully equal to the best English engines. The passage by each other, in opposite directions, of the trains of carriages, he described as being but the work of an instant, leaving on the minds of the passengers a strong and lively impression of the wonderful facilities afforded by this mode of conveyance.

[From the Patterson Intelligencer of 13th Aug.]

Since the Railroad has been brought into the centre of our town, instead of landing the passengers at the depot, in the outskirts, a manifest improvement in its business is exhibited. Four times in each day our village is thronged with strangers in pursuit of business, pleasure and health, giving life to our streets, and profit, we should hope, to the stockholders of the beneficial institution by which this effect is produced. During the month of July, we have ascertained that 6359 passengers travelled this road, viz. 5584 through passengers, and 775 way passengers.

The report of the Committee appointed in February, 1833, to examine into the state and prospects of the road, is before us, by examination of which we find the expectation was, that when the Railroad was completed to the river, 172 passengers per day would travel on it. The experience of the present season appears to insure more than a fulfilment of these expectations, as, though one of the principal inducements for travellers to use this road, viz. its being finished to New-York, is wanting, yet during the last month it considerably overran this estimate, and we understand has thus far in the present month, averaged 217 passengers a day.

Franklinville, Baltimore county, Md., August 13, 1834.
To the Editor of the Railroad Journal.

Sir,—In your article on Improved Railroad Wheels in the Journal of the 9th, you speak of me as being the inventor of the plan of the wrought iron rod in the wheels, which is a mistake. It was invented and patented by Mr. Phineas Davis, of the firm of Davis & Gartner, and the only agency I have had in the business, has been to mount Mr. Davis' wheels or axles, for the Baltimore and Ohio Railroad Company, and for other companies, and I am prepared to execute orders for similar work, the wheels to be furnished by Davis & Gartner.

Yours, respectfully,

DEAN WALKER.

On the Probable Location of Railroads and Canals. To the Editor of the American Railroad Journal, &c.

SIR,—A writer in the Railroad Journal of the 14th inst., who signs himself "C. O." (Deep Creek,) has given the public a few remarks on the location of railroads and canals, in which he proposes to call their attention to the proper direction of these works, so as the meet the general improvements now progressing in our extensive country, and to adapt them to such advances as future enterprise may produce. He has, however, only touched the outline of the subject, without investigating the principles upon which such works should be conducted: considerations which are indispensable for the accomplishment of the object proposed. In the following views, of the inquiries of C. O. are pursued and extended, and, it is hoped, illustrated in such a way as to call the attention of the public to an examination of this interesting subject.

It may be very difficult, in treating a subject of this kind, to avoid the consideration of the question which of the two modes of conveyance, railroads or canals, is to be preferred, and likely to supersede the other in public estimation.

As the subject has been investigated by the ablest engineers, and others qualified to judge, both in Europe and the United States, the whole of which is to be found in the preceding pages of the Journal, it will be avoided, so far as may be done without leaving the matter under discussion imperfectly explained.

The subject of canalling in our country has been the theme of such profound inquiry—the several practicable and even possible routes and plans for such works, so often made the subject of minute estimate and investigation—that it may be said to be in a manner exhausted. It is at this time scarcely possible to find a line of country of any extent, through which such work could be opened without incurring an expenditure not be justified by the profits. The success of the Hudson and Erie Canal in New-York has induced numberless efforts of this kind, and awakened an almost enthusiastic zeal in favor of them. The public were captivated by the brilliant results from this gigantic enterprise, not only in the amount of tolls, but also in the universal improvement in the value of the landed property which followed its completion. But in how few other cases has success attended the opening of canals? Even in the state of New-York, many of the canals

which have been made since the completion of the first great work have been failures, and are now supported from the profits of the one first completed.

The great canal now under construction from Washington city to the Ohio, (the Chesapeake and Ohio Canal,) if ever completed, is not expected to afford tolls to the amount of 2 per cent. on its cost; and yet this passes through a country abounding in agricultural production, and mines of valuable minerals.

The Delaware and Chesapeake canal is understood to be an unproductive stock; and the canal, through the Dismal Swamp, which has been more than 30 years in progress, now that it is completed, is found to produce a very meagre dividend in tolls. Of the canals cut by the state of Pennsylvania, and the chartered companies within its limits, scarcely one in ten is expected to be profitable stock, and its citizens are now turning their attention to railways, &c., as a substitute for them. In short, there is scarcely a great work of this kind, (the Hudson and Erie Canal excepted,) which has not terminated unfavorably to the adventurers. It is not proposed to enter into an inquiry what, in our country, has been the cause of these failures in canals—works which are so productive in the European states; but merely to assume the fact, as one which will not be controverted by persons experienced in these works, that, in our country, canals are enterprises attended with danger of loss to the parties adventuring, and that there are few situations when they could be attempted, (on a large scale at least,) without hazard of the loss of capital.

With respect to railroads, the matter may be said to be very different. They may, it is believed, be constructed under many circumstances in which canals are inapplicable, at less cost, and an almost absolute certainty of giving a better return in tolls for the capital employed.

The following are the principles which, it is believed, should direct the selection of a route for a railroad, and which, if practised on, will insure success, without regard to future changes or contingencies.

In the 1st place, railroads should be laid out to run from the fertile districts of the interior of the states, to some (the nearest) seaport or navigable waters, whence the articles conveyed on them may be transported to a foreign or distant market.

2dly. The great intercourse now subsisting between the seaport towns on the Atlantic require the benefits of this mode of conveyance. The time cannot be far off when this intercourse will be increased to an indefinite extent. In the interim, railroads may be built with a certainty of profit between any of these cities, until a continuous line is finished from Boston, (perhaps Portsmouth, N. H.,) to St. Mary's, in Georgia; and it is probable the line might be safely extended from St. Mary's to St. Marks, on the Gulf to Mexico. The intervening country between the two places having been ascertained by Gen. Barnard to be eminently favorable to such a work. (The Peninsula being only 150 miles across, and the highest land on the ridge about 50 feet above the level of the ocean.)

Another class of railroads which promise certain profit on the capital invested, are the lateral roads which will be run from the mines of coal, iron, lime, plaster, &c., which abound in the mountainous region of some of the states, to some road or canal extending from the fertile interior districts of the country to a seaport. The number of lateral roads which will be required for the transport of these products of the mines, must be matter of conjecture. Every day adds to the discovery of beds of valuable mineral substances, and to the number of mines opened: from all which lateral roads must be constructed to intersect the nearest railroad or canal to navigable water. Many of these are already in profitable operation, and are connected with some main line of railroad or canal, by which the produce of the mines is conveniently carried to market.

From what has been said it would seem that

canals offer few inducements for the enterprising to engage in their construction: that few situations in our country are adapted for this purpose, unless at an expense which the profits will not justify; that, if constructed at all, the selection of the routes must be left to the judgment of the engineer, looking to the probable advances of the country in other general improvements; that no definite rules can be laid down for their construction, their success depending upon so many contingencies, not likely to be united in their favor, &c. But that railroads may be undertaken with confidence of success, wherever they are made to run from a seaport or navigable water to a district of the interior country, which affords a large quantity of valuable agricultural or manufacturing products; that they will succeed, if run from one seaport to another, everywhere on the Atlantic coast, from Portsmouth, N. H., to St. Mary's, Ga., and probably across the Peninsula to a port on the Gulf of Mexico, (as St. Marks;) and, lastly, that they will probably yield a certain and profitable return, when run laterally from beds of mineral products, to intersect other main railroads or canals leading to a place of export.

The introduction of locomotive engines, to propel carriages on railroads, has greatly added to the utility of this mode of conveyance; and the improvements which modern enterprise has made in their structure, increasing, to an almost unlimited extent, the power of the engine, and at the same time giving greater strength, and affording a surer protection from casualties, will serve to exalt them in the public estimation and ensure their universal employment.

CIVIS.

Proposed Road for Locomotive Engines. To the Editor of the Railroad Journal, and Advocate of Internal Improvements.

SIR,—It must be apparent to those who notice the progress of improvements, and especially to the readers of your valuable journal, that a new era in this branch of the economy has commenced.

The enthusiasm which seems to pervade our country, to say nothing of the old world, for establishing railroads and canals, will put a new face upon human economy. Inland commerce, and even military movements, will scarcely feel the obstacles of time and space, which once so fearfully embarrassed their operations.

Whoever will consider the unsatisfying nature of all partial improvements, and the excessive anxiety to extend them, not merely through all the great thoroughfares for travelling and transportation, but to every hamlet in the country, will realize the truth of what may otherwise seem extravagant.

There is no good however without an alloy. The enthusiasm and spirit of competition which so excites the public mind will no doubt often cause an unprofitable expenditure and misapplication of large sums of money, which the owner can ill afford to lose. Railroads will be made at unnecessary cost, and in places where the business would not pay for them at the lowest cost. It has occurred to the writer of this article that this evil may be at least somewhat remedied, and without checking in the least the public ardor for improvement. A just regard for economy requires that every device for transportation should be apportioned, in its expense, to the business to be done. A road from Baltimore to the Ohio must not be allowed to cost as much per mile as one from Liverpool to Manchester; or if it must cost as much, the work can only be done by posterity.

This course of reflection is presented to the reader because it led the writer to the conclusion that a road, which can be constructed much cheaper, and repaired at less expense than a railroad, and yet approaching its conve-

nience and usefulness, is a great desideratum in the present system of improvements. To accomplish this end, it is proposed to make a road in the following manner, viz.: The route having been selected and line determined, with great care, let the grading be done in the usual manner, varying in width from 12 to 24 feet, making the narrowest parts where the work is most expensive, and vice versa; when the embankment is formed, roll it down well with a massive cast iron roll, then put on a coat of gravel or shell stone about 4 inches thick, and roll again. When the road is finished, let it be used as follows: No other power than a locomotive engine to be permitted; these are cheaper than horses, especially when, as in this case, they require but little weight to prevent the slipping of the wheels. All the cars or waggons to be used must have wheels whose width is apportioned to their load, say none less than 8 inches wide; and to prevent injury to the road, one axle-tree of the waggon should be shorter than the other, so that two 8-inch wheels might roll 12 inches, or cars for light loads may be made with three narrow wheels, two before and one behind, or reversed, as might be found most convenient.

Different waggons should not all be of the same width; the more diversity in this respect the better. It can scarcely be doubted that, with such power and vehicles, the road would easily be kept smooth, and become very hard. Constant but not expensive attention would be required to fill up any depression with proper materials. Drains must be kept open and care taken to let the water run off at the sides. In the winter, a broom attached to a car, with gearing similar to that which is used to water city streets, could be made to sweep off all the snow. This apparatus, as well as the waggon which supplied the gravel, &c., for repairing, could be attached to one of the trains at pleasure, with very little expense for power. It is unnecessary to state in detail all the arrangements that may be made for preserving the road and promoting economy. The heaving of the frost in winter will be deemed perhaps the most formidable obstacle to this form of road; but it is not found that paved streets, or the McAdam's road, or even the common stone turnpike, is injuriously affected by this cause. They are injured by the pressure of heavy loads on narrow wheels, while the earth is soft. If the pressure were upon a greater surface, the injury would be diminished. The nearer we can arrive at an equal action or stress, upon all the parts of any mass of matter, the less effect will be produced on each of those parts; and the more solid the material, and uniform the condition, of any such mass, the greater will be its power of resistance. To attain the first, the wide wheel is relied on; and the last is approached by grading the road as much as practicable some two or three feet above the common surface, and where excavations are necessary, keeping out the water by drains. In wet springy grounds, grubble stone may be found essential. The dryer the road is kept, the less will be the effect of frost; and the more uniform the moisture in it, the less will any part be displaced by freezing or thawing, by reason of the expansion and contraction of all the parts together.

Good gravel turnpikes, where heavy loads are not put on them, keep their form remarkably well, with but little care in repairing, although exposed to the action of horses' feet, and of narrow wheels always running in the same rut. The road from Baltimore to Washington is an example of this kind. The public gravel walks in the cities are not injured by frost or rain, and one of the means for averting such injury is rolling them with heavy rollers, not unlike, but less effective, than the rolling of the wheels of the waggons, as proposed. These considerations have satisfied the writer that no serious inconvenience is to be apprehended from frost, and that the road may be used with but little interruption from that cause throughout the year in any part of the

United States. Heavy drifting snows would perhaps be thought difficult to conquer; but it is known that there occurred, during the winter of 1830-31, an unusually severe drifting snow, and yet the cars on the Baltimore and Ohio railroad were not stopped, even in their deep cuts, more than a single day; the snow being swept off as fast as it fell on the road, by a machine attached to the cars. It remains to notice some of the peculiar advantages of the proposed road. Here it should be observed that it is not intended to recommend it as preferable to a railroad, where the assurance of business will justify the expense of the latter; but as a valuable substitute where that is not the case, and as being free from some important objections to which railroads are liable.

The proposed road must, as well as railroads, necessarily be under the exclusive direction of a company, or of a special municipal authority, which has power to prescribe and enforce regulations; but these regulations will admit of a much more diversified operation of business than can be conducted on a railroad: the vehicles for transportation may meet or pass at pleasure, and may be drawn at any speed suited to the business of the owners. Companies or individuals running stages, carrying the mail transporting merchandize, or heavy products, having their respective establishments of engines and trains, may each start at their own time, and run at the most convenient speed. Where there are no ruts, the slow train may easily turn out for the faster one to pass. This operation approaches very nearly to all the advantages of a road for general business, gives full scope to competition, and of course protects the community from some of the dangers of monopoly. Another essential advantage of this road is, that an engine of light construction may exert a much greater power in ascents than can be done where the wheels run upon an iron rail.

As this is an important consideration, I may be excused for presenting it more distinctly.

A locomotive engine, weighing 6 tons, where all the wheels are worked, is ascertained by experiment to contain an adhesive power of 672 lbs. on a level, which is one-twentieth of its weight. This engine will draw a load of 17,658 lbs. in addition to its own weight, without detrimental slipping of the wheels, up a plane of 1 foot in 50. The proportion which the adhesive power of wheels on a gravel road bears to the weight of the car is not yet accurately ascertained; but when it is considered that the diameter of the wheels may be greater than would be safe for those of railroad cars, it will not be unreasonable to estimate the adhesion at one-eighth the weight of the car, two-thirds of the load resting on the working wheels. Even on the iron rail, the adhesion has been found under very favorable circumstances more than one-tenth of the weight upon the wheels. According to the proposed estimate of one-eighth, an engine weighing 3 tons contains adhesive power of 830 lbs. On a level, and after making the proper deductions as before, for the gravity of the engine and its diminished pressure on the ascending plane, its adhesive power will, on a plane of one in fifty, be sufficient for drawing a load of 28,450 lbs. in addition to its own weight. If the ascent of the plane be 1 in 25, the effective adhesive power of the six-ton railroad engine will only be sufficient for a load of 2,320 lbs., while that of the three-ton gravel road engine will suffice for a load of 14,700 lbs. The calculations for these results are made from the usual allowance of 10 lbs. to the ton for the friction of the loaded cars; that for the engine car, being a constant quantity, is not taken into account. An allowance is made also for the diminution of pressure, and consequently of adhesion on the planes, which, although neglected by the writers on railroads which I have met with, is an important item. From these facts it will be seen, that upon the hard gravel road an engine will have adhesion enough to employ a much greater portion of its steam power on ascents than can be effected on

a railroad; and consequently, the engine being less embarrassed by its own weight, may be proportionably lighter. It is also apparent that when the whole steam power of an engine can be exerted, without slipping the wheels, it can ascend much steeper acclivities. To what extent this may be accomplished, remains to be ascertained; but if ascents of 1 in 20 can be overcome, there will be no difficulty in crossing over a mountainous country without the aid of any other machinery than the locomotive engine. There are few mountains which may not be graded to four and one-third degrees. There is another consideration which strongly recommends the proposed road: wherever the grades are not too steep, the road will be a perfect preparation for laying a double track of rails, which may be done as soon as business will justify. The steep acclivities must necessarily be overcome by other means, and the location adapted to such change of plan. In conclusion, it may be remarked that the most effective plan of transportation, whether it be railroad or canal, should be adopted, when the business will justify the expense, and all other plans must be regulated by the same considerations, viz.: business and expense.

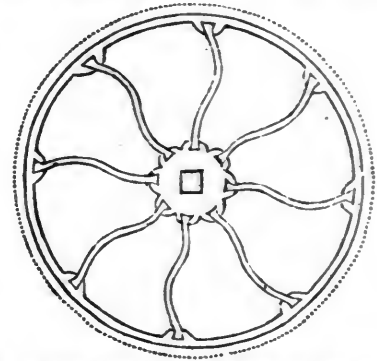
The pioneers of the wilderness are obliged to begin with a pack-horse path, while the people of the Atlantic border, with their hundreds of passengers and tons of merchandize passing daily, may afford to make railroads at almost any expense. All intermediate conditions of business must necessarily adapt their roads to their circumstances. Each path or road, however little frequented, is tributary to others in more general use, which, like the streams passing from the summit regions to the ocean, gather business as they progress, and justify a proportionate expense in their improvement. And prudent men, however ardent their impatience to have the best roads, will be governed by the circumstances in which they are placed. It is in this view that a road which is preferable to the common turnpike, and cheaper than a railroad, is a desideratum in our transportation economy.

The varied ingenuity of those whose attention is now engaged in improvements, will no doubt discover some objections, and probable advantages, too, which have not occurred to the undersigned. The subject is however submitted to that candid consideration of an intelligent public, which cannot easily be led astray by unsubstantial projects. It may be observed, that the locomotive engines have been for some time in operation in England on common roads, where the projectors seem to be sanguine of entire success; but if it can be used on roads where horses' feet and narrow wheels are permitted to break the even surface, and over the hills of common turnpikes, how much better will they work on a road prepared and used as above proposed. Yours, &c., J.

Experiments on Wheels with Straight and with Curved Arms. [From the London Mechanics' Magazine.]

SIR,—Having read some remarks, by two or three of your correspondents, in regard to springs as applied to locomotive engines and other heavy carriages, and noticed the suggestion thrown out, that the spokes or arms of the wheels might possibly be made of such materials, and of such a form, as of themselves to counteract sufficiently the jolting of the superincumbent and progressing weight, and so dispense with the costly springs at present used, I am induced, by the perusal of these speculations, to send you an account of some experimental observations of my own, which have, I think, a strong bearing upon the subject. About five years ago, I fitted up some waggons, for a coal concern, which I have the management of here, to run upon a railway of cast iron. The wheels are of cast iron, but

have wrought iron arms, in the form and manner following:



In giving this curved form to the arms, I did not at the time contemplate that they should act as springs; though, as will be presently seen, it has been attended with great advantage. The ordinary weight of these waggons, when full of coal, is about 3 tons 15 cwt., waggon included. On this same railroad, an iron company have the privilege of conveying their iron ore, the waggons employed for which purpose are entirely of cast iron, with straight arms, and, when loaded, weigh (waggon included) something less than 3 tons. In the course of last summer, I found it necessary to repair a wooden bridge of considerable extent, over which both kinds of waggons had to pass, during the time these repairs were going on. To the great surprise of the workmen, they found that our own waggons, although the heavier, as above stated, produced less effect on the bridge than the others. This I could only attribute to the difference in the form of the arms of the wheels; and every observation which I have since made serves to confirm me in this conclusion. I have rode alternately on both sorts of waggons, when at their greatest speed, and certainly a sensible difference is felt to the advantage of the crooked and slender arms. The noise also which they make is much less. It may be proper to add, that the wheels with the wrought iron arms stand their work uncommonly well—much more so than the others. The fact is, we have not had one broken or worn out during the five years that they have been in constant use.

Should this article have the effect of turning the attention of some of your ingenious readers to the subject, it might be of service. Our wrought iron arms are 5 inches wide, and scarcely $\frac{1}{2}$ of an inch thick. Supposing, then, that, instead of being of wrought iron, they were made of steel of suitable quality, they might be made thinner than $\frac{1}{2}$, and with a greater number of arms: a much better form of curve, too, than that I have employed may very possibly be suggested.

I am, sir, yours, respectfully,

WM. BROUGH, Mineral Surveyor.

Cwmneath, Glamorganshire, Dec. 15, 1833.

LAKE ONTARIO STEAMBOATS.—It is not generally known to tourists, that there is a fine route from Saratoga to Ogdensburg, on the American shore, via Lake George and Champlain, which since the appearance of Cholera in Canada, is a good deal travelled. We learn that there has not yet been any case of Cholera on the American side. In consequence of the prevalence of that disease at Prescott and Kingston, the steamboat United States has, for the present, stopped touching at her usual landing places on the Canadian side of the River and Lake. Capt. Van Dewater makes a trip to and from Ogdensburg and Niagara every fifth day, running the whole 300 miles in from 33 to 35 hours.—[Albany Eve. Jour.]

[From the Globe.]

RAILROAD ACROSS THE ISTHMUS OF PANAMA.—The Globe of this day contains two Decrees of the Government of New Granada, which may be considered as an advertisement for proposals to construct a Railroad across the Isthmus of Panama; and as the subject is one of the greatest importance to the world in general, and especially to the United States, we shall offer a few observations upon it.

Ever since the discovery of the Pacific Ocean, some safer and easier channel of communication between it and the Atlantic, has been the object of universal desire; and the narrowness of the tract of land which separates them at one point, gave great encouragement to the hope that such wish would be speedily fulfilled. Three centuries have, however, passed, and not only has no ship canal between the two seas been made or even attempted, but there is actually nothing which deserves the name of a road, connecting any point on the one with any point on the other. Seldom, if ever, has a wheel carriage rolled from the Atlantic to the Pacific.

The Spanish Government did indeed order surveys, which were in one or two instances begun; and a host of decrees are still to be found in the old *Recopilaciones*, setting forth the importance of establishing a communication between the two oceans, the wealth it would produce, the power it would give to the Spanish Crown, &c; but the only work actually executed for the purpose, was by the voluntary exertions of a country curate and his parishioners, in the west of New Granada; they dug a canal through the valley of *la Raspadura*, by which, in the rainy seasons a boat might pass from the head waters of the Atrato, a long and shallow river emptying into the Atlantic, to those of the San Juan, a stream of similar character, falling into the Pacific. The work however proved of no utility.

Since the overthrow of the Spanish power in America, the governments of the new Republics lying between the two seas, have been much occupied with the subject, though it must be confessed that they have done little more than issue vague decrees. The decree published to-day is, however, more precise, being founded upon minute information as to existing circumstances.

Humboldt, in his great work on Mexico, enumerates nine points or situations in which the waters of the two oceans are very near each other; and in three of them, he conceived, from the information in his possession, that a ship canal might be made.

The first of these situations is in Mexico, between Guazacualco near Vera Cruz on the Gulf of Mexico, and Tehuantepec on the Pacific. The country has, however, been explored since Humboldt wrote, and it is now certain that a high chain of mountains intervenes, rendering all communication by water impracticable.

The second is in Central America. The plan proposed is to improve the navigation of the river San Juan, by which vessels could ascend into the Lake of Nicaragua. The southwestern extremity of that lake is only thirty miles from the Pacific, to which a canal might be made. The difficulties, judging from the partial surveys which have been made, are not greater than those which have been already surmounted in many other cases; still the expense of the undertaking would be enormous. The country is uninhabited, and laborers, as well as tools of every sort, would have to be brought from abroad; in addition to which, the deadly nature of the climate would render the sacrifice of human life incalculable. Companies have however been formed for undertaking this work, and engineers sent out to examine the ground, have reported favorably. The government of Central America was in 1830 treating with that of the Netherlands on the subject, but the revolutions which occurred in both countries put an end to the negotiation.

The third in the Isthmus of Panama, which forms a part of New Granada, is a thesisitation referred to in the decrees now before us. We can here form a better estimate of the difficulties to be overcome, and of the probability of success, as the country has been minutely examined with a view to this very object.—A survey was made in 1828-9 by an English engineer, Mr. Lloyd, and a Swedish officer, who were engaged for the purpose by Bolivar, and furnished with all the necessary instruments, of the most perfect order. Their account of the operations is published in the Royal Transactions of London for 1830, accompanied by maps and plans, and the utmost confidence is placed in its accuracy, by those who had the best means of forming a judgment.

The first question that occurs is as to the face of the country. Mr. Lloyd shows that "the spot where the Continent of America is reduced to its narrowest

limits, is also distinguished by a break for a few miles, of the great chain of mountains, which otherwise extends, with but few exceptions, to its extreme northern and southern limits;" and that "the principal difficulty in establishing a communication between the two oceans, either by canal or railroad, would arise, not from mountains, but from the number of rivulets to be crossed; which, though dry in summer, become considerable streams in the winter or rainy seasons." He states moreover the curious fact, that a great portion of the country traversed in crossing the Isthmus, actually lies below the level of the Pacific.

Another great question determined by the two engineers, is that of the relative height of the two seas, or their difference of level, which difference had hitherto been supposed very great. The facts are as follows:—The time of high tide is nearly the same in both seas. The mean difference between high and low water in the Pacific at Panama, is about 21 feet; in the Atlantic, at Chagres, about a foot.—Finally, "in every twelve hours, commencing with the high tides, the level of the Pacific is first several feet higher than that of the Atlantic; it then becomes of the same height, and at low tide is several feet lower; they are then again equal, the Pacific afterwards becomes the higher, and so on."

The conclusions to be drawn from the accounts of the engineers, are, that a railroad is certainly practicable; and the lines on which two could be made, are traced on the map. Each road would begin on Chagres river, about 30 miles from its mouth, in the Atlantic; the one terminating at Panama, on the Pacific, the other and shorter, at Chorrera, from which a short canal would lead to the latter ocean. Neither road would probably exceed 80 miles in length. The river Chagres now admits no vessels drawing more than 12 feet, but it could easily be made to communicate with the safe and spacious bay of Limon, by which means large ships could discharge their cargoes at the commencement of the railroad. A canal for boats is also practicable, but a railroad would be preferable for several reasons.

As for a ship canal, it is certainly impracticable at this spot. Supposing no difficulties to exist within the Isthmus, the shallowness of the Pacific for some miles from the coast, would forbid the entrance of ships; and it would clearly be of no value, unless it could be passed by vessels which could navigate both oceans to advantage. In a political point of view, we, at least, should oppose the opening of such a communication, the possession of which, by any other great naval power, might be highly injurious to our interests; and that the greatest naval power would soon possess it, cannot be doubted. In the present state of the world, a railroad promises every advantage to New Granada, and to the commercial world in general, which can reasonably be desired; and the transportation of passengers and letters alone, would doubtless yield a large revenue, particularly if steam boats were established from the principal places on each sea, to the respective extremities of the road.

OFFICIAL—DEPARTMENT OF STATE.

[Translated for publication by order of the Secretary of State.]

Decree of the Legislature of New Granada, authorizing the Executive to contract for the opening of a carriage road across the Isthmus of Panama.

The Senate and Chamber of Representatives of the Republic of New Granada, in Congress assembled, considering—

1. That the Message from the Executive to Congress, of April 6th, 1833, does specially recommend the propriety of having a road for carriages opened across the Isthmus of Panama, from the Atlantic to the Pacific:

2. That the Chamber of the District of Panama took up this important subject on the 16th of June, 1831, and that nothing has yet been done to carry its wishes into effect:

3. That the Province of Panama has again taken into consideration this same project, at its meeting of October 13th, 1833, on the petition of a citizen of the Isthmus, who has proposed a means of opening a carriage road, by which goods may easily be transported from one sea to the other:

DO DECREE.

ARTICLE 1. The Executive is authorized to receive all propositions which may be made for opening a carriage road across the Isthmus of Panama; and also to sign a contract with any person or company soliciting it, on the conditions fixed by this Decree.

ART. 2. The undertakers will have leave granted them to open an ordinary carriage or Railroad across the Isthmus of Panama, from the Atlantic to the Pacific; and they may make use of any water

course which may assist in forming the communication.

ART. 3. The road must be begun within two years at farthest after the privilege has been granted; the time in which it is to be finished will be stipulated in the contract.

ART. 4. If the road should pass over private lands, the owners shall be obliged to sell them at a fair price; that is, at what may be considered their value by arbitrators, at the time when the work is begun. If the land over which the road is to pass be public, (*valdia*), it will be given without requiring indemnification.

ART. 5. The undertakers shall have the right to build warehouses or other edifices necessary for carrying into effect the objects of the enterprise, at convenient places, provided they do not interfere with the laws relative to fortifications. For such purposes, they may occupy as much land as may be necessary, no where, however, to exceed 10,000 square varas, (962 square yards,) for which indemnification is to be made as by article 4th, or rent to be paid, when the owners decline selling the property.

ART. 6. The undertakers shall be allowed, as a fair remuneration, according to the species of road they may make, the enjoyment of the revenue from it, for a period not less than 10 years, nor more than 50.

(1.) The right of demanding toll shall begin the moment the road is finished, and the *maximum* of such toll shall be that expressed in the tariff granted by the Legislature of the Province of Panama.

(2.) Should a rail-road be made, leave may be granted to the undertakers to place steam carriages on it; in which cases, it shall be settled in the contract what is the *maximum* price to be demanded for the transportation of persons or goods, from one sea to the other.

ART. 7. The undertakers shall have granted them, as a recompense, public lands in the Isthmus, for cultivation, to the extent of 20,000 *fanegadas*, (about 100,000 acres) which they must begin to settle and cultivate within a year after they have received them; otherwise they will revert to the nation.

ART. 8. On the said 20,000 *fanegadas* of public land, foreigners may be established, who, for 20 years, shall be free from all taxes either on the land or its productions; nor shall they be required to do duty in the army, unless in case of foreign invasion.

ART. 9. Inhabitants of the Isthmus, or a company composed, in part of such, will have the preference, under the same circumstances, in receiving the contract.

ART. 10. The Executive shall exact from the undertakers, all the necessary securities for completing the work.

ART. 11. No contract which the Executive may make, can take effect without the approval of the Legislature.

Bogota, May 22, 1834.

[Signed by the proper authorities.]

Decree of the Executive for carrying the above Legislative Decree into effect.

I, Francisco de Paula Santander, President of the Republic of New Granada, in execution of the Legislative Decree of the 25th inst., authorizing the Executive to receive proposals for opening a road in the Isthmus of Panama, from the Atlantic to the Pacific, and fixing certain points, according to which, the contract is to be made, and privileges granted to those who may undertake the said important work:

Considering that a period should be fixed for receiving proposals, after which the contract should be made with, and the privileges granted to, the person who offers the most advantageous conditions and the best security for their performance,

DO DECREE.

ART. 1. Those persons, whether natives of New Granada, or foreigners, who, in virtue of the Legislative Decree of the 25th inst. may wish to undertake the construction of a road across the Isthmus of Panama, either for ordinary carriages, or a rail road, and to secure the privileges which are to be the remuneration for their labored expense, will send their proposals, sealed and under cover, to the Department of the Interior and Foreign Affairs, before the 15th of January, 1835.

ART. 2. Those who may send such proposals, must appoint some one in this capital, with power and authority to sign the contract offered. The same person must be furnished with the means of proving that he who offers to undertake the work can carry it through, in case he receive the privilege.

ART. 3. In the envelope of each set of proposals, shall be written the object of the paper enclosed, and

the name or names of the persons desiring to undertake the work.

ART. 4. After the 15th of January, a day and hour shall be fixed for opening the said papers, at the Department of the Interior and Foreign Relations, in presence of the respective attorneys or agents, and the contract will be signed with the person offering the best conditions and the strongest security, which contract will be submitted for the approval of Congress at its ensuing session.—*Bogota, May 29 1834.*

FRANCISCO DE PAULA SANTANDER, President.
LINO DE POMBO, Secretary of the Interior, &c.

Patent for an Improvement on the Mode of fixing Valves on the Boilers of Steam Engines. Granted to DAVID B. LEE, city of Philadelphia, January 23.

The safely valve here patented is, we are informed, "a fixture for boilers for steam engines, to prevent *collapsation*, resembling the common safety valve, except that it opens in by the pressure of the atmosphere." And "the part claimed as an invention, or discovery, is not the particular form of the valve, but the general plan of fixing a valve, or valves, to boilers of steam engines, which shall open with an external pressure, to prevent *collapsation*."

A very little reading would have shown to the patentee the antiquity of his invention, as an account of it may be found in most, if not in all, of the numerous histories of the steam engine. We could take from our shelves a dozen books from which to quote upon this point, and could refer to numerous patents in which such valves are noticed. In the article *Steam Engine*, in Rees' Encyclopedia, after speaking of the safety valve in Watt's engine, it is observed, that "there is another valve of safety for the reverse of the object of the first mentioned safety valve; it opens internally, and is balanced by a small lever, and a sufficient weight to keep it shut, until the pressure of steam within the boiler becomes much less than the external air, which then forces open the valve, and enters into the boiler till the equilibrium is restored. It is evident that this valve can never be necessary so long as the engine is at work; but its use is to prevent the sides of the boiler being crushed in by the weight of the air, when it has done work, and the steam within it cools and condenses."

This kind of valve has, in fact, been applied to hundreds of boilers, stills, &c. With the kind of boilers which we now ordinarily use in steam engines, valves of this kind are not employed, for the simple reason that they would be of no use. Our cylindrical iron boilers do not collapse by the pressure of the atmosphere, which they would be able to sustain, even if perfectly exhausted; nor is the collapsing which frequently takes place, a collapse of the boiler, as the patentee appears to suppose, but of that of the flue which passes through it, and which is forced in, not by the pressure of the atmosphere, but by that of high steam, occasioned in general by the water being allowed to descend too low, which admits of the heating of the upper part of the flue, and the consequent diminution of its strength; it then yields readily to a pressure, which, under ordinary circumstances, it would have sustained most effectually.—[*Journal of the Franklin Institute.*]

SCOTLAND.—HISTORICAL MEMORANDA.—No country has made more progress in agricultural improvement, and in multiplying the comforts of life, than Scotland during the last fifty

years. The Rev. C. Peebles, in his statistical account of Mains, in Angus, draws a curious comparison between the farmers in 1760, when he came among them, and 1790. The following are a few points:

1760.	1790.
Land ploughed with oxen. Only a few horses kept to draw the harrow in seed time, and bring in the corn in harvest. 71. thought a great price for a horse.	Oxen not employed in agriculture. Farmers have their saddle horses, worth from 24 to 30 <i>l.</i> , and work horses from 20 to 25 <i>l.</i> each.
Land rented for 6 <i>s.</i> per acre, and only two small farms enclosed.	Land at 30 <i>s.</i> and all enclosed with dykes and thorn hedges.
No English cloth worn but by the minister and a Quaker.	There are few who do not wear English cloth, and several the best superfine.
Men's stockings were what were called plaiding hose, made of woollen cloth. The women wore coarse plaids. Not a cloak or a bonnet was worn by any woman in the whole parish.	Cotton and thread stockings are worn by both sexes, masters and servants. The women who wear plaids have them fine and faced with silk. Silk plaids, cloaks and bonnets, are very numerous.
Only two hats in the parish. The men wore cloth bonnets.	Few bonnets are worn, and the bonnet-maker's trade is given up.
There was only one eight-day clock in the parish, six watches, and one tea-kettle.	Thirty clocks, one hundred watches, and above sixty tea-kettles.
The people never visited each other except at Christmas. The entertainment was broth and beef, and the visitors sent to some ale-house for five or six pints of ale, and were merry over it without any ceremony.	People visit each other often. Six or seven dishes are set on the table differently dressed. After dinner a bowl of rum punch or whiskey toddy is drank, then tea, then another bowl, then supper, and, after that, the grace drink.

A new work.—Major HENRY LEE, of Virginia, has, we learn, been for some years past engaged in preparing, with great labor, from a rich store of materials, a *LIFE OF NAPOLEON*. From the following announcement in Galignani's Messenger of June 19, we learn that the first volume of the work has gone to press at Paris:

"In the press, and very shortly will be published by A. and W. Galignani & Co., No. 18, rue Vivienne, the first volume of the 'Life of the Emperor Napoleon, with an appendix, containing an examination of Sir Walter Scott's 'Life of Napoleon Bonaparte,' and a notice of the principal errors of other writers respecting his character and conduct; by H. LEE.

"Vir neque silendus,
Neque dicendus sine cura,—aliquando
Fortuna, semper animo maxime.

Vell. Paternus, 1. 2. c. 18.

"Quelques parcelles de tant de gloire parviennent aux siècles à venir? ou le mensonge, la colonnie, le crime, prevaudront-ils?"

Napoleon à Ste. Helena."

The distinguished literary ability of the author, with the great advantages which he has enjoyed over every other biographer, and his freedom from any thing like national prejudice in reference to the history of the career of NAPOLEON, will give an interest to this over most other histories of the Revolutionary era, the civil reforms which preceded it, and the gigantic wars in which the power of Napoleon was overthrown. We learn from a friend at Paris, that "Major LEE has devoted himself, with untiring diligence, to the pursuit of truth in regard to the object of his work. His inducement to this publication has not been so much the desire of gain, or the promise of literary fame, as the hope, the great and only hope, that he may prove instrumental in vindicating from unparalleled injustice the fame of the greatest man, of whom the history of the human race preserves any record; a man whose career was one continued opposition to the worst passions, and active promotion of the best interest of his country and his species—who never really belied an enemy, nor betrayed a friend." Such are the enthusiastic terms in which one, who has watched the progress of Mr. LEE's work, speaks of the subject, and in which probably Mr. LEE would himself speak of it.

We suppose it will not be long, after the publication of the work at Paris, before copies of it reach this country; when we shall endeavor to make our readers further acquainted with it.—[*Nat. Intel.*]

Whole ships at the Sandwich Islands.—The Sailors' Magazine for August contains a long communication from Wm. Richards and Ephraim Spaulding, Missionaries at Lahaina, (Sandwich Islands,) from which it appears that the first whale ships which ever visited the Sandwich Islands, were the Balena,

Captain Gardner of New Bedford, and Equator, Capt. Folger, of Nantucket. This was in the autumn of 1819. While lying at anchor in Keolakekua Bay (Hawaii), they took a large whale which made 110 blbs. of oil. Since the autumn of 1823, a complete list has been kept by the Missionaries, of the ships which have recruited at Lahaina, (Island of Maui,) and probably still greater numbers have recruited at Honolulu (Island of Oahu.) The whole number at Lahaina from the middle of 1823 to the end of 1833, ten years, is 514, including 218 different ships. In the spring of 1831, there were 38 ships at anchor in that harbor at one time. The number of ships which recruited there in 1833, was 82; 30 in the spring, and 52 in the Fall. Aggregate of oil on board, at the time of their calls respectively, 74,390 blbs. Aggregate taken by the 52 autumn ships during the season, 27,340 blbs., averaging for each ship a little more than 525 blbs. "From these facts," say the Missionaries, "it will readily be seen that, though the average quantity taken by each ship the past season is less than in some former seasons, the whale fishery is still in a very prosperous state; and considering the great demand for Sperm oil in America and Europe, it was never more profitable."

The number of seamen generally in port, rendered it desirable, in the view of the Missionaries, that a reading room should be provided for their accommodation; and accordingly a building has been erected, 32 feet by 20, on the missionary premises, for masters and officers, and another about 10 rods distant, 24 feet square, for the crews. The first cost of the buildings was about \$720; of which \$200 was paid by the Missionaries, \$215 by ship-masters, and the remainder, it was presumed, would be contributed by other ship-masters, as they should successively arrive in port. "As it regards social intercourse between the Missionaries at this station and seamen during the past year," says the letter, "it has been uncommonly cordial and pleasant. Masters generally have been very kind, and some in addition to their subscription for the reading-rooms, have been generous in making us presents of such things as were necessary in our families, an acknowledgement of which we shall gratefully make to the American Board."

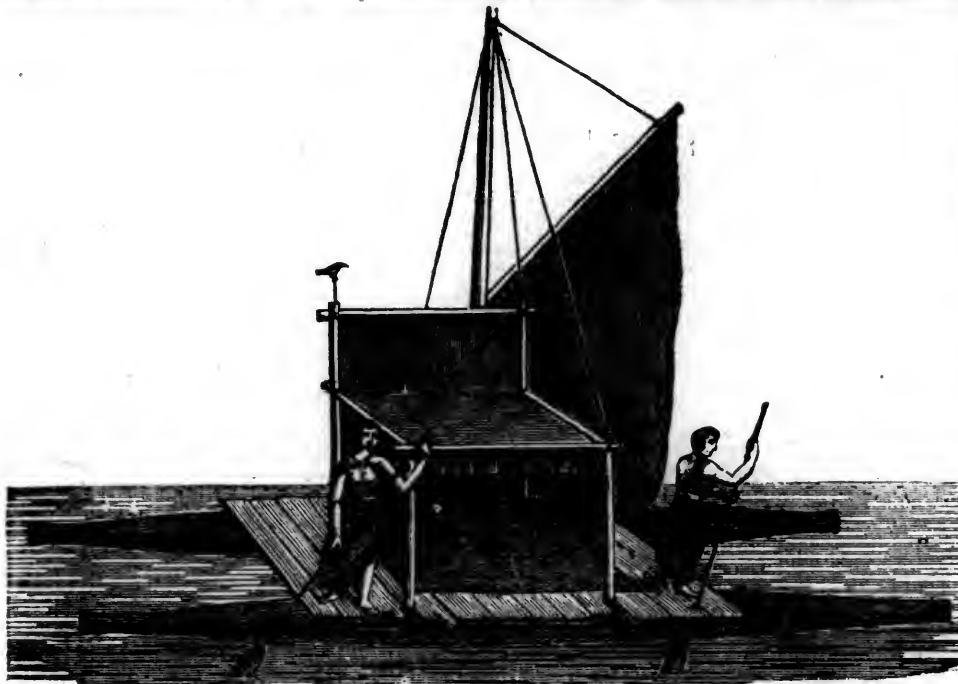
Population of Utica.—A census of this city has just been taken under the direction of the Common Council, and we are highly gratified in being able to give the following as the result:

First Ward,	1,495
Second do.	1,882
Third do.	2,764
Fourth do.	3,978

Making the aggregate ten thousand one hundred and nineteen; which is the population of Utica at this time. The number of inhabitants in this city, according to the census of 1830, was eight thousand three hundred and thirty-three; which shows an increase, within the last four years, of eighteen hundred, lacking four. This result is the more gratifying, as it is, in a degree, unexpected. Some persons, whose apprehensions are always rather lively, have been in the habit of *croaking* about the "prospects of Utica." The facts, however, instead of warranting any complaint on our part, are calculated to inspire the highest confidence in the stability of our city—as the census just taken exhibits an increase in the four last years, of nearly 22 per cent. in our population. For the next four years, our growth will undoubtedly be still more rapid, as the termination of the public works at this city, now in progress, will not only furnish employment to an increased population, but will warrant the erection of additional buildings, and give a stimulus to enterprise in every form.—[*Oneida Whig.*]

THE DISTANT HOME.

Once on a cloudless summer's eve,
I stood on Snafield's Island steep:—
The light which dying sunbeams leave,
Was fading from the western deep;
The mountains of my native land
Rose dimly o'er the distant sea,
Whose waters press'd the golden strand
In sunset's blue tranquility.
No sound was on the breezeless height,
Save the glad voice of infant rills
Which wander'd in the waning light,
Rejoicing down the pleasant hills;
Though faint and far the day-light burn'd,
And gray mists chill'd the desert air,
To western skies I fondly turn'd—
My homeward gaze still rested there.
And thus, methought, the child of faith,
When joys depart and hopes decline,
Sees, rising o'er the gulf of death,
Unfading kingdoms brightly shine;—
The cloud which veil'd the surging wave—
The blast which raised the breaker's foam,
Pass off, and show beyond the grave,
The glories of his radiant home.

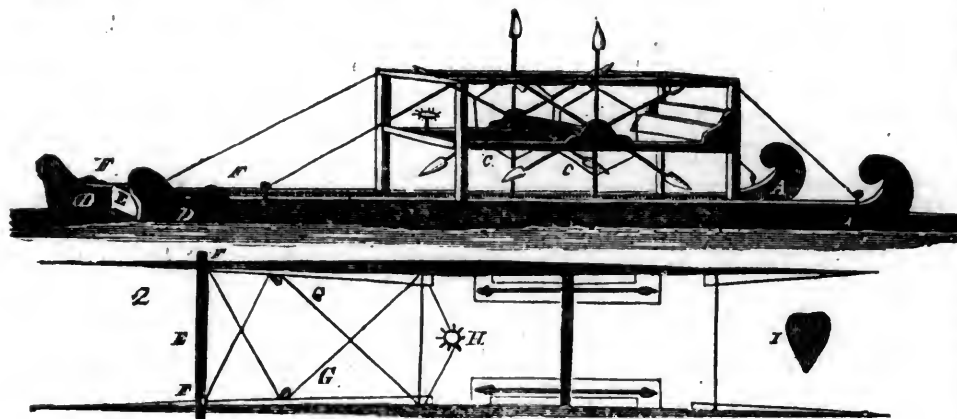


A DOUBLE CANOE OF THE FRIENDLY ISLANDS.

[From the *Mechanics' Magazine*.]

The great utility of Mr. Burden's plan, or invention, or adaptation to navigation, (we hardly know what to call it,) has called forth a host of competitors, all desirous of proving that they had the same plan already prepared to come out with when an opportunity should occur which they might consider advantageous. We insert Mr. Canning's claim, and shall, next month, insert some

others, introducing now an engraving, handed to us by an esteemed friend, of a boat in use at the Friendly Islands, so long ago as 1798, of a similar construction. It is copied from an engraving in Labillardiere's account of a voyage in search of La Perouse, the French traveller. Monsieur Labillardiere states that a great number of the natives came out to them in boats constructed in a similar manner.



CANNING'S DISPATCH-RAFT.

A A represent floaters. B, the deck. C C, paddle wheels. D D, rudders, connected by E, a board about 7 inches wide, with a hole near each end, into which insert the nipples, F F. F F, G G, till ropes, which pass over H, the tiller wheel. I, cross-section of floater or trunk.

In order to give a due degree of buoyancy to the floaters, I had them hollowed into chambers of 14 inches long, 10 inches deep, and 4 inches wide, leaving solid parts of 3 inches between. This raft was destroyed while afloat on the Seine river, (owing to the culpable negligence of the person who had it in charge,) by a loaded barge, which came in violent contact with it. I shortly afterwards constructed another upon the same principle, but much larger, and instead of floaters, similar to the first, made use of troughs formed of half inch deal boards, which I found also to answer well. When

my raft was almost finished, as I was one day trying its rate of going, opposite the Champs Elysees, in company with a friend, and my little son (about three years old), a French steamboat, on board of which was the proprietor and a large party, evidently quitted its original course, dashed with tremendous force upon the starboard quarter of the raft, and broke it up in a twinkling, submerging the deck, upon which the child was placed, who, but for instant vigorous exertion, would, with my friend, have been drowned, as the current runs with extreme rapidity in that part of the river. My friend and the youth were received on board by the steamer. I preferred remaining upon the wreck, which I with difficulty got ashore, at a considerable distance from where the collision took place.

I soon after re-constructed my raft, and substituted for the troughs a double row of

small barrels, twenty-eight in number, varying in size, placing the largest the fourth from the bows; these I boarded over with half inch deal boards, forming long staves, which were screwed down to the barrels. The ends of the boards projected beyond the barrels at both ends of the trunks, so as to form stems and sterns. The interstices, between the heads of the barrels and the outside planks, were filled up with a mixture of pitch, tar, cork shavings, saw dust, and resin.

This raft was greatly admired. I had the honor of receiving our veteran hero, Sir Sydney Smith, with a host of distinguished English and French, on board at various times, who all seemed to approve highly of the principle upon which it was constructed—considering that it would insure personal safety in an eminent degree, as it was neither liable to sink nor upset, while its rate of going was much greater than any other sailing craft, and it afforded an incomparably more commodious place for passengers than a boat of ordinary build.

I next contemplated the construction of a still larger raft, to be propelled by steam, but, for the reasons already assigned in my former communication, I was not able to procure permission from the Prefect of the Seine. I soon afterwards sold my raft to Colonel, now General Trobriand, and Mr. Mallet, to run as a pleasure raft upon the celebrated lake of Montmorency.

The 20th of last December, (consequently prior to any account of the raft constructed by Mr. Burden being received in this country,) I commenced the construction of a small raft of the kind for my own use, to run upon the Thames. It is almost finished, and would have been some time back, but for circumstances not connected with the affair.

I remain, sir,

ALFRED CANNING.

Crown Coffee-House, Holborn, April 17, 1834.

AERIAL STEAMBOAT.—We find the following in the Cincinnati Daily Gazette.

Mr. Editor,—Perhaps it is not generally known, that one of our ingenious citizens has invented, and has now in preparation, the model of an aerial steamboat, in which he proposes to ascend.

Although but little expectation of the success of the experiment is entertained by the writer of this article, it is worthy the attention and examination of the scientific. The inventor, Mr. Mason, is very sanguine, having already made (to him) a satisfactory experiment.

The boat is about ten feet long, the ribs being covered with silk, in order to render it very light. The engine, of two horse power, is placed in the middle, and turns four vertical shafts projecting over the bow and stern, into each of which are fixed four spiral silken wings, which are made to revolve with a sufficient velocity to cause the vessel to rise. Over the whole is fixed a moveable silken cover, designed to assist in counteracting the gravitating force, at the same time tending to assist in its propulsion forward.

The whole boat, including the engine, weighs 60 pounds, and has cost about \$300. It is the design of the inventor to attempt an aerial excursion, of which due notice will be given.

J. L.

AGRICULTURE, &c.

DISEASES OF SHEEP AND COWS.—Sheep and cattle, like the human family, are subject to a variety of diseases: but it is not my intention to notice more than one or two. There is a disease to which sheep are subject, that is probably more destructive to them than is generally supposed—that of the worm in the head. I have not unfrequently had sheep that were fat, that looked healthy and well, to sicken and die in the course of a few days; and under the impression that they had eaten something poisonous, such things were given them as are generally recommended in books for poison, but with no advantage. Having purchased some Bakewell and Southdown sheep at from \$20 to \$30 each, has probably induced me to pay rather more attention to my sheep than otherwise I should. One very cold day, winter before last, I saw a half Bakewell ewe standing in the snow about fifty yards from a shelter that had been erected for my sheep, and under which they had usually slept. Her head was down, and occasionally she moved a little. Supposing that she had a young lamb, I walked that course with a view of having the lamb moved to the shelter; but as I approached her, she did not appear to observe me. I took hold of her and she appeared too stupid to notice it. Her head was inclined a little to one side, her eyes glared and appeared almost fixed in their orbits. She was found too stupid to be driven to the fold, and had to be carried. She lived several days; at first she had slight spasms, and foamed a little at the mouth, but after a day or two, she was more convulsed, and would fall down, but would again get up. Supposing her head to be the seat of the disease, after her death it was dissected, and a worm was found in one of the nostrils, a little below the eye, about an inch in length and a quarter of an inch in thickness. Supposing that one alone had killed her, very little examination further was made. In January last, two sheep on the same morning appeared to be sick, one a ewe of the common breed, in fine order, the other a hal. Bakewell ewe, and fat. The common ewe held her head as high or higher than usual, with it a little inclined to one side, the eyes resembled those of the one already described: on approaching her, she appeared a little stupid, would suffer me to approach very near, and then suddenly dart off as if she had just perceived me. The other held her head rather lower than usual, and suffered me to approach her rather nearer than the other, and appeared more stupid and sick, with no glaring of the eyes. Next day both of them were evidently worse, and the common ewe disposed to hang her head; and on the third day she laid down to get up no more. The glare of the eyes continued, the pupil became enlarged, spasms came on, and a little foam was observed about the mouth. The spasms were first observed to throw the left ear in motion, then the left eye lid, quickly after which it appeared all over the face, head, and neck, but as she was lying down the force of the spasms upon the body could not be seen as upon the one the winter before. The morning she died, I was about leaving home when I was informed she was dead; but I requested her head to be examined to see if any worm could be found. On my return a worm was brought me, about the size of the one already described, and it was stated it was taken out of the head between the eyes. I think it not improbable there might have been many more. The half Bakewell appeared more stupid and sick every day, and held her head lower and lower, until her nose almost rested on the ground as she stood up. I saw her but a few times after the death of the other, but I think towards the last, the symptoms were very much like the other two. About a day and a half after the death of the other, I was informed the half Bakewell was dying. As night was fast coming on, and the weather was extremely cold,

it was thought best to have the sheep killed and skinned while warm, after which the body was examined, but nothing found amiss. It was getting too dark to dissect the head, and that was laid by for morning. In dissecting, it was found filled with blood, having been knocked on the head with an axe to kill it. Under this disadvantage it was dissected, and from the head were taken nineteen worms. Some were found high up the nostrils, some in the different cavities of the head, and one large one was found lying on the thin membrane that envelopes the brain; they were of all lengths, from a quarter of an inch to an inch. They were placed upon a piece of paper, and none appeared to be alive: but afterwards, while looking at them by the fire, many were found to move. It appears strange that so many should have been found in the head of one sheep, and that one quite fat. Whether it was their particular location, or like the grubs in the horse, they remain for a time peaceable and inoffensive, and then suddenly destroy life, I must leave for the reflection of others. The worm is supposed to be the produce of a fly which deposits its eggs a little within the margin of the nose, to avoid which is the cause why sheep gather together, and turn their noses inwards. Daubing the nose often with tar or train oil is said to be a preventive. About a table spoonful of a decoction of Scotch snuff injected up each nostril with a syringe, three or four times from the 1st of October to the 1st of January, is said to be a good remedy, but is apt to make the sheep very drunk for some time. I cannot say I have much confidence in either the preventive or remedy proving effectual.

I will now notice one disease to which the cow is subject, that of an inflammation of the udder. I have frequently heard it stated, that it is produced from the snake sucking the cow. The snake is supposed to be fond of milk, but as to any familiarity between the snake and the cow, I have never believed in it. The snake is more like Ishmael of old, whose hand was "against every man, and every man's hand against him." This disease is not very uncommon to cows. A few years past, one of the finest cows upon my farm (a half Durham) became diseased in one quarter of her udder, and not knowing at the time the cause or remedy, that quarter gradually perished away, and has never since produced milk. To show the cause, the symptoms, and cure of this disease, I will make an extract from a treatise on stock, which was published in England, by J. B. Lawrence, and which has recently been republished in this country.

"Downfall, udder-ill, inflammation of the udder, &c.—From what we have said of the digestive process of the cow, and the intimate connection between the fourth stomach and the udder, the reader will be at no loss to understand that when that is out of order, the udder, and consequently the quality and quantity of the milk, must be materially affected. These, or rather this complaint, for they are all one, or different stages of the same disease, of which the predisposing cause was bad feeding, and the exciting cause a cold or inflammation of the udder, is essential to be taken in time, and of the utmost consequence to the owners of young cattle, which are very liable to its attack, especially at the time of calving."

"Cause.—This disease may not only proceed from the above causes, but may also be induced by the animal drinking freely of cold water, when heated by exercise, or by cold exposure, and lying down in cold and damp grass at the latter end of the year, when the nights are cold and foggy, and at a time when the stomach is loaded with food, and the blood plentiful."

"Symptoms.—One or more quarters of the udder become swollen, hardened, hotter than common, and painful when pressed; the milk is reduced in quantity, and changed to a ragged, or bloody, or corrupt appearance. At other times, the secretion of milk is stopped,

and the time-fied quarter proceeds to a state of suppuration."

"Cure.—As soon as the disease is discovered, remove the animal from the pasture, and take from her from three to five quarts of blood; especially if the cow be in good condition, and breathes quickly, and appears stupid." "If the weather be damp and cold, keep her under shelter, and feed her moderately with nourishing food; but if the weather be fine, turn her into a bare pasture, where she will be obliged to exert herself for her food. The swollen udder, or rather that part of it which is affected, (for there is seldom more than one part or quarter affected at a time,) should have the bad milk drawn from it three or four times a day; for if suffered to remain in it, it will irritate and increase the inflammation. Bathe it also after milking with olive oil, or elder ointment."

The same writer recommends medicine to be given internally. His doses are compounds, and the ingredients are not generally kept by farmers, but as epsom salts enter largely into some of them, I imagine they would answer alone. My own impression is, that the best care would be to let the calf run with the mother during the continuance of the inflammation, provided it would suck all the teats.

Extract from the same writer:

"Sore teats.—Some cows are very subject to sore teats, particularly such as have newly calved; if this be the case in summer, they often become ulcerated, and the flies plague them to a degree which renders them extremely difficult to milk: it is also a great nuisance at the time of milking, as blood and corrupt matter are apt to pass between the fingers into the milk. The following liniment is very useful for aointing sore teats, and should always be kept in readiness for use:

"Ointment of elder four ounces, yellow basilicon ointment four ounces, spirits of turpentine one ounce, mix and well incorporate them together on a slab, and it is fit for use."

"With this ointment you may well rub the cow's teats every night and morning after milking, if in the summer assafoetida or aloes in powder, and dissolve it along with the ointment. This will prevent the flies from teasing the animal. If the teats be tender only, and not sore, a little gentle rubbing with weak salt and water will in general be sufficient." Finding it inconvenient to prepare the ointment exactly as directed in the foregoing receipt, a handful of the inner bark of the elder was taken and simmered in hogs' lard. Six ounces of the elder ointment was then taken, and while it was warm, one ounce of bees wax and one ounce of turpentine were added, and melted together. After being stirred awhile, the turpentine mostly sunk to the bottom and was thrown out: one ounce of spirits of turpentine was then added, and the whole stirred as long as it was in a liquid state. After the ointment was made, a little boy that had fallen to sleep in the room was waked up to go to bed, he was found unable to walk without assistance, in consequence of his feet being so much chopped and inflamed; they were rubbed with the ointment, and by the morning there was no appearance of inflammation, and the skir was soft and supple, and they soon got well. Though this ointment is not prepared in the way directed, the same ingredients are used and almost exactly in the same proportions. It is an excellent ointment for man or beast, and should be kept in every family. EDMUND F. NOEL.—[Farmers' Register.]

[From the New York Farmer.]

STEAM APPLIED TO AGRICULTURAL PURPOSES.—We have heretofore expressed our opinions on this subject. We now state, that if the scientific ingenuity and the capital of this country could be combined, and steam immediately applied to agriculture—and that, if prejudices should retard its application in Europe,—we

should, in comparatively few years, cause every principal nation in the world to crush by the weight of their own institutions. But Europe will, and *must*, have the plough driven by steam. From an article in the Quarterly Journal of Agriculture, we make the subjoined extracts.

From the Parliamentary returns, the horses running in coaches in Great Britain, in 1828, amounted to 178,841; and we are perhaps much within the mark when we suppose that these, with all the horses employed in drays or draught, exclusively amount to 600,000. It is said by some, that each horse consumes what will support eight individuals. The suppression, therefore, of these horses alone, (which does not include one horse employed in agriculture or for pleasure,) will save what will feed 4,800,000 people. The annual consumption of grain, by human mouths, in Great Britain, (viz. 16,000,000,) is about 32,000,000 quarters, of which not one-twentieth part has, during any year, been imported. But the saving of what would feed, by the removal of the horses used for transit alone, 4,800,000 people, amounts to more than what is consumed by the fourth part of the said population. If importation of grain, then, to the very limited extent of one-twentieth, viz., 1,600,000 quarters, has hitherto been deemed an evil of no little magnitude by the agricultural interest, what will they consider a system which will abridge home consumption equal to one-fourth, viz. 9,600,000 quarters? At first sight this will appear to the agriculturist as involving more certain and complete ruin than even that which would follow the repeal of the corn laws. But this is taking a narrow, a prejudiced view of the matter.

The application of steam to purposes of husbandry will so cheapen the cost of production, as to reduce the price of food with remuneration to the growers. It is well known, that the expense of horses forms the principal item in the outgoings of the farmer. The late Dr. Colquhoun, so far back as the year 1812, in the estimate which he makes of the new property created annually in Great Britain and Ireland, taking each kind of grain at 50 per cent. less than the average prices in the public markets of the 12th September, states the crop of hay, grass, straw, and vetches, as amounting in value to £89,200,000.

And the portion of this consumed by horses was as follows:

Horses in Great Britain and Ireland, estimated at 1,500,000, at 45s. each for grass, -	£4,050,000	0 0
For hay, at £6 each, -	10,800,000	0 0
For straw, at 5s. each, -	450,000	0 0
For beans and peas, -	2,649,666	13 4
No separate item is given for corn, but taking the half of that consumed by animals generally, as consumed by horses, viz.,	£14,790,000,	7,395,000 0 0

We have - - - £25,335,666 13 4

—which is subtracted from the above, purely to support the brute labor which it is now possible to supplant, in a great measure, by steam. When it is farther considered how much horses have multiplied since the period mentioned, it is perhaps speaking greatly within bounds, when we suppose they are maintained at a yearly expenditure of £30,000,000. It is not difficult then to perceive, how the suppression of horses, either in whole or in part, will economise a saving in farm management sufficient to effect a great cheapening of agricultural produce with advantage to the producer, and benefit to the consumer.

Though difficulties exist in the minds of agriculturists, who have not turned their attention to the subject, as to the possibility of extending steam to husbandry purposes, no difficulties exist in the opinions of many eminent machinists who have turned their attention to

it. We have had conversations with several patentees, who have each assured us that there are no practical difficulties in the case, provided there was any inducement for them to direct their skill to such a species of machinery. Mr. Phillips' getomic apparatus, the model of which we have seen, though far from being a perfect machine, is yet sufficient to show that a little farther simplification is all that is required to render it such. We are happy to say, that, in our notions respecting steam-ploughing, whether as regards its practicability or importance, we are corroborated by a Fifehire farmer, who, in a letter of the date 24th December, 1833, published in the Fife Herald, remarks, "that at present, when the ingenuity of man is upon the stretch to devise means to abridge human labor, and add to the comforts and intelligence of a redundant and still increasing population—when, by our absurd laws, the manufacturer is under the necessity of giving an extravagant price for the first necessities of life—when industry is fettered, and the growing resources of the country are circumscribed, our tenantry wasting their time and means, and crouching under the power of their proprietors, on account of a corn monopoly,—I wonder it never struck some of our agriculturists that they might, like the manufacturers, endeavor to undersell their neighbors, and drive them out of the market. I know it will be said, that it is impossible—but what I am going to suggest is a farther extension of machinery, to assist us in keeping ourselves ahead of our neighbors, and that is the application of steam to the working of ploughs. At present, it requires nearly the half of the produce of a farm to pay the necessary expenses, and a great part of that goes to the keeping of horses, harness, &c. Now, if the farmer could get a steam-engine to work his ploughs, harrows, and rollers—thrash and shear his corn—cast his drains, and rid his land of large stones,—he would be able to pay his present rent, although there were no corn laws, and grain one-third cheaper than it is."

We have gone into this detail, not because we advocate the application of steam to general locomotive purposes, merely from the love of change, without any other reason than that change is the order of the day: no, but because there are numerous weighty, and what ought to be imperative reasons, for the agricultural classes giving this matter their deep and serious attention. From the whole course of events, no man can be so blind as not to perceive that, upon the subject of the corn laws, the agricultural and manufacturing classes are about to come shortly into a fearful collision. Cheap bread is a thing that our starving and oppressed people must have, either by a cheaper system of cultivation at home, or by importation of corn from abroad. The alternative is the choice between the life and the death of the State. For surely it is madness amounting in degree to theirs whom the ancients conceived were doomed to perish, to suppose that cheap bread, by a method that will ruin our domestic agriculture, will not precipitate the country into that state of social disunion which the whole tendency of our affairs shows to be in course of progression. Now, let it be supposed that steam has had nothing to do in maturing this condition. During the last quarter of a century, it has been applied to what may be called *physical* purposes only, i. e., to purposes which have materially abridged manual labor, and multiplied almost indefinitely every species of commodity, whilst it has not been applied to any one purpose that has increased human labor, or saved the consumption, and cheapened the production of food. Consequently there has been a gradual disapproprimation between the necessities and the conveniences of life, until, after nineteen years of peace, and what ought to have proved financial recruitment, it has reached an extent which has unbalanced consumption and production to a degree which is paralyzing all commercial and agricultural transactions, fearfully increasing pauperism and crime,

fomenting sedition, and threatening the peace, order, and best interests, social and civil, of society.

The extension of steam to *economic* purposes, i. e., to purposes which will permit the removal of brute labor, will remedy the evils arising from its partial application; for, as we have shown, it will save and cheapen food, and that by a way which, over and above its improvement of internal communication, will improve the coal trade and iron trade, those pillars upon which the prosperity of the country is said to rest, as well as every department of manual industry. Applied exclusively to physical purposes, machinery as yet has, with all its advantages, been attended by evils far from being partial. Extended further to economic purposes, the good that will follow will not be short of universal. Hitherto its abuse, that is to say its former application, alone has been pernicious; now its use, that is to say, its latter application, will be commensurately beneficial. Machinery has made goods,—machinery also must make a market. The existing circumstances of society demand this, otherwise all will terminate in convulsion.

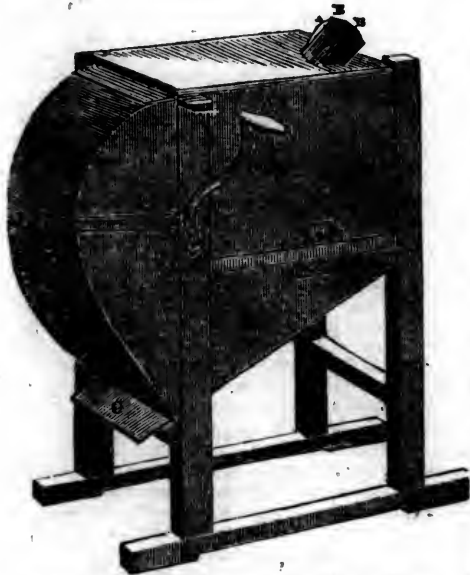
There is not a laborer in the three kingdoms who does not feed his belly at the expense of his back. This is an evil of no trifling character, for it is one which affects the entire industry of the country; and farther, it is one which, for the interest of all parties, ought to be removed without loss of time.

In order more effectually to promote this object, and carry the project extensively into operation, a NATIONAL INSTITUTION OF LOCOMOTION, unconnected with any trading company, is now in progress of being formed to promote the application of steam to general purposes of transport and husbandry, and to supply the desideratum which has long been experienced of there being no metropolitan association, in connection with the various companies and local societies throughout the united kingdom, formed for the advancement of commerce and agriculture.

When we consider how exigent is the want which steam applied to economic uses is commissioned to alleviate, and how reckless in its consequences, as that volcano indicates whose eruptions are now nightly visible in the farmyards of some district or other of the country, we consider it fortunate that, if CHEAP BREAD be wholly unavoidable, it can now be procured in a way that makes it wholly desirable. The bane of having prices reduced by steam transport, and the antidote of providing for the same by steam husbandry, are both before our agriculturists. We cannot suppose that they will allow the one to be introduced unaccompanied by the other. In the hope that this will be the case, we cannot conclude this paper without congratulating all orders of our fellow-subjects upon the bright prospects which the general application of steam to brute labor purposes opens upon us. At a moment when the resources of the country are no longer adequate to the wants of our population, "WHEN A RESTLESS SPIRIT OF DISCONTENT IS EVERYWHERE ABROAD," and cheap food of *home growth* is a *sine qua non* to an ameliorated condition, this beneficent agent steps in to accomplish what could not have been effected by any *external* process whatever. The speedy and general introduction of steam cultivation is all that is required to make cheap bread in Britain, in a way that will reduce no one to destitution in Britain. If our industrious classes must still earn and eat their bread by the sweat of their brow, they shall nevertheless eat it in plenty, and in contentment. Under the social economy which the extension of steam to the purposes of animal labor will allow, it shall no longer be said that the wealthiest empire in the world is also the most wretched one, or that, with all our boasted wisdom in science and art, we are unwise in that which not rightly to know is misery and unhappiness! The better policy of the age of steam must be to make millions rich instead of the units,—to render monopoly the property of the state and

not of the stock-jobber,—to comfort a thousand happy homes, instead of building up one bloated capitalist. Steam, which, confined to physical purposes, hitherto has wrought such marvels, extended further to economic uses, can achieve all this, for by *home means*, equalizing the price of necessities and conveniences, it WILL ADJUST PRODUCTION AND CONSUMPTION; the unbalanced condition of which alone has deranged the currency,—paralyzed transaction,—abridged industry; and, in a word, occasioned all those evils which at length have produced a nation divided into usurers and paupers, to the danger alike of the constitution, the altar, and the throne. R. B.

Corn-Shellers, Corn-Crackers, and Turnip-Cutters. [Communicated for the New-York Farmer and American Gardener's Magazine.]



Among the machinery which mechanical ingenuity has furnished the farmer, to expedite farming operations, is the Corn-Shell. They are constructed to shell either one or two ears at a time. They require two persons, and will shell perfectly clean, and nearly as fast as one can put in the ears; consequently the number of bushels in a day must be very considerable. Some of them, as in the present drawing, have the shelling apparatus incased, to prevent the corn from being scattered. B B are the two openings into which the ears are dropped; A, the turning crank; C, the opening at which the corn comes out. The prices for substantially built machines vary from 8 to 15 dollars.

H. Huxley & Co., 81 Barclay street, have affixed to the Corn-Shellers a simple apparatus for cutting turnips and potatoes for stock. They are also appending one for cracking the corn.

THE WILD OR CANDLEBERRY MYRTLE, A REMEDY AGAINST THE WEEVIL.—[We should suppose myrtle equally beneficial to wheat.]

Dear Sir,—Information on all and any subject, connected with agricultural pursuits, will, I presume, find admittance into your periodical, and although the notice may be of apparently small matters, yet to some one of your readers it may be new, and let me add, valuable. I am induced to make these remarks from the inconvenience I suffered for many years, from the destruction of my corn by weevil, and the total absence of them now, in consequence of the application of a very simple remedy. The land which I plant in corn is low, and requires almost as much draining as the river lands, but is productive, and yields abundant crops. Whether

it is owing to the location of the land, or other (to me) unknown causes, I am unable to say, but the fact is, that the corn is often taken from the field with a great many weevil in it. No injury seemed to result from their residence in it, while in the field, or during the cold weather, but as soon as the summer's sun had shed his genial warmth upon us, these intruders gave notice of their existence, by commencing the work of destruction. Upon several occasions my provisions were materially injured, and much complained of by the consumers. I tried a variety of remedies, without effect. Late planting, and early planting, were both suggested and tried; the land was all broken up deep in the winter with a plough; the seed was coated with tar and soot, and finally was brought from one of the sea-islands at a distance and planted. The crops, I think, were improved by each of the remedies in quantity, but the enemy still retained his position, unmoved, and apparently immovable. I was one day mentioning the circumstance to a friend, who told me that he had understood that the wild myrtle, (*Myrica cerifera*), was a sovereign remedy for this seemingly incurable disease. At this time the destruction had commenced, and the insects were to be seen in every direction; a quantity of myrtle was procured, and spread over the top of the corn, and directions given to follow it up, if any effect was visible. My removal to town for the summer prevented my attending to the business any farther, and I learned upon inquiry in the fall, that "it seemed to check the weevil in some degree." This was not satisfactory, and as the corn in the field was apparently more than usually infested, I determined to give the experiment a fair trial. The corn-house was emptied, and swept, and washed with boiling water; the floor was then covered with myrtle; a layer of corn about a foot deep was then brought in, and then a layer of myrtle, and this management continued throughout the whole harvest, observing to cover the top of the corn with a bed of these little bushes. During the winter I several times examined the corn, near the door, and saw no weevil, yet I was fearful, that in the body of the house the mischief might still be going on. Late in the spring we began to use the corn freely, and still found no weevil; the crop was eventually consumed, and was to the last entirely free from insects of all and every kind.

This was to me satisfactory, and the rule has been uniformly observed of strewing the house with myrtle, and no weevil have since been seen. My corn-house is divided into two bins, and an entry; and this year I had planted a small field alone, and desired that it might be kept separate. Into this entry it was thrown, and no myrtle was put with it, but the two bins were as usual well supplied. Upon my examining the corn-house, I found the corn in the entry filled with weevil, while that in the bins was perfectly free from all insects. The corn was immediately removed, and though filled with insects, was divided between the two bins, and myrtle plentifully strewed over the top of each. I am now eating the corn, and the weevil are no where to be found.

This last accidental experiment is more convincing than either of the others; here the two bins were free from weevil, and the corn which was separated from them, only by a loose board partition, was filled, and I have little doubt, would have been rendered unfit for use before the summer was over. Perhaps, Mr. Editor, in giving you and your readers the information detailed in this paper, I have been "carrying coals to Newcastle;" if so, light your spirit lamp with it, and I shall be satisfied, as my only object is to do good, and not to see myself in print.

With my best wishes for your restoration to health, and success in your pursuits, I remain your friend, Z.—[Southern Agriculturist.]

CULTURE OF POTATOES AND INDIAN CORN.—On passing a well cultivated farm two days ago, I observed in a potato field that the earth

had been drawn up into hills nearly one foot high and somewhat conical, closely round the stems; and I doubted if that labor had been well directed. It is now twenty-five years since I had a patch of potatoes which we had commenced hoeing in dry weather. A neighbor mildly remonstrated with me against our proceedings, and said that *potatoes hoed in dry weather generally yield a poor crop*. I had not duly considered the subject, but I took his advice, waiting until we had a rain before we hoed the remainder, and the difference in the produce of the two parcels was as great as he had predicted,—certainly more than three to one in favor of hoeing when the ground was well moistened. It was not so wet however as to be muddy. The cause of this result was that the leaves of the potato shed the rain, and turn it from the hill, perhaps more than any other vegetable which we cultivate; and if the hills be made *high and sharp*, and once become dry, a moderate shower of rain will rarely penetrate to the roots.

The potato, to yield abundantly, requires a plentiful supply of moisture, although it is very impatient of stagnant water; and some may wonder why its leaves should turn off the very thing for which its roots are languishing. It should be remembered, however, that the potato grows indigenously in a very different and distant country from ours. In a state of nature, no hills are piled up round its stems; and in our culture, we ought to consider the constitution of the plant, and remedy as far as practicable the defects of our climate. If it is cultivated in *HILLS*, these ought to be neither high nor sharp, but depressed on the summit; or rather shaped like a basin, to catch the rain as it falls, and turn it towards the roots. If it is cultivated in rows with the plough, the same object should be borne in mind. I have seen a plough with an additional piece of wood on the mold-board, so as to raise the earth high round the stems; and when the work was finished, the ridges were sharp like the roof of a house, and turned off the water nearly as well. The appearance of a field soon after the operation was fine; but the crop, as we might expect, was very light.

Indian corn, on the contrary, will bear hilling much better; though I think this business is often overdone. It is very evident that all the loose earth should not be scraped from the furrows between the rows, as I have sometimes seen it; for in heavy loams, the hard ground, if left uncovered, is sure to crack in dry weather, and *let out the moisture* from below. I shall recur however to my first remark on this plant. The leaves of Indian corn are so constructed as to turn most of the rain that falls on them down to the roots. After a short but dashing shower, I have soon after found the other parts of the field comparatively dry, while it seemed as if a basin of water had been poured into each hill.—[Gen. Farmer.]

If the words 'hilled up' were substituted for 'hoed' in the sentence in *Italics*, we think it would be more correct.—[Ed. N. Y. F.]

NEW BREAD.—A Parisian chemist has established a bakehouse for bread made from potatoes, which is animalized by the addition of the gelatine made from bones. In this way, a food which is said to be equally pleasant and more nutritious than wheaten bread, is obtained at half the expense of the latter. A large quantity of biscuits for the use of the African expedition has been made upon this plan. In a time of scarcity of corn the discovery will prove a great blessing.

TO KEEP PLUMS AND PEACHES FRESH THROUGH THE YEAR.—Beat well up together equal quantities of honey and spring water; pour the mixture into an earthen vessel; put in the fruits all freshly gathered, and cover them up quite close. When any of the fruit is taken out, wash it in cold water, and it will be fit for immediate use.

NEW-YORK AMERICAN.

AUGUST 9—16, 1834.

LITERARY NOTICES.

COMPLETE WORKS OF SIR WALTER SCOTT—Paris 33 and 34—Poetry. Conner & Cooke.—The early reputation which Scott won by his Minstrelsy of the Scottish Border, of which these two numbers consist, was so completely swallowed up in the renown of the author of Waverley, or rather first in that of the Lay of the Last Minstrel, that these earlier efforts of his genius and his industry seem almost to have been forgotten. The excellent edition of his works, by Messrs. Conner & Cooke, place his admirable collection of ballads afresh before us, and we are induced to make a few extracts:

Barthram's Dirge.—The following beautiful fragment was taken down by Mr. Surtees, from the recitation of Ann Douglass, an old woman who weeded in his garden. It is imperfect, and the words within brackets were inserted by my correspondent, to supply such stanzas as the chantress's memory left defective. The hero of the ditty, if the reciter be correct, was shot to death by nine brothers, whose sisters he had seduced, but was afterwards buried, at her request, near their usual place of meeting; which may account for his being laid, not in holy ground, but beside the burn. The name of Barthram, or Bertram, would argue a Northumbrian origin, and there is, or was, a Headless Cross, among many so named, near Elsdon in Northumberland. But the mention of the Nine-Stane Burn, and Nine-Stane Rig, seems to refer to those places in the vicinity of Hermitage Castle, which is countenanced by the mentioning our Lady's Chapel. Perhaps the hero may have been an Englishman, and the lady a native of Scotland, which renders the catastrophe even more probable. The style of the ballad is rather Scottish than Northumbrian. They certainly did bury in former days near the Nine-Stane Burn; for the Editor remembers finding a small monumental cross, with initials, lying among the heather. It was so small, that, with the assistance of another gentleman, he easily placed it upright.

BARTHRAM'S DIRGE.

They shot him dead at the Nine-Stane Rig,
Beside the Headless Cross,
And they left him lying in his blood,
Upon the moor and moor.

They made a bier of the broken bough,
The sauch and the aspen gray,
And they bore him to the Lady Chapel,
And waked him there all day.

A lady came to that lonely bower,
And threw her robes aside,
She tore her ling [long] yellow hair,
And knelt at Barthram's side.

She bathed him in the Lady-Well,
His wounds so deep and sair,
And she plaited a garland for his breast,
And a garland for his hair.

They rowed him in a lily sheet,
And bare him to his earth,
[And the Gray Friars sang the dead man's mass,
As they pass'd the Chapel Garth.]

They buried him at [the mirk] midnight,
[When the dew fell cold and still,
When the aspen gray forgot to play,
And the mist clung to the hill.]

They dug his grave but a bare foot deep,
By the edge of the Ninestone Burn,
And they covered him [o'er with the heather flower,
The moss and the [Lady] fern.

A Gray Friar staid upon the grave,
And sang till the morning tide,
And a friar shall sing for Barthram's soul,
While the headless Cross shall bide.

The manner in which the following ballad was spoken of in the Edinburgh Review, with the beautiful stanzas of Wordsworth on the same subject, is familiar to our readers; but it will bear repetition:

Fair Helen of Kirconnell.—The following very popular ballad has been handed down by tradition in its present imperfect state. The affecting incident, on which it is founded, is well known. A lady of the name of Helen Irving, or Bell, (for this is disputed by the two clans,) daughter of the Laird of Kirconnell, in Dumfriesshire, and celebrated for her beauty, was beloved by two gentlemen in the neighborhood. The name of the favored suitor was Adam Fleming of Kirkpatrick; that of the other has escaped tradition: though it has been alleged, that he was a Bell, of Blacket House. The addresses of the latter were however, favored by the friends of the lady, and the lovers were therefore obliged to meet in secret, and by night in the churchyard of Kirconnell, a romantic spot, almost surrounded by the river Kirtle. During one of these private interviews, the jealous and dis-

pised lover suddenly appeared on the opposite bank of the stream and, levelled his carbine at the breast of his rival. Helen threw herself before her lover, received in her bosom the bullet, and died in his arms. A desperate and mortal combat ensued between Fleming and the murderer, in which the latter was cut to pieces. Other accounts say, that Fleming pursued his enemy to Spain, and slew him in the streets of Madrid.

The ballad, as now published, consists of two parts. The first seems to be an address, either by Fleming or his rival, to the lady; if, indeed it constituted any portion of the original poem. For the Editor cannot help suspecting, that these verses have been the production of a different and inferior bard, and only adapted to the original measure and tune.—But this suspicion being unwarranted by any copy he has been able to procure, he does not venture to do more than intimate his own opinion. The second part, by far the most beautiful, and which is unquestionably original, forms the lament of Fleming over the grave of fair Helen.

The ballad is here given, without alteration or improvement, from the most accurate copy which could be recovered. The fate of Helen has not however, remained unsung by modern bards. A lament of great poetical merit, by the learned historian, Mr. Pinkerton, with several other poems on this subject, have been printed in various forms.

The grave of the lovers is yet shown in the churchyard of Kirconnell, near Springkell. Upon the tombstone can still be read—*Hic jacet Adamus Fleming;* a cross and sword are sculptured on the stone. The former is called by the country people, the gun with which Helen was murdered; and the latter, the avenging sword of her lover. *Sit illis terra levis!* A heap of stones is raised on the spot where the murder was committed; a token of abhorrence common to most nations.

FAIR HELEN.—PART FIRST.

O! sweetest sweet, and fairest fair,
Of birth and worth beyond compare,
Thou art the cause of my care,
Since first I loved thee.

Yet God hath given to me a mind,
The which to thee shall prove as kind
As any one that thou shalt find,
Of high or low degree.

The shallowest water makes maist din,
The dearest pool, the deepest tinn;
The richest man least truth within,
Though he preferred be.

Yet, nevertheless, I am content,
And never a whit my love repent,
But think the time was a' weel spent,
Though I disdained be.

O! Helen sweet, and maist complete,
My captive spirit's at thy feet:
Thinks thou still fit thus for to treat
Thy captive cruelly?

O! Helen brave! but this I crave,
Of thy poor slave some pity have,
And do him save that's near his grave,
And dies for love of thee.

PART SECOND.

I wish I were where Helen lies,
Night and day on me she cries;
O that I were where Helen lies,
On fair Kirconnell Lee!

Curst be the heart that thought the thought,
And curst the hand that fired the shot,
When in my arms burd' Helen dropt,
And died to succour me!

O think na ye my heart was sair,
When my love dropt down and spak nae mair,
'There did she swoon w' meikle care,
On fair Kirconnell Lee.

As I went down the water side,
None but my foe to be my guide,
None but my foe to be my guide,
On fair Kirconnell Lee;

I lighted down my sword to draw,
I hacked him in pieces sma',
I hacked him in pieces sma',
For her sake that died for me.

O Helen fair, beyond compare!
I'll make a garland of thy hair,
Shall bind my heart for ever mair,
Until the day I die.

Oh that I were where Helen lies!
Night and day on me she cries;
Out of my bed she bids me rise,
Says, "Haste and come to me!"

O Helen fair! O Helen chaste!
If I were with thee, I were blest,
Where thou lies low, and takes thy rest
On fair Kirconnell Lee.

I wish my grave were growing green,
A winding-sheet drawn ower my een,
And I in Helen's arms lying,
On fair Kirconnell Lee.

I wish I were where Helen lies!
Night and day on me she cries;
And I am weary of the skies,
For her sake that died for me.

THE AMERICAN MONTHLY MAGAZINE FOR AUGUST sustains the reputation which this periodical has long

• *Burd Helen*—Maid Helen.

been gradually but deservedly establishing for itself. It has now, without the least aid from puffing, established itself in the favor and confidence of the reading public, winning its way solely by its own merits. The present number is enriched by one of those articles (we believe we may say from the pen of the Editor) to which we have more than once called attention, entitled, "Passages from the Life of Mary Queen of Scots." The portion we have selected for extracting, commences with a beautiful tribute to Maternal Love; in which the writer paints with considerable feeling the purest, the truest, the holiest emotions that ever swell a human bosom; and concludes with an epigrammatic censure of Queen Elizabeth, which will be responded to by every one who justly appreciates the character of that singularly gifted but vain and hollow-hearted woman. It is as follows:

There is, perhaps, no aspect of the mind—many-colored and various as are the points of view in which it may be considered—more singular than that, wherein it seems to collect itself, as it were, and to concentrate, into a solitary moment of time, all the thousand emotions, whether of bliss or agony, which it may have endured in disconnected succession through a long term of years. That moments of this description are neither of rare occurrence, nor confined to individuals of any peculiar character, must be evident to all who have observed, even with common interest, that most wonderful of created essences, the mind of man. To those, however, who look somewhat beyond the surface of things, it will become manifest,—without becoming, on that account, one iota the less marvellous,—that the mind is more apt to return, and to live over again the events of former days, abstracting itself wholly, and becoming totally forgetful of the present in its contemplation of the past, at periods of acute feeling, or of engrossing excitement; periods in which it would be naturally expected that apprehension, anxiety, or sorrow, would seize all the faculties of thought with a grasp so paralyzing, as to rivet them immovably to the consideration of their own immediate destiny.

It was in a state of mind not wholly dissimilar to that which we have endeavored to shadow forth, that Mary, in the solitude of her last earthly night, diverting her attention entirely from the terrible shock she was about to undergo on the morrow, thought only of her native land, still dear, though still ungrateful, a prey to the fierce contentions of her own factious offspring; of her son, torn at the earliest dawn of his affections from the arms of a mother, nurtured among those who would teach him to eradicate every warmer recollection; to pluck forth, as if it were an offending eye, every lingering tenderness for that being, who, amidst all her sins and all her sorrows, had never ceased to love him with a perfect and entire love. There is, in truth, a something more evidently divine, partaking more nearly of that, which we believe to be the very essence of divinity, in a mother's love, than in any other pang or passion; for every passion, how sweet soever it may be, is yet a pang,—of the human soul. All other love is liable to diminution, to change, to extinction; all other loveliness may be alienated by the neglect, chilled by the coldness, frozen to the core by the worthlessness, of the object once beloved.

All other affections are influenced by a thousand trivial circumstances of time and place; absence may weaken their influence, time obscure their vividness, and above all, custom may rob them of their value; over all other love, the estimation of the world exercises an almost boundless sway; we honor, in our heart of hearts, those whom the world has dignified with its approval, and too often, if that approval be unmeritedly withdrawn, we too insensibly desist from that admiration, which must be a component part in every warmer sentiment. But on the love of a mother,—commencing as it does, before the object of her solicitude possesses form or being; springing from agony and sorrow; ripening in anxiety and care; and reaping too often the bitter harvest of ingratitude,—all external influences, all incidental causes, are powerless and vain! Time—but excites her admiration, but increases her solicitude, but redoubles her affections. Absence—but causes her to dwell with a more engrossing memory on him, from whom her heart is never absent. Custom—but hallows the sentiments, to which nature has given birth. Neglect and coldness—but cause her to strain every nerve to merit more and more the poor return of filial love, the solitary aim of her existence, so heartlessly denied her. Nay, worthlessness itself—but binds

her more closely to him, whom the false and fickle world has cast aside, to find a refuge in the only bosom, which will not perceive his errors, or credit his utter destitution.

Thus, *thus* it was with Mary!—She knew that the child of her affections regarded those affections as vile and worthless weeds!—She knew that he was selfish, vain, and heartless!—She knew that, when she had toiled through many a summer's day and many a wintry night in framing for her beloved boy a garment, embroidered with the best of her poor skill, decked with every gem that yet remained to her of all her former pomp,—that garment, the labor and at the same time a solace to her imprisoned weariness,—that garment, which a son, possessed even of one spark of human feeling, would have cherished above the value of man's loyalty, or woman's love,—would have prized beyond throne or principality,—would have worshipped, as second only to the God of his adoration,—that garment, on a miserable pretext of court etiquette, was returned to the heart broken captive, as a mere gift of a ceremony, a thing under any circumstances valueless, but now impertinent and calling for contempt instead of gratitude!—She knew that a single embassy—a single word from that child, whom she still adored,—if conveyed to her relentless persecutor in the strong language of sincerity and zeal, if borne not by a fawning courtier, but by one of those high spirits which Scotland has found ever ready at her need, if enforced by instant threats of war, would have broken her fetters in a moment, and conveyed her from the dungeons of Fotheringay to the courts of Holyrood!—All this she knew, yet her heart would not know it. When all Europe rang with curses on the unnatural vacillation of that son; when every Scottish heart, whatever might be its policy or its party, despised this abject cringing; when Elizabeth herself, while she flattered his vanity, and affected to honor and esteem his virtue, scoffed in her royal privacy at the tool she designed to use in public; Mary alone,—Mary the only sufferer, the only victim of his baseness,—still clung to the imagination of his probity, still adored the child, who was driving her out, as the scape-goat of the Jews, to expiate the sins of himself and his people, by her own destruction. But it was not on James alone that her wayward memory was fixed. At a time when any soul less dauntless, any spirit less exalted, would have shrunk beneath its load of sorrows, Mary had a fond regret, a tear of sorrow, a sigh of sincere gratitude, for every gallant life that had devoted itself to ward from her that fate, which their united loyalty had failed only to defer, not to avert. Chastelar passed before her with his tones of sweetest melancholy, and that unutterable love, which made him invoke blessings upon her, who doomed him to the block—and Darnley, as he had seemed in the few short hours, when he had been, when he had deserved to be, the idol of her heart—and Bothwell, the bold, the eloquent, the glorious, but the guilty Bothwell—her ruin and her betrayer—Douglass, the noble, hapless Douglass, he who had riven the bolts of Lochleven, and sent her forth to a short freedom and a worse captivity—Huntley, and Hamilton and Seyton, and Kirkaldy the most formidable of her foes, till he became the firmest of her friends, all passed in sad review before the eyes of her entranced imagination.

Thus it was that the last Queen of Scotland passed the latest night of her existence. With no consciousness of time, with no care for the present, no apprehension of the future, she had paced the narrow floor of her apartment during the still hours of midnight. Unperceived by her had the stars paled, and then banished from the brightening firmament; unseen had the faint dappling of the east grown into the cold clear light of a wintry morning; unheard had the castle clock sent forth its giant echoes hour after hour, to be heard by every watcher over leagues of field and forest. Another sound rose heavily, and at once she was collected—time, place, and circumstances, flashed fully on her mind; she was prepared to meet them. It was the roar of the morning culverin, and scarcely had its deafening voice swept over, before a single bell, hoarse, slow, and solemn, pealed minute after minute, the signal of her approaching dissolution.

Calmly, as if she were about to prepare for some gay festival, she turned to the apartment where her ladies, overdone by wo and watching, yet slumbered, forgetful of the dread occasion.

"Arise"—she said in sweet low notes, "arise, my girls, and do your last of earthly duties to the mistress ye have served so well. Nay! start not up so wildly; nor blush, that ye have slept while we were watching. Dear girls, the time hath come—

the time for which my soul has so long thirsted.—Array me then, array me as to a banquet, a glorious banquet of immortality! See"—she continued scattering her long locks over her shoulders—"see—they were bright of yore, as the last sunbeam of a summer day, yet I am prouder of them now, with their long streaks of untimely snow—for now they tell a tale of sorrows borne as it becomes a queen to bear them! Braid them with all your skill, and place yon pearls around my velvet head-gear. We will go forth to die, clad as a bride, and now methinks the Queen of France and Scotland owns but a single robe of rich device—bring forth our royal train and brodered farthingale—it suits us not to fall with our limbs clad in the garb of mourning, when heaven knows the heart is clothed in gladness."—Tearless, while all around were drowned in lamentations, she strove to cheer them to the performance of this their last sad office, not with the commonplace assurances, the miserable resources of earthly consolation, much less with aught of heartless levity, or of that unfeeling parade which has so oft adorned the scaffold with a jest, and concealed the anxiety of a heart ill at ease beneath the semblance of ill-timed merriment; but by suffering them to read her inmost soul, by showing them the true position of her existence, by pointing out to them the actual hardships of body, and the still deeper humiliations of the soul, from which the door of her escape was even now unclosing; and if she was not wholly successful, she yet prevailed upon them to restrain the bitterness of their grief, and, if sorrow they must, at least to sorrow in secrecy and silence. Scarcely had she completed her attire, and tasted of the consecrated wafer, long ago procured from the holy Pius, and treasured for this extremity, when the tread of many feet, and a slight clash of weapons in the ante-chamber, announced that the hour had arrived.

Once and again, ere she gave the signal to unclosethe door, she embraced each one of her attendants—"Dear, faithful friends, adieu, adieu"—she said—"forever: and now remember!—remember the last words of Mary. Weep not for me, and, if ye love me, shake not my steadfastness, which, thanks to him who is the Father and the Friend of the afflicted, the fear of death cannot shake, by useless lamentation or abject terror. We would die as a martyr, cheerfully—as a queen, nobly! Fare ye well—and remember!"—With an air of royal dignity she seated herself, and with her maidens standing around her throne, she bore the mien of a high potentate, awaiting the arrival of some proud legation, rather than of a captive expecting her summons to the block—"And now"—she said, as she arranged her draperies with dignified serenity—"admit their envoy!"

The doors were instantly thrown open as she spoke—the sheriff uttered his customary summons, and without a shudder she arose. "Lead on,"—she said—"we follow thee more joyously than thou, methinks, can marshal us!—Sir Amias Paulet, lend us thine arm; it fits us not, that we proceed even to the death, without some show of courtesy. Maidens—bear up our train—end, now sir, we are ready."

But a heavier trial than the axe awaited the unhappy sovereign; for as she set her foot on the first step of the stairs, Melvil, her faithful steward, flung himself at her feet with almost girlish wailings. Friendly and familiarly she raised him from the ground. "Nay, sorrow not for me," she said, "true friend, subject for sorrow there is none, unless thou grieve that Mary is set free, that for the captive's weeds she shall put on a robe of immortality, and for a crown of earthly misery a circle of beatitude!"

"Alas! alas!—God grant that I may die, rather than look upon the damned deed."

"Nay, live good Melvil, for my sake, live! Command me to my son, and say to him, Mary's last thoughts on earth were due to France and Scotland—her last but these to him! Say that she died, unshaken in her faith to God, unswerving in her courage, and confident in her reward. Farewell, true servant—take from the lips of Mary the last kiss that mortal e'er may taste, and fare thee well forever!"—

At this moment the Earl of Kent asept forth, and roughly bade her dismiss her women also—"for the present matter lacked other ministers than such as these." For a moment she condescended to plead that they might be suffered to attend her to the last, but when she was again refused, her ancient spirit flashed out in every tone, as she cried trumpet-like and clear, "Proud lord, beware!—I too am cousin to your queen—I too am sprung from your proud blood of Tudor—I too am an anointed queen. I say thou shalt obey, and these shall follow their mistress

to the death—or by foul violence shalt thou force me thither—Beware! Beware, I say, how thou dare do me this dishonor."

Her words prevailed—without a shudder she descended—entered the fatal hall,—looked with an air of smiling condescension, an air almost of pity, on the spectators crowded almost to suffocation, and mounting the scaffold stood in proud and abstracted unconcern, while, in the measured sounds of a proclamation, the warrant for her death was read beside her elbow. The bishop of Peterborough then drew near, and in a loud voice and inflated style, harrassed her ears with an oration, which, whatever might have been its merits, was at that moment but a barbarous and needless outrage. "Trouble not yourself," she broke in at length, disgusted with his intemperate eloquence. "trouble not yourself any more about this matter; for I was born in this religion, I have lived in this religion, and in this religion I am resolved to die." Turning resolutely aside, as if resolved to hear no further, she knelt apart, fervently prayed, and kissed again and again the sculptured emblem which she bore, of Him who died to save. As she arose from her orisons, the Earl of Kent, with heartless cruelty, her constant and relentless persecutor, burst into low revellings against "that popish trumpery" which she adored. "Suffer me now," she said, gazing on him with an expression of beautiful resignation that might have disarmed the malice of a fiend, "suffer me now to depart in peace. I have come here, not to dispute on points of doctrine, but to die!" Without another word she began to disrobe herself, but once, as her maidens hung weeping about her person, she laid her finger on her lips, and repeated emphatically the word, "remember!" And once again, as the executioner would have lent his aid to remove her upper garments; "good friend," she said, with a smile of ineffable sweetness, "we will dispense with thine assistance. The Queen of Scotland is not wont to be disrobed before so many eyes, nor yet by valets, such as thou!" All was now ready—the lovely neck was bared; the wretch who was to perform the deed of blood, grasping the fatal axe; and the fierce Earl of Kent beating the ground with his heel, in savage eagerness! Without a sigh she knelt, without a sign of trepidation, a quicker heave of her bosom; or a brighter flush of her brow, she laid down her innocent head; and, without a struggle or convulsion of her limbs, as the axe flashed, and the life-blood spouted into the very countenance of her slayer, did her spirit pass away. A general burst of lamentation broke the silence, but, amidst that burst, the heavy stride of Kent was heard, as he sprang upon the scaffold, and raised the ghastly visage, the eyes yet twinkling, and the lips quivering in the death struggle! A single voice, the voice of the zealous bishop, cried aloud, "Thus perish all the foes of Queen Elizabeth," but e'er the response had passed the teeth of Kent, a wilder cry rang through the hall. The savage yell of a small greyhound, the fond companion of the murdered queen's captivity! Bursting from the attendants who vainly strove to hold her back, she dashed, with a quick, wild cry, full at the throat of the astonished earl; but e'er he could move a limb, the peril, if peril there were, was past. The spirit had been too mighty for the little frame. The energies of the faithful brute were exhausted, its heart broken, in that death spring! It struck the headless body of its mistress as it fell, and, in an agony of tenderness, perished while licking the hand that had fed and cherished it so long. Wonderful! that when all men had deserted her, a brute should be found constant in its pure allegiance! and yet more wonderful, that the same blow should have completed the destiny of two rival sovereigns! And yet, so it was! The same axe gave the death-blow to the body of the Scottish and to the fame of the English queen, THE SAME STROKE COMPLETED THE SORROWS OF MARY AND THE INFAMY OF ELIZABETH. H.

THE FREE CITIES OF FLANDERS is the title of an article in the last number of the North American Review, which affords one of the most concise accounts that we remember to have met with, of the deeds of those bold Burghers, who so long kept the flag of freedom flying when the pennons of all Europe's chivalry were rustling against it. The restrictive limits of such a paper, however, has prevented its author from expatiating as he might upon the causes that kept alive the spirit of liberty in those commercial towns, when its principles seemed wholly misunderstood throughout the rest of Christendom.—The gradual growth of the *Tiers Etat* is indeed the

subject of tedious dissertation with so many historians, that a periodical writer may readily be forgiven for passing it over with a few touches; but it has sometimes occurred to us, when reflecting upon the manner in which the present degrees of liberty enjoyed in various parts of the world have been acquired from those who at one time enjoyed the complete monopoly of power, that some useful lessons might be deduced for our people at home, from the events of former ages. And first, we may remark that the extension of commerce, and the rise and influence of the mercantile interest, have in all States anticipated, or been coeval with, the growth of their liberties; while those liberties again have been most stoutly maintained, at least, in the free cities of Europe, by the tradesmen and mechanics. It was these last especially, who, under their respective leaders, succeeded so long in maintaining the proud city of Ghent—the Milan of Northern Europe, as Guicciardini terms it—against the various feudal powers that successively assailed her liberties, until the pericidal arm of Charles V. crushed them at a blow, and robbed the place of his birth of a prosperity which she has never since recovered.

One of the heaviest charges to be brought against writers of fiction, in almost every age, is that blind leaning to power, which, from the days of Virgil and Horace, to those of Scott and Southey, have placed them upon the Tory side of politics, and, eliciting praises direct or implied, for those who filled the chair of patronage, left only sneers and contumely for "the base mechanic," who battled to the last for the cause of liberty. The halo that has been thrown by their magic pens around the vaunted deeds of Chivalry, has stolen its proper light from a thousand acts of heroism, that might have illumined names now lost for ever to the world; that might have left lessons of self sacrificing patriotism for mankind that would have kept truth much longer upon earth. In every country, where liberty has been long maintained, it is in the middle classes that its principles have most resided, and, however the poet and novelist may sneer at "burley burghers" and "greasy citizens," it is by the inhabitants of cities, that its holy fires have been watched with the most religious jealousy, and shielded with the most invincible spirit.

RAILROAD AND CANAL MAP: D. K. Minor, 35 Wall street.—This is a convenient pocket map of the United States, on a scale of about 40 miles to the inch, upon which is laid down all the principal lakes, rivers, cities, towns and villages—together with the CANALS and RAILROADS made, making, chartered, and many of those in contemplation, not at present chartered, with a concise description of, or reference to, each—showing not only their present location, but also the probable connection hereafter of those which are now viewed only as distinct works. It refers particularly to the subject of a STEAMBOAT CANAL from the Hudson to Lake Ontario—from Ontario to Erie—and from Erie through the Miami and Wabash rivers, or from Chicago to the Illinois and Mississippi rivers, by which enterprise would be opened an inland communication with New Orleans of more than 3,500 miles.

TWO DAYS LATER FROM LONDON.—London dates to July 2d, have been received at Boston, via Halifax.

Mr. Wyer, bearer of the Treaty of Commerce agreed upon between the United States and Spain, left Paris June 30, for Madrid.

All was tranquil at Madrid 21st June. The Queen reviewed the army of Rodil, from Portugal, and was enthusiastically received by the troops. A fresh conspiracy has been discovered in Bulgaria.

Forty men and one woman, were lost from the swamping of a boat in the river Feale.

Effects of the late Riots in France.—The Court of Peers have issued upwards of four hundred warrants of arrest, of search, and rogatory commissions. The number arrested in Paris since April, exceeds

960; at Lyons the number is upwards of 1200. All the prisons are full—one of which contains 460.

CHOLERA IN DUBLIN.—The Cholera has made its appearance again in Dublin and its vicinity, with scarcely any abatement of the virulence which marked its approach. In the neighborhood of Kingston and vicinity, (says a letter writer,) numerous fatal cases have occurred; and although no public mention has been made of Cholera in this city, I have heard from good authority that 40 deaths occurred in one parish on the north side of the river last week.

LONDON, JULY 2.—Letters from the Mediterranean state the probability of a rupture between the Porte and the Pacha in Egypt. The Sultan persists in demanding two years arrears of tribute from Mehemet Ali, when he is not disposed to pay, nor has he yet evacuated the districts of Onra and Raica, as required by the Porte. Should the war be renewed, France and England will have a difficult part to act, but it is believed, that on the event of another Russian army entering Constantinople, the combined fleet, now thirteen sail of the line, and numerous large frigates, will try the passage of the Dardanelles, and thus put to issue the late secret treaty between the Porte and Russia.

LATER FROM ENGLAND.—By the President, from London, papers of that city of the 4th ult. are received. We are indebted to the Commercial Advertiser for the use of them. We do not notice any thing of much interest.

The French Chamber of Deputies was convened for the 31st July. It was supposed the King, after opening the session in person, would make a tour through the south of France.

According to the *Temps*, the Duke Decazes, with a vice-regal salary, was appointed Governor of Algiers. The ministerial papers make no allusion to such an appointment.

The Editor of the Morning Post—committed by the House of Lords for a breach of privilege in assailing the Lord Chancellor—had been reprimanded and discharged, after an expression on his part of contrition for the offence.

THE IRISH COERCION BILL.—After several fruitless attempts to negotiate with O'Connell and his friends, for a renewal of the Irish Coercion Bill, with essential modifications, on the 4th of July, Earl Grey brought forward the law about to expire, omitting only the Court Marshal clause. A sharp incidental skirmish took place in the Commons, upon this subject, on the 3d, between Mr. Littleton, the new Irish Secretary, and Mr. O'Connell.

The London Morning Herald, of July 2d, contains the following article from its correspondent at Madrid.

We confess we see with pleasure the interest thus manifested by our Government, in the welfare and prosperity of the other peoples of this Continent. Placed by our position, resources, and early acquired liberties, at the head of American nations, it is fit, wheresoever it can, as in this instance, be done with perfect propriety, that the influence of these States should be exerted for the common benefit of our Continent.

Prospective Recognition of the South American Colonies.

MADRID, June 18.—Being of opinion that the recognition of the South American States and the melioration of the Spanish commercial policy were questions of paramount importance, and much more valuable to Great Britain than those other points to which our attention has been so exclusively directed, I have watched since I came here the steps of the present ministry on the subject, and I have now succeeded in obtaining two remarkable documents, translations of which I immediately subjoin, through the medium of a useful agent, who occasionally supplies me with papers from the public offices. The first is a copy of a note, addressed on the 12th February, 1834, by the Minister of the United States to the Foreign Office, and the second is the reply of M. Martinez de la Rosa, dated the 12th of this month. From the one you will learn how wisely the American government has been pursuing an object so essential to its commerce, and how favorably it must appear before the South American States as the power to whose exertions they are indebted for the first symptoms of reviving affection on the part of the mother country; and from the other you will infer that the willingness to treat with the South American commissioners is only a

prelude to the grand act of a recognition, which must take place as soon as the terms are arranged. The American's Minister's note is as follows:

"LEGATION OF THE UNITED STATES OF AMERICA. Madrid, Feb. 12, 1834."

"In pursuance of instructions from the President of the United States, I had the honor, on the 6th of May, 1831, to address a note to his Excellency Don Manuel Gonzalez Salmon, then his Majesty's Principal Secretary of State, stating that the anxiety which the government of the United States had long felt, and which theretofore had been fully made known to his Majesty's government, that an amicable and satisfactory settlement between Spain and her former colonies, the new American States, should take place, had arisen as well from a regard to the principles of humanity and the interests of the party concerned, especially that of Spain, as from the expectations of benefit to the United States.

"I added that the government of the United States, without intending or wishing to depart from its settled policy of not interfering with the affairs of other nations, except by friendly advice in cases in which it might be thought suitable, felt itself authorized by the friendly relations existing between the United States and Spain, and by the circumstances of the case, to make another appeal to his Majesty on a question of so great and so general an interest, and that in doing so it indulged a strong hope that his Majesty would not any longer refuse to open a negotiation with the new States, but that, on a full and deliberate review of the matter, he would be convinced that, independently of the satisfaction which such an event would afford to most if not to all the nations with which Spain had friendly intercourse, a recognition by his Majesty of the independence of those States, upon just and proper terms, would contribute both to the honor and interest of Spain. And I concluded by suggesting some considerations in relation to the remaining possessions of Spain in America, which I hoped would not have been disregarded.

"To the note in question Mr. Salmon favored me with an answer, under date of the 11th June of the same year, by which I was informed that the King received my communication as a proof of the strong interest felt by my government in favor of his Majesty, and that as the question was fully present to his Royal mind, he would take it into consideration when the case might be favorable, in such a manner as might be most conformable to the interest of his crown, and that then the friendly communication made by me would not be forgotten.

"The President of the United States, having deemed the accession of Donna Isabel the Second to the throne of Spain, under the regency of her august mother, a favorable occasion for the renewal of his efforts, has directed me to lose no time in addressing her Majesty's government on the subject.

"Without entering anew upon the field of argument which presents itself, it is conceived by the President that all the considerations which have heretofore existed, and been pressed upon the government of Spain, in favor of a conclusion of this matter upon the basis of the recognition by Spain of the independence of the States above mentioned, not only continue to exist, but have been greatly strengthened by time and circumstances, and he cannot but persuade himself that the case will be received in its true light by the liberal and enlightened government of Donna Isabel the Second; and that one of the first great acts from which it may be destined to derive lasting distinction and applause will be a prompt and just arrangement of the American question.

"It only remains for me to add that the government of the United States is ready and desirous, as it has ever been, to do all in its power for the mutual conciliation of the parties concerned, and to facilitate the final conclusion of their disputes upon terms alike honorable and advantageous to all sides.

I have the honor, &c.

(Signed)

J. P. VAN NESS.

The following is a translation of the reply of M. Martinez de la Rosa.

"At the Palace, June 12."

"The multiplicity of business which the Department of State has been charged with since her Majesty the Queen Regent was pleased to intrust me with that office, has prevented my giving an earlier reply to the several applications which your Excellency, in pursuance of instructions from your government, has made to me respecting the importance and expediency, to use your Excellency's own words, of a prompt and just arrangement of the American question."

"Her Majesty in her wisdom cannot but be aware of the advantages of being relieved from an uncertain

position, and of adopting a definitive decision in regard to the vast territories alluded to; and for my part, if my humble opinion be considered of any weight in determining the measures of her Majesty, I can assure your Excellency that as soon as the late King Don Ferdinand did me the honor to appoint me to this department, ten years ago, I called the attention of the government to this interesting question, from the persuasion I was under of the injury and loss which would accrue from any delay in the settlement of it, and because it appeared to me quite practicable, at least was then my opinion, as it is now, to consolidate the interests of our brethren in South America with the interests of the Peninsula, by the adoption of a basis reciprocally great and advantageous.

"For the accomplishment of this object his Majesty's government despatched at that period several special commissioners, who were furnished with the necessary instructions, and were directed to announce a cessation of hostilities, and to propose, as a preliminary step towards the removal of the political difficulties, the re-establishment of the commercial relations of the two countries. The great events which soon after occurred, and which are two well known to require being recorded, prevented the fulfilment of the wish, as then entertained by the Spanish government, and this great and interesting question has remained in a state of suspense from that time to the present.

"The decision of it, however, is desired by the Queen Regent, who in the government of this monarchy is guided by principles of a liberal and enlightened policy, and her majesty has accordingly authorized me to communicate to the diplomatic agents of Spain in foreign courts, especially those in Paris and London, the necessary instructions, to the end that if any commissioners present themselves with powers and instructions of a nature to offer to Spain a just and honorable arrangement, they may afford such commissioners all the facilities and guarantees they may desire, with the assurance that they will find her Majesty animated by the most favorable dispositions.

"Her majesty has, at the same time, authorized me to make to your Excellency this frank declaration, in order that you may communicate the same to your government, in return for the wishes expressed by it of an early conclusion of this interesting question; and as her Majesty feels confident, after consulting her personal feelings, without disregarding the suggestions of a sound policy, that nothing would be more easy than to effect a reconciliation of parties who, in all respects, may consider themselves as children of the same family, when once they shall have consented to an interview. Her Majesty entertains the hope that as soon as negotiations may be entered upon in a spirit of sincerity and good faith, the object in question, which, as is expressed with much precision in your Excellency's note, is 'a mutual reconciliation and final conclusion of the differences of the parties, advantageous and honorable to all,' will be completely realized.

"Renewing to your Excellency the assurance, &c.
(Signed) "MARTINEZ DE LA ROSA."

These notes must produce a general satisfaction among those who are interested in the South American States; and I am entitled to assure them from the verbal communications which have taken place in the Foreign Office, as well as from the written document, that no impediment now remains as to the recognition; and the Spanish government is neither more nor less seeking but to make the best bargain with her revolted children, and get the best price she can for the admission of their independence. The conditions with regard to the commissioners sent from South America are to be taken as so many words which mean nothing; and it is intended that no difficulties shall be put in the way of coming to a proper understanding.

LATER FROM BELGIUM.—Captain Thatcher, of the ship Warsaw, who arrived yesterday, from Antwerp, whence she sailed on the 5th July, has kindly favored us with a file of Antwerp papers to the 3d of that month. The following are translations:

ANTWERP, 3d JULY.—The news which reaches us from all parts of Flanders encourages us to believe that the crops this year of all kinds of grain will be unusually abundant.

ROME, JUNE 14.—In the consistory yesterday the question of Portugal was seriously debated, and an excommunication will probably be issued against Don Pedro. The measure he has taken of confiscating all ecclesiastical property has excited here general indignation. The ecclesiastical establishments are under the sole authority of the Pope, who will never sanction a similar usurpation.

THE HAGUE, 29th JUNE.—We learn that His Majesty has authorized the Minister of the colonies, for the purpose of favoring the commerce of Surinam, to remit the import duties, tonnage money, and other duties to which vessels, coming from the West Indies, and their cargoes, are subject.

King Leopold has issued a decree granting a premium of 35,000 francs to a merchant who has sent the first vessel of the size of 250 tons, to Alexandria, in Egypt, loaded with articles the produce of national industry, and a premium of 3000 francs to another who has sent the first vessel of 60 tons to Algiers.—[Courier.]

SUMMARY.

Intelligence has been received (says the Globe of yesterday) from the President, since he has entered Tennessee, from which we learn that he is well, and sustains the journey astonishingly, considering the extreme heat, and his suffering a sharp bilious attack, which detained him two or three days at Salem, Virginia. The complaint yielded immediately to remedies.

The Hon. Ezekiel F. Chambers, of the United States Senate, has been appointed Chief Judge of the 2nd Judicial Circuit of Maryland, vice Mr. Earle, resigned. This leaves a vacancy in the United States Senate, which will be filled at the regular session of the Legislature. There is no doubt, we presume, that a gentleman of the same politics with himself (Whig) will be elected in his stead.

Mr. Scorr, editor of the Steubenville (Ohio) Union, was killed last week, near that town, by being thrown from his gig.

BOSTON—Tuesday. The British steamboat Cape Breton, which arrived here a few days since from Halifax, cleared yesterday for New York. She has made some pleasant and expeditious trips about our harbor; and we understand her object has been to show that Sidney coal deserved preference as fuel for steamboats, both for its cheapness and power.

LATE FROM THE SOUTH.—By the steam boat William Gibbons, Capt. Penoyer, we have received Charleston papers to Saturday evening last, 6th inst. New Orleans dates are to July 31st. The following are extracts:

Extraordinary Despatch.—We are informed that Gooda purchased in New York, on last Saturday forenoon, reached Augusta, and were sold on Wednesday Evening

Steam Boat Burnt.—The schr. Rice Plant, Captain Corson, arrived at Charleston, 8th, from Georgetown, having on board, as passengers, Capt. Gardner and crew, ten in number, of the steamboat Walter Raleigh, from Elizabeth City, bound to this port, which vessel was discovered to be on fire in the hold, on Tuesday night last about 8 o'clock. Georgetown Light bearing S. by W, distant 12 miles. In about five minutes after the fire was first observed, the flames had spread so rapidly, that the officers and crew were compelled to abandon the vessel and take to the boat, without saving any thing, with the exception of what they had on; and fortunately, were picked up by the Rice Plant. The Walter Raleigh was intended to run regularly between this port and Columbia.

The Crops.—The Rice crops (says the Georgetown Union) are said to be very promising. We are sorry to say however, that the Corn crops in the neighboring Districts, from information given us, are not so promising as they were five or six weeks ago.

The Crops in the South and West.—The New Orleans Bulletin of the 31st ult. says, "From every section of the Southern country we have the most cheering accounts of the crops; from present appearance the products of Louisiana, Mississippi, Alabama, Tennessee, South Carolina, Georgia and Florida, will far exceed that of any previous year—the accounts from Texas are also flattering. We may remark that the Corn crops of Louisiana and Mississippi, as far as noticed are not good, while in South Alabama they are better than for many years.

Nassau papers, which have been received at Charleston, state that the 1st instant, was the day on which the law emancipating the slaves in the British Colonies, was to take effect. All was perfectly quiet at Nassau and its vicinity, and the Negroes are stated to be apparently indifferent respecting the change.

The U. S. ship John Adams was about to sail from Norfolk on the 6th instant, with the following officers:

D. Conner, Esq. Commander.
Lieutenants—Wm. H. Gardner, C. Ringgold, Wm. F. Lynch, J. S. Sterrett, C. W. Chauncey.
Purser—D. M. F. Thornton.
Surgeon—B. R. Tinslar.
Assistant do—Lewis B. Hunter.
Sailing Master—Wm. Radford.
Passed Midshipmen—J. M. Gillis, Wm. S. Young, Overton Carr, Jas. M. Lockert, James E. Brown.
Midshipmen—Wm. S. Smith, Johnson B. Carter, W. Callender, Simon F. Blount, M. C. Mairin, B. S. Porter, Wm. C. Brashears, Sam'l Smith, Julius Guthrie.
Captains Clerk—Edward Fitzgerald.
Purser's do—Wm. B. Creecy.
Boatwain—W. Walters.
Gunner—David Taggart.
Sail Maker—Jno. Rozer.
Carpenter—Elisha Ellis.
Passenger—Passed Mid. Henry J. Paul.—[Baltimore American.]

James F. Henry, Esq. of New York, is elected Cashier of the Stamford Bank, Con.

SALMON FALLS FACTORY.—We find in the Great Falls Journal the annexed letter, from the Rev. Mr. Caverno, giving the particulars of the recent melancholy fire at Salmon Falls, with more minuteness than any account we have before seen. The editor of the Journal states that the factory was commenced in the spring of 1822, and finished in that and the two subsequent years. It cost, it is said, \$300,000. It had sixty broadcloth looms, and manufactured about 300 yards of cloth per day; giving employment to about 200 persons, and support to 500 inhabitants.

Mr. Moody, Sir—Having just returned from Salmon Falls, I hasten to give you a short sketch of the dreadful fire that occurred there yesterday. The large woollen factory with other buildings, among which was a large boarding house, are entirely consumed. One or two other buildings are nearly destroyed or seriously injured. The fire caught in the second story in the large factory in the picking room, where a lad was employed at the time in picking wool. It caught by friction in the gearing of the picker, and instantly communicated itself to the wool, which being in an ungutted state, and lightly thrown over the floor, communicated itself to every part of the room. In spite of every effort to stop it, it soon found its way to other parts of the building. The alarm was given for the operatives to make their escape, almost at the moment the flame was kindled; but such was its rapidity, that those in the upper story found it hazardous if not entirely impossible to escape by descending the stairs. All was now in confusion. Some leaped from the windows, which it seemed instant death to attempt—some were taken down on ladders; while, awful to relate, two, it is supposed, perished in the flames! Several of those who leaped from the windows were seriously injured—one mortally. This was a girl whose name was Mary Nowell. She expired about 11 o'clock in the evening. Three of those most injured have broken bones or are badly mangled, though there is hope as to their recovery. Their names are Mary Jones, Sarah Nowell, and Miriam Thompson. Those who it is supposed perished in the flames, were Harriet Haaty and Lydia Varney. Such a scene as this, it is presumed, never took place in our section of the country. Never did I see such a gloom as hangs over that pleasant little village.

The amount of property destroyed by this conflagration is said to be \$180,000. \$70,000 or \$75,000 insured. I am yours, &c. A. CAVERNO.
August 8, 1834.

[From the Boston Evening Journal.]

SEA SERPENT.—We understand that yesterday afternoon about 3 o'clock, the crew and passengers of the Portsmouth Packet, Captain Goodrich, had a distinct view of the Sea Serpent, when within about 3 miles of Nahant. There seemed to be no doubt among 30 credible witnesses of his existence. The Monster was about 20 rods off when first seen; and his head, about the size of a barrel, was elevated 3 or 4 feet above the surface of the water.

He seemed frightened at the noise of the boat, and the exclamations of those on board, and withdrew his head beneath the surface, passing rapidly through the water at the rate of 15 or 20 knots an hour. He appeared to be about one hundred feet in length.

There seemed to be no doubt in the minds of any on board, that this was the veritable monster.

NEW YORK CUSTOM HOUSE.—The following description of this edifice, now erecting, is from the Journal of Commerce:—

"It is to be 177 feet long, and 89 feet wide, and the form and order of the building to be similar to that of the Parthenon of Athens. It is to stand on a basement story, ascended by 19 steps from Wall street and six steps on Pine street. There are to be eight Grecian Doric columns at each front, and fifteen columns and antæ on each side attached to the walls. There is also to be a second row of six smaller columns back of and parallel with the main front, leaving a space of ten feet between the two rows; and nine feet between the inner row and front wall of the building. Back of the two extreme columns of the inner row there are to be two antæ, and six antæ attached to the wall of the rear front, leaving a space of eight feet and a half between the columns and the antæ. There will thus be twenty four outside columns, five feet eight inches diameter at the bottom, and thirty two feet high, including the capital, and eighteen antæ on the two sides, of the same height, five feet wide, and three feet nine inches projecting from the walls. The six inner columns of the main front will be four feet eight inches diameter at bottom, and the antæ to correspond. The building is to be two stories high, except the great business hall, part of which is to be vaulted as high as the roof will permit, and its centre finished with a dome sixty two feet in diameter. This hall will occupy the centre of the building, and will be one hundred and fifty feet long, leaving a small vestibule at each end to enter from. It is to be seventy seven feet wide in the centre part, which is a circle of seventy feet diameter, with the length and breadth of the room extending beyond its circumference to these dimensions; and the four parts so extended beyond the circle are thirty three and a half feet wide, leaving six rooms and three circular stair cases in the four corners, the two largest rooms to be twenty four by twenty one feet each, besides a square stair case in the rear, and three vaults for papers at the two ends of each vestibule. The same divisions of the room is made in the second story. Nearly the same number, shape, and sizes of rooms are had in the basement, as above in the other stories, leaving all the area of the same shape and size as the great hall immediately above it; with the addition of sixteen fluted doric columns to support the vaulting and the pavement under the dome of the great hall.

[From the Ulster Star.]

We some weeks since adverted to the new bridge which has recently been erected across the Esopus creek in this village, by Mr. Smith Cram, for Henry Barclay, Esq. This bridge is built upon an entire new construction, and the design is perfectly original with its builder. In order to give the public some idea of the plan upon which this bridge is built, we subjoin the following description:—The bridge is supported by one main arch, which arch extends from shore to shore; it is 250 feet in length, 32 feet high, 28 feet wide at either end, and 20 feet in the centre. The roadway of the bridge, which is suspended from the arch alone by strong rods, is 17 feet above the surface of the water. The arch is formed of timbers 60 or 70 feet in length, and 6 by 12 inches thick, spiked and bolted together, making a depth of four feet, and one foot in thickness. This plan of building bridges, from the many advantages it possesses, will doubtless supersede most former methods. An arch of this description can be constructed of almost any length, over deep streams, if the banks are high, where an abutment cannot be placed, and all danger to be apprehended from floating ice is effectually obviated. The projector tells us that he could erect an arch, if the banks were quite high, of six or seven hundred feet, that would be perfectly strong and durable.

Among the numerous works of art that render our village an object of interest to visitors, Mr. Cram's new bridge, we predict, will receive a large share of admiration. The best reward that we can wish for the deserving and enterprising builder, in addition to the encomiums he daily receives from scientific men, is that he may be employed to substitute similar works for the unsightly erections which we now see in many parts of our country.

NEW JERSEY.—The annual Convention of this Diocese was held at Newark, in May last.—The Bishop and 15 clergymen, out of 24 attended. The lay deputies present were 30 from 14 congregations, and 18 congregations were not represented. The journal presents a gratifying indication of a prosperous state of things. Four new stone churches are in progress of erection.

Letter from the late Sir James Mackintosh on the Death of his Wife.—Allow me, in justice to her memory, to tell you what she was, and what I owed her. I was guided in my choice only by the blind affection of my youth, and might have formed a connexion in which a short-lived passion would have been followed by repentance and disgust; but I found an intelligent companion, a tender friend, a prudent mistress; the most faithful wives, and as of dear a mother as ever children had the misfortune to lose. Had I married a woman who was easy or giddy enough to have been infected by my imprudence, or who had rudely or harshly attempted to correct it, I should, in either case, have been irretrievably ruined: a fortune, in either case, would, with my habits, have been only a shorter cut to destruction. But I met a woman, who by the tender management of my weaknesses gradually corrected the most pernicious of them, and rescued me from the dominion of a degrading and ruinous vice. She became prudent from affection: and, though of the most generous nature, she was taught economy and frugality by her love for me. During the most critical period of my life, she preserved order in my affairs, from the care of which she relieved me; she gently reclaimed me from dissipation; she propped my weak and irresolute nature; she urged my indolence to all the exertions that have been useful and creditable to me; and she was perpetually at hand to admonish my heedlessness and improvidence. To her I owe that I am not a ruined outcast; to her whatever I am; to her whatever I shall be. In her solicitude for my interest, she never, for a moment, forgot my feelings or my character. Even in her occasional resentment,—for which I but too often gave just cause (would to God that I could recall these moments!) she had no sullenness or acrimony; her feelings were warm and impetuous, but she was placable, tender, and constant; she united the most attentive prudence with the most generous and guileless nature, with a spirit that disdained the shadow of meanness, and with the kindest and most honest heart. Such was she whom I have lost; and I have lost her when her excellent natural sense was rapidly improving, after eight years of struggle and distress had bound us fast together, and moulded our tempers to each other; when a knowledge of her worth had refined my youthful love into friendship, before age had deprived it of much of its original ardour. I lost her, alas! (the choice of my youth and the partner of my misfortunes) at a moment when I had the prospect of her sharing my better days.—This, my dear sir, is a calamity which the prosperity of the world cannot repair. To expect that any thing on this side of the grave can make it up, would be a vain and delusive expectation. If I had lost the giddy and thoughtless companion of prosperity, the world could easily have repaired my loss; but I have lost the faithful and tender partner of my misfortune: and the only consolation is in that Being, under whose severe but paternal chastisement I am cut down to the ground.

Influence of Women on Society.—It is generally believed that the influence of women on any given society is, on the average, much greater than that of men. We speak, of course, merely of the domestic state of society, for in politics and in all public matters the men have long enjoyed a complete monopoly. It is thought too, by many, that the influence which women exercise on mankind might be employed with equal effect by her on morals, and in that case some very important suggestions will at once occur to every mind. "A prudent and moral mother," remarks this translator, in his Preface, "may, in a great degree, counteract in her family the unhappy consequences of her husband's intemperate or dissolute life, much more than it is possible for an honest and industrious husband to counteract the melancholy effects of the conduct of an immoral wife. The wife's sphere is supremely that of domestic life; there is the circle of activity for which she is destined, and there, consequently, she has the greatest influence; and the lower we descend in the scale of society, the greater the influence of woman in her family. If she is unprincipled, the whole house is lost, whilst, if she walks in the path of virtue and religion, she is the safest support of a son, thrown upon the sea of life, or of a husband, oppressed by misfortune or misery, and beset by a thousand temptations. That tender age, in which the very seeds of morality must be sown and fostered in the youthful soul, is much more dependent upon the mother's care than upon that of the father—in all working classes it is almost solely dependent on the former. A woman given to intemperance, and, what is generally connected with it, to violence and immoral conduct in most other respects,

is sure to bring up as many vagabonds and prostitutes as she has male and female children; and I believe I am right in stating, that the injury done to society by a criminal woman is in most cases much greater than that suffered from a male criminal.—Around one female criminal flock a number of the other sex, and ask any police officer what incalculable mischief is done by a single woman who harbors thieves and receives stolen goods, 'called' in the slang of criminals a *fence*. I have taken pains to ascertain the history of a number of convicts, and though my inquiry has been but limited, yet as far as it goes, it shows me that there is, almost without an exception, some unprincipled or abandoned woman, who plays a prominent part in the life of every convict, be it a worthless mother, who poisons by her corrupt example the soul of her children, or a slothful and intemperate wife, who disgusts her husband with his home; a prostitute, whose wants must be satisfied by theft, or a receiver of plunder and spy of opportunities for robberies. It might be said that man and woman being destined for each other's company, some woman will be found to play a prominent part in the life of every man, and nothing is more natural, therefore, than that we find the same to be the case with criminals. This is true, and would only corroborate what I say, that the influence of woman is great; but in addition, I maintain that I found that most criminals have been led on to crime, in a considerable degree, by the unhappy influence of some corrupted female." The writer goes on to remark, that a striking difference exists between the progress of crime in women and in men. A woman who once renounces honesty and virtue, passes with the greatest facility, and with far greater ease than man, to the very blackest crimes. A theft by a woman will so harden her heart, that she will not hesitate to commit a murder, whilst a man will go on stealing for half his life, and recoil at the bare thought of imbruing his hands in the blood of a fellow creature. We may remark too, that most of those crimes which are distinguished by peculiar enormity, those of which the popular annals of almost every country make mention, are almost always perpetrated by women. Poisoning is the crime quite exclusively belonging to them. A book was published in Germany very lately, which gave an account of the Marchioness of Brinvilliers, and of the woman Gottfried, who, in 1831, was executed at Bremen for having poisoned more than thirty persons, among whom were her parents, children, husbands, lovers, friends, and servants.—[Monthly Review.]

We have attended a private view of what may be considered a great curiosity in art. The late Lord Dudley was possessed of the *beau ideal* of a dog. It was a Newfoundland of more than ordinary size, and of most amazing beauty. His Lordship loved the animal—

"—In life the firmest friend,
The first to welcome, foremost to defend,"—

and determined that his memory should, if possible, be perpetuated. As to the manner in which this was to be achieved, he entertained a peculiar notion, which was, that in all respects a model should be made of him, which should not, like the generality of sculpture, merely give the full form, as in a statue, or the outline as in bas-relief; but that an accurate representation of the figure should be given, even to the color of the coat and expression of the eye. This was to be done in marble, and to Mr. M. C. Wyatt the difficult commission was given. To say that he has succeeded is the highest and best praise that can be bestowed on a work replete with so many obstacles. The statue of a beautiful beast is placed on a Jasper pedestal, the base of which is surrounded by fruit and flowers in *alto relievo*, curiously formed by precious stones. On the pedestal is a cushion of Sienna colored marble, looking as soft as if the lightest foot would make a print-mark. On this cushion stands the dog. A bronze figure of a serpent is beneath him, which the powerful animal has crushed with his paw, the introduction of which at once adds to the interest of this curious piece of statuary, and ingeniously serves as a support to the ponderous weight of the dog. Some method must have been adopted for the sustaining so cumbrous a load beyond the mere support afforded by the legs, and nothing of a more effectual nature could in our opinion have been introduced. But the ingenuity, and, in our estimation, the great merit of the work, consists of the singularly felicitous manner in which the artist has represented the shaggy coat in the different colored marble, making the black so beautifully overlay and intermix with the white. The head is also truly beautiful, for not only the introduction

of gems of an exact color fill up the sockets of the eyes, but the fleshy tint which is observable at the extremity of the white part of the eye is managed with the same extraordinary kind of fidelity. The nose, by the insertion of porous-looking black marble, is made to bear the appearance of dewy moisture, so commonly observable, and it requires no exercise of the fancy to suppose that if touched a sensation of moisture would be experienced from the contact.

Effects of Scenery on Imagination.—A dull uniform life lets the imagination sleep and become torpid. I have no doubt that scenery and climate have a great effect upon the spiritual part of the imagination, as well as upon the material. Johnson, I think, became more imaginative after he had visited the Hebrides: at any rate, when our minds contemplate him carried about on the waves of the stormy ocean in which those islands are placed, and sleeping with the northern billows beating at the feet of the castellated rock where he is hospitably received, we have a pleasing idea of him, which revolts at the disputatious dreariness and vulgarity of Bolt-court. —[Sir Egerton Brydges's Autobiography.]

ADVANTAGE OF BOTANY.—But my friends care were not confined alone to the encouragement of happy thoughts in his own mind, or in the minds of others: he was always occupied in some useful deed. One of his constant engagements was spreading through different parts of the world, flowers, fruits, plants, and trees unknown before. He introduced into this country the sultana raisin from Turkey; and of rarer fruits, the hothouses of his friends were crowded with specimens collected by his care. When he had ascertained the habits of any useful vegetable, great was the ardor with which he sought to spread the knowledge of it in the places where it was likely to prosper. In this way it would not be easy to calculate how much he added to human enjoyment, nor the debt that future generations will owe to his kind concern for his race. He preferred botany to all the other departments of natural philosophy, because its pleasures could not be made so diffusive; and he valued plants as he valued men—in proportion to their usefulness. "You cannot," he would say, "multiply minerals, nor insects, nor animals at will; you cannot communicate to others this species of your riches without self deprivation; but of most vegetable productions you can easily increase the number: you can enrich others without impoverishing yourself." —[Bowring's Minor Morals.]

A UTILITARIAN IN THE FIELDS.—He talked to his boys of the beauties of nature that surrounded them, and showed them in what a wonderful variety of ways beauty is a source of pleasure. He bade them listen to the songs of the birds, to the fall of the waters, to the thousand sounds of the earth and air,—teaching them how each added something to the great account of living happiness. When the wind blew in their faces, or the sun shone on their foreheads, or the frost bit the ends of their fingers, he told them how each administered to man's enjoyment. If the air was fragrant with the flowers of spring, or the sweet hay of summer, he explained to them how the organs of smell were made subservient to the same great end; and as they looked upon the different tribes of busy creatures partaking of the various food presented to them by their Maker's munificence, he pointed out how numerous their pleasures; how marvellously provided for, how infinitely spread. "See," said he, "the great purpose of Providence; the general lesson of creation—happiness." And the thought again came over Arthur's mind, that anger never made any body the happier. —[Dr. Bowring's Minor Morals.]

VEGETABLE EXISTENCE.—If we review every region of the globe, from the scorching sands of the equator to the icy realms of the poles, or from the lofty mountain summits to the dark abysses of the deep; if we penetrate into the shades of the forest, or into the caverns and secret recesses of the earth; nay, if we take up the minutest portion of stagnant water, we still meet with life in some new and unexpected form, yet ever adapted to the circumstances of its situation. The vegetable world is no less prolific in wonders than the animal. Here, also, we are lost in admiration at the never-ending variety of forms successively displayed to view in the innumerable species which compose this kingdom of nature, and at the energy of that vegetative power which, amidst such great differences of situation, sustains the modified life of each individual plant, and which continues its species in endless perpetuity. It is well known that, in all places where vegetation has been established, the gems are so intermingled with the

soil that whenever the earth is turned up, even from considerable depths, and exposed to the air, plants are soon observed to spring, as if they had been recently sown, in consequence of the germination of seeds which had remained latent and inactive during the lapse of perhaps many centuries. Islands formed by coral reefs, which have risen above the level of the sea, be come, in a short time, covered with verdure. From the materials of the most sterile rock, and even from the yet recent cinders and lava of the volcano, nature prepares the way for vegetable existence. The slightest crevice or inequality is sufficient to arrest the invisible germs that are always floating in the air, and affords the means of sustenance to diminutive races of lichens and mosses. These soon overspread the surfaces, and are followed, in the course of a few years, by successive tribes of plants of gradually increasing size and strength; till at length the island, or other favored spot, is converted into a natural and luxuriant garden, of which the productions, rising from grasses to shrubs and trees, present all the varieties of the fertile meadow, the tangled thicket, and the widely spreading forest. Even in the desert plains of the torrid zone, the eye of the traveller is often refreshed by the appearance of a few hardy plants, which find sufficient materials for their growth in these arid regions; and in the realms of perpetual snows which surround the poles, the navigator is occasionally startled at the prospect of fields of a wide expanse of microscopic vegetation. —[Dr. Roger's Bridgewater Treatise.]

A DUTCH LANDSCAPE.—Towards evening we entered the dominions of the United Provinces, and had all their glory of canals, treck-schuyts, and windmills, before us. The minute neatness of the villages, their red roofs, and the lively green of the willows which shade them, corresponded with the ideas I had formed of Chinese prospects; a resemblance which was not diminished upon viewing on every side the level scenery of enamelled meadows, with stripes of clear water across them, and innumerable barges gliding busily along. Nothing could be finer than the weather; it improved each moment, as if propitious to my exotic fancies; and, at sunset, not one single cloud obscured the horizon. Several storks were parading by the water side, amongst flags and osiers; and, as far as the eye could reach, large herds of beautifully spotted cattle were enjoying the plenty of their pastures. I was perfectly in the environs of Canton, or Ning Po, till we reached Meerdyke. You know fumigations are always the current recipe in romance to break an enchantment; as soon, therefore, as I left my carriage and entered my inn, the clouds of tobacco which filled every one of its apartments dispersed my Chinese imaginations, and reduced me in an instant to Holland. —[Mr. Beckford.]

A PARASITE TREE.—I have recently, on a visit to Mr. Gee's plantation, three miles south of Quincy, Gadsden county, in this territory, observed a natural curiosity, the following description of which may be interesting to you and many of the readers of the American Journal of Arts and Science: It is a yellow pine tree bearing another in a perfectly healthy and flourishing state, like itself and those in the woods around them. The trees, as represented in this sketch, are united about thirty-five feet from the ground, where they entwine around each other. The one that is borne extends down to within about two feet of the ground, and is alive and healthy to its lowest extremity. These trees have been in the condition in which they now are for a period longer back than the first settlement of the country by the present population. They were pointed out by the Indians as a curiosity to the first Americans who came to Florida. The stump of the tree which is borne has long since disappeared, and the place which it occupied is now grown up in small bushes of grass. —[Letter in Silliman's Journal.]

A tried Recipe for Burns.—Keep on hand a saturated solution of alum (four ounces in a quart of hot water) dip a cotton cloth in this solution and lay it immediately on the burn. As soon as it shall have become hot or dry, replace it by another, and thus continue the compress as often as it dries, which it will, at first, do very rapidly. The pain immediately ceases, and in twenty-four hours under this treatment the wound will be healed, especially if the solution be applied before the blisters are formed. The astringent and drying quality of the alum completely prevents them. The deepest burns, those caused by boiling water, drops of melted metal, phosphorus, gunpowder, fulminating powder, &c., have all been cured by this specific. —[Jour. des Connaissances.]

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m18



INSTRUMENTS.

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EWING & HEARTTE, at the sign of the Quadrant, No. 35 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of instruments in the above branch, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require instruments of superior workmanship.

JAMES F. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' instruments of your Manufacture, particularly Spirit Levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartte.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of pursuing the same.
m28

We are gratified to learn that Professor Edward H. Courtenay, late Professor of Natural and Experimental Philosophy in the United States Military Academy at West Point, has accepted the chair of Mathematics in the University of Pennsylvania. Dr. Thomas C. James, who for a long time, has filled with great ability the professorship of Midwifery in the Medical Department of that institution has, resigned his chair, which is now vacant, and to fill which, it is understood, nominations will be received by the Board of Trustees at their next stated meeting, which will be held early in September.—[Philadelphia U. S. Gazette.]

Drowned from on board one of the Canal boats in the river, on the night of the 7th inst, James McCornachie, a native of Aberdeen, Scotland; naturally of a warm hearted and generous disposition. His untimely fate will be deplored by highly respectable parents and an affectionate wife.—[Albany Evening Journal.]

[From the Balt. American.]

Late Georgia papers contain a long publication signed by the counsel of the Cherokee Indians, detailing the particulars of a personal controversy between them and Governor Lumpkin of Georgia. In a correspondence between the Governor and the military authorities concerning the recent apprehensions of hostilities in the Indian country, he had attributed the blame to what he termed a "free combination of men" who, for professional gain, were encouraging the Indians in litigation, and fomenting their discontent with the State proceedings. Messrs. Mansell and Rockwell, two of the counsel of the Cherokees, considering themselves injuriously treated in this allusion, addressed separate letters to the Governor, requiring an avowal, whether, in the exceptional passages, they or either of them were intended by him. He seems to have treated the application very cavalierly—sending back the letters in a blank envelope to the writers. They have accordingly joined in an appeal to the public, in which they give an unqualified denial to the Governor's charges, and challenge him to produce proof. They apply to the conduct of the Governor such descriptive epithets as occur to men who believe themselves wronged without provocation or justice.

Intelligence from Texas, contained in the New Orleans papers, shows that considerable excitement prevails there respecting the continued imprisonment of Col. Austin by the Mexican government.—On the 14th May, Austin was still in prison, though not so strictly confined as previously. Santa Anna had enlarged the bonds of his confinement, and expectations were entertained that he would be relieved within a week.

At Texas, the Alcald of the municipality of Austin had summoned a meeting of the ayuntamiento, to consider the treatment of Col. Austin, and the general subject of a State government for Texas, which forms the cause of dissatisfaction between Austin and the Mexican authorities. The address of the Alcald is published in the New Orleans Bulletin. It is an animated appeal to the people to assume the responsibility of the acts for which Austin is imprisoned, and unite in an energetic demand for a State government. A general memorial to government to this effect is recommended.

In the present political divisions of Mexico, Texas is attached to the province of Coahuila,—and all laws emanate from that legislature. These are not very strictly enforced, the Colonists yielding obedience, in general, and without much interference, only to those which suit their views and position. Among the State laws recently enacted, is one establishing entire toleration of all religious sects, and another establishing the trial by jury. These salutary regulations must not be confounded with the federal enactments of the Mexican Congress, out of which the late civil disturbances have grown. They are State laws. They are expected to quiet the minds of the settlers, and reconcile them to a longer continuance of their dependant connexion on Coahuila.

The national boundaries of Texas include a territory larger than the kingdom of France, and from its fertility, capable of sustaining a much larger population. France supports now about thirty two millions.

RAILROAD AND CANAL MAP.
This long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in Morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in Marble Paper covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.
Published at 36 Wall street, N. Y., by
J. H. 12
D. K. MINOR & J. E. CHALLIS.

MECHANICS' MAGAZINE.

THE third Volume is now ready. It consists of 384 pages of letter press, and is illustrated by nearly 150 engravings on wood, spiritedly executed, and a full length portrait of LA FAYETTE, on copper, as a frontispiece.
The following are a few only of the numerous notices taken of the Magazine, by gentlemen connected with the press in different sections of the country:—

A rapid glance at its contents discovers that it contains the same judicious preparation of materials that has hitherto distinguished the publication. There are a number of articles, essentially valuable from the solid information embodied in them, and others, again, that will recommend themselves at once to the less severe reader, who always looks for some entertainment to be mingled with instruction.—[N. York American.]

The theoretical and practical Mechanic will find a mine of useful information in these pages.—[Mercantile & Advocate, N. Y.]

This periodical really deserves credit for the ability and attention with which it keeps pace with the mechanical improvements of the age. It is, we are, edited by Mr. Knight, late of the London Mechanics' Magazine, a work which did more to elevate the state of knowledge among the working classes, than any other in England.—[Commercial Advertiser.]

It is stored with representations and descriptions of improvements in machinery, and of newly invented articles, together with information valuable to every class of citizens.—[U. S. Gazette, Philad.]

It contains information on almost every subject connected with mechanics, and a register of inventions and improvements.—[Montreal Gazette.]

It is a work well worthy the attention of every mechanic and one which affords to genius a chance of exhibiting talents.—[New Orleans Merc. Adv.]

This is a publication of practical value and of deserved popularity.—[Albany Argus.]

The work needs only to become known to insure it a very extensive circulation. It certainly cannot fail to be highly interesting and useful to the numerous class of persons for whom it is particularly designed.—[Paterson Intelligencer.]

There is no periodical in this country which more deserves the patronage of the mechanic than this, and which will better repay him for the expense incurred and the time spent in its perusal.—[Elmira Gazette.]

We wish we could persuade our young operatives—upon whose intelligence and virtue so much depends—to substitute the substantial fare which this work affords, for the trash which many of them are too eager to devour.—[N. J. Journal.]

It forms a truly valuable repository, alike suitable to the drawing room and to the cottage.—[Watertown Register.]

Every mechanic who wishes to keep pace with the improvement of the age—to avail himself of the aid which science is constantly bringing to art, should subscribe for the Mechanics' Magazine.—[Washington Spy.]

Having perused the first volume of your journal with much satisfaction, and with some profit, I deem it my duty as an old mechanic, to tender you my acknowledgments. * * * * * In my opinion, it ought to be owned by every mechanic, artificer and manufacturer of our country; and especially by beginners, and made the study of all their leisure hours.—[Benja Russell, one of the oldest mechanics in Boston.]

The Mechanics' Magazine and Register of Improvements is published by the Proprietors, D. K. MINOR and J. E. CHALLIS, at No. 35 Wall street, New York: in weekly sheets of 16 pages, at 6¢ each; in monthly parts of 61 pages, at 31¢ each; in volumes of 384 pages, in cloth boards, at \$1.75—or at \$3 per annum, in advance.—JAMES KYLE, (formerly Proprietor of the London Mechanics' Magazine,) Editor. JY18 1f

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,

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Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* * * Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine. MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly, either or all of which may be seen and obtained by those who wish them; by calling at 347 North Market street, Albany.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principalities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, January 29, 1833.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street, corner of Maidenlane, J31 6f

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal—pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

	Flat Bars in length of 14 to 15 feet counter sunk holes, ending at an angle of 33 degrees with splicing plates, nails to suit.
90 Ninety-five tons of 1 inch by 1/2 inch,	
200 do. 1 1/2 do. 1/2 do.	
40 do. 1 1/2 do. 1/2 do.	
800 do. 2 do. 1/2 do.	
800 do. 2 1/2 do. 1/2 do.	
soon expected.	

250 dn. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 24, 28, 30, 32, 34, and 36 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. KALSTON.

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Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71mcowr

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repair, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

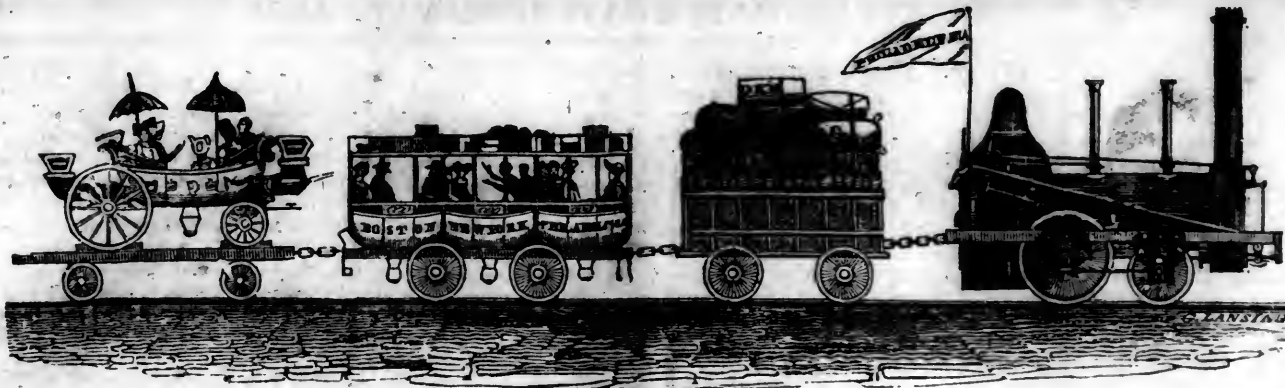
E. H. GILL, Civil Engineer.

German town, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germantown, and Norrist. Railroad



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, AUGUST 23, 1834.

[VOLUME III.—No. 33.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 23, 1834.

NEW YORK AND ERIE RAILROAD.—We learn with pleasure, from an authentic source, that the surveys made and making of routes for this important road, insure the *certainty*, not only that the road will be made, but that the face and form of the country through which it will pass, are such as to afford in one stretch a continuous line of 250 miles with such easy grace that a locomotive can be used throughout. Indeed, a line may, it is ascertained, be carried from a point in the vicinity of Binghampton, Broome co., to within eight miles of Lake Erie, without requiring the employment of a stationary power.

We hope to see this road set about in earnest, and under the countenance too of the State. The South-western tier of counties are entitled to some aid, and the general interest of the State will be advanced by this new channel between the commerce of the Lakes and of the Atlantic at this city.

Steam Navigation to India.—The following are the resolutions of the Committee on Steam Navigation to India, as reported in the House of Commons on Monday evening:

"1. Resolved, That it is the opinion of this committee, that a regular and expeditious communication with India, by means of steam-vessels, is an object of great importance both to Great Britain and to India.

"2. Resolved, That it is the opinion of this committee, that steam-navigation between Bombay and Suez having, in five successive seasons, been brought to the test of experiment (the expense of which has been borne by the Indian Government exclusively,) the practicability of an expeditious communication by that line during the north-east monsoon has been established.

"3. Resolved, That it is the opinion of this committee, that the experiment has not been tried during the south-west monsoon; but that it appears from the evidence before the committee, that the communication may be carried on during eight months of the year, June, July, August, and September being excepted, or left for the results of further experience.

"7. Resolved, That it is the opinion of this com-

mittee, that the steam-navigation of the Persian Gulf has not been brought to the test of experiment; but that it appears from the evidence before the committee, that it would be practicable between Bombay and Bussorah, during every month in the year.

Overland Journey to India.—Among the modes of overland communication with India, one is to be noticed which has been some time set on foot under the direction of Mr. Robert Tod, a British merchant established at Damascus, and who has also a house at Bagdad. He has organized a line of couriers from Damascus to Bagdad and Bussorah, aided by Colonel Taylor, the British resident at the latter places, and with the concurrence of the present authorities in Syria. A courier is despatched once every twenty days from Damascus, and performs the journey to Bussorah in from 16 to 23 days. Despatches are forwarded from Bussorah by the first vessel from Bombay. There is a monthly communication between Constantinople and Aleppo by Government Tbhars, who usually take 15 days between these two cities. This route has the advantage over others of being less exposed to the uncertainties of the sea. The ordinary time required from London to Bussorah would be about seventy day in this way, thus:—London to Constantinople, the post is twenty-seven to thirty days; Constantinople to Aleppo, by the Tartar, 15 days; Aleppo to Damascus, 7 days; Damascus to Bagdad, 8 to 15 days; Bagdad to Bussorah, 7 days—Total, 74 days. Between Bussorah and Bombay there are communications more or less frequent, according to the monsoon. In cases where the expense was not regarded, the time might be curtailed nearly one half. An express goes from London to Constantinople in 16 to 18 days. A Tartar, well paid, will perform the journey from the latter city to Aleppo in six days.

NOTICE.

Oswego, Utica, & Albany Steam Boat Canal or ship Navigation.

TO THE PUBLIC.—The undersigned, Chairman of the Committee appointed by the citizens of Utica to hold correspondence with different sections of this State on the propriety of memorializing the Legislature to make a Steam Boat or Ship Canal navigation from Lake Ontario to Utica & Albany, gives notice that at a late meeting of said committee it was resolved, that it is expedient to hold a convention at Utica, on the 11th of September next, (the day after the two political State conventions) at 12 o'clock at noon, to consult on measures for the furtherance of said object; and that the said committee especially recommend that the towns in the counties of Oswego, Onondaga, Seneca, Cayuga, Madison, Jefferson, Oneida, Herkimer, and such wards in the cities of Schenectady, Troy, Albany and New York, and such other places and towns in this state as see fit, send as many delegates to said convention as they deem proper, to consider on this grand important improvement by which the State of New York will become a fair competitor with Pennsylvania and Canada for the travel and the transportation of the Great West, and finally complete that chain of inter-

nal improvement which nature has so liberally commenced. **THOMAS GOODSSELL, Chairman.**

Utica, August 7, 1834.

N. B. Editors of Newspapers in the cities and counties, interested in this great improvement are respectfully requested to insert the above notice.

CANAL STEAMBOAT.—The grand desideratum of a steamboat for canal navigation seems to be at length attained. We have had the pleasure of conversing with the proprietor of a small steamboat of 30 tons, which arrived here yesterday, by the Delaware and Raritan Canal, from Hartford, Connecticut, where she was built. She is intended to ply between Macon and Darien in Georgia, and is described by the gentleman who superintends her passage to that point as fulfilling, in every respect, the expectations of all concerned. She is 90 feet in length, 16 feet beam, with the paddle wheel at the stern. She has made 15 miles an hour with, and 8 miles against the tide.

Her draught is two feet. She leaves here tomorrow for the south, through the Chesapeake and Delaware Canal.—[Phil. Herald.]

Extract of a letter from a gentleman at the South:

"I have long been desirous to bring the attention of the public, (and shall be glad to do so through the pages of your Journal,) to the project of running a railroad from St. Mary's, Geo., to St. Mark's, in Florida. I question if there is in the United States another railroad scheme which promises capitalists greater profits, in proportion to the capital necessary to be employed in its construction, or more beneficial results to the citizens generally. The route was surveyed seven or eight years ago, by that eminent engineer, General Bernard, of the Topographical Corps, and ascertained to be eminently favorable to such a work, though its adaptation to canalling may perhaps be doubtful. I have, within a few weeks, sent several pieces to the North Carolina papers, on the subject of the railroads proposed to be made in that state by the late Convention at Raleigh. But there is so much of local feeling and opposition pervading the several committees, &c., which have taken up the subject, that there is great danger that the whole plan will be dropped. The desideratum would seem to be a railroad from the Virginia line, about the centre of the State, at Weldon, for instance, through its whole length to the South Carolina line, at Charleston; there it would meet the railroad just finished from Hamburg, near Augusta, Georgia. This, including the Portsmouth and Weldon Railroad, would form a continuous line of road of 250 miles, through one of the greatest thoroughfares in the United

States, and where there could be no rivalry. I flatter myself the people will ultimately see the course of their true interests, and pursue it; disregarding the clamors of committees, who will be content with nothing less than an exclusive attention to the prosperity of their own districts. In reply to your question in relation to the projects suggested in your letter* I would say, that I am in favor of examining all great schemes which give hope of advancing individual or general prosperity; at the same time, I must confess that I am so firmly convinced of the superior advantages of railroads adapted to locomotion, that there must be some strong extra consideration to induce me to adopt a canal scheme in preference. It strikes me that a formidable obstacle to the success of your canals will be found in the nature of the climate through which they must pass; one-fourth of the year, and perhaps more, they must be locked up by the frost. Will not this interfere with profits as well as the convenience of all concerned? Such may exist in those suggested by yourself, without more knowledge of the face of the country through which they must be carried. I do not feel authorized to say more, than that they display an elevated spirit of enterprize, and being "bronched," by yourself, I doubt not the subject will enlist some eminent talent in its consideration.

Very respectfully I remain, &c.

R. H. BRADFORD.

D. K. MINOR, Esq.

We are probably as much devoted to Railroads as our esteemed correspondent, and have in nine out of ten cases recommended them. Yet, there are situations, as for instance the *Louisville and Ohio Canal*, where, by the construction of short works, an extensive steamboat or ship communication may be opened, which is probably far superior to railroads. Such we consider the proposed canals, which, when completed—and completed they will be—will open an inland communication superior to any other in the world.—[Ed. R. J.]

Remarks on the Speed attained by Canal Boats.

Boston, 4th Aug. 1834.

To the Editor of the Railroad Journal.

SIR,—I regret that you did not reprint a very able criticism in the *London Mechanics' Magazine*, on Mr. McNeill's experiments on canal navigation, and which apply as well to the paper by Mr. Robinson, which you lately inserted. Notwithstanding the assertions of Messrs. Graham, Houston, Robinson, McNeill, &c. the law regarding the resistance of the water to vessels floating on its surface, remains precisely as it was. They have the merit of directing the public attention to the best forms of boat for smooth water, and in this they are but copyists. In their experiments, where great speed was obtained, the boat was drawn by horses, and the water acting, in some measure, as a wedge, in front, the boat rose from its ordinary draught, and was sustained in that position by the fatiguing and constant exertion of the animals, relieved every 5 or 6 miles. The least intermission in the speed of the horse allowed the boat to settle to its natural draught, and this occurring at the passage of every boat, and at every stopping-place for passengers, the labor was excessive.

With the power in the boat, the same results have not been obtained. The experiments with steamboats altogether failed; and the boat at present plying as a tug-boat on the Forth and Clyde Canal, and which would have been fitted for passengers, had the parties had any confidence in their own assertions, never has realized an average speed of more than 6 miles

per hour, and ordinarily not more than 5. If the scheme is in reality feasible; if the results are true, where are the boats?—where is the actual practice of the facts? Every exertion has been made by the proprietors of these canals, and the utmost they have obtained is by a boat like a razor, of about 36 inches beam, where the passengers, with threaded legs, are not at liberty to move, lest the boat should crank with this species of shuttlecock, and relays of horses every 5 miles: they have gained a speed of 9 miles an hour, and talk of their discoveries in science, and their superiority to the railroad for time. Why have they not built boats adapted to the improved state of the science; travelling with ease, at say only twelve miles per hour, and admitting of some little comfort to the passengers, say the power to blow one's nose! No expense has been spared on the Forth and Clyde Canal; for they had to compete as well with the turnpike road as with the promoters of a railway in the same neighborhood, and in opposition to which these experiments and exertions were made. The confined channel of all canals must always render them inferior to open water. With the same means the same speed can never be attained on the one as on the other. Mr. Burden's model, I trust, may be of assistance to them, but that they ever can compete with railroads in speed, considering the two mediums, is probably altogether out of the question. Feeling as much interest in canals as any other species of conveyance, I should be very glad to see their assertions verified; but, at present, I can perceive nothing more than the efforts of some very extensive canal proprietors, to maintain the value of their stock in the market.

Very respectfully, Sir,

S. D.

The article alluded to by S. D. escaped our observation. We will examine it the first opportunity, if we can find it; and if proper, publish it. Truth is ours, as we are confident it is the object of the gentleman first alluded to in the communication of S. D.—[Ed. R. J.]

Packet Waggon. By PUBLICOLA. To the Editor of the Railroad Journal and Advocate of Internal Improvements.

For the conveyance of packets, or small packages, from one part of our country to another, the following system may be adopted. A store is selected in New-York city as a receiving, forwarding, and distributing office. A package is deposited there, directed to some town in the United States, as Haverhill, Mass. From New-York it is then carried with other packets to Boston, to a receiving office there. Here packets are distributed to different parts of the country; and the packet to Haverhill is carried to an office there. If it is a regular periodical publication, the person to whom it is sent knows when to call for it; or, if he has directed a parcel to be transmitted to him, he expects it of course; but, if it is sent to him by a friend, a letter by mail announces the coming package.

Respecting the expediency of establishing such a system of packet waggon, the following remarks may be made.

There is now a great amount of transportation over the country. I have seen it stated that one mail has carried from New-York 3,000 pounds of letters and packets. It has been remarked of the mails from Boston that they are excessively loaded. But the stages do not convey all the periodicals that circulate over the country; for many go by water, and many are distributed by private opportunities. Add together all the literature that is dispersed over the country, critical, scientific, fictitious, classical, and religious—weekly, monthly, quarterly, annual, and occasional—and you have a vast amount of paper to be conveyed.

But it may be further observed that the amount of transportation increases. The literature of the present day is of a more periodical

character than it has been, and periodical publications are many of them of more solid worth than formerly. Books are made cheaper, and they are printed in greater abundance, and the reading population is vastly increased, and there is therefore a much increased transportation of printed paper. The transportation increases also by the influence of great printing establishments. By having a wide circulation for their books, they can print them in great numbers, and by superior presses, and with steam power; and thus they can afford them cheap, and very distant readers are advantageously supplied.

Another fact may be attended to. Transportation by waggon may be much cheaper than by mail stages. It costs four times as much to transport a load at the rate of eight miles an hour, as to transport it at the rate of two miles an hour. Packages might easily be carried 33 miles a day at one-third the expense now attending the conveyance by mail coaches; and for most purposes this would be sufficiently rapid. From New-York, by steam and wind, packages might be carried cheaply and expeditiously to the North and South, to Bangor, Portland, Boston, and New-Haven—to Norfolk, Charleston, and Savannah. From some of these larger depots, lines of conveyance may be established to places of inferior importance, so that every family might find within ten miles, a place of deposit, where parcels might reach them from distant sections of the Union.

It may again be noticed that the course of trade now requires more transportation. Business is conducted by larger establishments, and the public is benefitted by it. Said Mr. S., a close, calculating farmer, "You may now buy a handsome, iron-hooped, painted pail cheaper than neighbor A. sells one of his clumsy ones." Though neighbor A. loses his business of making pails, the town is on the whole greatly benefitted, and he can turn his hand to some other profitable business; and we can send 100 miles and get our pails cheaper than a cooper at our next door can afford to sell them. This is a specimen of the advantages arising from good means of communication. It was stated not long since in England, that fine goods, parcels of value, and all light articles, which needed to be conveyed with speed and certainty, were sent at great expense by coaches. In many cases light and small articles would be sent by a regular line of conveyance, though more expensive than by the present ordinary routes of trade. The means of communication that now exist have scattered friends and relatives widely from each other, and a regular system of transportation would accommodate them, and be improved by them.

The system recommended now exists to some extent. From one seaport to another, bundles are carried by packets, and distributed according to the direction on them; and in some cities, baggage waggon carry goods into the interior towns. This system thus commenced may be made more complete. A deposit store is selected in New-York for Boston or Portland. A packet or steamboat takes the packages left in them, and sends them on in the line with which it is connected, to Boston, Portland, or Bangor, according to their direction. In Boston, if directed to a town near there, they are placed in the deposit store, and the packet wagon that passes to or through that town forwards them; and here they reach their destination; and from the deposit store here they are taken by the person to whom they are sent. I live in the country, about 30 miles from a seaport. I have articles sent me 100 miles by water. The packet master takes these articles to the seaport nearest me, and there the merchant with whom he stores them pays the freight, and one who brings them up to me pays the freight to the merchant, and I pay the whole cost of transportation to him; both what he paid and what he is to receive for conveying the articles by land.

The establishment of a general system of

* The subject here alluded to is that of a ship canal from the Hudson to Lake Ontario, from thence around Niagara Falls to Erie; from Lake Erie through the Maumee and Wabash, or from Chicago on Michigan to the navigable waters of the Illinois river.—[Ed. R. J.]

transportation will help the publishers of books and periodicals, and it will help families.

It will help families. If they wish for a book from their nearest market town, there is a regular line to convey it. If they wish for a book or periodical from a distant city, they can obtain it. They write to the bookseller: he places it in the deposit store, and it is forwarded. Thus families in remote towns have easy access to the literature of the day. If a benevolent society wish to procure a quantity of tracts, or Sabbath school books, they have only to send to a remote establishment, and a bundle is placed in the deposit store, and it goes on to their direction like a letter in the mail.

Such a system of transportation again will help publishers. Postage is one impediment to the circulation of periodicals. It often amounts to one quarter, to one half, or even three quarters the original cost of the periodical. This operates like a heavy duty. Remove this duty, and the circulation of periodicals will be greatly increased, and books in general will be purchased more freely, and printers and booksellers will find increased encouragement.

But to establish such a system a clause in the post office law must be repealed, which enacts "that no person, other than the post-master-general, or his authorized agents, shall set up any foot or horse post, for the conveyance of letters and packets upon any post road which is or may be established as such by law." But if it is seen that the public interest requires the repeal of this clause, Congress can repeal it; and printers, publishers, booksellers, and buyers, can petition for this object.

PUBLICOLA.

LIST OF CANALS IN THE UNITED STATES.

(Continued from page 469.)

HUDSON AND ONTARIO SHIP CANAL.—The Erie canal in a few years will not, indeed it is not now, in ordinary seasons, be competent for the western trade; and if not now equal to the demands, what will it be in a few years hence, when the millions of acres, the most fertile in the world, now unoccupied, shall be brought into cultivation?

A SHIP Canal from the Hudson to Lake Ontario may be constructed for ten millions, probably eight millions of dollars; another around the Falls of Niagara for five millions, which would give an inland ship and steamboat navigation of fifteen to eighteen hundred miles; and a navigation, too, superior to any other inland navigation in the world. Then, with five millions more, a canal to correspond may be made from Lake Michigan to the navigable waters of the Illinois, which would give an uninterrupted inlandship communication of 3,500 miles. Can it be done? Yes—without difficulty. New-York could do it. Will it be done? Yes; but the when is, I apprehend, another affair. It can be done with as great ease as the British government can make a ship canal around the rapids of the St. Lawrence, for which it has recently appropriated \$3,000,000, with a view of anticipating us, and of intercepting our western trade.

CHESAPEAKE AND DELAWARE CANAL, from the Delaware river to Elk river, which discharges into Chesapeake Bay, 14 miles, long breadth 60 feet. It is calculated for vessels of draught not exceeding 10 feet.

CHESAPEAKE AND OHIO CANAL.—[See page 370.]

WISCONSIN PORTAGE CANAL.—A charter has been granted for a canal to connect the waters of the Fox and Wisconsin rivers of the north-western territory, by which there will be a water communication from the northern part of Lake Michigan, or Green Bay, to the Mississippi, at Prairie Du Chien, through these rivers.

LONDON, U. C., AND ONTARIO RAILROAD.—This road, if made, will become a great thoroughfare for those who emigrate to Michigan, even from the north-east, as it will be much the shortest route to the "far west," especially when the Boston and Ogdensburgh railroad shall be completed.

ONTARIO AND RICE LAKE CANAL, U. C.—The British Government have it also in contemplation to construct a canal from Lake Ontario to Rice Lake, and probably thence to Shallow and Simcoe Lakes, to connect with George's Bay, Lakes Huron and Superior, without passing Detroit. This work, to Rice Lake, a distance of 14 miles from Port Hope, is estimated to cost £101,535 15s. 6d. The elevation to be overcome is 361 feet. From Rice Lake to Simcoe and George's, or Iroquois Bay, the communication is not difficult.

RIDEAU CANAL, U. C.—This canal connects the St. Lawrence, near Kingston, with the Ottawa River, at Bytown. The mouth of the canal above the level of tide-water is 110 feet, and 283 feet below the Rideau Lake, which is the summit level, and 129 feet below Lake Ontario, at Kingston. Its distance from Montreal is 120 miles, and from Kingston by water, 160, by land 130 miles.

The Rideau Lake is 85 miles from the Ottawa. The outlet or river is not, for the first six miles above the Ottawa, used as the bed of the canal. The first rise from the Ottawa is 80 feet, overcome by eight locks. There is a basin sufficiently large for several boats between the fourth and fifth lock, and another at the end of the eighth, over which is a beautiful arch of cut stone, to afford an easy communication between Upper and Lower Bytown. These locks are 33 feet in breadth, and in length 134, or sufficiently large to admit the passage of steamboats. Their cost is estimated at £45,700. In this vicinity may be seen the "Union Bridge," one of the most daring undertakings ever conceived. It connects Upper and Lower Canada, and is thrown directly over the Falls of the Chaudiere, by means of the numerous rocky islands. It has six distinct arches; one of which is 210 feet, over the Grand Chaudiere, and another of 160. From Bytown, where the canal enters the Ottawa river, to the Rideau Lake, are fourteen rapids, which are overcome by twenty locks of various lifts, amounting to 283 feet. The summit level is 45 miles in length, when it communicates with Mud Lake by a cutting, for a mile and a half, of ten feet. From Mud Lake it passes into "Indian," and then, by a cutting, into "Cataraqui" river, which it follows to within fifty-five miles of Kingston. It follows the river and small lakes, and passes until it enters the "Kingston Bay," on Lake Ontario, 5 miles from Kingston. There are four locks, of nine feet each, at its termination. Rideau Lake is 145 feet above the Lake, and 233 above the Ottawa river, making the rise and fall 437 feet in a distance of 160 miles. This canal is the result of a wise policy of preparing in peace for war, and also of making such improvements, on national account, as tend alike to promote a country's prosperity in peace, and in war contribute to its safety and defence. Such is the policy of our natural enemies; and shall we, as a nation, do nothing upon a scale equally national to counterbalance it in case of another war? The true policy of this government is to construct a ship canal from the Hudson to Ontario—from Ontario to Erie, around the Falls of Niagara, and then from Chicago, on Lake Michigan, to the navigable waters of Illinois river, which will enable us to counteract any advantages to be derived from any works of the British government in Canada. We can then approach the Lakes from New-York or New-Orleans. Sooner or later it will be done.

CULTIVATION OF WHEAT.—To raise good wheat is considered, both in America and Europe, as an object of prime consequence to the cultivator, and agricultural writers have of course been very voluminous on the subject. We shall select and condense some of their remarks, which appear to us of the greatest importance, and add what our own observation and experience have suggested.

Wheat is thought to be the most useful of the farinaceous plants, and as the bounty of Providence has generally decreed that those things which are most useful shall be most common, wheat will accordingly grow in almost any part of the globe. It thrives not only in temperate, but in very hot and very cold regions: in Africa and Siberia, as well as in the United States and Great Britain. It requires a good loamy soil, not too light, nor too heavy. The Memoirs of the New-York Board of Agriculture, vol. ii., p. 28, state that "wheat grows best on land which contains just as much clay as can be combined with it without subjecting the wheat to be frozen out." And the author of that article, Mr. Amos Eaton, observes "since it is the clay which absorbs and retains most of the water injurious in wheat soils, I adopted a rule for the consideration of farmers, founded on that principle, and confirmed by all the observations I have been enabled to make. Rule: Wash a little of the soil in a tumbler of water, and observe the time required for it to become clear. If the time required exceeds three hours, it may be considered as liable to be injured by frost." W. Van Dusen, a farmer of Rensselaer county, N. Y., says, "that if wheat be sowed the last week in August, on clay soil, it will generally resist the effect of frost in the winter, and of insects in the spring." "A clay soil," according to the same work, "having absorbed a large proportion of water, becomes cellular as the water freezes, or rises up in various protuberances, so that the roots of the wheat plant become disengaged from their hold in the soil. It is very manifest that if wheat be sowed so early that each plant may have time to extend its roots into the soil, its chance for retaining its hold will be better." We believe that not only clay, but lime, chalk, marl, or other calcareous substance, is necessary to bring wheat to perfection, and the grounds of our belief we shall exhibit hereafter.

The Complete Farmer says, that "the best time for sowing wheat is about the beginning of September. But if the earth be very dry, it had better be deferred till some showers have moistened the soil. Mr. Mortimer says he has known wheat to be so musty and spoiled by laying long in the ground before rain came, that it never came up at all. To which he adds, 'that he has seen very good crops of wheat from seeds sown in July.' We should apprehend, however, that it would be necessary to feed wheat sown so early, in order to prevent its going to seed the first year, or getting too far advanced in its growth to resist the frosts of the succeeding winter. Sowing in dry ground is generally recommended for seeds; but wheat, being liable to be smutty, is commonly prepared by steeping in brine or lime, and in consequence of the steep, vegetation commences, and if the seed in this state is placed in earth, which is and continues for any time dry, vegetation is checked by the drought, which kills or greatly injures the seed.

Early sowing requires less seed than late, because the plants have more time, and are more apt to spread, and throw out a good number of stalks. More seed is required for poor than for rich lands, and rich land early sowed requires the least of any. Bordley's Husbandry says, 'the climate and soil of America may be believed to differ greatly from those of England respecting the growth of some particular plants. Wheat sown there two or three bushels on an acre yields great crops. Two bushels an acre, sown in Maryland or Pennsylvania, would yield straw without grain. In Maryland three pecks are commonly sown. I never had better crops than from half a bushel of seed wheat to an acre, in a few instances. In these instances the ground was perfectly clean and fine, after many ploughings or horse-hoings of maize, [Indian corn,] on which the wheat was sown in September, while the maize was ripening. It was a clay loam highly pulverized. But because of the loss of plants at other times, I preferred to sow three pecks an acre.' 'Grain, which is thin sown,' says the Complete Farmer, 'is less apt to lodge. Every one must have observed that in places where foot-paths are made through wheat fields, by the side of the paths, where the corn is thin, and has been trodden down in winter and spring, the plants have stood erect, when most of the corn in the same field has been laid flat on the ground, an advantage proceeding from the circumstance of the stalks having more room.'

The Farmer's Assistant asserts, that 'the time for sowing wheat probably depends much on previous habit. Thus if it were sown a number of successive years by the middle of August, and then the time of sowing were changed at once, to October, the crop would probably be much lighter on that account; yet, where wheat has become habituated to be sown late, it will do tolerably well. The later it is sown, however, the more seed is requisite. When early sown, a bushel to the acre is believed to be sufficient; but when sown later, a bushel and a half, or more, may be necessary.' The estimate of seed, however, should be formed not so much from the capacity of any particular measure, as from the number of grains which that measure contains. The larger and fuller the seed s, the greater quantity by measure will be required; the smaller, the less quantity. Much, therefore, must be left to the discretion of the farmer, who must take into consideration the time of sowing, the quality and preparation of the soil, as well as the plumpness or the shrivelled state of the seed wheat.

If naked summer fallows are used at all, they may as well be made preparatory to a crop of wheat. It may sometimes be expedient to suspend, for one season, the raising of crops of any sort on land which is exhausted or greatly infested with weeds; and during the summer and autumn plough and harrow it several times, and thus thoroughly subdue it. When such a process is adopted, wheat is generally the succeeding crop. The custom of

naked fallowing, however, is not much approved of in modern husbandry, and that mode of preparing for wheat is rarely adopted by scientific cultivators. Sir John Sinclair says, 'the raising clean, smothering, green crops, and feeding stock with them upon the land, is not only much more profitable, as far as relates to the value of the crop substituted in lieu of a fallow, but is also a more effectual method of procuring large crops of wheat, or any other crop which may succeed the green crop.' There is a disadvantage sometimes attending fallows, which we apprehend may be more detrimental in our climate than in that of Great Britain. Land which is kept in a light and pulverized state is liable to be washed away by violent rains, and the showers of our summer season are usually more plentiful, and fall with more impetuosity, than those of England, although the mean moisture is less, and there is less rain falls in the course of the year on this than the other side of the Atlantic.

In modern tillage, wheat more usually follows clover than any other crop; and Bordley's Husbandry says, 'clover is the best preparative for a crop of wheat.' In such case, English farmers, and indeed all others who *work it right*, give but one ploughing, and harrow in the seed by passing the harrow twice in a place the same way with the furrows. Mr. Bordley directs that the operations of ploughing, harrowing and sowing, should immediately follow each other. Mr. Macro, an eminent English farmer, says, 'from upwards of twenty years' experience, I am of opinion that the best way of sowing clover lands with wheat is to *plough the land 10 or 14 days before you sow it*, that the land may have time to get dry, and after rain to make it dress well. I am at a loss to account for the *wheat thriving better on lands which have been ploughed some time*, than it does on *fresh ploughed lands*, which dress as well or better; but I have often tried both ways on the same lands, and always found the former answer best. Mr. Bordley in attempting to account for this effect says, 'I conjecture that the clover plants being buried and the wheat sown at the same time, they both ferment and run into heat in the same period: the germin then shoots, and the root is extremely delicate and tender for some days; during which the buried herbage obtains its highest degree of heat; which, added to the internal heat of the germ, may, though only slightly, check, and a little injure the delicate shoots of the wheat. In sprouting barley for making malt, a little *excess of heat* in the bed, checks, and a little more totally stops, the sprouting or growth of the roots. Both modes give crops superior to what are produced on fallow. Farmers may well try both methods for determining which to prefer; that is, as well *immediate sowing*, on ploughing in the clover, as the method of sowing not till 10 or 14 days after having ploughed in the clover; suppose an half each way.'

We believe that wheat would flourish better, if it were buried deeper than it generally is in broad-cast sowing. Our opinion is founded on the following facts, relating to the physiology of the wheat plant. 'A grain of wheat, when put into the ground at the depth of three inches, undergoes the following transformations: As soon as the farinaceous matter which envelopes the frame of the young plant, contained within it, is softened into a milky state, a germ is pushed out, and, at the bottom of that germ, small roots soon follow. The roots are gathering strength, whilst the germ, by the aid of the milky fluid, is shooting upwards; and when the milk is exhausted, the roots are in activity, and are collecting nourishment for the plant from the soil itself. This is analogous to the weaning of the young of animals, which are not abandoned by the mother till they can provide for themselves; but the ear, of nature does not end here: when the germ has fairly got above the surface, and become a plant, a *set of upper roots* are thrown out, close to the surface of the ground, which search all the superficial parts of the soil with the same activity as the under

roots search the lower parts; and that part of the germ which separates the two sets of roots is now become a channel, through which the lower roots supply the plant with the nourishment they have collected. What an admirable contrivance to secure the prosperity of the plant! Two distinct sets of roots serve, in the first place, to fix the plant firmly in the ground, and to collect nourishment from every quarter. The upper roots are appositely situated, to receive all the nourishment that comes naturally from the atmosphere, or artificially as manure to the surface; and serve the farther purpose of being the base of new stems, which are tilted up, and so greatly increase the productiveness of the plant. The excellence of the drill-system in grain may be probably perceived in this explanation; for, in broad-cast sowing, the seeds lay very near to the surface, and in this situation it is not only more exposed to accidents arising from birds, insects, and the weather, but the two sets of roots are necessarily crowded together, so as almost to become indistinct; the plant is less firm, and has fewer purveyors collecting food for it.'

Dr. Deane observed, that 'wheat that is sowed in autumn, a clover-ley excepted, should, instead of harrowing, be covered with a shallow furrow, and the surface left rough. It will be less in danger of being killed by the frost in winter, and less injured by drying winds in the following spring. The furrows should be left without harrowing; for the more uneven the ground is, the more the soil will be pulverized and mellowed by the frost.' But if the crop which succeeds the wheat crop should require a smooth bottom, the land after sowing must be harrowed and should be rolled. Some husbandmen advise, when wheat is sown on a clover-ley, to plough in clover with a deep furrow, then plough in the seed wheat with a shallow furrow, and if the next crop in the rotation requires a level bottom, it will be necessary to harrow and roll the field as smooth as possible, after having ploughed in the seed.

The greatest care should be exercised with regard to the kind, quality, and preparation of seed wheat. There are many varieties of wheat, but winter wheat, in the United States, is generally distinguished by only two appellations, red wheat and white wheat, of which the latter is held in highest estimation.

In preparing your seed wheat, the first thing to be attended to is to clear it perfectly from every injurious foreign substance. 'One error here may mar our whole system, and render our skill productive of as much evil as good. On poor and worn-out land, the evil of sowing a mixture of impure seed with grain or grass seed would be great—but where the ground is in high order, the crop is more injured; the noxious plants take firmer hold, and are more difficult to be eradicated.' Indeed, it would be better for a farmer to pick over his seed wheat by single handfuls, and make a riddle of his fingers, than to sow cockle, darnel, tares, wild turnip seeds, and other vegetable nuisances, which are as intrusive as unwelcome, as tenacious of life as they are unworthy of existence. The first preparation therefore should be to screen, winnow, and riddle the grain till perfectly freed from these and other improper ingredients. When this is thoroughly accomplished, washing and steeping, for the purpose of preventing smut, should meet attention. The first step in the processes to be instituted against smut, as recommended by Sir John Sinclair, is 'to run the grain *very gently* through a riddle, when not only the smut balls, but the imperfect grains, and the seeds of weeds, will float, and may be skimmed off at pleasure.' The same author enumerates as modes by which smut may be prevented, 1. The use of pure cold water and lime. 2. Boiling water and lime. 3. Water impregnated with salt. 4. Urine pickle. 5. Ley of wood ashes. 6. A solution of arsenic. 7. A solution of blue vi-

triol. It seems that almost any acrid, corrosive, or poisonous application, will secure a clean crop, if properly used for that purpose.

Mr. Arthur Young sowed fourteen beds with the same wheat seed, which was black with smut. The first bed was sown with this wheat without washing, and had 377 smutty kernels. A bed sowed with seed, washed in clean water, produced 325 smutty kernels; washed in lime water, 43 ditto; washed in a ley of wood ashes, 31 ditto; washed in arsenic and salt mixture, 28 ditto; steeped in lime-water four hours, 2 ditto; steeped in ley four hours, 3 ditto; steeped in arsenic four hours, 1 do. Again, that which was steeped in ley, as before mentioned, twelve hours, had none; and that which was steeped in the same kind of ley twenty-four hours, had none; that also which was steeped twenty-four in lime water, had none; that steeped in arsenic twenty-four hours, had 5.

A correspondent of the New-England Farmer, (who is, we believe, a practical and scientific agriculturist, and whose statements are worthy of implicit confidence,) with the signature "Berkshire," in giving directions for preparing seed-wheat, observes, 'the only successful course is to prepare the seed about ten days before sowing time. This is done by selecting clean and plump seed, passing it through water in a tub, about half a bushel at a time, and washing it, and skimming off the matter that floats; then empty it into a basket to drain, then lay it on a clean floor and rake in two quarts of slacked lime and one quart of plaster to the bushel; and if too dry, sprinkle on water and continue to stir it until all is covered with the lime and plaster. In this way you may proceed until you have prepared your whole seed. Let it remain in a heap one day, then spread it and move it daily, until it becomes perfectly dry; it is then fit to sow, and you may sow it if the land should happen to be quite wet.'

We shall now speak of the liability of wheat to become winter killed. The author of *Letters of Agricola* states, as an objection to the cultivation of wheat in Nova Scotia, 'its liability to be thrown out in the spring, and thus subjecting the farmer to serious inconveniences, and often disappointment of a crop. Grasses are not exempt from the same hazard; and the hopes of the year are thus blasted by a cause, which, in many cases, will admit of remedy—in all, of alleviation. I am not sure, but sowing the wheat seed under furrow, at least four or five inches deep in September, in order that it may extend its roots and take a firm hold of the soil before the approach of winter, and rolling it in the spring with the box heavily loaded, would obviate the evils of our climate, and enable us to cultivate that grain according to the improved modes of England. It ought to be recollected that even there, about sixty years ago, winter wheat was not of general cultivation, and the heaving of the soil was accounted a powerful obstacle to its success. In Scotland, too, during the same period, spring wheat almost universally prevailed; and her northern and bleak position was thought to be incapable of any change to the better, and utterly unfriendly to autumnal sowing. The zeal and industry of British farmers, combined with their skill, have baffled all these gloomy predictions, and taught us at once to copy the examples of our sires, and not to despair in the race of improvement.'

A method, according to the same author, made use of in Norfolk, England, to guard wheat against the changes and inclemency of winter and spring, is to adopt the following rotation. 'After a turnip crop, they sow barley the second year with clover seeds; the third year they cut hay, and plough down the ley, and sow their winter wheat on the matted sod. The roots of the grass bind the soil, and prevent it from heaving, which is much akin to the same effect produced by the tangled and bound surface of our new and cleared lands.' This fact may suggest another inducement to sow wheat next in rotation after clover, as has been recommended.

* Mr. Featherstonhaugh's Essay on the Principles and Practice of Rural Economy.

It is well known that our lands, where the soil is at all suitable, will produce good crops of wheat when first cleared from their native growth of wood; but after having been tilled for some years, they generally yield wheat with difficulty, and it is often found impossible to raise it by any of the modes commonly adopted for wheat culture. In most parts of Massachusetts, and in some parts of New Hampshire and Vermont, the farmers scarcely ever attempt to raise wheat, and still more rarely succeed when they do attempt it. Yet, we believe wheat was a common and profitable crop in those places in the early period of their settlement. In process of time, however, the land became exhausted of its wheat-bearing faculty, and our farmers were forced nearly to forego its cultivation. The same variations and appearances have likewise been observed in Europe. Wheat countries, by continued cultivation, have become almost incapable of yielding wheat. The cause and remedy of this partial barrenness, this falling off, with regard to particular plants, was alike involved in obscurity, till modern discoveries in chemistry threw light on the subject. It has been found that the texture of every soil is defective unless there is a mixture of three kinds of earth, viz., clay, sand, and lime—and that lime, in some of its combinations, exists in wheat, both in the straw and kernel. In some soils, fertile in other respects, lime may either have no existence, or be found in very minute portions, and be soon exhausted. If lime be a necessary constituent of wheat, and is not in the soil where we attempt to raise wheat, it must be supplied by art, or wheat will not grow. Or if native lime exists in the soil, in small quantities, the land may bear wheat till the lime is exhausted, and then become incapable of producing that plant, till a fresh supply of lime, marle, pulverized bones, or some other calcareous substance, is added. Mr. Young says, (Letters of Agricola, p. 299,) 'it cannot be denied, that since the plentiful use of lime has been adopted, lands in Europe will produce wheat which otherwise were incapable of bearing,' and quotes several instances in proof of this assertion. Dr. Anderson likewise gives an account of a field, which had a top-dressing of lime for the purpose of raising wheat, but the lime, by accident, was not applied to a small patch of the field, and in that patch there was no crop, while every part of the field to which the lime was applied produced wheat luxuriantly. It would be easy to adduce many more instances to prove that lime, in Great Britain, is considered not only useful, but indispensable for the production of wheat. A British farmer, we believe, rarely undertakes to raise wheat without the use of lime, and an American farmer as rarely undertakes to raise it with the use of that substance for manure.

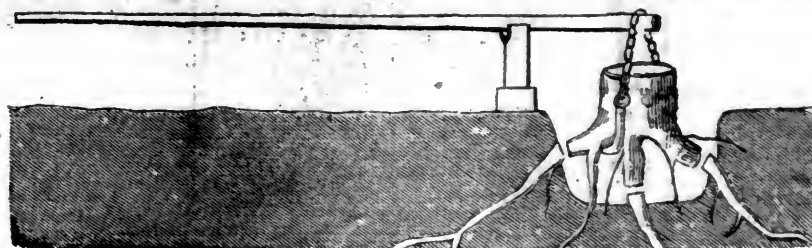
If the foregoing premises are correct, it would seem not impossible, and indeed scarcely improbable, that by the judicious use of lime, or other calcareous substances, wheat may be as well raised in New England as in the Western States. The subject is certainly of very great importance, and deserves repeated experiments.

The remedies against rust, or mildew, according to Sir John Sinclair, are as follows:

1. Cultivating hardy sorts of wheat.
2. Early sowing.
3. Raising early varieties.
4. Thick sowing.
5. Changes of seed.
6. Consolidating the soil.
7. Using saline manures.
8. Improving the course of crops; and
9. Extirpating all plants that are receptacles of rust.
10. Protecting the wheat plants by rye, tares, and other crops. The above remedies are enlarged upon by Sir John Sinclair, in "The Code of Agriculture," but his observations are too voluminous to quote at large in this place.

[The Complete Farmer.]

The official report of the number of deaths in the city of Augusta, Geo. was only nine for the month ending the 31st of July.



Practical Hints to Emigrants on the Clearing of Lands. By WM. REED. [From the London Mechanics' Magazine.]

SIR,—One of your correspondents, some time back, recommended circular saws for cutting timber or trees down, the saws to be about four feet in diameter! You published also an account of some machines for horizontal cutting, patronised by the Highland Society of Scotland. Now, sir, I have some circular saws of thirty inches in diameter, and these are the largest I ever saw. We make no use of them, however, having no power to spare for driving them. They were made in London, and cost more than ten guineas each, which, considering the difficulty of making them, and that many are spoiled through cracks or flaws in the hardening, was not dear; but as for saws of four feet diameter, it is not likely they could be made, or used when made, as even sixteen-inch saws soon heat and buckle. Supposing, however, these difficulties were got over, how can poor colonists, some with not £5 in their pocket, be expected to lay out ten guineas, or more, for sawing machines? People, with guineas to spare, go not abroad to fell woods. The men that do go are the poor and needy, who, if they would thrive, must work hard, and not stand upon trifles. There must be no staying for this or that; they must make the best shift they can with what comes readiest to their hands. To illustrate what I have said about circular saws, take the following example: When, in 1803, the Golden lane subscription brewery was set on foot, an old shopmate of mine, of the name of Green, was employed there as millwright. Having occasion for some thin deals, but none being at hand, he thought, as he had a two-foot circular saw running, and plenty of three-inch deals, that if they put two cuts through one of these three-inch deals, they would have what was wanted. Accordingly, he and another man set the saw to work, laying on all the power of the engine, which was one of twelve or sixteen horse power; but they found that if they pushed the deal ever so little too fast, it completely stopped the engine. Now, if cutting a three-inch deal with a two-foot saw stops a twelve horse engine, how will two poor men work a four-foot circular saw? No, my emigrant friends, if you have the means of taking out a few tools with you, let them be of the simplest and cheapest sort, such as a good axe, a hand-saw, a cross-cut saw, (for if two men or families unite, they may cross-cut a tree down in less time than by chopping,) a spade, with pick-axe and crow-bar, gimblets, nails, two or three augers, mortice chisels, &c. not forgetting that most useful of all tools, a grind-stone, and two or three triangular files (*vulgo*, three-square,) for sharpening your saws, or they will soon be as useless as a gun without a lock or flint. No time the first year to grub up roots; enough to do to raise, with spade labor, a crop of potatoes, corn, &c. Let

the roots rot, or try to burn them in their places, as I have seen German colonists do. When time admits, the following very simple mode of extraction may be adopted. After removing the earth from around the main stump, and cutting the principal branching roots quite through, take a long slender tree, like a scaffolding pole, such as two persons can lift, as a lever; hang two strong hooks with a bit of chain cable, from the short end of this lever; attach these hooks to the under end of the stump; place an upright support at a little distance from the stump, to serve as a fulcrum, (all as represented in the prefixed rough sketch,) and then pull away at the lever with all your might. This will be found a far more simple method than any of the expensive ones recommended by the Highland Society, or others, and, I doubt not, equally efficient. It would be as well, however, to consider before cutting some trees down, whether the tree itself might not be made a lever of to extract the roots. Fir trees, and several others, project their roots but a little way from the surface of the ground, so that by digging a little round the roots, and cutting through the large fibres, many might be pulled down by means of a rope fastened to the top.

I hope some of your more able correspondents will pursue the subject; for when the poor emigrant is far away from help, things do not always turn up so pleasantly as they did with that prince of colonists, Robinson Crusoe.

I am, sir, your obedient servant,
WM. REED,
Peterhoff Paper-Mill, near St. Petersburg, Jan. 1834.

NEW CEMENT.—The late conquest of Algiers by the French has made known a cement used in the public works of that city. It is composed of two parts of ashes, three of clay, and one of sand. This composition, called by the Moors *Fabbi*, being again mixed with oil, resists the inclemencies of the weather better than marble itself.—[Beija Flor.]

POTATOES.—Potatoes planted at one foot deep produced shoots at the end of the spring; at two feet, not till the middle of the summer; at three feet, their roots were very short, and did not come to the surface; below three feet, they never vegetated. Several were buried in a garden at 3½ feet, and after two years were found without any germination, but with their original freshness, firmness, and proper taste.—[Ann. Soc. Agr. Fr. 1829.]

VEGETABLE FOOD FROM A GIVEN SPACE.—Humboldt calculates that 1000 square feet of banana plants will produce 4000 lbs. of nutritive fruit; while the same space would only grow 33 lbs. of wheat and 99 lbs. of potatoes.

VENOMOUS ANIMALS.—It is a curious distinction of these animals, which has been lately made, that all the species of serpents of which the young are hatched within the mother and which are therefore born alive, are venomous. This seems to be more certain than the converse of the rule, that all oviparous serpents are not injurious.

[From the N. Y. Mirror.]

OBSERVATIONS ON THE AVON MINERAL WATERS.

By John W. Francis, M. D.

The experiments and observations which have been made at different periods by various writers on the mineral waters of the United States, if properly grouped together, would constitute a work of great practical utility. This service has indeed been performed, to a considerable extent, by Dr. Bell, of Philadelphia, and a large amount of information on this interesting subject, which was scattered through numerous volumes, may be found in his work on Baths and Mineral Waters.

Among the earliest papers which have appeared, of this nature, may be mentioned an Analysis of the chalybeate waters of Bristol, Pennsylvania, by the late Dr. John DeNormandie, of that place, and printed in the first volume of the Transactions of the American Philosophical Society. The investigations of this learned physician, though wanting in the philosophy of modern chemistry, were such as to awaken much public attention to the Bristol waters; and some sixty years ago they were deemed to possess properties analogous to those of Bath and Spa: they were at that time largely employed for their curative powers, but have latterly fallen into disuse. So early as about 1789, Dr. Mitchell, of New York, instituted his series of experiments on the waters of Saratoga Springs, and subsequently added many pertinent observations on their medicinal qualities. These waters, with those adjacent, at Ballston, are now so universally known to both hemispheres, and so extensively had recourse to, that little more need be said in this place than to recommend the reader, for the fullest details of chemical analysis and of practical nature, to the recent work of Dr. Steele. So ample has been the experience of different medical observers concerning the active properties of these waters in various disorders, that the principles for their exhibition formerly urged with such earnestness, seem at the present day the less requisite. Yet caution against the popular error of indulging in their use to excess, must still be enforced, as the soundest principles of art are often set at naught by the preposterous indulgence, which some allow themselves, when they resort to the springs. These waters are designated *acidulous saline chalybeates*.

The Schug's Hills, or Schooley's Mountain water, deserves also to be here noticed. The water of this mineral spring is said to have been known to the aborigines, and to have been employed by them as a remarkable remedy, which they concealed from the whites. Be this as it may: the Schooley's Mountain water is situated in Washington township, nineteen miles north-west of Morristown, and fifty miles from the city of New York. The chemical analysis of it made by Professor Macneven, my late colleague in Rutgers Medical college, furnishes an admirable specimen of this species of philosophical investigation; and were the products of other salubrious medicinal springs, within the United States, examined with a like minuteness and accuracy, we should have little cause to lament our present imperfect knowledge of this class of products with which our country is so largely enriched. I may be pardoned for dwelling for a moment longer on this water. Schooley's Mountain, by geometrical measurement, has been ascertained to be more than 600 feet in height, above its immediate base. Dr. Mitchell calculates, by approximation on the falls of water at different mill-dams along the hurrying channel of the Musconetcong to its junction with the Delaware, and on the descent thence to Trenton, that the base itself is five hundred feet more above tide water.*

This mineral spring issues from the perpendicular side of a steep rock, about forty or fifty feet above the level of a brook that gurgles over a rocky bottom, within a few paces of it. The spring discharges a gallon in about two minutes and a half, and the quantity is not observed to vary under any change of season or weather. Its temperature, at its issue from the rock, was found to be 52 degrees of Fahrenheit. The bare taste and appearance show that it is a chalybeate: and it is strongly characterized by the peculiar astringency and savour of ferruginous impregnations. The iron is easily separated from the mineral water: its carbonic acid is altogether in a state of combination, and hence it never occasions flatulence, while it proves a corroborant to feeble

digestive powers. Hence it is recommended in many chronic diseases and general debility; and especially in calculus and affections of the kidney and bladder. In an instructive case which Dr. Macneven has recorded, the patient took from fifteen to twenty half pint tumblers a day, with most decided benefit; and he informs me, that other examples of its salutary action in other disorders have come within his knowledge and observation.

The following are the results of Dr. Macneven's analysis:

Vegetable extract, 92; muriate of soda, 43; muriate of lime, 2.40; muriate of magnesia, 50; carbonate of lime, 7.90; sulphate of lime, 65; carbonate of magnesia, 40; siliceous, 80; carbonate oxide of iron, 2; loss, 41=16.50.

The White Sulphur springs of Virginia have long enjoyed a distinguished reputation, and are resorted to at the present day, as formerly, by numerous invalids, suffering from disorders of the digestive organs, chronic affections of the liver, the sequelæ of protracted intermittent and remittent fevers, the derangements induced by the preposterous use of mercurials, cutaneous diseases, certain female complaints, &c. &c. Where these various disorders are unconnected with inflammatory symptoms, they are pronounced to be of the greatest efficacy. So far as my acquaintance with these waters extends, it coincides with that of the most favorable opinion given in their behalf. Their action on the skin is of singular efficacy and importance. They are somewhat more exciting than ordinary saline sulphureous water. The reproach, long ago made, still holds just, that they have not received the attention they merit, as objects of rigid chemical investigation. Dr. Bell's work, already referred to, contains the best exposition I have seen of their composition and remedial qualities. A Virginian is to be excused in lauding, in no common phrase, the white sulphur springs; the facts in the case warrant it; and moreover, in so doing, he only follows his political apostle, Mr. Jefferson.

Kentucky boasts of numerous mineral springs of a sulphureous class. Dr. Drake, of Cincinnati, considers those of the Big Bone Spring, or *Salines*, and the Olympian Springs, as the most noted. The water of the Big Bone Spring, he affirms, contains sulphuretted hydrogen in large quantities; and holds in solution the muriates of soda and lime, and the sulphates of soda or of magnesia. The disorders to which Dr. Drake thinks it more peculiarly adapted, are the torpor, obstruction or chronic inflammation produced by acute diseases of the lungs, liver, spleen, kidneys, in short, any of the viscera, and which have continued so long that the constitution is exhausted. In these cases, experience has shown them to possess all the efficacy that could be expected in any mineral waters. From a pint to a gallon may be taken, according to the strength of the patient, and its sensible effects on the system. The quantity drunk at first should be small, especially by those of reduced habits. These waters do not increase the pulse, but their sensible effects on the alimentary system, kidneys, and skin, are great. The action of the former is very much increased, and the latter is frequently affected in a few days with a violent itching, and an eruption of pimples or pustules, which are now and then connected with large biles.

With these cursory remarks on some of the mineral waters of the United States, we may be the better enabled to estimate the composition and peculiar properties of the *Sulphur Springs of Avon*. Had the work of Dr. Bell included any account of these waters, I would have forborne to offer the present imperfect observations on the subject; the more so, as I am still engaged in a series of chemical inquiries, to determine more precisely their respective ingredients, assisted by my friend, Dr. Eller, the late professor of chemistry in Columbia College.

The Avon springs are situated in Livingston county, within a mile of the village of Avon. The village is on the bank of the Genesee river, and is passed through by the great western road from Albany to Buffalo. The soil in its vicinity is of the richest and most productive quality, yielding the cultivator a full reward for his labor; that of the flats, as they are popularly called, consists entirely of alluvial deposit, while the table-land presents all the varieties of calcareous and argillaceous mould.

† See Gairdner on Mineral and Thermal Springs. Very generally associated with iodine, says Dr. Gairdner, is the congenerous substance, bromine.—Balard first discovered it in sea-water, and subsequently it has been detected in several saline springs; it exists almost always as a hydro-bromate of magnesia.

The sensibilities of the valetudinarian may here cherish to satiety the beauties of Avon scenery, and the botanist find the richest materials for enlarging his herbarium.

The Avon springs seem to have been partially known to the Seneca tribe of Indians, who, until within a few years, inhabited a village on the opposite bank of the river, which they called Canawagus. The far-famed chief, *Red Jacket*, enumerated them among his remedial measures for the cure of disorders of the skin; and *wasting disorders*, as they were termed, were supposed capable of being removed by their use, even applied externally.*—They may now justly be deemed conspicuous among the mineral waters of the State of New York.—They at present comprise two springs, within about forty-two rods of each other, and are somewhat less than one-third of a mile from the Genesee river; they issue from the foot or base of the highlands that border its low grounds. They are denominated the lower and upper springs; while the former has been for several years known, the latter is but recently, and is preferred by some. I first became personally acquainted with them in the summer of 1827, when they were frequented by a number of infirm visitors, and renewed my visit to them in 1829, with increased confidence in their powers. Professor Hadley has lately published an analysis of the upper spring, which seems to have been made with a good deal of accuracy. According to his analysis, one gallon of the water contains carbonic acid, 5.6 cubic inches; sulphuretted hydrogen gas, twelve cubic inches; carbonate of lime, eight grains; sulphate of lime, eighty-four grains; sulphate of magnesia, ten grains; muriate of soda, 18.4 grains; sulphate of soda, sixteen grains; and a small quantity of other matter. According to Dr. Salisbury, a resident at Avon, the weight of the constituents of the water of the lower spring are as follows: arranged so as to form compounds existing in the water, and calculated for ten thousand parts by weight, are

Carbonate of lime	5.02
United to carbonic acid	1.70
	6.72
Chloride of calcium	1.44
Sulphate of lime	9.83
Sulphate of magnesia	8.49
Sulphate of soda	2.35
	28.83
By volume of 10,000 are	
Hydro-sulphuric acid	4.34
Nitrogen	2.35
Oxygen	25
	6.94

Dr. Salisbury adds, the chlorine assigned to calcium, as the chloride of calcium, is often found in those waters which contain but little saline matter. There remains 0.6 of sulphuric acid, apparently in excess, which is accounted for by the difficulty of separating, accurately, magnesia, from the other salts. The quantity of carbonate of lime exceeds the equivalent quantity of carbonic acid necessary to render it soluble in pure water; and this fact affords a probable explanation of the character this water exhibits when tested by colored paper.

* Doubtless this term, *wasting disorders*, included many physical infirmities, whose pathognomic features greatly differed, and many other different sorts of pulmonary disorganization. Dr. Rush declares that pulmonary consumption is wholly unknown to the North American Indians. It is generally admitted that in countries where fever and agues prevail, consumption is of rare occurrence. The Rev. Dr. Dwight (*Travels*) also makes this observation in particular reference to the great western country; and it is sufficiently proved that intermittent fever constitutes a great outlet to the lives of our aborigines. But the declaration of Dr. Rush is not tenable. Hunter, (*Diseases of the Indians, New York Med. and Phy. Journal*), who may be deemed good authority on the subject, remarks, that pulmonary consumption among the North American Indians is established by too many familiar facts. The celebrated chief, *Red Jacket*, in an interview I had with him at his Reservation, near Buffalo, in September, 1823, gave the particulars of the cases of no less than seventeen of his relatives, (including, I think, ten or eleven of his own children,) who had died of pulmonary consumption. He was quite descriptive in his statement, and seemed sufficiently qualified to make a number of very fair distinctions in relation to the matter. This digression from our more immediate subject will probably be excused, on account of the curious character of the facts which it records.

† See Hosack's Essays.—Dyckman, Edinburgh Dispensary.

* Bruce's Mineralogical Journal. † Transactions of Literary and Philosophical Society of New York, vol. 1. ‡ See Notes on Virginia. § See Bell on Baths and Mineral Waters, p. 436-7.

The volume of water discharged from this spring, Dr. Salisbury further remarks, is the same at all seasons of the year, and does not appear to depend in the least upon atmospheric influence; as nearly as can be ascertained, under existing circumstances, it is fifty-four gallons in a minute. The temperature of the water is invariably forty-five degrees Fahrenheit. The specific gravity, 10.018. As it issues from the spring it is very limpid and somewhat sparkling.

The analysis of these waters, which I caused to be made about two years ago, did not afford satisfactory evidence of either containing iodine. Nevertheless, a strong probability is, that both iodine and bromine enter into their constitution. Dr. Usher, of New-York, and Dr. Steele, of Saratoga, have lately found iodine in the congress water at Saratoga; Dr. Steele has discovered a trace of bromine, the hydro-bromide of potash, in the water of Hamilton spring. It is well known that iodine exists, but in the smallest quantity in the waters in which it has, as yet, been discovered; and that in waters which have been repeatedly and carefully analyzed, it has escaped detection. This occurrence took place with the saline springs of Sales, in Piedmont, from which, so recently as in 1820, M. Angelina procured iodine. There are good reasons to suppose that waters so amply impregnated with sulphureous matter as those of Avon springs, may contain both iodine and bromine.

The value of these waters has, within the last three or four years, been justly and highly appreciated, and induced numerous valetudinarians to partake of them. They may be ranked among the most powerful and remedial waters yet made known; but, like other active medicinal agents of a similar character, they are liable to great abuse, and in certain states of the system may prove seriously detrimental. Possessing active emetic and cathartic properties, particularly the waters of the spring last discovered, it is requisite that caution be exercised not to indulge in them too freely at first; and as they are more or less exciting, they also demand that previous to commencing their use, the system should, in many cases at least, be first relieved by the employment of some efficient cathartic. This precaution is of saving importance, and I have known a disregard to it lead to almost entire disappointment in anticipated benefit for many weeks; while, on the contrary, the general powers of the system being relieved by antipulidistic and aperient means, the waters have often accomplished all that could be desired, within a comparatively short period. As in the administration of all sulphureous waters, so also those of Avon should be closely watched, and their use, for a while, suspended, when febrile irritation, or undue local determinations occur. This is most apt to take place in habits preternaturally full, or when local inflammation exists: where a congested condition of the viscera happens, their best adjuncts are mild mercurials, or saline cathartics.

In disorders of the digestive organs, arising from torpor of the primæ viæ, hepatic obstructions, and affections of the glandular system; in rheumatism and gout, and in many of the most formidable of cutaneous affections, in tinea capitis, these waters have secured the confidence of those who had previously suffered to the severest degree from these maladies. In many forms of ill-conditioned ulcers, their utility as a wash is abundantly manifest: while the invalid uses them internally, he may, at the same time, have recourse to them for some twenty or thirty minutes, on alternate days, in the form of a warm bath, the temperature of which may vary from 96 to 98 degrees Fahrenheit.

By many who have profited largely from the use of Avon waters, in chronic affections, their employment, by means of bathing, has been urged emphatically, as superior to any other method of using them. If it be thought that, like some sulphureous waters, they, by their long-continued action, greatly diminish strength, this objection loses its validity when we limit their use to the form of bathing. But, so far as concerns the Avon waters, I have never been apprised of an example, that could be fairly cited, of their debilitating influence. On the contrary, under circumstances the most discouraging, they have demonstrated their renovating capacity. In venous plethora, and in chronic congestion, when the constitutional powers are much impaired, to the relief obtained by mild aperients, the warm sulphur bath cannot but prove an admirable auxiliary. Few chronic diseases are combated, even by the most dexterous, with the prospect of an immediate healthful change; yet these waters claim properties which inspire us with the hope that some of the severest and most obstinate forms of disordered action, such,

for example, as involve a disturbed circulation, as occurs in angina pectoris, and in hypertrophy of the heart, may be steadily and gradually subdued by their salutary operation.

Corpulence, which is not only a disease in itself, but is often the precursor of other disorders, may, from the remarkable action which the Avon waters induce, have its morbid fullness diminished, the evils inseparable from obesity gradually obviated, the muscular system strengthened, and health, and a becoming symmetry, restored. I here mention these waters for their depurative effects, as only one of the means calculated to carry off a super-secretion of adipose material, without being followed by marasmus or other detrimental results, as some remedies urged for this purpose in occasional instances produce. But, after all, the reproach which the poet casts on the inefficacy of medicine in these cases, may, with equal truth, sometimes apply to the Avon waters, though aided by the most judicious choice of aliment.

"How can a magic box of pills,
Syrup, or vegetable juice,
Eradicate, at once, those ills
Which years of luxury produce?"

In pulmonary disorders their beneficial agency is not yet confirmed, and further experience must determine their merits: if employed, their use is to be regulated by the nicest precepts of the healing art, inasmuch as these waters are eminently calculated to produce powerful changes on the system by their active operation. In the incipient and active stage of pulmonary irritation, it becomes our duty to precede their employment by venesection, and the other customary means of depletion, analogous to the practice we have recourse to with the Ballston or Congress waters. The same observation applies to hæmoptysis, to acute disorders of the digestive organs, liver, and other viscera. The direful consequences which inevitably occur in such cases, from the Saratoga waters, when these cautions are not heeded, are too painfully known to be dwelt upon in this place.

In several forms of female disease, the Avon waters can be safely and efficaciously recommended. In chlorosis, and in certain complaints mainly depending on weakness, after a judicious course of preparatives, such as a careful clinical observer would enforce, these waters present themselves vested with sanative powers. Aware of the Protean character of constitutional disease depending upon uterine irritation, and chronic affections of that organ, I have no doubt that future investigation will demonstrate that the Avon waters possess many advantages over chalybeates in cases of this nature. I would extend the same remark to the complex affections connected with ovarian disease, and to several of the morbid manifestations which presented themselves in advanced life.

I have for several years past recommended the Avon waters; to those of the lower spring I give the preference: they have proved available in the severest cases of rheumatism and gout, and in some affections of the urinary organs. Clinical observation has enabled us to affirm, that few disorders of a constitutional origin are more perplexing in their diagnostic character than the maladies arising from long persistence in errors of diet: from this, among other sources, the digestive functions become enfeebled or broken up, and the irritations of impaired digestion, associated with the undue secretion of uric acid in various forms, lead to the production of gout, gravel, and other formidable and agonizing derangements of the kidney and urinary functions.

In cases of this sort, Dr. McLean and others of enlarged experience have testified to the eminent usefulness of the Saratoga waters; and I believe it will be found that those of Avon possess merits of a similar quality, if not of a higher degree. It behooves us, however, previously to relieve the system, by unlocking the several emunctories, to abate inordinate action, and regulate the habits of the sufferer: for even of waters so comparatively feeble as the Bath waters, England, it is said by Dr. Parry, that they are in no form whatever beneficial, during the paroxysm of gout, or in any inflammatory disposition which may exist in the interval.

After the preliminary management of the case by depletory means, and appropriate alvine aperients, the use of the water of Avon for a few days, or perhaps weeks, has wrought an alteration the most gratifying evinced by improved appetite, increase of flesh, and invigorated health; and while the body receives the impress and partakes of all the advantages of increased physical energy, a corresponding improvement marks the capacity of the intellectual powers. When taken internally, the Avon waters prove cathartic, diuretic, diaphoretic, and tonic.—

They thus constitute an effective alterative; and inasmuch as their tonic properties are the results of their general influence on all the emunctories of the body, particularly those of the cutaneous and urinary functions, they claim to themselves qualities which are denied to the entire class of tonics and stimulants strictly so called, and the mischief invariably induced by these last-named articles, wherever local congestion exists, are entirely guarded against by the waters of Avon.

Their manifestations on the surface are conspicuous. I am not able to say from experience that in this respect they surpass or even equal, the white sulphur waters of Virginia; but am scarcely ready to believe that these last fairly boast of a superiority in their action on the skin. Their extraordinary alterative effects must unquestionably be greatly owing to the action they induce by the cutaneous secretions.

As a striking example of their alterative influence on the cutaneous surface, I may mention the case of an individual, now in the 22d year of his age, incommoded by congenital ichthyosis, and whom I recommended to repair to these springs last season. The free use of these waters, internally and by bathing, for some ten weeks, so effectually removed this morbid alteration of the skin, as in divers parts to leave no trace of the previous existence of disfiguration.

In speaking of the constitutional influence of the Avon water, Dr. Salisbury, who has had much experience with them during a residence at the springs for four summers, has the following remarks: "The operation of Avon water upon the human constitution is modified by the quantity drank in the time given, and by the constitution, habit and disease of the individual. Generally speaking, four or six half pint tumblers of the water, drank during the day, produce a mild cathartic effect, and under its long continued exhibition to this extent, no debility ensues, but, on the contrary, the appetite and strength are very much increased. In very large doses, as from ten to fifteen tumblers a day, it operates powerfully upon the bowels, kidneys, and skin. A moderate use of this water, persevered in for a considerable length of time, will insure to it a powerfully alterative effect in cases where there is no acute inflammation."

A judicious mode of commencing the use of the Avon water, is to take six or seven half-pint tumblers during the twenty four hours: a couple of tumblers may be advantageously drunk before breakfast, and some two or three hours after that meal the same quantity may again be taken, and an additional tumbler-full or two in the afternoon. To the sense of smell they present the usual properties of sulphuretted hydrogen gas, but in a very small degree: they are nowise oppressive to the digestive organs. Some however take them in larger quantity, and oftener repeat the draught. Others, again, never use them until after the first meal. Like the Ballston and Saratoga waters, they are sometimes drunk to a most pernicious extent. It is expedient, therefore, in all cases, to regulate their administration by their immediate effects; and every regard must be paid to age, sex, disease, constitution, and individual peculiarity. To guard against undue local determination, either cerebral, thoracic, or visceral, will always become a matter of professional duty.

All observations of a dietetical character are here designedly forbore: and I need scarcely add, that, with these precautions, the Avon waters may, in numerous cases, command the praises both of the patient and prescriber. Moreover, as these waters are armed with such potent qualities, their influence on the system must be either prejudicial or beneficial; and they demand, in all cases, the advice of the physician.

Ninety Years.—Ninety years hence not a single man or woman now twenty years of age will be alive. Ninety years! alas how many of the lively actors at present on the stage of life will make their exit long ere ninety years! What are they? "A tale that is told"—a dream; an empty sound that passes on the wings of the wind away and is forgotten. Years shorten as man advances in age; like the degrees in longitude, man's life declines as he travels toward the frozen pole, until it dwindles to a point and vanishes forever. Is it possible that life is of so short duration? Will ninety years erase all the golden names over the doors in the town and country, and substitute others in their stead? Will all the now blooming beauties fade and disappear, all the pride and passion, the love, hope and joy pass away in ninety years, and be forgotten? "Ninety years?" says Death, "Do you think I shall wait ninety years? Behold to-day and to-morrow and one is mine. When ninety years are past, this generation will have mingled with the dust, and be remembered not."—[Thomson Journal.]

FOREIGN INTELLIGENCE.

LATER FROM EUROPE.—The Europe, arrived last Sunday from Liverpool, brings Liverpool dates of the 17th ult.

The resignation of Lord Grey is the chief topic of interest made known by this arrival. This event was brought about by the attempt of ministers to re-enact, without alteration, the Irish Coercion Bill; concerning the policy of which measure the Marquis of Wellesley, Lord Lieutenant of Ireland, and some of Lord Grey's own cabinet dissented from the Premier. Hence the resignation. Lord Althorp, though he too resigned, had agreed, it is said, to resume his place; the Lord Chancellor, too, preserves his. The reconstruction of the Ministry had not been accomplished at the last dates. It will be a work of difficulty; and even when accomplished, of short duration, or we much mistake the signs of the times in England.

We give the rumor of the escape from England of Don Carlos, and of his having reached the north of Spain, to head the insurrection there. We attach no credit to it, chiefly because when this same pretender was on the borders of Spain, and had ample chance, if he had dared to use it, of putting himself at the head of the insurgents and conquering, or dying for, the throne he claims—he skulked about from hiding place to hiding place, and never faced the day.

LIVERPOOL, 6 P. M. JULY 16.—The Standard, on the authority of their Paris correspondent, announces the arrival of Don Carlos in Spain. He reached Bayonne on the 8th inst., and on the following day entered Spain, where he is stated to have been extremely well received by the people. What effect this interference may have upon the contest now going on in that unhappy country, it is impossible to foretell.

Baron de Haber has been charged by Don Carlos to contract a letter of 125 Million of Francs, or 5 Million Pounds sterling, which he has succeeded in effecting with one of the first houses in Paris. Besides the misery of the civil war raging in Spain, dreadful storms are devastating the North, and the Cholera is raging unchecked in the South.

The arrangements of the new Ministry may be said to be completed. The changes will be few.—Lord Melbourne's removal from the Home Office will, it is said, make room for Lord Duncannon, who will fill the situation hitherto held by the Premier.—It is also rumored that Lord Durham is going to Ireland in the capacity of Lord Lieutenant, and Mr. Tennyson has been named his secretary.

The new arrangements are said to be very annoying to Lord Brougham, who is stated to have resigned the Seals and gone down to Windsor, to have an audience with the King. The general impression is that the new Cabinet is not composed of materials of an enduring quality. A Cabinet Council was held last night, Lord Melbourne immediately proceeded to Windsor, to wait upon his majesty. The Funds remain steady.

FRANCE.—The recent elections give the ministers about 320 votes, the opposition about 90, and leave 50 whose sentiments are undecided. The ministerial majority may therefore be calculated at three to one. In the late Chamber the strength of the ministers was usually 250, that of the opposition 150, whilst from 40 to 50 members fluctuated between the two parties. The Carlists have only returned about a dozen of their friends, and the republicans are even less successful having failed everywhere.

LATER FROM FRANCE.—By the ship Florida, Capt. Mauran, we have Havre papers to July 15, and Paris to the evening of the 14th.

French steamers now transport the mail between Calais and Dover.

The Cholera is in Gibraltar.

The health of Don Pedro creates anxiety. Letters from Lisbon dated July 1st, state that he was suffering severely in consequence of a fall from his horse in Brazil. The fatigues of the last two years have undoubtedly enfeebled him. The Duke of Palmella has had several conferences with the Ministers on the subject of the proper persons to constitute a Regency, in case the health of Don Pedro should become such as to disable him.

A terrible fire occurred at Smyrna on the 3d June; about 60 of the finest houses, built in the European

style, with an immense number of warehouses, were reduced to ashes.

PARIS, JULY 15.—The news of the arrival of Don Carlos in Spain, though doubted by a great number of persons, has had a depressing effect on our funds, and still more on the *rentes perpetuelles* of Spain, which, after opening at 66 closed at 64.

The news from Madrid of the 4th inst. is to the following effect:—"The cholera is almost exclusively the object of attention here. This terrible malady which still continues its ravages in the south of Spain, has at length made its appearance in the capital, where, however, it is as yet confined to the hospitals. The cases said to have happened in private are doubtful. The disease, both at Madrid and Ballecca, a village one league from the capital, where the great number of sick are, shows itself in a mild form; but little reliance is placed upon this circumstance, as it also at first appeared under a mild form in the town of Andalusia, where the mortality has since been so considerable."

"The Infant Don Francisco has remained at Madrid with his family. It is said that he is going to St. Ildefonso, after a short quarantine at the Escorial. The French Ambassador set out this morning for the royal residence, whence he will probably return for the opening of the Cortes, which is to take place, unless a counter-order should be issued, on the 24th inst. The elections known up to this day are all constitutional, and there is no fear of the remainder overstepping that limit. Count Torens has been elected at Cuenca, and will be so most likely in the Asturias, his native province.

LATER.—By the Birmingham, from Liverpool, papers are received from London of 16th ult.; one day, or rather night, later than before; for we had the Courier of the afternoon of 15th.

[From the London Times.]

LONDON, WEDNESDAY, JULY 16.—Nothing has occurred, or at least transpired, to shed any more light upon the progress of the new Ministry, or on the prospects of the country, than what we have already communicated.

There is no fear of a Coalition Ministry, because all parties have too much sense to coalesce, for the mere purpose of flying asunder on the introduction of the first important public measure. We are under very little alarm about the Tory Ministry, because the leading Tories know at length the feeling towards them entertained by the great bulk of their countrymen. The extreme radicals are much beyond the pale of possibility as the Conservatives themselves. What then remains but an Administration of rational and enlightened, but resolute and energetic Reformers, who will employ the machinery of the Reform Bill for the correction of real and sensible evils, in the same spirit as that which has gradually through the growth of ages been directing the discoveries of general science to an improvement of the arts of life, and to a practical extension of human happiness?

If the Government now under process of creation by Lord Melbourne be not adapted to its end, viz. the promotion of tangible and definite reforms—the people have now in their hands the power to get rid of it, and they will do so without hesitation.

Our readers perhaps will concur with us in feeling that after what has already passed, we do not call upon them for any loud note of exultation, when we announce the probability that, such as it is, the Melbourne Cabinet has by this time been completed—that the vessel is almost ready for launching—the last nail having been driven; would that we could add that the last block has been knocked away from under her. Lord Melbourne, as will be seen from the Court Circular, had a long audience of the Sovereign yesterday at Windsor, and his Majesty comes to St. James's Palace this day, to receive, as is supposed, the homage of his new-old Ministers. What a fright they must have been in,—some half dozen of these lords and gentlemen!—and what an escape they have had! We wish we could say as much for the country. However, Lord Melbourne is a man of spirit, honor, and understanding, and it is but a feeble expression of our good feeling towards him to wish him safe and well through his arduous task.

As the arrangements cannot be considered complete till they receive to-day the sanction of the King, who will on coming to town give his final decision, we shall forbear to state anything beyond our belief that Lord Duncannon is to be the Secretary for the Home Department.

Money Market and City Intelligence—Tuesday Evening.—The Consol market opened firmly this

morning at 92 7-8 to 93 for the account, but underwent a slight depression afterwards, chiefly on account of the great agitation in the foreign funds, and the great demand for money to carry over the time bargains in them to the end of the month. The last price was 92 1-2 to 5-8, and that of the Exchequer bills 51s to 52s premium.

All descriptions of rumors were afloat relative to Spain, but for the most part invention, and put forth probably to assist the reckless gambling transactions going on in the stock of that country, and which is not likely to cease till some fixed value has been put upon it by a decree of the Cortes. The chief topics of alarm among the holders have been today the supposed arrival of Don Carlos in the north of Spain, who did not, as was at first stated, proceed in a steam vessel from Portsmouth, but through France; the spreading of the cholera near the capital; and the illness of the Queen.

There is nothing, however, in the two latter reports to justify the supposition that they will lead to the postponement of the meeting of the Cortes; and with respect to Don Carlos, should he really show himself at the head of the troops, there is little doubt of the Queen's forces soon giving a good account of him. The incident will, however, be productive of this good to Spain—that it will incline the Government the more to liberal measures, in order to secure the support of the constitutional party; and many friends of that cause in London are prepared to expect as a consequence of the arrival of Carlos, an invitation to General Mina to take the command of the army in that quarter.

The fluctuations in Cortes' bonds were between 45 3-4 and 42 1-4, and they left off buyers at the latter prices.

By the advices from Hamburg, the price of gold is 437 per mark, which at the English Mint price of £3 17s. 10 1-2d. the ounce for standard gold, gives an exchange of 13s. 11d., and the exchange at Hamburg on London at short being 13s. 9d., it follows that gold is 15-16 per cent. dearer at Hamburg than in London.

The premium on gold at Paris is 7 per mille, which at the English Mint price of £3 17s. 10 1-2d. the ounce for standard gold, gives an exchange of 25s. 32 1-2d., and the exchange at Paris on London, at short, being 25s. 35s., it follows that gold is 1-10 per cent. lower at Paris than in London.

Since the above was in type, we have, via Boston, dates from London to the 21st, giving the ultimate formation of the Ministry, as will be seen in the annexed extracts.

LIVERPOOL, JULY 19.—On Thursday, in Parliament, Lord Althorp, amid loud cheers, announced the formation of the new ministry. The changes are—First Lord of the Treasury, Viscount Melbourne; Home Secretary, Lord Duncannon; Woods and Forests, Sir J. C. Hobhouse. Col. Evans and Mr. Tennyson signified their approval of, and confidence in, the new administration. Mr. Matthias Attwood gave a sort of under growl—sorry, no doubt, that his Tory friends did not come in. The minor arrangements are not yet announced, and we do not know whether Mr. Littleton remains at the head of the Irish affairs; it is probable that he does. Lord Durham has been spoken of for the Irish Viceroyalty, but it seems that Lord Wellesley does not retire.

LONDON, JULY 20.—Lord Melbourne has stepped into Lord Grey's place, and has favored the community with some indications of the course which he means to pursue. The Coercion bill which Lord Grey lately introduced, is to be withdrawn—and another measure, in which the most obnoxious clauses of the present one are to have no place, is to be substituted. This change, so far as it goes, is good. It may, however, have its origin in no higher source than the expediency which dictates that Lord Althorp, after expressing his disapprobation of those clauses, shall not be called on to re-enter office for the sake of supporting them.

FROM CANTON.—By the arrival, says the Commercial, of the ship Hercules, we are in receipt of the Canton Register of the 25th of March.

The American ship Florida, Captain Tripp, arrived at Canton on the 21st, via Coquimbo. The American vessels Diana, Olive and Elize, (the former via the Sandwich Islands) had also arrived.—The Splendid likewise was hourly expected.

Captain Wallace, who had sailed from Singapore for Louisa Shoal, in the hope of saving a part of the cargo of the American vessel, New Jersey, which was wrecked thereon, has returned, having fortunately

ly succeeded in recovering from it two hundred jars of quicksilver. He had sailed a second time for the purpose of continuing his search. Two Dutch vessels had also sailed thither for the like purpose.

VARIETIES.

[From late Foreign Publications.]

Waggery.—The Baywater Road is conspicuously placarded with commendatory bills of "THE GREAT WESTERN CEMETERY;" beneath one sheet of which, a wag has inscribed, in equally large letters, "N. B. New graves warned by steam."

Flowers.—Put a rose, or a lily, or a violet, on your table, and you and Lord Bacon have a custom in common; for that great and wise man was in the habit of having the flowers in their season set upon his table—morning, we believe, noon and night—that is to say, at all his meals; for dinner, in his time, was taken at noon; and why should he not have flowers at all his meals, seeing that they were growing all day? Now here is a fashion that shall last you forever, if you please, never changing with silks, and velvets, and silver forks; nor dependent upon the caprice of some fine gentleman or lady, who have nothing but caprice and change to give them importance and a sensation. Does any reader misgive himself, and fancy that to help himself to such comforts as these would be "trifling?" If this were trifling, then was Bacon a trifter, then was the great Condé a trifter, and the old Republican Ludlow, and all the great and good spirits that have loved flowers; and Milton's Adam himself—nay, Heaven itself, for Heaven made these harmless elegancies, and blessed them with the universal good will of the wise and innocent. The same mighty energy which whirls the earth round the sun, and crashes the heavens with thunderbolts, produces the lilies of the valley, and the gentle dew-drops that keep them fair.—[London Journal]

A curious anecdote is related of George III:—
"The autumn of this year was memorable for the commencement of that first illness of his Majesty George III, by which the Regency question was brought into agitation. The reader will perhaps ask with surprise, what connexion Mrs. Siddons's name could have with the afflicting event of the royal malady? It had only this connexion, that she was the first person who observed in the royal personage grounds to suspect his mental aberration. The king, like all his subjects, thought her talents an ornament to his reign, and he had a profound and cordial regard for her personal character. She was often at Buckingham House and at Windsor. But, when she was on a visit at the latter place, his majesty one day handed her a sheet of paper, that was blank all but the signature of his name. She judged too highly both of her sovereign and herself to believe that, in his right mind, he could show such extraordinary conduct; and the event proved the justice of her conclusion. She immediately took the paper to the queen, who was duly grateful for this dignified proof of her discretion."—[Campbell's Memoir of Mrs. Siddons.]

Lord Brougham and his Alleged Drinking Habits.—The conservative papers have for some time past thrown out broad assertions that Lord Brougham primes himself with large goblets of port wine for his political encounters in the House of Lords. His lordship, in his evidence before the law of libel committee, has lately denied this. One foundation, he stated, for the calumny was an excuse given by a respectable daily paper for not reporting a speech of his; but the fact was, that he had tasted nothing that day but tea for breakfast, and he had tasted no fermented liquor, nor had he dined, before he entered the house. In fact he never in his life tasted above three glasses of wine in water before going to the house.

The Pope has this year sent the golden rose, which he consecrated on the Sunday styled *Lætare*, to the city of Venice, as a token of regard to the capital of the Republic, of which Belluno, his native place, formed a part. The institution of the golden rose goes back to the year 1042, in the time of St. Leo IX. That head of the church was anxious to subject directly to the Holy See the celebrated monastery of St. Croix, in Alsace, which was founded by his ancestors, and over which he had the right of patronage. By an arrangement, the monastery engaged to send to him and his successors, on the fourth Sunday in Lent, a golden rose, or two ounces of gold. The Sunday is called *Lætare*, in virtue of the homily of Pope Innocent III, in order to excite the Catholics to spiritual joy at the approach of Easter, and the end of their penitence.

From this idea was established the ritual of the consecration and unction of the golden rose, which figures Christ, the King of kings, represented by gold, the most precious of metals, and by its odoriferous balm the resurrection, of the Saviour. Formerly the rose was colored with carmine, to represent the blood which the Redeemer shed for his people; but at present it is in polished gold, and the Pope, after its consecration, carries it in procession in his left hand, whilst with his right he pronounces his benediction on the faithful. This rose is given by the Sovereign Pontiff every year to a Prince or City of Christendom entitled to the favor of the church. The Venetian Republic, which was the cradle of several Popes, possessed five of them in the treasury of St. Mark; they disappeared during the last wars in Italy. The first was given in 1596 to the Doge Vendramin, by Sixtus IV, and Gregory XVI has sent the sixth rose to the capital of his country.—[French paper.]

Growth of Person.—The growth ceases soonest in the most excitable habit, because in them the excitability will soonest be reduced to a due balance with the stimulants of life. Thus it seems to be that the growth of women, who are more excitable than men, generally stops sooner, and consequently that they are of shorter stature, large women for the most part having less of the habit peculiar to their sex; and that by far the greater number of the most excitable men who, in consequence of this constitution, make the greatest figure in their day, are men of short stature, while giants are generally of an opposite habit of body. There must, of course, to such rules be many exceptions.—[Philip on Sleep and Death.]

Gift to the Negroes.—The committee of the British and Foreign Bible Society have resolved, "That a copy of the New Testament, accompanied by the Book of Psalms, in a large type, and substantially bound, be tendered to every person receiving the gift of freedom on the approaching 1st of August, who can read; or who though not able to read, is at the head of a family in which there are readers or children learning to read: such parties receiving a recommendation from a minister, teacher, or employer."

A few days since, a woman in Paris having purchased some macaroni of a grocer, in the Faubourg Mortmartre, perceived that the wrapping paper contained the name of Voltaire. Examining the writing on the sheet more closely, it was found to be an original letter of Voltaire. The text of this letter was copied, and inserted in the public prints, and was found to have never before been published. The following is, as near as possible, a literal translation from *Le Courrier Francais*, 29 Mai, 1834.

"M. le Controleur-General:

"If it was requisite to pension every man of talent in France, it would inflict an honorable but a disastrous wound on your finances, which the Treasury might not be able to support; also, and though few men can be found possessing the solid merit of M. de la Harpe, I do not come forward to solicit a pension for merit in indigence; I come simply, sir, to encroach so far on your attributions, as to control the entry of the two thousand *livres*, which His Majesty has been so good as to grant me annually. It appears to me that M. de la Harpe having no pension, mine is too high by one-half, and ought to be divided between us.

"I should esteem it, sir, therefore, as claiming from me the highest gratitude, if you will have the kindness to sanction this arrangement, and have transmitted to M. de la Harpe his warrant for a pension of one thousand *livres*, without giving to him the most distant hint that I am in any way concerned in the event. He will himself, as will the public, be easily convinced that this pension is a just recompense for the services he has rendered to literature.

"Deign, Monsieur le Controleur General, to accept in advance my thanks, and believe in the profound respect of your very humble and obedient servant,
"AROUET DE VOLTAIRE."

PAROLES D'UN CROYANT.—Words of a Believer.—The following is the estimate of the amount of sales of this production of M. de la Menais.

Paris common edition 100,000 copies; popular edition 200,000 copies. Brussels, common 6,000; popular 2,000. Louvain popular 20,000; and, besides, there has been an Italian translation, circulated chiefly in Lombardy and the Marches of the Papal Territories; and a Polish translation, circulated chiefly in Galicia. They are preparing a German translation at Paris; one for the Dutch Netherlands at Ghent; and one for the Flemish Netherlands (Belgium) at Brussels. We also believe there are several

English editions in the market, in London; and that Mr. O'Connell is engaged on one in the Erse of Ireland.—[Ee Courrier des Etats Unis.]

MARTIN, LESLIE AND ALLSTON.—The following letter from the celebrated artist Martin, to the editor of the London Athanæum, is interesting. The painting, by Mr. Allston, referred to in the last sentence, is not yet completed—and may possibly never see the light.

"I had not the pleasure of knowing my friend Allston until I was, in some degree, known as an artist; but I will give you a slight sketch, a mere outline, of my early career, and also of my first introduction to Allston, which, as it relates to more than myself, may not be uninteresting to you. I was not seventeen when I first arrived in London, where I was to be under the protection of Boniface Mussa, or Musso, a clever master, the father of Charles Musso, the celebrated enamel painter. My first resolve on leaving my parents was, never more to receive that pecuniary assistance which I knew could not be spared, and by perseverance I was enabled to keep this resolution. Some months after my arrival in London, finding I was not so comfortable as I could wish in Mr. C. Musso's family, I removed to a room in Adam street west, Cumberland Place, and it was there that, by the closest application till two or three o'clock in the morning, in the depth of winter, I obtained that knowledge of perspective and architecture which has since been so valuable to me. I was at this time, during the day, employed by Mr. C. Musso's firm, painting on china and glass, by which, and making water-color drawings, and teaching, I supported myself; in fact, mine was a struggling artist's life, when I married, which I believe you know I did at nineteen.

It was now indeed necessary for me to work, and as I was ambitious of fame, I determined on painting a large picture. I therefore, in 1812, produced my first work, 'Sadak in search of the Waters of Oblivion,' which was executed in a month. You may easily guess my anxiety, when I overheard the men who were to place it in the frame, disputing as to which was the top of the picture! Hope almost forsok me, for much depended on this work. It was, however, sold to the late Mr. Manning, the bank director, for fifty guineas, and well do I remember the inexpressible delight my wife and I experienced at the time. My next works were 'Paradise,' which was sold to a Mr. Spong, for seventy guineas, and 'The Expulsion,' which is in my own possession.—My next painting, 'Clytie,' 1814, was sent to Mr. West, the President, for his inspection, and it was on this occasion that I first met Leslie, now so deservedly celebrated.

I shall never forget the urbane manner with which West introduced us, saying, 'that we must become acquainted, as young artists who, he prophesied, would reflect honor on their respective countries.'—Leslie immediately informed Allston, who resided in the same house with him, that he had met me.—Allston requested to be introduced, as he had felt a strong desire to know me from the time he had seen my 'Sadak,' but a sort of reserve had prevented his introducing himself, although he had several times taken up his pen to do so. Thus, twenty years ago, commenced a friendship which caused me deeply to regret Allston's departure for his native country, for I have rarely met a man whose cultivated and refined taste, combined with a mild, yet enthusiastic temper, and honorable mind, more excited my admiration and esteem.

It is somewhat singular, that my picture of 'Belshazzar's Feast,' originated in an argument with Allston. He was himself going to paint the subject, and was explaining his ideas, which appeared to me altogether wrong, and I gave him my conception; he then told me that there was a prize poem at Cambridge, written by T. S. Hughes, which exactly tallied with my notions, and advised me to read it. I did so, and determined on painting the picture. I was strongly dissuaded from this by many, among others, Leslie, who so entirely differed from my notions of the treatment, that he called on purpose, and spent part of a morning, in the vain endeavor of preventing my committing myself, and so injuring the reputation I was obtaining. This opposition only confirmed my intentions, and in 1821 I exhibited my picture. Allston has never seen it, but he sent from America to say, 'that he would not mind a walk of ten miles, over a quickset hedge, before breakfast, to see it.' This is something from a bad walker and worse riser. His own 'Belshazzar' was not completed for many years, not till very lately, I think."

NEW-YORK AMERICAN.

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LITERARY NOTICES.

THE LIFE OF MOSES: by G. T. BEDELL, D. D. Rector of St. Andrew's Church, Philadelphia.

THE LIFE OF DAVID, KING OF ISRAEL: by the Author of 'Bible Sketches.'

ANNA ROSS; A STORY FOR CHILDREN: by the Author of 'Decision,' 'Father Clement,' &c.

A MAP OF JERUSALEM, compiled from Josephus and the Reports of Modern Travellers.—These four publications all proceed from the press of the American Sunday School Union in Philadelphia, and are to be had in this city at the Sunday School depository, 305 Broadway.

The titles of these little volumes explain their object sufficiently, save that of *Anna Ross*, and concerning it we may say, that it is the history of a little girl, made an orphan by the result of the battle of Waterloo, who, left to choose between living in comparative poverty with a pious uncle, or in splendor with a worldly one, elects after trial, and at ten years of age, the former. The power which those who have read Father Clement know to belong to its author, is abundantly exemplified in bringing about and accounting for this not quite probable choice.

THE HOUSE I LIVE IN, Part I: by WM. A. ALcott: Boston. LILLY, WAIT, COLMAN & HOLDEN.—This is an ingenious and well executed attempt to impart to children a knowledge of the structure of the house they live in—the human body—without exciting any disgust, and without resorting for explanation of what is said, to any thing but the plates in the book itself. We are sure this will be a popular little volume, and as useful as popular; for it is not creditable to be so ignorant as very many are of that most ingenious constructed machine, the human frame.

TUTTI FRUTTI, by the author of the Tour of a German Prince; 1 vol.; New York, Harper & Brothers.—Attracted by the quaint title of this publication, borrowed, as we learn by the translator's introduction, "from the favorite ice of Italy," composed of many different fruits—it means literally "all the fruits"—and by the abounding puffs of the contemporary press, on its appearance among us, we certainly opened its pages with no little eagerness—only to close them, however, in disappointment. Instead of light, graceful, and piquant literature, or gossip, or trifling—as from the title we anticipated—it seems to us made up of the rejected fragments of a heavy common place book—the gleanings after the harvest. It is not that it does not contain things cleverly written; sensible and judicious, though not very original reflections on political matters; but that it in no wise realizes the expectations raised by a title which almost makes the mouth water. The Prince, we fear, who made so admirable a book upon England, has been betrayed by its popularity to accede to the solicitations of the booksellers to give them another work. At least we cannot otherwise explain the appearance of this one.

We select, as one of the best "fruits" of the collection, the following letter descriptive of Berlin and its society:

TO THE COUNTESS R***.—COPENHAGEN.
Berlin, Jan. 1st, 1832.
Patrie sumus igne alieno luctantur.

In the present form of government of Prussia, there is undoubtedly much to be desired; the organized "bureaucracy" of her interior deserves much censure; her veiled political movements, the burthen of her extensive military establishment, which has become too oppressive for the strength and vigour of the nation to support, are evils which demand redress: but this state of things cannot remain long—by the action of some unexpected incident they will assume another and more improved

form, for in a nation where intelligence is so universally diffused, these, and similar defects, are of minor importance; when this intelligence exists, the happiness of man advances, even under a defective government, but without this holy fire the most perfect theory will be found ineffectual in its operations. Thus we may venture to hope that every reasonable ground of complaint will gradually and peaceably disappear, and so realize the wishes of all true lovers of rational liberty, who have nothing in common with the mad levellers of modern times. The signs of the times never deceive. May we not anticipate happier days for Germany? and is it not for us a proud idea that it may be reserved for Prussia to effect her regeneration?

But I forget, my dear cousin, that I am addressing an elegant and accomplished woman, who, instead of grave reflections and political discussions, expected to receive merely a hasty sketch of our manners and customs; but how is this possible, from a man who is already half a hermit, a miserable courtier, and worse than all, absolutely a "deceased," at least I have been so baptized by that fabricator of histories, the editor of the *Morgenblatt*.

However, I must fulfil my promise—so we will commence with the court: this is numerous, but its society consists chiefly of members of its own circle; in general, very few visitors and foreigners are invited to join the select coterie, with the exception of some Russians of high rank; foreigners of other nations are but little noticed, and seldom remain long in Berlin. There is still less attention shown to the nobility of the country, who occasionally visit the metropolis, thereby verifying the old adage, "No prophet is honored in his own country."

This is sincerely to be regretted, as by far more urbanity of manners, graceful freedom, and variety of tone, reign in the court, than in the most distinguished circles of the town; the ladies are assuredly among the most delightful and amiable of Berlin; and I merely suggest whether it would not, for their sakes, be expedient to introduce the etiquette of the old Spanish court, which, in obedience to its statutes, permitted those cavaliers who were captives to the charms of the court ladies, not only to remain uncovered in the presence of the monarch, but even to sit—it being most charitably supposed, that in the presence of so much loveliness, and engrossed by the intensity of their passion, they were incapable of giving their attention to the ceremonies of a court!

Whether the cavaliers of our court are as deeply susceptible to such a fascinating influence, I cannot venture to decide; but this I can with truth assert, that many of them are distinguished by the elegance of their manners, and their intellectual attainments. Where the highly talented Alexander von Humboldt is a lord of the bed-chamber, a court almost appears an academy; and in the Duke Charles of Mecklenburgh and the upper Court-marshal von Schilden, we have all that imagination can paint of genius and high birth united in their noblest forms.

If I may, without incurring the imputation of a flatterer from the modern heroes of equality, I will unhesitatingly assert, that those who occupy the first rank by birth, occupy it also by grace, beauty, virtue.

Although it is too much the prevailing spirit to yield implicit credence to every tale of ill which is circulated respecting the great ones of the earth; yet I have not imbibed it, neither do I belong to that class of cowardly slanderers who promulgate in foreign publications the most unfounded and malicious calumnies, such, for instance, as that the accession to the throne of our revered Crown Prince is an event to be dreaded by his future subjects; whereas, whoever is intimately acquainted with him must be familiar also with his noble patriotic feelings, with his anxiety for the prosperity of his country; and few modern princes are more opposed in principle to tyranny and oppression. He has even been accused of bigotry, which charge has originated solely in the circumstance that he has munificently bestowed favors upon persons who are notoriously of the devout class; and we may be assured, that this accusation is as unfounded as it is malicious.

That he is pious, humane, and a pattern of morality, is indisputable; these qualities have, it is well known, been construed by the enemies of peace and good order into bigotry; but I would desire no greater blessings for the nation than to see the sons of our nobles and citizens emulate the example of the sons of their king. I would wish them to imitate the high attainments in every branch of knowledge, and the copious general information of the Crown Prince; to possess the cool, temperate judgment, clear discernment, and truly honest German heart of

Prince William, and the brilliant virtues of Prince Charles, who is, to use the words of Shakespeare, "every inch a king."

Respect and reverence arrest my pen from attempting to expatiate on the excellent qualities of the princesses, and my enthusiastic admiration would be likewise a serious hindrance to the impartial discharge of my duty; but this I may safely assert, that our lovely and amiable princesses are equally to be envied for their domestic happiness, and admired for their beautiful example of virtue to the nation, upon whom the brightest rays of moral excellence beam from the royal family and the throne.

We will now descend a step, and take a hasty glance at the higher ranks of society, in which the first thing that arrests the eye of the observer is the absence of any cordial intercourse between them and the corps diplomatique, which has an unfavorable effect upon both: this is principally owing to the circumstance that, unless on a few public occasions, the members of the corps diplomatique are entirely excluded from the court of the sovereign.

Berlin is, generally speaking, destitute of any decided tone; fashion exercises but a feeble sway, and there is no individual subject of paramount importance to impart a determined character to society. There is neither political nor, indeed, any other description of party feeling, which, it is well known, always animates conversation.

The total absence of luxury contributes also not a little to render society monotonous; in this respect both the natives and the corps diplomatique accord admirably with each other.* In fact, luxury is only found in the palaces of the royal family, but, as I have said before, their society is confined principally to their own circle.

The only recreation met with in society is cards; for as soon as the company have assembled and performed a few preliminary evolutions, they seat themselves in different conglomerations around card-tables, reminding the spectator of a large bowl of "churned milk." Conversations, with the exception of a very few houses, are unknown; perhaps our phlegmatic national temperament is not so well adapted to them as that of our mercurial neighbors the French; but where the two elements of solidity and brilliance have found an entrance the result is delightful, as the saloon of the Minister of Foreign Affairs will abundantly testify.

The most national and the most animated entertainments are the balls. During the carnival they are numerous, while the dancers themselves are both graceful and untiringly persevering.

Déjeuners à la fourchette, with balls, have lately become fashionable; they commence at eleven and end at sunset. These, in summer, are very agreeable, particularly when given in a charming garden; but entertainments of this description appear more congenial to England, where the guests assemble both in negligee and demi-toilet. Alas! such a summer-day's dream is not often practicable in this country, especially as enthusiastic admiration of the beauties of nature forms no part of education, that never-failing source of pure delight being but little prized. A young officer, to whom I was one day making an observation to this effect, answered, laughing, "You are perfectly correct, and I will give you an instance of it."

"Last year, as I was riding with my general to a review through one of the most bewitching valleys in the neighborhood of the Rhine, when the bright beams of the rising sun were beautifully gilding both the woods and hills, I burst into admiration at the glorious spectacle, and endeavored to make the general participate in my feelings."

"What are you saying?"

"His voice and manner being any thing but encouraging, I hesitatingly repeated my observation, when he harshly exclaimed—

"Zun Teufel! Young gentleman, think of your military duties, and do not tease me with your poetical ideas!"

Many of our young military officers are most wonderfully well informed; perfect oracles in their way! whose decisions are *sans appel*. I recently witnessed a very comic "qui-proquo." The amiable Frau Von B—— was reading a verse of Dante, from an admirable translation; one of the most fashiona-

* This was written in the beginning of the year 1832; since that time most of the corps diplomatique have been superseded by new members, whose superior taste has given society a more elegant tone. We will hope that their good example may be followed by the upper classes of society.—[The Author.]

ble warriors in the salon demanded the name of the author? the lady answered, "My beloved Dante."

"Is it possible," cried the son of Mars, with astonishment, "I never could have believed that your tante (aunt) was equal to such a composition."

The errors of the old warriors are sometimes even more ridiculous, and their blunders are an endless source of merriment. When the present President of Columbia was in Berlin, about two years since, I accidentally overheard a conversation between him and a Prussian officer; instead of German, it was carried on in horribly bad French.

A picture of a battle led them to speak of the celebrated one of Waterloo.

"Most certainly," exclaimed Santander, "at that great battle, without the assistance of your immortal hero Platoff, Napoleon would not have been conquered!"

The Prussian general smiled, politely rectified his mistake, and continued, saying, "But your campaigns are not less remarkable: for instance, what a march was that of Bolivar to Mexico and back, across the Tachimorasso—the short time in which it was effected is scarcely credible!"

"I beg pardon," said Santander, in his turn, half smiling; "you have made an error in some thousands of miles, for Bolivar was never engaged in war in Mexico, therefore he could not have come in collision with the Tachimorasso. Notwithstanding, our marches are really astonishing; in fact, our method of conducting war is entirely different from the European mode; our soldiers are able to support themselves for months without bread, meat, or spirits, living entirely on dried ox skins and water."

"Comment! monsieur!" cried our general, in his inimitable jargon, and with a voice and manner expressive of his greatest astonishment—"Comment! pas de bain? pas de poissons spirituels? pas même de l'eau forte?"

"It required all my powers of self-command to preserve my character for politeness, when Monsieur Santander, not appearing to observe the errors of his friend, replied, with an air of the most important gravity,

"Non: rien de spirituel, monsieur, pas même de l'eau forte!"

One of the amusements peculiar to Berlin, and in which are to be found assembled nearly all classes of society, is that termed the "Brühl'schen Ball," from the name of its founder, which thus bids fair for immortality. The gentlemen are attired in black, while the ladies select the gayest colors to decorate their pretty persons, which they sometimes adorn a little too lavishly; the entrée is absolutely forbidden to pantaloons, black cravats, and boots (in the redoute to dirty boots)—what an admirable precaution! It is rumored that the manager of the court theatre intends to distribute among the quadrilles a band of fancy dancers, in full costume, for the purpose of amusing the high and select assemblage.

The tournée of the supper table is excessively amusing, but somewhat dangerous, on account of the myriad of corks which fly from the champaign bottles in every direction! At the last of these balls I had the pleasure of visiting, I observed our good-humored prince, Albrecht, with his aid-de-camp, wandering from room to room unable to find seats. I could not forbear laughing at my friend C—, who exclaimed with enthusiasm, "This is what is termed an absolute monarchy, and yet the son of our king cannot obtain a seat at the supper table, because his good citizens have taken possession of them. A Constitutional Orleans would have fared better."

"Yes," replied I, "it is the wonder of foreigners that we all appear to form one family, the king and his people, the father and his children. On that account, thank God, we require no revolutions; let us be thankful for a sound body that does not require periodical blood-letting."

As to places of public resort, we have very few in Berlin, except the theatres and concerts. Yes, most truly, we have in addition the wooden booth in Tivoli! to which you are conducted by an allée dug in the earth, and where the half-decayed pine-trees exhibit the only appearance of vegetation.

Also the Elysium! erected in the sandy Zoological Gardens, where the secret has been discovered of adorning the superb salon in such a manner that the unexampled mixture of colors acts upon the beholders like ipécacuanha! these, with the colosseum of colossal vulgarity, are the favorite places of amusement. I have been informed that even the noble Casino has died of a decline.

Music is much admired and cultivated in Berlin: the Moser Quartett concerts are particularly dis-

tinguished, where the chef-d'œuvres of the best masters are performed with a full orchestra, in the most masterly style.

Last winter I once more visited Berlin, when I became acquainted with the representative of the St. Simonians. One morning he wrote to Fraulein S—, requesting to know if it was really true that Beethoven was to sing that evening? the lady replied very gravely, that she did not consider it probable, as a cold damp grave was a most likely place to produce such a hoarseness as would preclude the possibility of singing!

I also had the pleasure of again meeting my honorable friend, the old general of Waterloo; he bitterly complained of the intense cold, and of the deep snow that had fallen, and assured me, (in his matchless French,) "qu'en entrant plusieurs grands flacons de neige étaient venus lui tomber sur le nez."

I shall dedicate a portion of my next letter to the theatre; for the present I must conclude, or I shall exhaust all that I have in reserve on our interesting Berlin.—Adieu.

A DIGEST OF THE EXISTING COMMERCIAL REGULATIONS OF FOREIGN COUNTRIES WITH WHICH THE UNITED STATES HAVE INTERCOURSE, AS FAR AS THEY CAN BE ASCERTAINED. Washington: F. P. BLAIR. 1833.—This is a large octavo volume, of more than 700 pp. and is only the first of a series, to be "prepared under the direction of the Secretary of the Treasury, in compliance with a resolution of the House of Representatives of 3d March, 1833." In this volume, we have the regulations of Great Britain, Portugal, the Netherlands, Prussia, the Hanse towns, Denmark, New Granada, the Two Sicilies, and Mexico. This Digest, the third that has been prepared within fifteen years—there was one in 1819, and another in 1824—has been executed, so far as it goes, by a very competent person, J. Spear Smith, Esq. of Baltimore, and includes a great deal of very valuable information, particularly in relation to Great Britain, whose regulations of commerce and navigation occupy more than one-third of the volume.

THE COMPREHENSIVE COMMENTARY ON THE HOLY BIBLE: edited by the Rev. WM. JENKS, D. D., Pastor of the Green street Church, Boston. Brattleborough, Vt. FESSENDEN & Co. Boston, SHATTUCK & Co.—We have not seen from the American press, a work superior to this, in its mechanical execution and materials. The type, the paper, and the printing, are excellent.

The volume is a large royal octavo, and comprizes the four gospels only, so that four or five more of equal size, will be requisite to complete the publication. The text is printed in a clear legible type, on the left hand of the page; and it is accompanied and surrounded in a smaller type, with observations and notes explanatory, historical, and critical, by Henry, Scott, Doddridge, Adam Clarke, Calmet, Bloomfield, and many others—"the whole designed to be a digest and combination of the advantages of the best Bible Commentaries, conveniently arranged for family and private reading, and at the same time particularly adapted to the wants of Sabbath School Teachers and Bible Classes."

The preparing and editing this publication is a work of immense labor and expense; and devoted, as these are, to the elucidation of the Book of Books, it may be reasonably inferred that in this Christian country they will reap an abundant reward.

BICKNELL'S GOLD COIN CHART.—This essential, though not very portable, description of all sorts of gold coins, may be had of J. A. Goodman & Co., Brokers, 34 Wall street.

It is, we are assured in a note from Mr. Bicknell, "compiled with much care and attention, and may be relied upon as correct."

It gives the name of every piece of gold coin in the world, the exact weight, the assay and the present value in the United States.

ESSAY ON THE INTEREST OF MONEY AND THE POLICY OF LAWS AGAINST USURY. By THOS. R. DWY,

Professor of Political Economy, &c. at William and Mary.—This Essay, as we learn from the introduction, "comprizes the substance of two Lectures, much enlarged," which the Professor had delivered to his class. It is worthy of general circulation in this country, of all others, the one most injured in its enterprise and industry by the shackles of Usury Laws. We make a single extract from the Essay, which will shew its general views and execution:

Pernicious Influences of the Usury Laws.—We assert, and the assertion requires no proof, that the usury laws are unjust and unequal in their operations, restraining the holders of a particular species of capital from employing it in the most lucrative manner, whilst the holders of other species of capital are left in the enjoyment of perfect liberty. The owner of lands and slaves may take what rent and hire he pleases—the merchant is not restrained as to his gains, nor the manufacturer as to his profits. Why then should the money holder be prevented from taking the interest which the borrower is willing to give? Is it because the money holders are vicious, selfish beings, whom it is the policy of the laws to suppress and discountenance? I apprehend not.—Widows, orphans, the defenceless and helpless are often the money holders. When a father dies, to whom does he leave his money? Most frequently to the invalid son, or the exposed and defenceless daughter. To his sons who are fitted for action on the great theatre of life, he gives other kinds of property which require more skill and care to manage them. The salaried men and all the functionaries of society are to be ranked among the money holders. Are these classes of such a character as to require the strong hand of legislation to correct their malpractices? Certainly not. As a class, I should say the money lenders are generally speaking, the most harmless and defenceless, or the most talented and respectable members of society. Is it because money is a commodity *sui generis*, the holder of which is enabled by its means to take what interest he pleases, the borrower being obliged to give it? There are many, I believe, who absurdly entertain this opinion—who really believe that money is in the economical world what the superstitious believe the witches to be in the physical, a something not bound down and governed by the laws of gravity and cohesion—by the laws of supply and demand, but as possessing an active principle of its own, a sort of *vis insita*, of the most dangerous character, not only not governed by the ordinary laws of nature, but capable by its own energy, of resisting and deranging them. Those who entertain such an opinion however, either do not or cannot understand the nature of the circulating medium, and the laws which regulate the rate of interest. Interest, like the price of every thing, is determined in the market, by a struggle between the borrower and lender; the former of course wishing to fix it as low as possible, while the latter would make it as high as possible. When profits are high, or much is to be made by the use of capital, or the risk is great, more will be demanded on the one side and conceded on the other, than when the reverse is the case. Capitalist competes with capitalist, as well as borrower with borrower: where much is to be made by money, much will be given; where little is to be made, little will be given. Hence in the new states of our confederacy, interest is much higher than in the old, because more can be made by the use of money. In Alabama for example, eight per cent. interest may be legally taken, in Mississippi ten, in Louisiana ten—and it is believed these rates are generally rather below the marketable rate of interest in those new states: whereas in all the old states, with the exception of New York, South Carolina and Georgia, six per cent. is the legal rate, and perhaps in most cases nearly coincident with the average market interest.

The interest of money, it must be remembered, does not depend on the quantity of money in the country, but upon the whole quantity of capital, (of which money is one, and by no means the most valuable item,) compared with the channels of profitable investment. As I have already said, when money is borrowed, it is not the money, but the money's worth which is wanted. The merchant wants goods, the agriculturist new lands, or improvement of old land; the manufacturer wants machines and raw materials; the lawyer wants education and professional skill. They borrow money for these several purposes, and the rate which they are willing to give does not depend on the quantity of money in the country, but on the gains which the merchant, the manufacturer, and the agriculturist, expect to make on their goods, on their manufactures, on their land, and upon the emoluments and reputation which the

lawyer and doctor have in prospect. Money is merely the agent for the circulation of capital generally. If money is scarce, its value rises; if too redundant, it falls; and the rate of interest is never permanently affected by its high or low value. If \$50 be worth to-day as much as \$100 was yesterday, \$3 on the \$50 will be worth just the same as \$6 on the \$100. The only effect produced on interest is while the change in value is taking place. Thus, let us suppose the banks begin to over issue; there is consequently an increased facility of borrowing, which may lower interest temporarily; then an appreciation of prices ensues, and so soon as prices become stationary, interest rises to the rate which is determined by profits and risk.

So far from there being any reason for restraining the rate of interest, there are some reasons why it is better regulated by the laws of trade and the influence of public opinion than perhaps any thing which can possibly be mentioned in the whole catalogue of commercial transactions. First. Money being the universal measurer of value, is better known, its agency in the hands of individuals better understood, than any other species of property whatever. Second. Great concentration of value in small bulk renders it the most transferable of commodities, and consequently it passes more rapidly from places where it is redundant to those where it is deficient, than any commodity we know of. From this cause it is, that competition among capitalists is more certain to keep down the hire of money to a fair proportion to profits and risk, than any other species of hire whatever. You cannot carry lands and houses from one section to another, to keep down rents; manufacturing establishments are incapable of locomotion, and therefore the exorbitant profits of one are slowly corrected by another: labor moves so sluggishly from district to district, that Smith pronounced man the most immoveable of lumber. Hence the slowness with which the equilibrium is restored in the labor market. But money passes from section to section with all the rapidity of the mail and the steamboat. Is there a great demand here for it to-day, while there is a relative redundancy elsewhere?—The easy transference of it from place to place, will quickly restore the equilibrium. If A, a monied man, charges too high an interest in proportion to profit and risk, B, another monied man in the same neighborhood will find it to his interest to take less; and if neither will take a fair rate, capital will speedily flow in from other quarters, and relieve the pressure. At this moment, large amounts in specie are pouring into the United States, in consequence of the money pressure; and no doubt if public confidence could be suddenly restored, we should be found to have a greatly redundant circulating medium.

Hires, rents, interest and prices of all descriptions, are determined by the ratio of the supply to the demand.

A PLAIN TREATISE ON CHOLERA: by Dr. Ralph, of Edinburgh, &c. New York.—We find this treatise upon our table, and announce it accordingly; but as it is against our practice in Cholera times to read Cholera books, or to recommend the reading of them to others, we content ourselves with the mere announcement of it.

THE SOUTHERN LITERARY MESSENGER—devoted to every department of Literature and the Arts. No. I. Richmond, Va. T. W. WHITE.—We receive with pleasure this first number of a Southern magazine, to be published semi-monthly. There is so much that is peculiar in the condition of Southern society, so much that is inspiring in the history and memorials of Virginia in particular, and so large a class comparatively of educated men in that region of our country, who are not working-men, and therefore have the more leisure for literary efforts, that we are sure, if they will only put themselves forth, that a very attractive miscellany would result from their labors. The number before us is of good promise. We have only room, however, to take from it the following translation from Voltaire:

The Consolled.—The Great philosopher, Citophilus, said one day to a justly disconsolate lady—"Madam, an English Queen, a daughter of the great Henry IV. was no less unhappy than you are. She was driven from her kingdom: she narrowly escaped death in a storm at sea; she beheld her royal husband perish on the scaffold." "I am sorry for her," said the lady—and fell a weeping at her own misfortunes.

"But," said Citophilus, "remember Mary Stuart. She was very becomingly in love with a gallant musician, with a fine tenor voice. Her husband slew the musician before her face: and then her good friend and relation, Elizabeth, who called herself the Virgin Queen, had her beheaded on a scaffold hung with black, after an imprisonment of eighteen years."—"That was very cruel," replied the lady—and she plunged again into sorrow.

"You have perhaps heard," said her comforter, "of the fair Jane of Naples, who was taken prisoner and strangled?" "I have a confused recollection of her," said the afflicted one.

"I must tell you," added the other, "the fate of a Queen, who, within my own time, was dethroned by night, and died in a desert island." "I know all that story," answered the lady.

"Well then, I will inform you of what befel a great princess, whom I taught philosophy. She had a lover, as all great and handsome princesses have. Her father once entered her chamber, surprised the lover, whose features were all on fire, and whose eye sparkled like a diamond: she, too, had a most lovely complexion. The young gentleman's look so displeased the father, that he administered to him the most enormous box on the ear, ever given in that country. The lover seized a pair of tongs, and broke the old gentleman's head: which was cured with difficulty, and still carries the scar. The nymph, in despair, sprang through the window; and dislocated her foot in such a way, that she to this day limps perceptibly, through her mien is otherwise admirable. The lover was condemned to die, for having broken the head of a puissant monarch. You may judge the condition of the princess, when her lover was led forth to be hanged. I saw her during her long imprisonment: she could speak of nothing but her afflictions."

"Then why would you not have me brood over mine?" said the lady. "Because," said the philosopher, "you ought not to brood over them; and because, so many great ladies having been so miserable, it ill becomes you to despair. Think of Hecuba, of Niobe." "Ah!" said the lady, if I had lived in their time, or in that of all your fine princesses, and you, to comfort them, had told them my misfortunes, do you think they would have listened to you?"

The next day, the philosopher lost his only son; and was on the point of dying with grief. The lady had a list prepared, of all the kings who had lost their children, and carried it to the philosopher: he read it, found it correct, and wept on, as much as ever. Three months after, they met again; and were surprised to find each other cheerful and gay. They caused a handsome statue to be reared to time, with this inscription: "TO THE GREAT CONSOLER."

A MAP OF THE RAILROADS AND CANALS IN THE UNITED STATES AND CANADA, accompanied with a concise description of each. New York: OFFICE OF THE RAILROAD JOURNAL.—We scarcely know any publication so well calculated as this to exhibit at a glance the vigorous and successful enterprise of the United States, in the career of internal improvements. It will too astonish many persons to find how much has been already completed in this career, and how much more is in a train of accomplishment. The lines are distinguished on the map, of enterprises contemplated, commenced, and finished—so that it may be seen at once what the actual state of each work is. There about 70 pages of letter press, which furnish a brief and accurate description of each road or canal; the whole bound up in a little pocket volume.

THE DECLARATION OF INDEPENDENCE, beautifully printed in gold letters on stiff paper, so as to admit of being framed, has been sent forth from the Xylographic press of Messrs. Wright & Durand, Maiden lane.

THE WHIG ALMANAC FOR 1835—is another publication, of which the notice may appropriately follow that of the *Declaration of Independence*, between which great event, and the name and principles of Whigs, the association is inseparable.

This Whig Almanac, which besides all the usual information of an almanac, has some very good Whig sentiments in the shape of aphorisms, extracts from Whig speeches, &c. may be had of J. & C. Strong, 150 Houston street.

The *Memoirs of M. de Chateaubriand*—of which the publication is to be deferred till after his death—are referred to and described by himself, in what he calls a Testamentary Preface—which, however, he publishes while yet alive, and of which a very good translation will be found in our columns to-day.

The singular and varied life of this soldier, poet, traveller, and statesman, recorded in his sparkling and antithetical style, and with his simple and almost unconscious egotism, will constitute a most attractive work. The Testamentary Preface of itself affords a good foretaste of the book.

[TRANSLATED FOR THE NEW YORK AMERICAN.]
MEMOIRS OF M. DE CHATEAUBRIAND.
Testamentary Preface.

PARIS, AUG. 1832.

As it is impossible for me to foresee the hour of my dissolution, and as, at my advanced age, the days of man are days of grace, or rather days of pain, I intend to explain myself on the subject of a work undertaken, to cheer the gloom of those last hours of a man's life, which no one values or knows how to employ.

The *Memoirs* at the head of which this preface will be placed, embrace the whole course of my life. They were begun in 1811, and continue up to this time. I have sketched, and will fill up more accurately, the history of my childhood, my education, my youth, my entering the army, my arrival at Paris, presentation to Louis XVI, the beginning of the Revolution, my voyages to America, my return to Europe, my emigration to Germany, and to England, my return to France under the Consulate, my occupations, and my writings, during the Imperial away, my visit to Jerusalem, my occupations, and my writings under the Restoration; finally, the complete history of that Restoration, and its fall.

I have seen and known all the men who have played any distinguished part in my day, either in my own country or in others, from Washington to Napoleon, from Louis XVIII to Alexander, from Pius VII to Gregory XVI, from Fox, Burke, Pitt, Sheridan, Londonderry, Capo d'Istria, to Mallesherbes, Mirabeau, &c. from Nelson, Bolivar, Mehemet, the Egyptian Pacha, to Suffern, Bougainville, La Perouse, Moreau, &c. I formed one of a Triumvirate, without precedent among nations; three poets of opposite interests and countries were at the same time at the head of foreign affairs, Mr. Canning, in England, I, in France, and Martinez de la Rosa, in Spain.

I have successively journeyed through the idle years of my youth, and the busy years of the Republican era, the splendid pageant of Buonaparte, and the reign of the legitimates.

I have explored the seas of the old and the new world, and trodden the soil of the four quarters of the world: after having encamped under the hut of the Iroquois, the tent of the Arab, in the wigwags of the Hurons; among the ruins of Athens, of Jerusalem, of Memphis, of Carthage, of Grenada; among the Greeks, the Turks, the Moors; among forests and ruins; after wearing the bearskin of the savage, the silk caftan of the Mameluke; after enduring poverty, hunger, thirst, and toil; I have assisted as Minister and Ambassador, covered with gold, glittering with ribbons and orders, at the feasts of Princes and Princesses, to return to poverty, and breathe the air of a prison.

I have been intimately connected with a number of celebrated persons in the army, the church, politics, the bar, the arts and sciences; I have immense materials, more than four thousand private letters, the diplomatic correspondence of my various embassies, that of my proceedings as Minister of Foreign Affairs, among which are some papers of my own hitherto never known; I have borne alternately the musket of a soldier, the staff of a traveller, the scrip of a pilgrim; as a mariner my fate has shifted like any sail, and, halcyon like, I built my nest upon the waters.

I have had much to do both with war and peace; I have signed treaties and protocols, and published, as I journeyed on, numerous works; I have been initiated in the secrets of parties, of courts, of state; I have viewed closely the greatest misfortunes and the greatest men; I have assisted at sieges, at congresses, conclaves, and at the putting up and pulling down of thrones; I have myself been an object of history, and I could have written it, and my solitary, dreaming, poetical life, glided on amid this world of realities, of catastrophes, of tumult, of noise, with the sons of my dreams, *Chactos, René, Eudese, Al-*

cuhamel, and with the daughters of my father *Altala*, *Amelia*, *Clanca*, *Celléda*, *Bymodoc*—forthright part, yet without the pale of, my age, I perhaps exerted over it without knowing or seeking for it a triple influence, religious, political, and literary.

I have only round me now four or five contemporaries of a long lived fame. Alfieri, Canova, Monti, have passed away. Of that bright galaxy, Italy retains only Piedmonte, and Manzoni. Pellico sighed away his best years in the dungeons of Spielberg. The genius of the country of Dante is doomed to silence, or forced to languish in a foreign land. Lord Byron and Mr. Canning died young. Walter Scott seems about to follow; Goethe, covered with years and glory, has sunk into the tomb. France has none left of that glorious age; she is beginning a new era, while I remain to bury my age, like the old priest at the storming of Beziers, who was to ring the bell to announce the fall of the last citizen, before he himself died.

When death drops the curtain behind me and the world, it will be found that my drama contains three acts. From my early youth until 1800 I was a soldier and a traveller; from 1800 until 1814, under the Consulate and the Empire, my life was a literary one; from the Restoration until the present day my life has been a political one. In my three successive careers, I imposed upon myself a great work.—As a traveller, I aspired to the discovery of the polar regions; as a literary man, I endeavored to re-establish religion upon its own ruins; as a statesman, I endeavored to give to the people the true representative monarchical system, with its various privileges. I at least helped to conquer that which is worth them all, which does away the need of a constitution—the liberty of the press. If I often failed in my undertakings, it was the fault of my destiny. The foreigners who succeeded in their designs, were seconded by fortune; they had powerful friends and a quiet seamy to back them: I was not so fortunate.

Of all the modern French writers of my day, I am the only one whose life and travels at all assimilate. Traveller, soldier, poet, legislator; it was among forests that I sang of forests, on board ship that I described the ocean, in exile that I learned what exile meant, in courts, public affairs and conclaves that I studied princes, politics, laws and history. The orators of Rome and Greece mingled with the current of public affairs, and shared its fate. In Italy and Spain, at the time of the middle ages, the very first geniuses of the country participated in all the public feelings and actions. What noble but stormy times were those of Dante, Tasso, Camoens, Ercillo and Cervantes.

In France our ancient poets and historians wrote amid the tumult of battles and the weariness of pilgrimages. Thibault, Count of Champagne, Villehardouin, and Joinville, borrowed from the incidents of their times materials for their romances. Froissard sought for history on the highways, and learnt it of the *Chevaliers* and *Abbes*, with whom he met and journeyed. But dating from the reign of Francis the 1st., our writers have been recluses, whose talents might express the spirit, but not the facts, of the age.

If I am destined to live, I will represent in my person what will be represented in my memoirs, the principles, the ideas, the events, the catastrophes, the *epopee* of my age, for I have seen the beginning and the end of a world, and the differing characteristics of this beginning and end often mingle together in my opinions. I found myself between the two ages, as if at the confluence of two large streams; I plunged into their troubled waters, leaving with regret the old shore which gave me birth, and swimming with high raised hopes towards that unknown strand where lands each new generation.

These memoirs, divided in books and parts, have been written at different times, and in different places; these sections naturally require a sort of prologue, which recalls the events that have occurred since the last dates, and notifies where I again take up the thread of my discourse. The various events and the changing destinies of life, are thus strangely mingled together. It sometimes happens that amid my prosperity I am forced to speak of days of misery, and that again in the midst of grief and tribulation, I am carried back by circumstances to my bright days of happiness.

The different feelings of my different ages, my youth mingling with my old age, the gravity of my experienced manhood clouding the sunshine of my lighter years, the rays of my sun from its rising to its setting crossing each other like the scattered rays of my own life, give a sort of indescribable unity to my whole work. My cradle partakes of the nature of my tomb, my tomb of that of my cradle; my sufferings become pleasures, my pleasures pain;

and no one can tell whether these memoirs were the offspring of a young or an old head.

I do not say this to praise myself; for I do not well know whether it is praise-worthy; I only state what is true; what has happened without my knowledge, was owing to the inconstancy of the storms which have assailed my bark, and which often have left me no place where to write this or that paragraph, but the very rock which has caused my shipwreck.

I have revised these memoirs with a sort of paternal affection. I should like to call upon the dead to correct the proof sheet. The dead go quickly.

The notes which accompany the memoirs are of three different kinds. The first, which are put at the end of the book, contain the illustrations and justifications. The second, at the bottom of the pages, refer to the actual time at which the memoirs were written. The third, also at the bottom of the pages, have been added since the memoirs were written, and bear the date of the time and place at which they were penned. One or two years of perfect quiet, in some obscure corner of the earth, would enable me to finish these memoirs; but I have never been perfectly quiet, except during the nine months I slept in my mother's bosom; and I suppose I shall never find that repose again until I am in the bosom of our common mother, the earth.

Several of my friends have urged me, even now, to publish my history; but I could not accede to their request. In the first place, I should, in spite of myself, in that case, be less frank and explicit; and secondly, I have always supposed that I wrote as if seated in my coffin. From that circumstance my work has received a sort of religious coloring, which I could not alter without prejudice to the book; it would grieve me to hush that voice from the tomb, which pervades the whole of my memoirs.

It will not, I hope, be thought strange, that I retain some natural weakness, and that I am anxious concerning the fate of the poor orphan which I shall leave behind me on the earth. If Minos thought I had suffered enough in this world to be at least in the other a happy shade, and would grant me a beam of light from the Elysian Fields to gild my last picture, it would at least make the faults of the painter less glaring. Life does not suit me; perhaps Death will do better.

SUMMARY.

Tributes to the character and services of private men, are rare; and therefore, possibly the more valuable. A recent instance of one of these, should be generally commemorated.

A number of most respectable citizens of Philadelphia have presented to the veteran philanthropist, *Mathew Carey*, a service of plate, in testimony of their respect. In their letter accompanying it, they say,

"They have long witnessed the unwearied efforts with which every scheme of private benevolence, and every plan of public improvement, have found in you a zealous and disinterested advocate: and deem your whole career in life an encouraging example, by the imitation of which, without the aid of official station or political power, every private citizen may become a public benefactor."

The following is the inscription on the plate:

To
MATHEW CAREY,
From his sincere friends, as a
Testimonial of their gratitude
For his public services,
And their
Esteem for his private virtues.
July 4, 1834.

The first steam vessel under the British flag, arrived at this port last week, from Halifax via Boston. Her name is the "*Cape Breton*, of London." Her agent, we understand, has been in the city some days, on business connected with the Mining Company of Cape Breton.

Steamboat Burnt.—The steamboat *Walter Raleigh*, Capt. Gardiner, on her way from Elizabeth City (N. C.) to Charleston, was discovered to be on fire in the hold, on Tuesday night of last week, Georgetown light bearing S. by W. distance 12 miles. In about five minutes after the fire was discovered, the flames had spread so rapidly that those on board, ten in number, were compelled to abandon the vessel and take to the boat, when they were fortunately picked up by the schooner *Rice Plant*, from Georgetown, and carried into Charleston.

[From the Boston Daily Advertiser.]

On Tuesday a fatal accident occurred at Brighton, where the Railroad passes under the bridge, and where the cars usually stop for passengers. Mr. R. M. Bouton, a respectable mechanist of this city, and his wife, came to the place before the storm began, for the purpose of taking seats in the cars on their return to the city. While they were waiting for the cars the shower came on, accompanied with a violent wind. They retreated from the platform provided for facilitating the ascent to the cars, to the opposite side of the Railroad, where they were partially sheltered from the wind and rain, by the abutment of the bridge. The engineer on approaching the place, slackened his pace as usual, but as soon as he came in sight of the platform, perceiving no person there, and presuming that there were no passengers to get into the cars, he again let on the steam and proceeded without interrupting his course. In the mean time Mrs. Bouton, who was standing between her husband and another gentleman, covered by a Buffalo's skin, which they held over them, did not perceive the approach of the engine until it approached very near them. She immediately darted from between her companions, for the purpose of reaching the platform, on the other side of the Railroad when she was knocked down by the engine, which passed directly over her. She fell between the wheels, and was so crushed beneath the lower part of the engine, that her death must have been instantaneous.

Another Railroad Accident.—The Locomotive E. L. Miller, while on her way to town on Saturday last, and when within 52 miles of the city, the axle-tree of the Tender broke, and coming in contact with the Road, tore it up for a distance of about 150 feet, and threw the Passenger Cars off. The only personal injury sustained was the dislocation of the shoulder of one gentleman. The Locomotive was not at all damaged, but arrived at the Depository yesterday afternoon, at 4 o'clock, with the passengers, among whom was the gentleman that met with the injury, he having experienced as little inconvenience from its effects, as is usual under such circumstances.—[Charleston Courier.]

Casualty.—Last Thursday afternoon, as a canal boat was passing under Genesee street bridge in Utica, a little girl, about ten years old was discovered on the deck, and on being warned to escape, fled in the direction of the bridge, with which she came in contact, and was knocked down. Her head falling between the bridge and a small cask, was dreadfully mangled, and her death was almost instantaneous.

DESTRUCTIVE TORNADO AT UTICA.—A slip from the office of the Utica Observer, dated the 15th instant, furnishes us with the following account of a violent and destructive tornado at that place:

"Our city was visited yesterday by one of the severest and most appalling thunder storms, accompanied by a complete hurricane of wind, hail and rain, ever experienced by our inhabitants. The storm came up suddenly at half past 4 P. M. and lasted about ten minutes. For a few minutes it seemed as if nothing could withstand its fury. Dry good boxes and awnings in Genesee street were seen flying in the air like the fallen leaves of Autumn; horses were frightened and carriages upset—indeed the whole mass of earthly things appeared to be moving and yielding to its mighty power. The storm abated and the destruction which was so fearfully going on was fortunately terminated. Our streets were flooded with water; and thousands of panes of glass have been destroyed by the force and magnitude of the hail. Throughout the whole extent of damage and destruction of property, however, we are happy to state, no lives were lost, nor any person, surprising as the fact may be, materially injured. Of the amount of damage it is impossible for us to form a correct estimate; probably it will exceed 25 thousand dollars.

The destruction of property has been great, and seems to have been more particularly confined to that portion of our city lying on the highest ground.

NAMES.—A writer in the Illinois Pioneer says, that the following nick-names have been adopted to distinguish the citizens of the following states:—

In Kentucky, they're call'd Corn-Crackers,
Ohio, Buckeyes,
Indiana Hoosiers,
Illinois Snickers,
Missouri, Pukes,
Michigan, T. Wolverines.
The Yankees are called Eels.

[From the National Gazette.]

An effort was recently made in Paris before the *Tribunal de Premiere Instance*, to deprive Mr. Adrian Hope, a son of the opulent Dutch banker, of the management of his fortune, on the score of unsoundness of mind. The parties who instituted the process, were his mother and step-father, M. and Mad. Berthieux. Among the questions asked him to test his sanity, was one requiring him to tell how many bushels are contained in a *seilen*, which he could not answer; but it turned out that no one in the court was able to give a correct reply. On this discovery, considerable laughter was produced by a voice exclaiming, that they should all be declared lunatics. The advocate of the defendant insisted upon the insufficiency of the evidence against his client, and asserted that the suit had been brought by Mr. Berthieux in revenge for the other having thrown off his authority and taken from him the direction of an extensive property. It was finally decided that although there was no adequate reason to justify a declaration of lunacy, the proofs of Mr. Hope's incapacity to manage his affairs were strong enough to authorize the nominating of a guardian.

Poor Adrian Hope, we knew him well, long years ago, in the brilliant promise of his early life, when fortune, genius, and a noble nature, bade fair to make his career one of unmingled honor and usefulness. We knew too that mother—*marâtre* rather—who even then persecuted and embittered the bright days of her brighter son, and who too soon succeeded in estranging him from his family, though she could not deprive him of his inheritance.

Adrian Hope is the youngest son of Williams Hope, who was for many years at the head of the famous house of Hope & Co. of Amsterdam. His father, in dying, left to the elder son, Henry, who labored under some taint of hereditary insanity, a larger share of fortune than to Adrian; but the share of Adrian, curtailed as it was, was yet princely. After residing for a while in Sweden, as the *Chargé d'Affaires* of Holland, Adrian went to Paris, and there, for many years, he has, we have long known with pain, been wasting himself and his means in the inglorious dissipations of that capital. The catastrophe which has fallen on many of his name before, now seems to have overtaken him.

Letters received at Washington from the West, mention that the regiment of Dragoons, which some weeks ago left Fort Gibson on an excursion into the interior, had been heard from as late as the 3d of July, at which time they had reached a point on the False Washita, 120 miles above Fort Towson.

The Governor of Connecticut has designated the first Monday in October for the choice of three members of Congress, to supply the places of Messrs. Foot, Ellsworth and Huntington.

Messrs. Foot and Huntington have been appointed Judges; Mr. Ellsworth returns to the bar. They have all deserved well of their state and country, and may we trust have, not less worthy successors.

March of Intellect at Rome.—I went the other day to the Church of the Gesu, and heard a priest discourse, very much to his auditors' comfort, about the best means of eluding justice, and not less to his own, being well defended at both ends by a black square cap and an arm-chair. You may form some idea of the state of illumination in which the people are here, just under the sky-light of holy Mother Church, when I tell you of what the discourse consisted. A relation of three miracles (no doubt by the way of hints for use to the audience) which rescued as many convicts from the secular arm. I noted down the last two. One was of a prisoner whose chains fell off at his prayer, (so the priest averred, but did not say whether or not by the aid of a file, and for whom a double door flew open, of its own accord necessarily (as we know how delicate convicts are about injuring the carpentry of a jail-house). The other was of a tough subject, who broke the rope which had hanged "so many before him" (what an Epicurean!)—with a brand new one to boot—upon which the mob shouted, a *miracle*! and the probationer was let loose, either on account of the strength of his neck or his piety. Much stress was properly laid on the second rope being brand new ("*tutta nuova—fune buonissima e fortissima*;" and complete satisfaction with the discourse was painted in every visage, especially that of the preacher. Thus proceeds the March of Intellect at Rome.—[Letter from Rome, in the Athenæum.]

The following is the conclusion of the visit, by the American Commissioners, to the Grand Pawnees.

The writer tells us in a private note, that "the account of the Council is not as full as might be, owing to the loss of some of his notes." It will, however, be found very interesting.

We observe that several journals have ascribed these sketches to *Washington Irving*, and the Baltimore American, in particular, publishes the last under that gentleman's name. Much as we are persuaded the real author must be flattered by this mistake, yet it is only just to him—whom we are not permitted to name—to say, that Mr. Washington Irving is *not* the writer of these sketches.

INDIAN SKETCHES, No. III.—Continued from Aug. 1.

GRAND PAWNEE COUNCIL.

The second day after our arrival among the Pawnees was appointed for holding the Council. It was a fine frosty morning; the sun rose like a huge ball of crimson over the tops of the low hills, pouring a flood of lurid light upon the dancing waters of the Platte, glistening with a thousand rainbow tints the sparkling frost beads that glittered upon the tall withering grass of the prairie, and casting a dull, red glare upon the dead trunks of the island trees, which leaned over the stream, reflecting their gnarled and twisted limbs in the broad mirror of the still water, which rested under the lee of the islands.

A number of us had left the lodge early in the morning, and were slowly strolling towards the banks of the Platte. The village was lone and still, save the gaunt, sinewy forms of the Indian wolf dogs, who were prowling through the town in search of food. The savages had not yet left their lairs, except one or two solitary figures, which were here and there seen muffled in their robes, and hurrying swiftly forward to their abodes, to give information to their dusky inmates that the strangers were stirring, and were then passing through the town. Occasionally as we passed the dark, funnel-like mouth of the dwellings, the half of a face might be seen, cautiously looking out from the low covered passage, which lead to the inner door of their lodges, and after staring for an instant at the party, vanishing into the interior to call out the rest of the inhabitants.

We had not proceeded far, before about a dozen half-starved Indian wolf dogs had collected together at our heels, occasionally raising their nostrils and baring their long white fangs just sufficiently to give vent to the deep ill-natured growl which came rumbling up from their chests—while their green flashing eyes, their long bristling hair, and their tails stiffly extended, as they slowly stalked after us, convinced us they waited only for the slightest appearance of fear on our part to commence an attack, and at the same time plainly shewed that however welcome our appearance might be to the Indians themselves, there were still some members of the village who did not participate in the general feeling of joy.

In spite, however, of this show of ill will, we continued our walk until we reached the Platte, where we seated ourselves upon the body of a dead tree which lay prostrate on the bank of the river.

In the meantime the Indians, who had received intelligence of our movements, began to edge towards the stream, the children came running openly and in droves around us, while the old men and warriors carelessly sauntered along towards the water, and came down upon us as if by accident, while others even more retiring than these, crouched down in the long grass, creeping stealthily to the spot, until at length every stump concealed a painted form, and every bush was alive with the curious face of the inhabitants of the town, who had stolen from their homes to gaze upon their visitors.

Nearest to us was a tall thin Indian, clad in an old worn out Buffalo robe; there was a "gallows bird" look about him—no doubt some prodigal son disinherited by a crusty old curmudgeon father—he was standing with his back half turned towards us, and his face turned away, apparently gazing up the river, the very attitude to "give the lie" to his eyes, which were convulsively straining towards us from the corner of their sockets, and scanning our every movement with an intense and eager curiosity.

At length one of the party anxious to gain some information respecting the disposition of our horses, beckoned him forward: this was a signal for all the rest, who came trooping up from all quarters, to gratify their curiosity, under the pretence of giving information; and upon every sign made by us, about twenty tongues gabbled off their answers, at a rate not altogether intelligible, especially to persons most

profoundly ignorant of every syllable of their language.

After spending about half an hour upon the banks, and finding that nothing was to be gained in the way of information from them, we turned off in the direction of the village.

The town, which we had left silent and apparently desolate, was now humming with life; the warriors had collected around in small knots of five and six, and by their vehement gestures were apparently engaged in earnest conversation—the children were rolling and tumbling in the dirt—the squaws were busily engaged in bringing from their lodges large leather sacks of shelled corn—others were spreading it out to dry upon the leather of their buffalo skin tents, which had been stretched out upon the ground for that purpose—some were busily engaged in cleansing from it the decayed kernels and packing it up in small sacks of a whitish undressed leather, resembling parchment, and others were employed in depositing these in their "cach-holes," for a winter's store.

In another direction, at a distance from the village, a band of Indian females were slowly wending their way along the top of one of the low prairie ridges, to their daily labor in the small plantations of corn, which are scattered in every direction around the village wherever a spot of rich black soil gives promise of a bountiful harvest; some of these are as far as eight miles distant from the town.

There is a fearful uncertainty hanging around the lives of these females. At the rising of the sun they depart to their toil, often to never to return, being constantly exposed to the attacks of lurking bands of hostile tribes, which steal down upon their villages, cutting off indiscriminately, man, woman or child, that happen to fall in their grasp, and disappearing with equal silence and celerity, their presence being unknown until the long absence of a friend or a mutilated body found sometimes after the lapse of several days, conveys to their friends a thrilling token that the hand of the destroyer has been busied among them, and the hour of vengeance has passed.

As we proceeded on our return, we were again followed by a committee of the dogs of the town, who formed in a train behind us, with the same expression of ill feeling as had been manifested by their predecessors. But this last display of rancour was of short duration, for a stout tattered Indian, who looked as if his last ablution had been performed during his infancy, rushed out from the mouth of one of the lodges and with a few vigorous applications of his feet changed the prospect of affairs. In an instant the flashing eyes of the curs sunk from fury to meekness, the hair which bristled boldly up was sleeked quietly down to their backs, the tails which had stood out as erect as bars of iron, were tucked snugly away between their hind legs, and the mouths of several who had been very liberal of their snarls and growls, and who had been very severely handled for this expression of ill will, were now widely opened in a yelling remonstrance against the indulgence of that ill will in any save themselves—in short, they were most unmercifully beaten, and fled yelping and howling in every direction.

In another quarter, our attention was called to the long, lean, wiry forms of the old heralds, who were now stalking through the town, calling forth the warriors, and exhorting them to prepare for the Council, and occasionally stopping in their journey, to take a short gossip with some old gray-headed crows, who stood blinking like an old time-worn owl from the entrance of his dwelling, or else pausing to bestow a little wholesome advice upon some wild urchin who had been guilty of a delinquency, or detected in the transgression of some rule of decorum towards their guests.

Upon reaching the lodge of the chief, we found that active preparations had been made for holding the Council. The goods and presents which had been received hastily into the building were now piled carefully up; the lodge had been cleanly swept; a large cherry fire was crackling in the cen-

* The *cache* is a large hold dug in the ground like a cistern: they are narrow at the top, (about three feet in diameter) but widen as they descend, until their form somewhat resembles that of a jug; they will contain about one hundred bushels of corn.

Upon leaving their villages the Indians deposit their corn, which is to serve for their winter's store, in these granaries and cover the aperture with earth, so that it is impossible for a person unacquainted with their exact position to discover the entrance. The name *cash* or *cache* is given by the French traders who derive it from the word *cacher* (to conceal.)

tre; the rabble crowd of loungers and hangers-on had been routed; and besides the family of the chief, we were the only occupants of the spacious building.

Mid-day was the time appointed for the opening of the Council, and at that hour the Chiefs and Braves began to assemble. They were full dressed for the occasion. Many of the younger warriors had spent the whole morning in preparation, and now presented themselves, fully ornamented for the meeting. Every wrinkle, every bone, and every muscle in their swarthy faces, was strongly and glaringly "set out" in vermilion, or else covered with long white stripes, produced from a species of clay abounding in the neighborhood.

As the hour for the opening the Council grew nearer—the lodge began to fill, the tall muffled forms of the warriors now poured in, in one continuous stream, moving without disturbance to the place allotted them and seating themselves in silence around the chief, according to the rank which they held in the tribe. There was no wrangling, or bustle for precedence, each knew his station, and if perchance one of them had occupied the place of some more distinguished warrior, upon his appearance he immediately rose from his seat and sought elsewhere for one more suited to his own rank.

The crowd continued flowing into the interior until the lodge was filled almost to suffocation: as they came in they had seated themselves in circles around the chiefs until five or six had thus been formed one beyond the other, the last being ranged around against the wall of the building. In the ring nearest the head chiefs, were seated the principal chiefs and braves, or those warriors whose deeds of blood had entitled them to a high rank in the councils of the nation. The more distant circles were filled by a few of the young men of the village who were admitted to the council, while the passage which led to the open air was completely blocked up with the tight wedged mass of women and children, who had thus ventured as near as they dared, to mingle in the deliberations of the tribe.

In the course of half an hour, nearly all the principal warriors had assembled. The chief then filled a large stone pipe, and lighting it, drew a few puffs himself, inhaling the smoke into his lungs, and blowing it out in long blasts from his nostrils: he then passed it to the whites, who, each having inhaled a few whiffs in their turn, handed it to their neighbors; who again passed it on, until it had made the circuit of the whole assembly. While this was going on, our attention was attracted by a violent commotion in the passage leading into the lodge, and in a moment afterwards, the naked head and shoulders of the Wild Horse (mentioned before) towered above the crowd: he forced his way through them, and burst naked into the building, where he seated himself in the inner ring, leaning his back against one of the pillars which supported the roof of the lodge. The chief scowled grimly at the disturbance caused by his entrance—but he was a giant, whose wrath was not to be courted, and the matter passed off in silence. After a short time had elapsed, Mr. E. rose and addressed the Council, stating the views of the Government, and at the same time the conditions of the treaty.

During the whole of the address every sound was hushed into a deep and thrilling silence—not a form stirred; but all sat with their eyes steadily fixed upon his countenance; there was not even a long drawn breath to break in upon the voice of the speaker, as it floated through the lodge—save now and then, when some proposal, which met with their peculiar approbation, would elicit an exclamation, or rather a loud grunt of approval, from the deep sounding chests of the whole assemblage.

When Mr. E. had finished his address, the chief of the Grand Pawnees rose, and folded his heavy buffalo robe around his body; his right arm and breast were left bare, while the other hand and the lower part of his body were completely hid by the dark folds of his shaggy mantle. For a few moments he stood facing Mr. E. in silence; then stepping forward—his chest seemed to swell out—he threw back his head, and raising his arm with one of the fingers slightly extended as if to command attention—he paused and gazed with a hawk eye upon the iron faces of his warriors. The pause and glance were both momentary; for without moving the position of his arm he commenced his harangue. It was short, energetic, and abounding with all the high wrought figures of Indian oratory. As he proceeded, he grew more and more animated; his chest rose and fell; his finely modulated voice, which at first had stolen like music over the stillness, now grew louder and louder, until its deep fierce tones rung like thun-

der through the building. He threw his robe from his shoulders, leaving bare his almost convulsed frame; he fixed his eagle eye upon us, and extending his bare arms towards us he waved them over our heads with a wild fury of gesticulation, which, but for the words of friendship which accompanied them, would have led us to fancy him some demon pouring out upon us the most fearful threats of vengeance. For about ten minutes his voice rolled through the lodge, when he suddenly fell from the loud energetic language which he was then using to the usual silvery guttural tones which were natural to him, and in a short time he finished his harangue.

After him rose up his son, the second Chief of the tribe, and commenced his address. While he was proceeding, a noise had arisen at the extreme part of the lodge, near the passage. At first the voices had been low and smothered, but at last they broke out into a loud and angry altercation. At the early part of the disturbance, the Wild Horse was crouching at the foot of one of the pillars, with his hands interlocked with each other, his arms encompassing his legs, and his body nearly hid by the long matted hair which hung down over it. At first he contented himself by an occasional sharp word addressed to the crowd, which for a few moments would hush up the disturbance; but when the brawling voices broke out into an open clamor, he started to his feet, and stalking like a Hercules among them, he shook his brawny arms over their heads, and a few stern words thundered from his mouth, which had the effect of magic in soothing the angry passions of the disputants. The voices sunk into silence, and the noise was hushed. For a few moments he maintained his menacing attitude over them; then turning his angry face from them, he resumed his station at the foot of the pillar, and the Chief proceeded in his harangue.

When he had concluded, the different Chiefs rose up and addressed the party, welcoming them to their homes, with the kindest expressions of hospitality; and at the same time expressing their entire acquiescence in the terms of the treaty. After them several of the braves and warriors arose, and spoke to the same effect; and when they had concluded, the following day was appointed for signing the treaty. The pipe was again passed round, and the Council breaking up, the warriors left the lodge.

During the whole time of the deliberation, which lasted about six hours, the interior of the building had been excessively hot; and the instant it was cleared, we strolled out into the open prairie. At a distance there was a large crowd gathered together. We went towards it, and found that they had assembled to witness the slaughter of one of our oxen, the destined victim for the ratification of the treaty. The hunter who was to enact the part of butcher, had loaded his rifle, and now moved forward. The crowd, who had an apprehensive dread of fire-arms, spread off in a wide circle around, leaving the animal alone exposed to his view. The beast, who then for the first time seemed to have a suspicion of the fate that awaited him, held up his head, and gazed steadily at the hunter. He took a few steps—the trigger clicked—the gun was to his cheek—we heard the bullet strike; the sharp report echoed through the town; and the next instant the beast reared his heavy frame erect in the air, and fell forward on the ground; but the ball had not done its duty—it had fractured the skull without being fatal. By degrees, the animal raised himself from the ground, upon his haunches. His head hung heavily forward, and there was a thin wavy streak of blood trickling down from the bullet hole in his forehead. Still he feebly supported his form upon his tottering four feet, his huge body rocked to and fro in the last extremity of anguish, while the deep moaning bellows which burst from his heaving lungs, almost resembled the tortured cries of a human sufferer. But this was soon over, a second time the hunter advanced and fired, the ball was fatal, it crushed through the bone of the skull, and the beast fell forward with a deep groan. The crowd, raising a loud cry of exultation and delight, closed around him. We had seen it all; it was sickening; we turned away and left the Indian butchers to their work.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Esq., M. & H. R. Co., Albany, or James Archibald, Engineer, Hudson and Delaware Canal and Railroad Company, Carbon, date, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in
200 do. 1 1/2 do. do.	lengths of 14 to 15
40 do. 1 1/2 do. do.	feet counter sunk
800 do. 2 do. do.	holes, ends cut at
800 do. 2 1/2 do. do.	an angle of 45 de-
soon expected.	grees with spli-
	cing plates, nails
	to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 24, 26, 28, 30, 32, 34, and 36 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

d71meowr.

ENGINEERING AND SURVEYING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1833.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833. Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germantown, and Norrist. Railroad

mi 17

A POETICAL GEM.—The following lines are from the Album of the hotel in the vicinity of the Falls of Niagara:

NIAGARA.

Flow on forever in thy glorious robe
Of terror and of beauty. God hath set
His rainbow on thy forehead, and the cloud
Mantles around thy feet. And he doth give
Thy voice of thunder, power to speak of him
Eternally, bidding the lip of man
Keep silence, and upon thy rocky altar pour
Incense of sweet praise.

(Signed)

LYDIA H. SIOURNEY.

Tuesday evening, Aug. 5th, 1834.

THE SLEEPING CHILD.—By LEIGH HUNT.

A brook went dancing on its way,
From bank to valley leaping,
And by its sunny margin lay
A lovely infant sleeping.
The murmur of the purling stream
Broke not the spell which bound him,
Like music breathing in his dream,
A lullaby around him.
It is a lovely sight to view,
Within this world of sorrow,
One spot which still retains the hue
That earth from heaven may borrow;
And such was this—a scene so fair
Arrayed in summer brightness,
And one pure being resting there
Our soul of radiant whiteness!
What happy dreams, fair child, are given
To cast thy sunshine o'er thee?
What cord unites thy soul to Heaven,
Whose visions glide before thee?
For wandering smiles of cloudless mirth
O'er thy glad features beaming,
Say, not a thought—a form of earth
Alloys thine hour of dreaming!
Mayhap, afar on unseen wings,
Thy sinless spirit soaring,
Now hears the burst from golden springs,
Where angels are adoring,
And, with the pure helical throng,
Around their Maker praising,
Thy joyous heart may join the song
Ten thousand tongues are raising!
Sleep lovely babe!—for time's cold touch
Shall make these visions wither;
Youth—and the dreams which charm so much,
Shall fade and fly together.
Then sleep! while sleep is pure and mild,
Ere earthly ties grow stronger,
When thou shalt be no more a child,
And dream of Heaven no longer.

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in Marble Paper covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, in any part of the country.

Published at 35 Wall street, N. Y., by

A12 1f

D. K. MINOR & J. E. CHALLIS.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 13, 1833. A29 1f R M & F

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above name-factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by J. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. L. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J23 1am

H. BURDEN.

G. LANSING, Engraver on Wood,
35 WALL STREET.

All kinds of Machinery correctly drawn, and neatly engraved.

MECHANICS' MAGAZINE.

THE third Volume is now ready. It consists of 384 pages of letter press, and is illustrated by nearly 150 engravings on wood, spiritedly executed, and a full length portrait of LA FAYETTE, on copper, as a frontispiece.

The following are a few only of the numerous notices taken of the Magazine, by gentlemen connected with the press in different sections of the country:—

A rapid glance at its contents discovers that it contains the same judicious preparation of materials that has hitherto distinguished the publication. There are a number of articles, essentially valuable from the solid information embodied in them, and others, again, that will recommend themselves at once to the less severe reader, who always looks for some entertainment to be mingled with instruction.—[N. York American.]

The theoretical and practical Mechanic will find a mine of useful information in these pages.—[Mercantile & Advocate, N. Y.]

This periodical really deserves credit for the ability and attention with which it keeps pace with the mechanical improvements of the age. It is, we see, edited by Mr. Knight, late of the London Mechanics' Magazine, a work which did more to elevate the state of knowledge among the working classes, than any other in England.—[Commercial Advertiser.]

It is stored with representations and descriptions of improvements in machinery, and of newly invented articles, together with information valuable to every class of citizens.—[U. S. Gazette, Philad.]

It contains information on almost every subject connected with mechanics, and a register of inventions and improvements.—[Montreal Gazette.]

It is a work well worthy the attention of every mechanic and one which affords to genius a chance of exhibiting talents.—[New Orleans Merc. Adv.]

This is a publication of practical value and of deserved popularity.—[Albany Argus.]

The work needs only to become known to insure it a very extensive circulation. It certainly cannot fail to be highly interesting and useful to the numerous class of persons for whom it is particularly designed.—[Paterson Intelligencer.]

There is no periodical in this country which more deserves the patronage of the mechanic than this, and which will better repay him for the expense incurred and the time spent in its perusal.—[Elmhurst Gazette.]

We wish we could persuade our young operatives—upon whose intelligence and virtue so much depends—to substitute the substantial fare which this work affords, for the trash which many of them are too eager to devour.—[N. J. Journalist.]

It forms a truly valuable repository, alike suitable to the drawing room and to the cottage.—[Watertown Register.]

Every mechanic who wishes to keep pace with the improvement of the age—to avail himself of the aid which science is constantly bringing to art, should subscribe for the Mechanics' Magazine.—[Washington Spy.]

Having perused the first volume of your journal with much satisfaction, and I trust some profit, I deem it my duty as an old mechanic, to tender you my acknowledgments. * * * In my opinion, it ought to be owned by every mechanic, artificer and manufacturer of our country; and especially by beginners, and made the study of all their leisure hours.—[Benjamin Russell, one of the oldest mechanics in Boston.]

The Mechanics' Magazine and Register of Improvements is published by the Proprietors, D. K. MINOR and J. E. CHALLIS, at No. 35 Wall street, New York, in weekly sheets of 16 pages, at 64 cents—in monthly parts of 64 pages, at 34 cents—in volumes of 384 pages, in cloth boards, at \$1.75—or at \$1 per annum, in advance.—JOHN KNIGHT, (formerly Proprietor of the London Mechanics' Magazine,) Editor. Jv18 1f

ALBANY SEED-STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,

347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine. Mechanics' Magazine and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly, either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

Franklinville, Baltimore county, Md., August 13, 1834.

To the Editor of the Railroad Journal.

Sir,—In your article on Improved Railroad Wheels in the issue of the 9th, you speak of me as being the inventor of the plan of the wrought iron rod in the wheels, which is a mistake. It was invented and patented by Mr. Phineas Davis, of the firm of Davis & Gartner, and the only agency I have had in the business, has been to mount Mr. Davis' wheels or axles, for the Baltimore and Ohio Railroad Company, and for other companies, and I am prepared to execute orders for similar work, the wheels to be furnished by Davis & Gartner.

Yours, respectfully, DEAN WALKER.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane. J31 6t

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabeth street, near Bloeker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J35 1f

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J3 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Hearte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction; to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Envoys' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

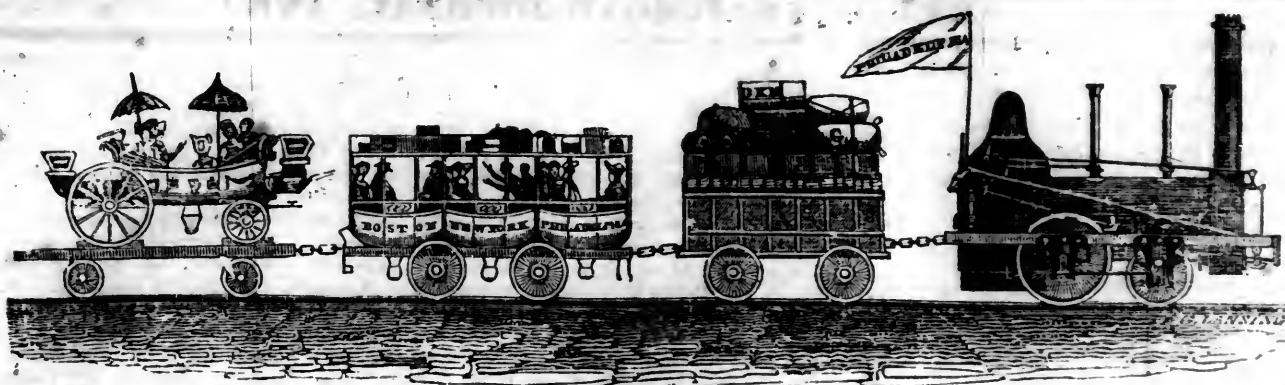
WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Hearte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c. E. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of straining the same. m25



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, AUGUST 30, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 30, 1834.

NEWARK RAILROAD.—We learn that in a few days this railroad will be opened for public use from Newark to Jersey City,—an event which will be hailed with satisfaction by that portion of the travelling public who may have occasion to use it. The constant communication of Newark and the adjacent towns with New-York city, and the large amount of goods transported between these places, render the completion of this work of great importance and interest to the community. It cannot fail, we should think, of proving extensively useful to all concerned in travelling and transportation between this city and that portion of New-Jersey which it intersects; and it will doubtless participate in the patronage now so largely extended to the existing modes of conveyance between the places referred to. The sixth instalment on the stock is payable on the 10th of September.—[Daily Adver.]

NEW LOCOMOTIVE CARRIAGE.—A very ingenious machine has been invented and made solely by Mr. Ackrill, of Boston. It is built to accommodate one person, who will, with great ease, be able to propel it at the rate of ten miles an hour. The principle on which it is constructed is entirely new, and may be applied to any purpose in machinery; it is anticipated it will introduce quite a new theory in mechanics.

(From the New-York American.)

MR. EDITOR.—In your paper of 20th inst., (see Railroad Journal, page 513,) a notice appears from the Chairman of the Committee appointed by the citizens of Utica, calling a Convention to meet in that place on the 11th September next, to consider the project of a ship canal from Lake Ontario to Utica, and thence to Albany, and the subject of petitioning the Legislature to undertake the construction

tion of said canal, “as a grand, important improvement, by which the State of New-York will become a fair competitor with Pennsylvania and Canada for the travel and transportation of the Great West, and finally complete that chain of internal improvement which nature has so liberally commenced.”

As Delegates are invited to the Convention from this city, it cannot be unsuitable to suggest some things for the consideration of our citizens, before the meeting takes place.

1. The professed object of this stupendous undertaking, as expressed in the notice, is, that this State may become a fair competitor with Pennsylvania and Canada, for the travel and transport of the great West. This, with respect to Pennsylvania at least, sounds strangely enough. Is there any competition between that State and this, for the commerce of Lake Ontario? Will not the Oswego Canal, already opened, accommodate all the business of that Lake, at a far cheaper rate than so costly a work as that now proposed could possibly do it? Is Lake Ontario the point at which competition, either with Pennsylvania or Canada, for the travel and transport of the great West, is to be met? Is it at all probable, that any more travel from the West to this city would take the route in question, in consequence of a steamboat or ship canal being opened to Oswego? And as to the travel from this city to the West, is there any danger of its being drawn around through Canada? Or is it any-ways likely that the products of the West, after being subjected to the expense of transit on to Lake Ontario, will be diverted to the Hudson by a ship canal, in preference to the cheaper means of conveyance already provided?

2d. This project doubtless appears plausible to those who reside on the proposed route, and probably it seems to them to be the only alternative—the only “improvement” by which the State can secure the travel and transport of the great West; but to those at a distance, and especially in this city, it must appear to fall far short of the object. It does not reach the point where this competition must begin, and where the route of travel and transport must be determined, viz. on the waters and southern shore of Lake Erie. Nor is it in the nature of such an improvement, nor of any water communication whatever, not even of a ship canal from Albany to Buffalo, to obviate the existing and growing difficulty in respect to the competition of this State for the travel and transport of the western States. This competition cannot be successfully maintained against more southerly routes, nor even against Canada, without a medium of rapid communication to this city, which shall be open

and in use throughout the whole year. No enlargement or multiplication of canals from the upper waters of the Hudson to Lake Ontario, or Lake Erie, will answer the purpose, for they can be used only during a portion of each year. The travel and business of the west cannot wait on the rigor of our winters, and unless we provide other facilities than such as are rendered unavailable by frost, a fair competition with our neighbors will be impracticable.

3d. It surely behooves the citizens of this metropolis to consider how the travel and business of the Great West is hereafter, in the progress of a most active and far reaching competition on either side, to be drawn directly hither. While our enterprising fellow-citizens at the North are contriving how to increase the facilities of communication between the western world and Albany during the summer months, it is time for us to consider how the obstacles of climate and distance may be obviated with respect to this city throughout the year. If they have the energy and courage to contemplate a ship canal of one hundred and fifty or two hundred miles in length, may we not venture to look somewhat seriously at the map, and consider the subject of the railway through the southern counties to Lake Erie, of the route of which a survey is now in progress? Is it not time to realize that the distance hence to the lake by this route is but a trifle greater than that from Albany to Buffalo, and that by a railway all that is wanting to us in respect to the present or future competition for the travel and transport of the western world would be supplied?

The writer is of opinion that facilities of cheap and rapid communication ought to be extended through every district of this State which is not already favored in that way; and if, after that, the projected ship canal is needed, let it be by all means be constructed. But will any reasonable man say that the next effort of the State should be to add, on such a scale, to the advantages already so liberally extended to that route? Is it not reasonable that the interest and claims of other sections should, in the turn, be considered and fairly dealt with; and among them, the vast and enduring interests of this city in the commerce of the West, which every one perceives will now be in a great measure lost to us, without a medium of communication which will serve for the winter as well as the summer months.

PEARL STREET.

A daily mail has been established between Trenton and Bordentown, to meet the great mail between New York and Philadelphia.

ALLEGANY RIVER.—We copy from the Kittanning (Pa.) Gazette, the following very interesting article upon the Allegany River, a river which has been heretofore, and indeed is now, greatly undervalued. The time is not distant, however, when it will be duly appreciated, and profitably used.

In the present contest for the trade of the west, the Allegany River is an object of great and constantly increasing interest; and that it will ere long become an important avenue of trade, no one who watches the signs of the times will for one moment question. New-York has her eye upon it; for she well knows that unless she can reach the Ohio River by some more direct route than by way of Lake Erie and the Ohio Canal, she must give up the immense trade of that river to Pennsylvania. Her projected canal from Rochester to Olean may therefore be calculated on; and when that is accomplished, the Allegany will rise in the scale of importance to be second only to the Ohio itself.

Firmly persuaded of the truth of what we have here stated, we shall venture to offer to the world a more minute description of this river than has yet been given.

Its source is in Potter county, Pa., from whence it flows in a north-western direction about forty miles, when it enters the state of New-York, at the south-east corner of Cattaraugus county, having in that distance received many tributaries, and become a large stream. About fifteen miles from where it crosses the state line, it receives Olean creek, a considerable stream from the north. Olean or Hamilton village is situated at the mouth of Olean creek, and will doubtless become an important place. From Olean the course of the river is a little north of west, for about thirty miles, when it changes to south-west, and soon after re-enters Pennsylvania, at the north-east corner of Warren county. From thence its main direction continues the same until it receives French creek, one of its largest tributaries, from the north-west: it then changes to south-east, and so continues to the mouth of the Mahoning, where it again changes to south-west, which course it retains for the most part until it unites with the Monongahela at Pittsburg, and where it loses its name in that of the Ohio.

In its course it flows through the following counties: Potter, Pa., in which it rises, M'Kean, Pa., Cattaraugus, N. Y., through which it flows a distance but little short of fifty miles—Warren, Venango, Armstrong, and Allegany, in Pennsylvania.

It receives in its course many large tributaries, the principal of which are—the Oswaya creek, above Olean, the Olean, Tanungwant, (or Tonnewanto,) Great Valley, and several others, in Cattaraugus county; Kenjua, Connewango, and Brokenstraw, in Warren county; Tionesta, Oil creek, and French creek, in Venango county; Clarion river, or Toby's creek, between Venango and Armstrong; Mohuicetem, or Redbank creek, and Mahoning, in Armstrong county; and the Kiskiminetas river, between Armstrong and Westmoreland. All the streams here enumerated are navigable to a greater or less distance. No navigable stream enters the west side of the Allegany below French creek.

The following are the distances from Pittsburg up, by the course of the river:

	Miles.	Miles.
Kiskiminetas river,	29	29
Town of Kittanning,	11	43
Mahoning creek,	9	52
Redbank "	10	62
Clarion river, or Toby's creek,	21	83
French creek (town of Franklin)	32	115
Oil creek,	7	122
Tionesta creek,	18	140
Brokenstraw creek,	28	168

Connewango, (town of Warren,)	8	176
New-York line,	18	192
Great Valley creek,	27	221
Olean,	18	239
Source of the Allegany, about	60	say 300

Nearly all the large tributaries of the Allegany interlock with other waters, whose outlet to the ocean is far distant from that of its own. Potter county gives rise to the Allegany, a tributary of the Mississippi, the Genesee, a tributary of the St. Lawrence, and to some of the head waters of both the north and west branches of the Susquehanna. Oswaya and Olean creeks interlock with the branches of the Genesee, and the valley of the latter is to be the route by which the contemplated canal will reach the Allegany. Olean and Great Valley creeks interlock with Cattaraugus creek, a large stream, which falls into lake Erie, some forty miles south-west of Buffalo. Connewango creek is the outlet of Chautauque lake, a fine body of water, near twenty miles in length, the upper end of which approaches to within eight miles of lake Erie; its elevation above the latter, however, is very considerable. One or two steamboats ply regularly on Chautauque lake; and it is said that no other steamboats in the world float at so great an elevation above the level of the sea. There is something sublime in the idea that steamboats are navigating a tributary of the Mississippi, two thousand five hundred miles above its mouth, and that tributary only divided by an isthmus of eight miles from another inland navigation of more than two thousand miles. French creek also stretches its arms to the vicinity of the lake, and is probably the best route for a water communication between the Ohio and that important inland sea. Clarion river and Redbank creek both interlock their branches with those of the Susquehanna, and many intelligent gentlemen who are well acquainted with the country at their heads, are firmly persuaded that an unbroken water communication between the Allegany and Susquehanna can yet be made through one of these streams. The Kiskiminetas is well known as the route of the western section of the Pennsylvania canal from the base of the Allegany mountain to its junction with the Allegany river.

We have been thus particular, because in this remarkable feature lies the chief importance of this river. It seems as if the Author of Nature, in stretching its branches in so many different points towards the great eastern and northern channels of navigation, was inviting man to avail himself of the incalculable advantages to be derived from an unbroken communication between them and those of the west. It is, in fact, the key of the valley of the Mississippi; and the day will come when the commerce of half the Union will be here concentrated—when boats from the Lakes, the Hudson, the Delaware, and the Chesapeake, will here mingle with those from every part of the vast and fertile regions of the west.

The general features of the Allegany are peculiar, and in some respects remarkable. For the greater part of its course it flows, not through a valley, like most other rivers, but through a great ravine, from one to four hundred feet below the common level of the adjacent country. From about the middle of Armstrong county downwards, it is true, there are many fine bodies of alluvial land—on one of which this borough is located—but from that upwards, precipitous hills for the most part jut close to the water's edge on both sides of the river. The scenery is, in some places, wild and rugged, though more generally picturesque and beautiful—for the hills, though steep, are covered with a heavy growth of forest trees, presenting the appearance of a vast verdant wall on either hand—while the pure, limpid water of the river, alternately purling over the pebbly ripples and sleeping in deep intervening pools, completes a scene the beauty of which is rarely equalled.

Another peculiarity of the Allegany is the regular succession of alternate ripples and deep pools. The ripples are generally short, and the descent considerable, over which the water flows with a smooth but rapid current, though not so swift but that a steamboat of light draft and ordinary power can ascend them without difficulty, as has been done repeatedly. The current in the pools is very gentle at low water, but during high water it becomes very nearly uniform. Although the river seems to have worn for itself its present depressed bed, by cutting through various horizontal strata of rock, yet there are no rocks, strictly so called, in its channel—nothing but round pebbles. The ripples are composed exclusively of these, apparently scooped out of the pools above. The flat unbroken rock is in some places found in deep water. It follows, of course, that the navigation of this river is unusually safe.

No river is better adapted to improvement by artificial means than the Allegany, either by a succession of low dams and locks, or by merely concentrating the channel upon the ripples, so as to give sufficient depth of water at all seasons for steamboats. When it is remembered that a steamboat did regularly ply upon it between Pittsburg and Warren for a considerable time, even when the water was quite low, and that in one instance it ascended to Olean, it will readily be admitted that a very slight improvement would render it an excellent steamboat navigation.

The mineral wealth of this river is another important consideration. Bituminous coal, in exhaustless quantities, extends as far up as Clarion river, and some even higher up. We believe (and we are not alone in this opinion) that the day will come when the trade in this article alone will be of sufficient importance to warrant the construction of navigable communications from this river to lake Erie and to the New-York canal, were there no other trade. We shall merely add that it could be delivered on board of boats for two and a half cents per bushel, and leave others to fill out the calculation for themselves.

There are along the Allegany and many of its tributaries immense forests of white pine, from which the Ohio country draws almost its entire supply of lumber. It forms a large and important trade.

Iron also abounds along the Allegany, and is manufactured in considerable quantities.

INTERNAL IMPROVEMENTS.—The projected Grand Belt of the Union, or the connection of the valleys of the Tennessee and Mississippi, by a railroad with Washington and the Atlantic cities, is now in progress. We will endeavor to show that by fostering and supporting the same principle of internal improvement, the valley of the Mississippi, and particularly the city of New-Orleans, has advantages vast and important to gain by it. We will only instance one circumstance, which is the improvement of the navigation of the Red River, being in progress also under the superintendence of Captain Shreeve, with his snag boats, for the removal of the Great Raft, as also snags, logs, &c. which when done (for it is practicable, and can be done at a reasonable expense,) its channel will be deepened, and through the general course of the river it will be brought into narrow bounds, and reclaim millions of acres of as fine land as are in this or any other country. Then we should have steamboat navigation even past the centre of our continent (westwardly) from the Atlantic to the Pacific ocean, and probably from 1000 to 1800 miles, above the Raft. We should not only give facilities of intercourse and transportation to an immense extent of our own territory, but would open a trade to the internal Mexican States for the supply of merchandise for at least one million of inhabitants already located there. Our domestic manufactures

would embrace the larger portion. Those inhabitants are now supplied from Metamoras, St. Louis, and also in and through California, on the Pacific, (those that pass through the latter are a greater portion imported direct from India.) It will be perceived that the route by the Red River would monopolize nearly all the trade to an extent of territory embracing at least 1000 miles square above the Raft, and nearly the whole of the productions of this vast region would find an outlet by the same channel, such as silver, gold, copper, hides, furs, peltries, cotton, sheep's wool, &c. This line or route would be in connection with the Rio Colorado of the west, which empties at the head of the Bay of California, and is or may be navigable for steamboats for a long distance.

How happily those natural channels, by the small assistance of art, are calculated to improve the condition of our own citizens as well as the citizens of the Mexican States, and why will it not be the governing principle or regulator between the two nations, that will cause each to be just and at least friendly to the other. For instance, the great extent of Mexican territory that will be dependent on the outlet via Red River and the Mississippi for their productions, as well as greatly facilitating the introduction of merchandize, the key of which is entirely within our territory.

As to the value of the privilege that may be estimated by the Mexican government, we can draw a comparison from our own purchase of Louisiana, for the privilege of an outlet for the productions of the valley of the Mississippi, and who could have imagined, in 1802, that the productions from this valley would have so nearly equalled the exports of the productions of all the other parts of the United States. The first Cotton that was shipped from the port of New Orleans was, in 1793, 18 bales that were shipped to Charleston, S. C. for a market. The full crop is now estimated for a good season at 500,000 bales, besides 120,000 hhds. sugar, 35,000 hhds. tobacco, as well as all kinds of Northern productions, such as bacon, pork, lard, flour, corn, &c., hides, peltries, furs, &c.

And now, you would ask, where would be our privileges that would be brought to bear on this governing principle or regulation, that would perpetuate those friendly relations between ourselves and the Mexican government. In the first place, it would increase and secure an immense consumption of our domestic manufactures, such as brown and bleached cottons, printed goods, more particularly of the blue dyes, which are preferred to the European, as ours are heavier and the dyes are permanent. But added to these, there is also the long list of innumerable domestic manufactured articles, and in the next place we shall be their importers for all the European merchandize, (I would not wish to infer we would have the duties,) but it would be sufficient for us to do the business of importing and realize a fair profit for our services. But there are other considerations, for instance, the establishment of a regular mail communication from this to the Gulf of California, whereby we may facilitate our commerce with China and the East Indies, as also in the whaling business, and who knows but that in this age of improvement we may soon, yes, very soon, have an interchange of diplomatic agents with the Japanese, whereby a profitable commerce may be carried on with them. The nearest we approach to it at this time is in the whale fishery, which is pursued near their coast, but not generally even in sight of it.

The above is thus publicly submitted with the hope that it may elicit, from others, a more detailed account of the country, its statistics, as well as all other matters that would pertain to the subject. P. F.—[N. Orleans Bulletin.]

Specification of the Patent granted to JAMES CHESTERMAN, of Sheffield, in the County of York, Mechanic, for certain Improvements on Machines or Apparatus for Measuring Land and other Purposes. Sealed July 14, 1829. [From the Repertory of Arts, &c.]

To all to whom these presents shall come, &c. &c. Now know ye, that in compliance with the said proviso, I, the said James Chesterman, do hereby declare the nature of my said invention to consist in what is commonly called a measuring tape, in which the cylinder or barrel on which the tape is wound is connected with a strong watch or clock spring, according to the size required, in such manner as to wind up the tape after it has been drawn out, without any effort on the part of the operator. And in further compliance with the said proviso, I, the said James Chesterman, do hereby describe the manner in which my said invention is to be performed, by the following description thereof, reference being had to the drawings annexed, and to the figures and letters marked thereon (that is to say):

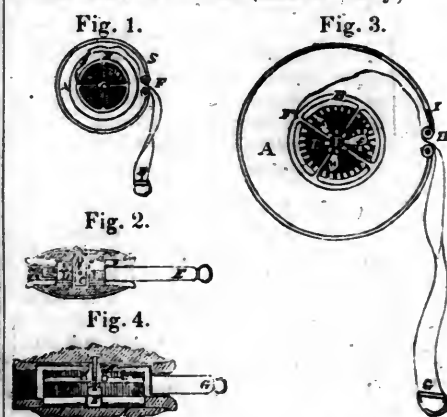


Fig. 1 represents one of my improved measuring machines of a short length, as, for instance, a yard, for which length a simple attachment of the cylinder or barrel on which the tape is wound to an ordinary strong steel spring is sufficient, as here shown. A is the outer case of the machine; B, the cylinder to which the tape is fastened, and which forms also the box of the spring; C, the stud to which the spring is attached, being also the axis on which the cylinder turns; D, the spring coiled round in the box; E, the tape and loop to pull it out by; F, two rollers, between which the tape passes; I, a small bolt which pushes the tape against one of the rollers, and thus stops it at any given length till the bolt is withdrawn.

Fig. 2 is a section of fig. 1, in which similar letters are used to denote similar parts. G is a top or cover screwed down upon the case over the works, to keep the same in their places when the spring is in action.

Fig. 3 represents one of my improved measuring machines of a larger size, and a greater length of tape, for which it is necessary to provide that the tape shall wind up on the cylinder faster than the spring unwinds from the stud or axis, otherwise the spring would be of an inconvenient length; this is effected by an arrangement of cogged wheels, or racks and pinions, as here shewn. A is the outer case of the machine; B, the cylinder on which the tape is wound, and which, in this case, is separated from the box which holds the spring; D is the spring lying coiled in its box, and it will be seen

that the box is furnished inside its upper rim with a rack or cogs, which take into the cogged wheel at C, which, in its turn, takes into the pinion E. This pinion is fixed to the four arms of the tape cylinder, B, the axis of which pinion serves to form a stud to fasten the inner end of the spring to the arms. H, H, C, serve to keep the spring in its place while in action. The rest of the apparatus is the same as figure 1. Now it will be seen by this arrangement, that while the tape is drawing out or off the cylinder B, the pinion E will act upon the cogged wheel at C, which cogged wheel, taking into the rack inside the spring box, will wind the spring slowly up, and the cylinder will thus perform several revolutions to one of the spring box. If the tape then be released, the rack attached to the spring box communicates motion to the cogged wheel at C, and thence to the pinion, E, which winds up the tape with the same relative velocity.

Fig. 4 is a section of fig. 3, in which G represents the cover or top of the machine, which part is supposed to be removed in figs. 1 and 3, for the purpose of better showing the mechanical arrangement of the machine.

Now, whereas it is evident that this instrument is susceptible of various modifications both as to material and arrangement, but whereas, I claim as my invention the application of a spring to make it a self-winding instrument, together with the application of two speeds, in order to make the sort of spring here shown answer for long tapes, and also the adjusting bolt, I; and such my invention being, to the best of my knowledge and belief, entirely new and never before used within that part of his said Majesty's United Kingdom of Great Britain and Ireland called England, his said dominion of Wales or town of Berwick-upon-Tweed, I do hereby declare this to be my specification of the same, and that I do verily believe this my said specification doth comply in all respects fully and without reserve or disguise with the proviso in the said hereinbefore in part recited letters patent contained; wherefore, I do hereby claim to maintain exclusive right and privilege to my said invention.—In witness whereof, &c.

Enrolled January 9, 1830.

AGE OF THE WORLD.—We view it as a curious and deeply interesting fact, that all the old poets and philosophers were impressed with an opinion that this earth is of recent production. "Had heaven and earth known no beginning," exclaims one, "but has endured from all eternity, why have we no poets transmitting to us the knowledge of the great events prior to the Theban war, and the downfall of Troy?" Lucretius entertained just notions on this subject:

"If genial nature gave the heavens no birth,
And from eternal ages rolled the earth,
Why neither wars nor poets,—sages, tell—
Till Homer sung how mighty Hector fell?"

From the book of Genesis to the last geological surveys, even in New England, by Professor Hitchcock, there is a chain of positive testimony, which shows most conclusively that the earth which we inhabit has not been in its present condition longer than about six thousand years. Cuvier, the most perfect scientific man of modern days, discovered enough to satisfy his great mind of the truth of all the declarations of the Bible in regard to the first organization of earth.

On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points. By J. S. VAN DE GRAAFF. [For the American Railroad Journal.]

ART. 1.—When it becomes necessary for a road to pass from a right line into a curve, the former should in all cases be laid tangent to the latter. It is, however, unnecessary, in ordinary roads, to adhere to this principle with the rigor of an accurate geometrical construction; but with reference to a railroad, it should be observed with the greatest care and precision, as well as the general selection and distribution of the various curvatures. This is an obvious consequence of the well known law of inertia; for any two points being fixed, in the general direction of a route, through which it is proposed to lay a line of railroad composed of several curves and intervening tangents, the cost of construction is in most cases not the only requisite datum to fix the definite location of the intermediate points.

There are, indeed, very few varieties of ground, except in a very broken country, which will not admit of several different lines, connecting the same points, all at nearly an equal expense of construction, and all within the same limits of curvature. It therefore becomes an object to make such a selection of right lines and curves, and such a distribution thereof, as will produce, at a given expense, the most efficient road.

The effect of curvature, upon the cost of transportation, does not fall within the present subject; and the only general rules which can, therefore, be here given, as a guide for the arrangement of a line, are the following: Endeavor to open the closer curves by increasing their length, or by increasing the length of some of those which have a greater radius, or by giving some tangent line a different direction. But a sufficient dexterity in the judicious arrangement of the curvatures of a line can only be had from experience; and the principal object which is here proposed, is an investigation of the various formulas which are required in facilitating the operations in the field.

2. In order to obtain results which are of commodious application in the field, it is necessary to use only circular arcs for curves; but when the situation of the ground is such as to render a continuous arc of the same curvature inapplicable to the purposes required, a curvilinear line may nevertheless be traced in such a manner as to take any desired form, in order to pass through any number of designated points, by merely connecting together a succession of circular arcs, having different radii of curvatures. To make a good selection in the field, for those different circular arcs, requires skill and judgment; but the only additional care to be observed in the operations of tracing such a selected line, will arise from the necessity of connecting the different arcs in such a manner as that they may have a common normal at their point of connection.

The following well-known properties of the circle exhibit the first principles which will be necessary in the subsequent inquiries.

Theo. I. The angle of deflection* between two equal and contiguous chords is measured by the arc which is subtended by either of the chords. II. If there be a tangent line, and a chord from the touching point, the angle of deflection from the tangent line into the chord

is one-half of the angle of deflection between two such equal chords. III. Tangent lines from the two extremities of any arc, form equal angles with the connecting chord: each equal to one-half of the intercepted arc. IV. Any angle at the circumference, standing upon a given chord, will have a constant value for all positions of that chord upon the circumference; and this constant value is one-half of the arc subtended by the given chord. These principles are presumed to be familiar to the reader; and have been here transcribed only for the sake of convenient reference.

3. Let any number of equal straight lines, AB, BC, CD, &c., be connected together in such a manner at their extremities, that the angles BAC, CAD, DAE, &c., may be all equal to each other; it then follows from Theo. IV., Art. 2, that the points A, B, C, D, &c., will all be situated in the circumference of a circle. And this obviously suggests the common method of tracing a circular arc in the field, by means of a chain whose length is AB, or BC, or CD, &c., and an instrument for measuring the equal angles BAC, CAD, DAE, &c. It is thus easy to set as many stations in a curve as can be seen from an instrument placed at the station A. The position of the first chain, AB, is here taken arbitrarily, and does not effect the curvature.

4. In using the formulas which will be deduced in the course of the present inquiry, it must be remembered that all measurements of distance are supposed to be made in chains, and the decimal parts of a chain. The chain will therefore be the unity of length, and may have any value whatever; but as this will be a constant quantity in the field, it follows, that the curvature of a line, traced as in the last article, can only be made variable by assuming, in succession, a different value for those equal angles BAC, CAD, DAE, &c. These equal angles will therefore be called the modulus of curvature, and will always be denoted by a letter T. The modulus of curvature will therefore be a constant quantity in the same curve, but variable in different curves; and any curve will be given, when its modulus of curvature is known. The letter n will be taken to denote the number of chains composing any arc which may be under consideration, and the letter D to represent the number of degrees contained in that arc. It is then obvious, from Theo. IV., Art. 2, that each chain will subtend a portion of the circumference equal to $2T$; and consequently the following formula is the evident result,

$$D = n \times 2T. \quad (I.)$$

This expression gives the number of degrees which any arc contains, when the modulus of curvature and number of chains are known.

5. In tracing a circular arc of given curvature, by means of chords of more or less than one chain in length, the particular modulus of curvature corresponding to any given length of chord will be nearly proportional to the length of that chord, when that length is only a very small part of the whole circumference. For in this case the length of the given chord will be nearly proportional to the number of degrees in the arc which it subtends, and therefore, also, by Theo. IV., Art. 2, nearly proportional to its particular modulus of curvature.

Hence T denoting the modulus of curvature for a given curve with a chain whose length is unity, then $p \times T$ will be nearly the modulus of curvature for the same curve when traced by means of chords whose length is p chains. This result is only approximative; but a rigorous formula will be investigated hereafter. It

is evident, upon the same principles, that (I.) is rigorous only when n is an integer number of chains.

6. Since each chain in a curve subtends a portion of the circumference equal to double the modulus of curvature, it follows, from Theo. I., Art. 2, that the angle of deflection between any two contiguous chains will likewise be equal to double the modulus of curvature. And it thus also obviously appears, from Theo. II., Art. 2, that the angle of deflection from any chain into a tangent line at either of its extremities, will be equal to the modulus of curvature.

7. When a given curve contains more than one chain of the same modulus of curvature, and the direction of a tangent line at any station be required, it should never be found from the direction of the first chain at that station; for small errors will arise, both in placing the instrument vertically over one of the stations, and in taking the back sight to the centre of the other, and the angular effect of these errors will obviously diminish as the two stations are more remote. In order, therefore, to obtain the direction of a tangent line at any station in a given curve, direct the instrument into a chord, embracing a number of chains in the proposed curve, denoted by n ; and it then appears, from Theo. III., Art. 2, that $\frac{1}{2}D$ will express the angle of deflection from the selected chord into the required tangent line. Hence, by Art. 4, the formula required in obtaining the direction of a tangent line is,

$$\frac{1}{2}D = n \times T. \quad (II.)$$

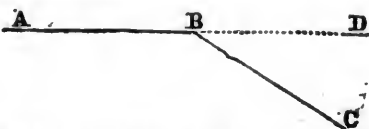
8. The general method of tracing a curve in the field, having the modulus of curvature given, will appear from Art. 3; but it remains yet to show how such a curve may be laid to a given tangent line at a given point. It is obvious from Art. 6, that the required object will be attained by laying the first chain from the given point with an angle of deflection from the given tangent line, equal to the modulus of curvature of the proposed curve. For then the same curve may obviously be continued from that first chain to any number of chains, by the method of Art. 3.

9. It is frequently necessary to pass from one given curve into another, having a different modulus of curvature. When this case occurs, the instrument must be placed at the station where the change of curvature is to be made; and let it be directed into the tangent line of the first given curve at that station, agreeably to the method in Art. 7. The instrument may then be considered as adjusted, so as to be in readiness, either to lay a continuation of the first given curve, or to lay any other curve, from another given modulus of curvature, in such a manner as to have a common tangent with the first curve at the point where the two curves pass into each other; and it is sufficiently obvious that, in either of these two cases, the selected curve must be traced agreeably to the principles given in Art. 8.

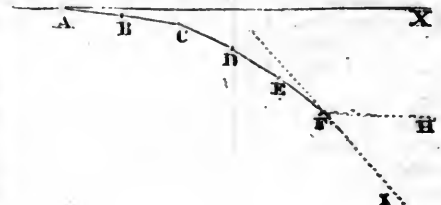
When, therefore, a change of curvature occurs at any station, the angle of deflection between the two chains at that station will be equal to the sum of the two moduli of curvatures.

10. Let AB, BC, CD, &c. represent the successive chains by which a given curve, ABCD, &c., may be traced from its origin at the station A, in such a manner as to touch a given right line, AX, at that point. It is proposed to investigate a formula which will express the inclination of the given tangent line, AX, to the n th chain in the given curve, estimating from the origin at the point A.

* The angle of deflection between two lines which meet in a point, is the angle contained between either line and the other line produced.



Thus DBC is the angle of deflection between the two lines AB and BC.



Take EF to represent the n th chain; and let the letter E denote the required inclination of the line EF to the given tangent line AX. The inclination of the first chain, AB, is expressed by the given modulus of curvature T, agreeably to Art. 6, or 8; and consequently, the inclination of the second chain, BC, will be expressed by $T + 2T$, or $3T$. In like manner the inclination of the third chain, CD, is expressed by $3T + 2T$, or $5T$. Hence the inclinations of all the chains AB, BC, CD, &c. will obviously be expressed by $T, 3T, 5T$, &c. respectively. The problem is therefore evidently reduced to the following very simple inquiry, viz.: To find the value of the n th term of the series 1, 3, 5, 7, &c. But agreeably to the principles of arithmetic, this n th term will be expressed by $2n-1$. The desired formula will therefore be,

$$E = T \times 2n-1. \quad (\text{III.})$$

The expression (III.) will be frequently very convenient in the field when it is required to compute the magnetic bearing of any particular chain in a long curve, when the bearing of the given tangent line at the origin is known. If the country be free from metallic matter, and the instrument be in proper order for use, the magnetic bearing will always serve as a very useful check in detecting any material error which may have been inadvertently committed in the previous deflections. By way of a numerical illustration of this, let the given tangent line AX bear due North; and let the given modulus of curvature be 2° , to find the bearing of the 20th chain. Here $T = 2^\circ$, $n = 20$; and therefore $E = 2^\circ \times 40-1 = 78^\circ$; and if the curve be supposed to bend to the left, then the bearing of the 20th chain is N. 78° W. If the observed course do not correspond with this result, some error has been committed in tracing the curve. This method of proof is so very simple, that it should be attended to frequently in tracing long curves, in order to avoid useless labor after some error may have been already committed. The magnetic bearing of a particular chain in a curve is also sometimes required in the field for other purposes.

11. Let ABCD, &c., represent a given curve traced as in the last article; and take EF to represent the n th chain estimated from the origin at the point A. It is proposed to find a method of directing the instrument, when placed at the station F, into a position parallel to the given tangent line AX at the origin of the curve.

Direct the instrument into a chord, through any of the back stations, as for instance the station C or D, (see fig. Art. 10.); and, from that chord, deflect into the tangent FI, at the station F, agreeably to the method given in Art. 7. Take D' to denote the inclination of the tangent FI, to the given tangent AX at the origin of the curve, and it evidently follows, from Art. 6, that, $D' = E + T$; or, substituting for E its value from (III.), the following expression is at once obtained,

$$D' = 2nT. \quad (\text{IV.})$$

Hence, from the tangent FI, deflect an angle IFH equal to $2nT$; and the instrument will then have the required position FH.

The principle which has just been explained will very frequently be highly useful in the field. For if the origin of the given curve ABCD, &c. be removed from the point A, to any other point in the tangent line AX, then the station F will be changed exactly by the same quantity, and in the same direction, upon the line FH, as will be hereafter shown.

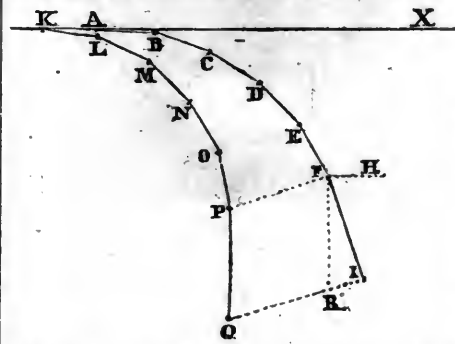
12. Let any two curves be laid upon the same tangent line, and take T and T' to represent the two moduli of curvatures, and let each curve pass into a tangent at the extremities of the n th and m th chain respectively. It is then proposed to determine a formula which will express the inclination of those latter tangents to each other.

Take z to denote the inclination required. From (IV.) it appears, that $2nT$, and $2mT'$, respectively, will express the inclination of each of the proposed tangents to the common tan-

gent at the origins of the two curves; and hence the difference between the quantities $2nT$ and $2mT'$ will obviously express the value of z . The formula required is therefore the following,

$$z = 2nT - 2mT'. \quad (\text{V.})$$

The expression (V.) will find an application in the field in all cases where two tangents are under consideration; for in computing the rate at which any two tangents converge or diverge, their inclination to each other is, of course, the first datum required. The principles contained in (V.) and its application to different cases occurring in the field, will be more easily explained by a reference to a figure. Let A B



C D, &c., represent the curve whose modulus of curvature is denoted by T, and let EF represent the n th chain, and FI the tangent at F. In like manner let KLMN, &c., represent the curve whose modulus of curvature is denoted by T', and let OP represent the m th chain, and PQ the tangent at P.

Draw FH parallel to KX, the common tangent at the origins of both curves; and draw, also, FR parallel to the tangent PQ. The inclination of the tangent FI, to the common tangent KX, will evidently be expressed by the angle HFI, or $2nT$; and the inclination of the tangent PQ, to the same common tangent, will in like manner be expressed by the angle HFR, or $2mT'$. Hence the angle IFR, which measures the inclination of the two tangents, FI and PQ, to each other, will be expressed by the quantity $2mT' - 2nT$. When, therefore, the value of z in (V.) comes out negative, it shows that the line FR falls below the tangent FI; that is, the two tangents in that case diverge. When z comes out positive, the line FR will be situated above the tangent FI; that is, in such a case the two tangents PQ and FI will converge. It is here supposed, however, that the two curves do not intersect each other.

It is sufficiently obvious that the angle $2nT$ will remain the same, whatever position may be given to the origin A in the tangent line AX; and it hence evidently follows, that the distance AK, between the two origins, has no connection whatever with the inclination of the two tangents, FI and PQ, to each other. The distance AK will, however, have an effect upon the line PF, which expresses the distance between the extremities of the two curves. Supposing the distance AK, and the moduli of curvatures, with the number of chains, n and m , contained in each curve, to be all given, the line PF may be computed by methods which will be hereafter explained; and then the angle IFR, which measures the inclination of the two tangents, FI and PQ, to each other, being known from (V.) it will be easy to compute the situations of any proposed points, in those two tangents, which may come under consideration in the field, by the common methods of plane trigonometry.

When the distance PF is very small in comparison with the length of the tangents FI or PQ, and when these tangents are but little inclined to each other, every necessary calculation in the field may be made by means of very simple approximative methods. All this will be fully explained in the subsequent articles.

[To be continued.]

UTICA, 26th AUGUST—Mechanics Convention.—

The Mechanics State Convention convened at the Court House in this city on Wednesday morning last, and organized by appointing RUDOLPH SNYDER, Esq. of Utica, President; Anson Baker, of New York, and Frederick Starr, of Rochester, Vice Presidents, and Robert Taylor, of New York, and R. Hogarth, of Monroe, Secretaries. The Convention continued in session until 4 o'clock on Thursday afternoon. The proceedings were characterized by great unanimity and harmony of feeling, and were unusually interesting. Several very able addresses were delivered, which must have satisfied all who heard them, that talents are not confined to the learned professions. The details and facts laid before the Convention as to the ruinous effects produced on many branches of the mechanics by the State Prison monopoly, and the distress and ruin brought upon those who have heretofore supported themselves respectably and comfortably by those occupations which now come in competition with State Prison labor, were truly appalling. Some facts were disclosed also, with regard to the letting of the contracts, which went to show that corruption and favoritism are not entirely banished from our land.

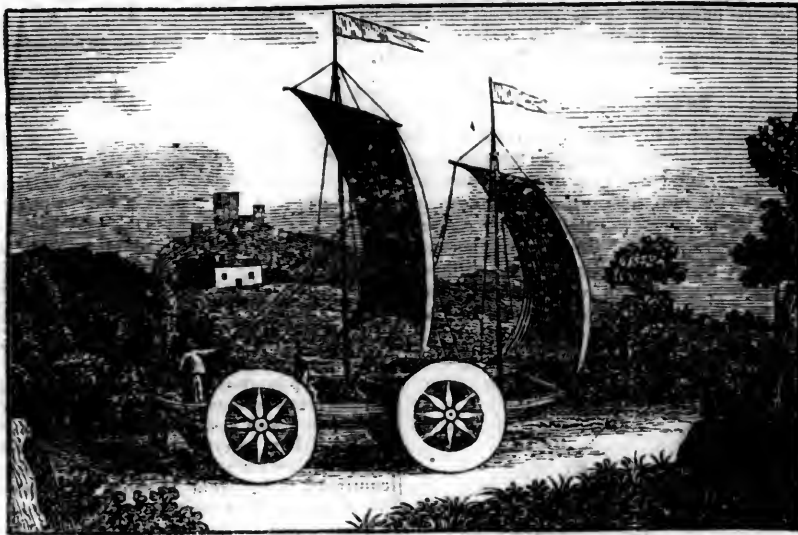
The Address and Resolutions adopted by the Convention, were ably drawn up, and set forth their grievances, and their determination that those grievances shall be redressed, in firm but temperate language, evidently showing that the feeling which is now aroused will not be suffered to languish until the object for which they assembled is attained. We believe that this is the commencement of a new era with the mechanics of our State, and that they are destined speedily to take a much more elevated rank in the community than they have hitherto occupied. —[Oneida Whig.]

Crops in Georgia.—A letter from Macon, dated Aug. 15, says:—

"I have just returned from a tour through most of the counties lying between the Ockmulgee and Chattahoochee rivers. The crops of corn and cotton I found at least equal to what I had ever before seen them, at this season of the year. The corn crop is made, and is acknowledged by all to be the most abundant one that there has been for many years.—The cotton crop is now so far advanced, that some extraordinary occurrence must take place to prevent a large product being realized, and should we have an ordinary season from this time out, the greatest product per acre will be realized; that there has been within my recollection. The plant is large, and unusually well bolted. The high prices induced the planters to extend the cultivation to the extent of their ability; and should the crop mature, as it now promises, the exports for this coming season, will not be less than 90 to 100,000 bags, against 70,000 the present season; and from Columbus, 25 to 30,000, against 17,000. In the course of my route, I met with many persons from various parts of the up country, who gave similar accounts of the crops. Whilst in Columbus, I met with many intelligent travellers from the Western States, who represented the crops in those States as being more promising, if possible than they are in this. The planting interest in the interior of Georgia, is in a more prosperous condition than I have ever before known it, and there is very little pecuniary embarrassment among the people generally."

Singular Conflict.—One day last week a striped snake two feet long, seized a young bullfrog in a marsh back of our office, and began to swallow him whole; while in the full tide of successful experiment, a monster of a bullfrog crept from the marsh, seized the snake, and began to swallow him. He made such fearful progress, that soon the snake was obliged to release his prey and defend himself. In spite of his struggles and contortions, the frog had swallowed all but about an inch of the tail; when some boys began to beat and abuse the old frog.—During this onset the snake managed to wheel about, and soon run his head out of the frog's mouth and brandished his forked tongue with much fury. The boys continued to work with the frog until finally the snake crept out and moved off slowly, evidently much injured by the operation. We have been greatly provoked in our boyish days to see bullfrogs swallow our young ducks and chickens, but we never before saw the frog carry the war so far into the enemy's country as to attack its natural enemy, the snake.—Whether this is an uncommon occurrence or not, we are unable to say, but it is certainly the first time we ever saw anything of the kind.—[Westfield Journal.]

STEPHINUS' SAILING CHARIOT.



THE SAILING CHARIOT.—It would be almost as difficult to assign limits to human ingenuity and invention, as to human ambition. That there are limits which the one cannot pass, while the other is boundless as the imagination itself, will not be denied; but the scientific discoveries of the last half century must make us hesitate before we say such or such a thing is impossible. In mechanics, in chemistry, and in the ingenious branches of the fine arts, improvements and discoveries have succeeded each other with a rapidity which outstretched all anticipation, and have set all calculations at defiance. No man will now dare say to any of these branches of science, "hitherto shalt thou go and no farther."

To be enabled to make the wind, which "bloweth where it listeth," subservient to the purpose of propelling huge vessels on the ocean, and thus to form an intercourse with the most distant parts of the world, was a great triumph of science; but to be able to steer a vessel with a rapidity that the wind does not generally afford, in a dead calm, or independent, or even against the wind, by steam, is a discovery which would not have been credited a century ago; and other discoveries which were once thought equally improbable have since been made.

The wind, which has been of such good service on the ocean, has for ages been used in machinery on shore, such as the working of mills, &c. Some individuals have, however, thought it might be used to propel vehicles on land. In the last century, Stephinus, of Scheveling, in Holland, constructed a chariot on wheels, to be impelled by the wind, the velocity of which was so great that it would carry eight or ten persons from Scheveling to Putten, a distance of forty-two English miles, in two hours.

Carriages of this kind are said to be frequent in China; and in any wide level country must be sometimes both pleasant and profitable. The great inconvenience attending the machine is, that it can only go in the direction the wind blows, and even not then, unless it blows strong; so that after you have got some way on your journey, if the wind should fail or change, you must either proceed on foot or stand still.

The Hollanders have small vessels, somewhat of this description, which carry one or two persons on the ice, having a sledge at

bottom instead of wheels; and being made in the form of a boat, if the ice break the passengers are secured from drowning.

Our engraving presents a perspective view of Stephinus' Sailing Chariot. The body of it is in the form of a boat; the axletrees are longer, and the wheels further asunder, than in ordinary carriages, in order to prevent its being overturned. The body is driven before the wind by the sails, guided by a rudder.—[London Mirror.]

STOVES.—Our readers may perhaps be a little surprized at our taste in calling their attention to the subject of stoves in the month of August. But no other apology is necessary than simply assuring them that a discovery has been made, somewhat recently, of a method of warming apartments by an uncommonly economical contrivance, which must recommend itself to every candid observer. Autumn will make its advances by and by, and when Boreas begins his howlings round the best constructed dwelling, there is peculiar satisfaction in knowing that the approaches of cold weather can be met at the threshold with impunity.

But to the point: Thomas G. Fessenden, Esq. extensively known as an author, and particularly by his efforts in scientific agriculture, as editor of the *New-England Farmer*, has constructed a stove, which is truly a fuel-saving invention. That it may be talked about and tried, we have ventured thus seasonably to recommend it to patronage abroad. The principle on which its excellence depends is so simple, that on that account alone it presents a stronger claim to patronage. Fessenden's stoves are always convenient, on account of the volume of hot water which they contain.

They are also comforts, because they radiate heat with a comparatively small quantity of fuel. And they are wholesome too, because an evaporation is continually going on from the surface of the water concealed within an urn. Finally, the room is warmed by hot water, and not by the fire that heats the water.

Had Mr. Fessenden furnished himself with an engraving of his *Economist*, a name we have christened it by, we should have made the attempt to borrow it for this page; but we shall, nevertheless, recommend the stove for school rooms, libraries, and halls, in which large assemblies meet; as being

altogether superior to the thousand-and-one inventions already stowed away in the patent office. Menageries too, as already remarked in the first volume of the *Tracts*, would save their animals from premature death by the gentle warmth given out by this comfort-taking contrivance.

Perhaps all this recommendatory notice may fail of its object, and no one beyond the Allegany mountains may be induced to order Mr. Fessenden's stove from Boston; still, however, we have done all we are able to do to extend the reputation and high claims of the *Economist*, which is completely philosophical in all its parts. Mr. Fessenden is a gentleman of science, and that fact is itself sufficient to elicit the attention of well informed men.—[Scientific Tracts.]

SELF-TAUGHT MECHANIST.—A boy, of the name of John Young, now (1829) residing at Newton-upon-Ayre, in Scotland, constructed a singular piece of mechanism, which attracted much notice among the ingenious and scientific. A box about three feet long by two broad, and six or eight inches deep, had a frame and paper covering erected on it in the form of a house. On the upper part of the box are a number of wooden figures, about two or three inches high, representing people employed in those trades or sciences with which the boy is familiar. The whole are put in motion at the same time by machinery within the box, acted upon by a handle, like that of a hand organ. A weaver upon his loom with a fly-shuttle, uses his hands and feet, and keeps his eye upon the shuttle as it passes across the web. A soldier, sitting with a sailor at a public house table, fills a glass, drinks it off, then knocks upon the table, upon which an old woman opens a door, makes her appearance, and they retire. Two shoemakers upon their stools are seen, the one beating leather, the other stitching a shoe. A cloth-dresser, a stone-cutter, a cooper, a tailor, a woman churning, and one teasing wool, are all at work. There is also a carpenter sawing a piece of wood, and two blacksmiths beating a piece of iron, the one using a sledge, and the other a small hammer; a boy turning a grindstone, while a man grinds an instrument upon it; and a barber shaving a man whom he holds fast by the nose with one hand.

The boy was only about seventeen years of age when he completed his curious work, and since the bent of his mind could be first marked, his only amusement was that of working with a knife and making little mechanical figures; this is the more extraordinary, as he has no opportunity whatever of seeing any person employed in a similar way. He was bred a weaver, with his father; and since he could be employed at the trade, has had no time for his favorite study, except after the work ceased, or during the intervals; and the only tool he has had to assist him was a pocket knife. In his earliest years he produced several curiosities on a similar scale, but the one now described is his greatest work, to which he devoted all his spare time during two years.

SAND OF PEKIN.—All travellers, says St. Pierre, who had been in Pekin, are agreed that it is not possible to go abroad, during a part of the year, into the streets of the city, without having the face covered with a

veil, on account of the sand with which the air is loaded.

PHILOSOPHICAL FACTS.—Sound travels 1132 feet in one second, or 13 miles in a minute. The softest whisper flies as fast as the loudest thunder; and no sound produced by artificial means can be heard over 200 miles. In the war between England and Holland, in 1672, the guns were heard in those parts of Wales judged to be nearly 200 miles distant from the scene of action; but sounds arising from volcanoes have been heard at a much greater distance.

Light goes about 13,000,000 of miles in one minute. A strong wind flies 20 feet in a second. If the distance between us and a cannon when fired be one mile, we hear the report 24 seconds after we see the flash. The nearest of the fixed stars is 5000 times more distant from us than the sun: its distance, then, must be 77,400,000,000 miles. Were a cannon fired from a star, it would require 5,400,000 years for the report to reach us. The hardest metals on which common fires, and even glass-house furnaces, could produce no effect, have been melted in a few seconds by means of *lenses* or *mirrors* called *burning glasses*. M. Villet, a native of France, about 100 years since constructed a mirror 3 feet 11 inches in diameter, and 3 feet 2 inches focal distance, which was so powerful that it melted *copper ore* in 8 seconds, *iron ore* in 24 seconds, a fish's tooth in 32 seconds, cast iron in 16 seconds, a silver sixpence in 7 seconds, and tin in 3 seconds. M. Villet's mirror condensed the rays of the sun 17,257 times, a degree of heat which is about 190 times greater than common fire.

Mr. Parker, of London, constructed a lens 3 feet in diameter, focus 6 feet 8 inches, weighing 212 pounds. It melted 20 grains of *gold* in 4 seconds, and 10 grains of *platina* in 3 seconds. The broader the lens and shorter the focal distance, the more intense is the heat produced by such instruments. A globular decanter of water is a powerful burning glass, and furniture of houses has taken fire by incautiously leaving it exposed to the sun's rays.—[Lynceus.]

PLANARIAE.—On January the 27th, at the Royal Institution, Mr. Faraday proceeded to lay before the literati assembled, an account of Dr. R. Johnson's investigations into the *restorative*, *productive*, and *reproductive* powers of the Planariae, a genus of small animals allied to the leech, and of which there are several known species, viz., *P. torva*, *lactea*, *hastata*, *arethusa*, *felina*, &c., the three first of which are to be found abundantly in a pond near the Red House, Battersea Fields.

From Dr. Johnson's experiments, it appears that if an incision be made longitudinally into the head of the animal, so as to separate its eyes from each other, if the cut has not been carried very far down, it will heal in the ordinary manner; but if the head be absolutely cleft in twain, then, according to the extent of the fissure, there will be a mass of new matter formed by each half of the head, which will either join the two halves together, forming a head of extraordinary size, and bearing in it one or two additional eyes, or each old half, thus cleft, will form the new matter into another half, with an eye, and so the animal have two complete and entire heads. If the fissure be farther down through the body of the animal, then not only will there be two heads, but two bodies also formed, joined together only by the tail; and when this is the case, so little unanimity does there exist between these *siamoid* twin-planariae; that they

never pull or swim the same way; and so violent are their efforts, that they frequently, in the course of two or three days, tear the only remaining bond of union, their tail, in sunder, and then two distinct and perfect animals result.

If in a common planaria the head be cut entirely off, a new head will be formed; and if its lower extremity be removed, it will produce a new tail. In a planaria, which, by the operation above described, had been invested with two heads, these "*nova capita*" were successively severed for three several generations, and were immediately and perfectly renewed, and subsequently the animal was cut through just below the artificial bifurcation, and then only a single head was produced, so that in this most simple "*capital*" operation, a single headed animal became a biceps, and, after having had the use of six heads in succession, was subsequently reduced to the possession of a single one.

When one of these animals is cut in half, the head, or anterior extremity, swims away as if nothing had happened, and speedily retails itself; but the tail swims to the bottom, and remains torpid for two or three days, by which time it has formed for itself a head. If a planaria be cut into three pieces, the head will form a new body and tail, the tail a new body and head, and the middle section or body will produce both head and tail. If a quarter be removed by making a longitudinal incision through the head, and half down the body, and then a semi-transverse cut to remove the upper quarter, not only will the three remaining quarters speedily re-produce a new fourth, but also the separated fourth will form to itself three new quarters. Indeed, a planaria has been cut into as many as ten pieces, and each piece has become an entire and perfect animal. In fact, this mode of propagation, which physiologists artificially institute, seems to be frequently resorted to by the animal itself. The planaria felina has been seen to throw off pieces of its body, to form new animals, and these are not diseased but healthy parts, and not only parts of its tail, but often offsets from its sides, &c. Indeed, the planaria felina, and *p. arethusa*, have been never known to lay eggs, whilst the *torva*, *lactea*, &c. lay them in abundance, both the original animals and those artificially produced. It would seem that those species which inhabit springs and running waters, propagate only by division; but those which dwell in ponds and ditches, where the water is occasionally exhausted, are oviparous, as well as viviparous.

The above facts are physiologically curious, as they show a still closer affinity than had been previously supposed to exist between the propagation of plants and animals by cuttings as well as seeds; for they have shown that this mode of propagation can be carried to an almost equal extent in the one as in the other—an extent to which the experiments of Trembley, and others, on polypi, star fish, &c., did not reach.—[Medical and Surgical Journal.]

SUGAR AN ANTIDOTE TO THE POISON OF OR FROM COPPER.—So many accidents occur from using copper vessels, that we deem it proper to give the most simple directions for counteracting the poisonous effects of the oxide of this metal. Sugar is a most powerful antidote against verdigris and other preparations of copper, although it is difficult to understand in what manner the beneficial process is conducted. M. Duval introduced, by means of an India rubber tube, four drachms of oxide of copper dissolved in acetic acid into the stomach of a dog; in about four minutes afterwards he injected by the same medium four ounces of strong syrup; this dose he repeated at intervals of half an hour, until he had injected twelve ounces. During this time the animal experienced much nervous excitement, and was slightly convulsed; but after the last injection he became perfectly calm, and having gone to sleep, woke without feeling any farther effects

of the poison. M. Orfila relates several instances of persons who had taken acetate of copper, either accidentally or designedly, having been recovered by the administration of sugar. He several times proved by experiment that a dose of verdigris, which would otherwise have killed a dog in an hour or two, might be swallowed with impunity if previously mixed with a quantity of sugar. As alcohols have a property which neutralize the most concentrated muriatic acid in ethers, it would appear sugar neutralizes the oxides of copper and lead. Subtartarate of neuter lead was, indeed, used by Berzelius in his experiments to determine the proportional parts of sugar. If an ounce of white sugar be boiled for half an hour in a phial, with an ounce of water and ten grains of verdigris, a green liquid will be procured, in which the most sensible re-agents will not indicate the presence of copper, such as hydroferrocyanate of potass, ammonia, and hydrosulphuro; but an insoluble carbonate of copper will remain at the bottom of the vessel.—[Journal des Connaissances Usuelles.]

AGRICULTURE, &c.

[From the New York Farmer.]

NORFOLK HOGS.—From two letters of Mr. W. K. Townsend, of New-Haven, to the editor of the Baltimore Farmer, we extract the following.

Dear Sir:—Your much esteemed favor of the 24th ult. came to hand some days since, and should have received an earlier answer. I have a breed of swine, (Norfolk Thin Rind breed,) which are in these parts considered rather before any other breed we have. They were imported something over four years since, by Henry Degroot, Esq. of New-York. He was in England, and heard of this breed of hogs as being of much note in that country. He purchased three pigs, and on his return took them to his farm in New-Jersey, where he had a superior stock of blood horses and short horned cattle. Immediately after his return, he concluded to go to England, and spend some years in the city of London, and offered me his stock. I purchased two cows, one bull, and two pigs, (one boar and a sow)—the other, a sow, he placed on his father's farm. I have since understood that it has changed the breed for the better, in all that neighborhood. Persons in this part of the country have given them a thorough trial with other breeds; and they, with the same feed, have done better than any other. I usually keep, say five or six breeding sows; and my pigs are usually all engaged before they come. I generally choose a few of the best, and sell them for breeding, at different prices, at different ages: when well weaned from the sow, five or six dollars each; and as they advance in age, so I advance in price.

The black and white is quite liked in this section of the country; some prefer white. I did not know which (if either) you would prefer, so I send you a part of each. My old imported sow was white; the boar black and white, marked almost like them sent to you. This breed of hogs is not particular as to feed; my sows run in pasture, and get most of their living on grass, until nearly time to pig. While they nurse, I feed them on meal, beans, rye, boiled potatoes, and some corn. I am told almost daily, by persons who have pigs from me, or of others that have got into the breed, that their pigs do much better on the same feed than any other they have had.

FOREIGN INTELLIGENCE.

By the packet ship *George Washington*, Captain Holdrege, from Liverpool, we have received our London papers to the 23d, and Liverpool dates to the 24th. There is nothing of much political interest.

From the Parliamentary Report, we learn that the Irish Coercion Bill was considered in Committee, and after some amendments had been proposed and negatived, the Chairman reported progress, and obtained leave to sit again.

The Prisoners' Counsel Bill was read a third time and passed.

Mr. Alley, the barrister, died at his house in Albany-terrace, Regent's Park. The immediate cause of his death was scarlet fever, but he had lately become much attenuated in consequence of the mistake he made some time ago in taking poison. Mr. Alley was of very long standing at the bar, and was much respected by all who knew him.

The Poor Laws amendment bill was introduced into the House of Lords by the Lord Chancellor. (Brougham.) It was opposed by the Tories, and is very unpopular.

In France, Marshal Soult has resigned the presidency of the Council of Ministers and the War Ministry. Marshal Gerard is appointed his successor in both offices.

Don Carlos.—There is a letter in town, dated from Elisondo, in the handwriting of Don Carlos, which mentions the happy issue of his journey, speaks of the enthusiasm of his adherents, and says that a supply of arms and money only are wanting to secure the speedy success of his claims to the Spanish throne. The cause of the legitimate monarch of Spain will not fail, we feel confident, for the want of such supplies.—[Morning Post.]

Orders have been issued for the immediate sailing of the steam frigates *Salamander* and *Medea*, from the river to Portsmouth. Their supposed destination is Spain.

It is confidently stated that a French army will march into Spain, and an English fleet will co-operate, in aid of the Queen Regent.

THE NEW BRITISH MINISTRY.—The London Spectator thus divides and describes the New Cabinet:

The following may be reckoned Liberals—

Lord Althorp,	Mr. Ellice,
Mr. Spring Rice,	Lord Duncannon,
M. Abercromby,	Sir John Hobhouse;
Mr. Charles Grant,	

And surely we may add Lord John Russell.

Then follow the Whigs—

Lord Melbourne,	Lord Lansdowne,
Lord Carlisle,	Lord Auckland.
Lord Holland,	

Two still remain, who may fairly be presumed to go along with the majority, of whatever complexion the policy of that majority may happen to be. They are—

Lord Brougham, Lord Palmerston.

Of fifteen members, then, eight may be reckoned as Liberals. But we are unwilling to class Lords Melbourne and Holland, and even Lord Auckland, among the Obstructives. Perhaps it will appear that they have sided with Earl Grey more from personal feeling than a sincere approbation of his recent policy. As for Lord Carlisle, we presume that he is a Whig; but he never opens his mouth in Parliament, and his official acts are utterly unknown to the public, who pay for the honor of his countenance in the Cabinet. The Marquis of Lansdowne leans staunch to Toryism; and Lords Brougham and Palmerston are statesmen who will never, if they can help it, abandon their Sovereign's service. The result, however, is, that at the worst, the Liberals, if they are true to themselves, can outvote their opponents united; and the fact of their being the popular party, will always give them vast additional influence. It is plain, therefore, that Liberalism has been advanced by the late changes. The additions to the Cabinet are like wise worthy of praise. Every one speaks well of Lord Duncannon. He is beloved in Ireland, and esteemed everywhere, as an upright, amiable, and clearheaded, though by no means brilliant, person. Mr. O'Connell, and the Irish members generally, are pleased with this appointment. Sir John Hobhouse is well known as clever, accomplished, and industrious. His powers of speech will be of service in debate; and will be much needed, for the crack orators are all on the Opposition benches. Sir John has now

an opportunity of recovering the false step which ruined him in Westminster: it remains to be seen whether he will make a good use of it.

The aspect of affairs here, we are inclined to hope, has been considerably improved. The Cabinet contains, it is true, no person of first rate abilities; except the Lord Chancellor, who cannot be relied upon. But, on this account, they must be the more painstaking, and adhere the firmer to sound principles: the public cannot be dazzled by the brilliancy of their talents, and must be conciliated and won over to their support by the excellence of their measures.

TRADE WITH SPAIN AND THE SPANISH COLONIES.

It will be remembered that at the late session of Congress an act was passed to counteract the heavier duty to which in Cuba, and we presume other Spanish possessions, produce in American bottoms is subject, as compared with the same produce in Spanish bottoms. This appears to have been a measure provident of the future, as well as applicable to the then existing state of the trade, for, according to the information contained in the annexed extract of a letter from Madrid, under date of 9th July, to the London Times, the discrimination between produce carried in Spanish or foreign vessels, is to be still further increased. We give the extract:

The first commercial measure of the new Minister of Finance has no tendency to strengthen or confirm the opinions entertained in foreign countries of the liberality of his administration. In spite of the more extended views of his Under Secretary of State, the late Intendant of the Havana, he has yielded to the clamor of the corn-growers of Castile, and has considerably altered the amount of difference in discriminating duties on the importation of flour into Cuba, to the prejudice of the colonists as well as the United States of America.

According to the new tariff, Spanish flour, in Spanish bottoms, is to pay \$2 per barrel; Spanish flour, in foreign bottoms, \$6 per barrel; foreign flour, in Spanish bottoms, \$8 1/2 per barrel; and foreign flour in foreign bottoms, \$9 1/2 per barrel, with the addition in the three last cases of the *derecho de balanza*. This arrangement, if it does not produce a revolution in the island of Cuba, will only owe its harmlessness to the impossibility of carrying it into execution, for there can be no doubt that in the face of so enormous a difference, the contraband trade from the North American Continent must become still more flourishing than it is at present, even if the Government of Washington did not succeed by retaliatory measures in bringing the Madrid Cabinet to reason.

FOREIGN ITEMS—Regal Rites.—From the Bengal papers we learn that the King of Ava, his Queen, and Court, and indeed the country generally, were engaged in a grand public entertainment, which was to last forty-nine days, on the occasion of the daughter of the royal pair having her ears bored!

Madame Malibran has recently entered into an engagement with the Milan opera for five years.—According to its tenor, she receives a house, a table with six covers, an equipage, and fourteen thousand pounds.

Under the empire (says *The Corsaire*) we built barracks; under the restoration churches; under the royalty of the people prisons. At this moment three are in course of erection at Paris.

The Emperor of Russia has granted a pension of 3000 florins to the celebrated Polish actress Madame Josephine Ledochowska.

The London Gazette of the 1st inst. contains a notification from the Lord Chamberlain, that each person upon being presented to the King, is to kneel upon the right knee, and kiss his Majesty's hand, then bow and retire. This, however, only extends to British subjects: foreigners are exempt from such favors.

The grand festival at Westminster Abbey concluded on Tuesday week, when their Majesties attended as before, in state. The performance was the Messiah, and passed off well. It is said the receipts will amount to £20,000.

The proceeds, after deducting some 7 or 8000l. for

expenses, were to be divided among various charities connected with musical societies. No part, it is added, by way of a slap at the motives of an amateur nobleman and performer, who was conspicuous in getting up the festival, will "drop into the pocket of Lord Burghesh."

The number of persons who have sailed from the port of Liverpool as emigrants to the United States and the British colonies, during the quarter ending the 30th of June last, is 11,625.

A Rich Cargo.—The ship *Sarah*, the first free trader from China, arrived at London in July with a cargo of raw silk valued at £400,000, or \$1,800,000.

Paris improvement.—According to the plans agreed upon for improving the city of Paris, houses covering 159,814 square toises of ground are to be pulled down. The average price paid for the ground during the last ten years has been 2,300l. a toise, and as the annual expenditure for this purpose is only 1,200,000l., it will take at this rate three hundred years to complete the undertaking.

Strange Sale.—The following advertisement is seriously said to be from a Newfoundland paper:—"Auction.—To-morrow, at 12 o'clock in the forenoon, if not previously redeemed, at the house now occupied by Mrs. Traverse, the under-mentioned articles, taken by distress for rent, due from the Legislative Assembly of Newfoundland to the subscriber, viz.:—One large desk, containing eight drawers, filled with a variety of books and papers of every description; one small ditto, used exclusively by the Speaker, and filled also with books and papers, and a portfolio of great value; the Speaker's chair, stuffed and elegantly covered with blue moreen, and mounted with brass; one large chair, stuffed and superbly covered, and well and substantially built, used by the Usher of the Black Rod! A cocked hat, of superior quality, but now a little shabby, worn by the Sergeant-at-Arms!! The Reporter's desk; two large stoves with funnelling, and six covered forms; with a variety of other articles, too tedious to mention—all very valuable. Terms made known on the day of sale.—Mary Traverse."

New Comet.—On the 8th of April, it is stated, Professor Gambart, at Marseilles, discovered a new comet, of a pale light color, with a diameter of four or five minutes. Owing to the state of the atmosphere, and its disappearance on the 13th, little has been ascertained of the stranger, except that on the 10th, 16h. 33m. 45s. sidereal time, its right ascension was 20° 9' 7", and the south declination 22° 33'.

Purification of Smoke.—Several German publications contain allusions to a discovery of a new and certain method of remedying all the evils and inconveniences occasioned by smoke in great towns, made by a Saxon architect named Bernhardt. Though the means by which this important object is accomplished are not explained, the investigation the subject has undergone, and the evidence afforded by public authorities and private individuals in Prussia, where the discovery has been practically applied, seem to leave no doubt as to the successful result of the experiments. In the *Polytechnisches Journal*, published at Stuttgart, there is a report on the discovery drawn up by Herr Schaffer, Professor of Architecture at Dusseldorf, where the first experiments were made. It seems that the heads of the Prussian Post-office have established an extensive manufactory for mail-carts and carriages at Dusseldorf. The smoke of this manufactory greatly annoyed the inhabitants of the neighboring houses, and the soot which fell destroyed their garden grounds. The Government spared no pains or expense to correct the evil. The Prussian Consuls were directed to inquire into the methods practised in England in such cases, but the remedies resorted to in this country were tried in vain. Actions were brought against the Post-office Department, and Government was on the point of removing the manufactory, when Baron Von Nagler, the Prussian Postmaster General, applied to Herr Bernhardt, who, by a chemical process, separates the soot from the smoke, directs the ascent of the latter in a perfectly purified state, and makes the former descend in a manner which keeps the chimnies clean, and is a security against their taking fire. His labors were immediately successful. There are testimonials of equal success having attended his labors in the palace at Berlin and in different public offices; but what is not a little remarkable is, that the discoverer should be able to keep his method a secret, notwithstanding so many instances of its application, and the very obvious nature of the effect produced.

MEMOIRS OF M. DE CHATEAUBRIAND.—In publishing some days ago the testamentary Preface to these memoirs, we mentioned that they were not to see the light till after the author's death.

This was the express resolution announced in that preface; but either the vanity of the author is impatient, or the solicitation of friends is irresistible; for some fragments of these *Memoirs* have appeared in the *Revue de Paris*. Of one of these we borrow a translation from Blackwood's Magazine.

[From the *Memoirs of M. de Chateaubriand*.]

"Europe is hastening to a democracy. France is nothing else than a republic clogged by a director. Nations have grown out of their paghood. Arrived at their majority, they pretend to have no longer need of tutors. From the time of David to our own times, kings have been called—nations appear now to be called in their turn. The brief and unimportant exceptions of the Grecian, Carthaginian, and Roman republics, do not alter the general political fact of antiquity, that the state of society was monarchical all over the globe. But now society is quitting monarchy, at least monarchy, such as it has been understood till now.

"The symptoms of social transformation abound. It is in vain that efforts are made to recognize a party for the absolute government of a single man—the elementary principles of this government no longer exist—men are changed as much as principles. Although facts seem to be sometimes in collision, they concur nevertheless in the same result; as in a machine, wheels which turn in opposite directions produce a common action."

"But sovereigns, submitting themselves gradually to the necessary popular liberties—detaching themselves without violence and without shock from their pedestals, may yet transmit to their sons, for a period more or less extended, their hereditary sceptres, reduced to proportions measured by the law. France would have done better for her happiness and independence had she preserved a child who could not have turned the days of July into a shameful deception; but no one comprehended the event.—Kings are bent obstinately on guarding that which they cannot retain. Instead of descending gently on an inclined plane, they expose themselves to fall into a gulf—instead of dying gloriously, full of honors and days, monarchy runs the risk of being flayed alive—a tragic mausoleum at Venice contains only the skin of an illustrious general."

"Even countries the least prepared for liberal institutions, such as Spain and Portugal, are urged forward by constitutional movements. In these countries, ideas have outgrown the men whom they influence. France and England, like two enormous battering-arms, strike with redoubled strokes on the crumbling ramparts of the ancient society. The boldest doctrines on property, equality, and liberty, are proclaimed from morning to evening in the face of monarchs trembling behind a triple hedge of suspected soldiers. The deluge of democracy is gaining on them. They mount from floor to floor from the ground floor to the top of their palaces, whence they will throw themselves struggling into the waves which will overwhelm them."

"The discovery of printing has changed all social conditions—the press, a machine which can no longer be broken, will continue to destroy the old world till it has formed a new one. Its voice is calculated for the general forum of all people. The press is nothing else than the word, the first of all powers—the word created the universe. Unhappily the word in man participates of the human infirmity—it will mix evil with good, till our fallen nature has recovered its original purity."

"Thus the transformation brought about by the age of the world will have place. All is calculated in this plan. Nothing is possible now except the natural death of society, from whence will spring the regeneration. It is impiety to struggle against the angel of God, to believe that we can arrest Providence. Perceived from this height, the French revolution is only a point of the general revolution—all impatience should cease—all the axioms of ancient politics become inapplicable."

"Louis Philippe has ripened the democratic fruit half a century. The Bourgeois soil in which Philipism has been planted, being less worked than the military and popular soil, furnishes still some juices to the vegetation of the government of the 7th August; but it will be soon exhausted."

"There are some religious men who are revolted at the bare idea of the actual state of things having any duration. 'There are,' say they, 'inevitable reactions, moral reactions, instructive, magisterial,

avenging. If the monarch who first gave us liberty paid for the despotism of Louis XIV, and the corruption of Louis XV, can it be believed that the debt contracted by *Egalité* at the scaffold of the innocent King is not to be acquitted? *Egalité*, by losing his life, expiated nothing. The tear shed at the last moment redeems no one—the tears of fear, which moisten merely the bosom, fall not upon the conscience. What! shall the race of Orleans reign by right of the pices and crimes of their ancestors? Where, then, is Providence? Never could a more frightful temptation come to unseat virtue, to accuse eternal justice, or insult the existence of God, than such a supposition!"

"I have heard these reasonings made, but must we thence conclude that the sceptre of the 7th August is to be broken immediately? No. Raising our view to universal order, the reign of Louis Philippe is but an apparent anomaly, but an unreal infraction of the laws of morals and equity: they are violated, these laws, in a limited and relative sense, but they are observed in a sense unlimited and general. From an enormity consented to by God, I shall deduce a consequence still weightier—I shall deduce the Christian proof of the abolition of royalty in France. It will be this abolition itself, and not an individual chastisement, which will be the expiation of the death of Louis XVI. None shall be admitted, after this just one, to cincture his brow solidly with the diadem—from the forehead of Napoleon it fell in spite of his victories, and from that of Charles X. in spite of his piety! To finish the disgrace of the crown in the eyes of the people, it has been permitted to the arm of the regicide to sleep for a moment in mock kingship in the bloody bed of the martyr."

"Another reason, taken from the category of human considerations, may also prolong, for a short time more, the duration of the sophism government struck out of the shock of paving stones."

"For forty years every government in France has perished by its own fault: Louis XVI could twenty times have saved his crown and his life; the republic succumbed only by the excess of its crimes.—Bonaparte could have established his dynasty, but he threw himself down from the pinnacle of his glory; but for the ordinances of July, the legitimate throne would be still standing. But the actual government will not apparently commit the error which destroys—its power will never be suicidal—all its skill is exclusively employed in its conservation—it is too intelligent to die of folly, and it has not that in it which can render it guilty of the mistakes of genius, or the weaknesses of virtue."

"But, after all, it must perish. What are, then, four, six, ten, or twenty years in the life of a people? The ancient society perished with the Christian policy from whence it sprang. At Rome, the reign of a man was substituted for that of the law by Cæsar; from the republic was the passage to the empire.—Revolution, at present, takes a contrary direction; the law dethrones the man: from royalty the transition is to a republic. The era of the people is returned—it remains to be seen how it will be filled."

"But first, Europe must be levelled in one same system. A representative government cannot be supposed in France, with absolute monarchies around it. To arrive at this point, it is but too probable that foreign wars must be undergone, and that, in the interior, a double anarchy, moral and physical, must be traversed."

"If property alone were in question, would it not be touched? would it remain distributed as it is? A society, or individuals, have two millions of revenue, whilst others are reduced to fill bags with heaps of putrefaction, and to collect the worms from them—which worms, sold to fishermen, are the only means of existence to their families, themselves aborigines of the dunghill: can such a society remain stationary on such foundations, in the midst of the progress of ideas?"

"But if property is touched, immense disorder will result, which will not be accomplished without the effusion of blood; the law of sacrifice and of blood is everywhere: God delivered up his Son to the nails of the cross, to renew the order of the universe. Before a new right shall spring from this chaos, the stars will often have risen and set.—Eighteen hundred years since the promulgation of Christianity have not sufficed for the abolition of slavery; there is still but a small part of the evangelic mission accomplished."

"These calculations do not quick enough for the impatience of Frenchmen. Never, in the revolutions they have made, have they admitted the element of time; this is why they will always be disappointed by results contrary to their hopes. Whilst they are disordering, time is ordering; it puts order

in their disorder—rejects the green fruit—detaches the ripe—and sifts and examines men, manners and ideas."

"What will the new society be? I am ignorant. Its laws are to me unknown. I cannot conceive it, any more than the ancients could conceive the society without slaves produced by Christianity. How will fortunes become levelled? How will labor be balanced by recompense? how will the woman arrive at her complete emancipation? I know not.—Till now, society has proceeded by aggregation and by families: what aspect will it offer, when it shall be merely individual, as it tends to become, and as we see it already forming itself in the United States? Probably the human race will be aggrandized, but it is to be feared that man will diminish—that the eminent faculties of genius will be lost—that the imagination, poetry, the arts, will die in the narrow cavities of a bee-hive society, in which every individual will be no more than a bee—a wheel in a machine—an atom of organized matter. If the Christian religion should become extinct, man would arrive, by liberty, at that social petrification which China has arrived at by slavery."

"Modern society has taken ten centuries to arrive at its consistency. At present it is in a state of decomposition. The generations of the middle age were vigorous, because they were in a state of progressive ascendancy; we are feeble, because we are in a progressive decent. This descending world will not resume its vigor till it has attained the lowest grade, whence it will commence to reascend towards a new life. I see, indeed, a population in agitation, which proclaims its power, exclaiming,—'I will—I am; the future belongs to me—I have discovered the universe. Before me nothing was known—the world was waiting for me—I am incomparable—my ancestors were children and idiots.'"

"But have facts answered to these magnificent words? How many hopes in talents and characters have failed! If you except about 30 men of real merit, what a throng have we—libertine, abortive,—without convictions, without faith, political or religious, and scrambling for money and place like mendicants for a gratuitous distribution: a flock which acknowledges no shepherd—which runs from the mountain to the plain, from the plain to the mountain, disdaining the experience of their aged pastors—hardened to the wind and to the sun! We, the pastors, are only generations of passage—intermediate generations—obscure—devoted to oblivion—forming the chain reaching only to those hands which will pluck the future."

"Respecting misfortune, and respecting myself—respecting the cause which I have served, and which I shall continue to serve at the sacrifice of the repose due to my age, I fear to pronounce, living, a word which may wound the unfortunate, or even destroy their chimeras. But when I shall be no more, my sacrifices will give to my tomb the privilege of speaking the truth; my duties will be changed—the interest of my country will prevail over the engagements of honor from which I shall be freed. To the Bourbons belongs my life—to my country belongs my death. A prophet, in quitting the world, I trace my predictions on my declining hours—light withering leaves, which the breath of eternity will soon have blown away."

"If it be true that the lofty races of kings, refusing enlightenment, approach the term of their power, were it not better, and more in their historic interest, that they should, by an end worthy of their grandeur, retire into the sacred night of the past with bygone ages? To prolong life beyond its brilliant illustration is worth nothing. The world wearies of you and of your noise! It owes you a grudge for being there to hear it. Alexander, Cæsar, Napoleon, have all disappeared according to the rules of glory. To die gloriously, one must die young. Let it not be said to the children of the spring,—'What is there still that name of past renown, that person, that race, at whom the world clapped its hands, and for whom one would have paid for a smile, for a look, for a hair, the sacrifice of a life?' How sad it is to see Louis XIV, in his old age, a stranger to the rising generation, and having none about him to speak to of his own age, but the aged duke of Villeroi! It was the last victory of the great Condé in his second childhood, to have met Bossuet on the borders of his grave; the orator re-animated the mute waters of Chantilly—the superannuation of the old man so impregnated with his adolescence—he re-embrowned the locks on the front of the conqueror of Rocroi, by bidding an immortal adieu to his grey hairs. Men who love glory, be careful for your tomb—lay your selves gracefully down in it—try there to make a good figure—for you will remain there!"

NEW-YORK AMERICAN.

AUGUST 24—29, 1834.

REVIEW OF THE WEEK.

HISTORY OF THE AMERICAN REVOLUTION, with a Preliminary Review of the Character and Principles of the Colonists, and their Controversies with Great Britain. 1 vol. *Baltimore: Cushing & Sons.*—Though given to the world anonymously, this volume is understood to be from the pen of Mr. Wilson, the accurate and intelligent Editor of the *Baltimore American*. Those who have been in the habit of remarking, and profiting—as we frequently do—by the clear and well-condensed summaries of political and literary intelligence, which appear from time to time in that paper—will find in this historical abstract of the American Revolution, the same clearness of perception and statement, which, omitting matter less essential, presents, in a plain and popular form, all that is material and of enduring value, whether for warning or for imitation.

It is an original work wholly—that is to say, the author, after examining and comparing the histories and memoirs already extant, gives his own views, in his own language, of men and events. The preliminary View will, we think, add to the value of the work, for those especially for whose use it is particularly designed—the young.

A LECTURE ON MONEY AND CURRENCY, &c. &c. by WM. REID. *New York: WM. STODART.*—This well printed pamphlet contains the whole Lecture, of which some weeks ago we published a considerable part, delivered by Mr. Reid in Philadelphia. We spoke, at the time of making this extract, in terms of high commendation of this Lecture, and have only now to repeat, that it may be read with advantage even by the instructed, and certainly with much greater advantage to those who, desiring to know, are yet little informed, about the questions connected with the important, the difficult subject of currency. In an Appendix, the gold bills, passed at the last session of Congress, are published, as also the tables, drawn up by Mr. Reid, and which appeared in this paper, presenting at one view the comparative value of all the foreign gold coins which are legal tenders.

THE MOTHER'S FRIEND, or Familiar Directions for Forming the Mental and Moral Habits of Young Children: *New York: LEAVITT, LORD & Co.*—This little volume is another in what is called "Abbott's Series," all devoted to the improvement and right instruction of youth.

The author of this admirable little treatise—which is mainly a republication, as we find from the American editor's notice, of an English work, though different in form from the original, and with considerable modifications and additions appears to be—and we do not doubt is—a woman, and a mother.—There must of course, in such a work, be much that all parents, of well regulated and reflecting minds, have themselves considered; yet even to such, there are views presented in this volume, and counsels given, that will well repay perusal; while, to young mothers, it will be alike new and valuable.

The annexed extract is sensible, and the last paragraph but one specially deserving of attention:

But, (it may be said,) granting that parents are all you can desire, how is it possible to guard children from the evil influence which the example and conversation of others may create? And, unless you banish them entirely from the society of your friends and acquaintance, how can you prevent the impressions they may receive from worldly and puerile observations? We reply, these impressions are casual and transitory; the sentiments and behavior of occasional visitors are not often the subjects which attract the attention of very young children. They adopt, from sympathy, the feelings of those they love; and they scrutinize instinctively the characters and opinions of those on whom they depend, often only that they may avail themselves of the weak

points in their characters, in order to gain their own ends.

Supposing, however, that the conversation of your young friends and acquaintance is decidedly of a kind you wish your children not to hear, you will do well to keep them away, while such acquaintance are with you. Gradually, as they become older, the danger will lessen, provided that you encourage in your children habits of the most unreserved openness and confidence with yourself. Lay yourself open to your children, heart and soul, as much as you possibly can; this is a point of the most vital importance.

Let your own principles be founded on the one unerring standard of truth, and let your own conduct be firm and uncompromising; and let your children, as early as possible, read your genuine feelings, and see clearly the motives by which your conduct is regulated. Then you may fear less from the occasional inconsistencies and deviations from what is right, which all must be exposed to meet with in after life. If you are open with your children, they will return this openness. When they observe in others a conduct resulting from want of principle, they will communicate to you their surprise or indignation. Here will arise a case in which you must exercise your judgment and discretion.

You must, by no means, indulge in the habit of censuring and criticising the conduct of others.—Let them see that whenever you think there is a right or wrong, the opinions, or examples, or the ridicule of others, has not the slightest effect on your own conduct, but refrain from judging and blaming others except in cases of flagrant immorality.

Your children, while they know that the word of God is the standard by which you judge of yourself, and by which you endeavor daily to improve your own life, will not fail to remember, that in that same word, you are directed not to judge others, lest you should yourself be judged, and thus will their earliest associations tend at the same time to lay the foundation of rigid virtue, and tender charity.

U. S. MILITARY AND NAVAL MAGAZINE, for August: Washington, *B. Homans.*—We find much improvement, and more character and variety than usual, in this number, and look upon it as decisive that the two Services this periodical is devoted to illustrate, are giving it their active aid and countenance.

Among the articles which fixed our attention, is a letter signed "A Lieutenant of '16," addressed to Mr. Rush, in explanation of a fact stated in that gentleman's "Residence at the Court of London"—namely, that in going out from the Chesapeake, bound to Portsmouth, in the Franklin 74, they made the island of Bermudas. The singular circumstance of a ship bound from the Capes of the Chesapeake to England making the Bermuda Islands, as recorded by Mr. Rush, and dwelt upon by this writer, will doubtless attract the attention of nautical men; but the part of the letter which surprises us, is that we copy—implying, as it seems to do, extraordinary and almost incredible negligence, or want of skill, in the navigation of an American line of battle ship.

Previous to my being ordered on board the Franklin 74, I had had two years drilling among the currents of the Gulf of Mexico, and it was there I learned the important axiom "to distrust the log," and the apposite one, "to rely upon the heavenly bodies as the seaman's surest guides." Governed by these feelings, I felt a degree of uneasiness and restlessness at being so long without an observation, knowing, as I well did, the ship had been operated upon by currents; supposing, however, with all the other officers, that she had been swept to the N. E., and consequently not dreaming of Bermudas, which there was reason to believe was some two hundred miles to the south of us.

On Friday night, at 10 o'clock, the weather began to clear up, and the north star became visible. Being possessed of an excellent sextant, I proceeded quietly and alone to measure a series of altitudes for the latitude. The horizon was well defined, and the observations were carefully and correctly made.—The calculation performed, I found, to my infinite surprise, the true latitude to be 32 degrees 54'. I doubted the result. New and more complex series of altitudes were observed with the same result. I still doubted, and supposed some accident must have deranged my instrument. I obtained from the sailing-master of the ship, the ship's sextant, and took a new series of observations; the result of which

was still the same: at noon we were in longitude 66 degrees 10', which, brought down to the time of observation, gave 65 degrees 56'. Here it is apparent, if the longitude was to be relied on, we were in a singularly dangerous position; at 10 o'clock in the evening, scarcely a degree from the most dangerous reef in the world, and steering directly for it. It is easy to calculate how many hours would place us there with an ordinary breeze, and it did not take much to send the Franklin ten knots. Having satisfied my own mind conclusively as to the latitude, and apprehensive that the longitude might prove correct, I communicated to Capt. Ballard the facts which I had ascertained. My report was not considered by him worthy of notice; indeed I was treated as a tyro; one whose remarks and observations were not worth listening to. It was in vain that explanations were attempted—in vain I represented the danger. Seeing clearly that my statement produced no effect, I took a very decided and hazardous step, for a young officer, to appeal to the commodore. Commodore S. was sought in the cabin, and the same facts communicated to him. He listened attentively to my representation, examined the matter carefully, but incredulously; felt assured there must be some error; pointed my attention to an error in one of the additions of the polar tables, the uncertainty of night observations, &c.; to all which I replied, that I had had two years drilling in the Gulf of Mexico, as first lieutenant of a gun brig; that I had been in the constant practice of night observations, and that practice produced correctness; I therefore would vouch for the latitude. As it regarded the longitude, we had no better data for its correctness than the log; but respectfully submitted whether, under such circumstances, to run upon the threatened danger would not be imprudent. Though I felt sure that he was unconvinced, yet, acknowledging the force of the last argument, he went himself upon the deck and gave orders that the ship should not go faster than at a certain rate per hour until daylight, and the ship accordingly was restrained to the velocity of four miles per hour, as the log book indicates. The whole distance sailed from 10 P. M. to noon the following day, when we saw first the breakers and North rock ahead, and shortly after the islands of Bermudas, was fifty-five miles. Here then was a singular confirmation not of the latitude, for that I knew could be confirmed, if the sun were visible at meridian, but of our longitude by dead reckoning; and I now avow my surprise—operated upon as the ship was by strong, and, as we have reason to believe, opposing currents—that a calculation of the courses and distances steered, should still give the true longitude of the ship. Yet such is the truth, and for which I do not perceive any juster mode of accounting, than that the N. E. current of the stream, if any, was precisely counterbalanced by the southwest reflow on the inner and outer edge, and all the subsequent current setting a due south course. This I esteem to be the *vera causa* of the great aberration from the intended course. After this statement I am sure you will acknowledge the incorrectness of the assertion made by you, that to the surprise of all on board, we made the land. For myself, I must say, that had not the latitude at noon verified the observations of Polaris, I should not only have been surprised, but mortified.

THINGS AS THEY ARE, OR NOTES OF A TRAVELLER THROUGH SOME OF THE MIDDLE AND NORTHERN STATES. 1 vol. *New York: HARPER & BROTHERS.*—We have here the notes of a shrewd, observing, and intelligent man, who scans closely, and relates, with a dash of quiet humor, all that passes before him.

He is not censorious, nor—though his notions are sometimes, or will at least by many be thought so, a little queer—is he disposed to find fault. He is evidently a native, and a Yankee—two letters of recommendation. He neither adopts nor rejects customs nor opinions blindly, but gives frankly his reasons with his judgments.

We present the following extract, as a fair specimen of the descriptive powers and meditative tone of the writer.

When we observed the movements of men near at hand, the motives of their exertions and the results in which they end often excite our laughter; while if we contemplate them from a distance, and especially in large bodies, there is often something impressive and even exalted in the emotions which we experience. The very greatness of the mass, like the mountain or the sea, swells the mind which embraces it, and keeps its faculties like so many arms and

hands, in a state of tension, which, if not distressing, is at least so tiresome as to remove all disposition to ridicule. When we descend to some little subject, the mind finds its powers in a great measure unoccupied; and as this is an unnatural state, it seeks employment in deeper investigations and new combinations, which, in the case of a subject abounding in such self-contradictions and unreasonableness as man, must inevitably lead one to pity and another to ridicule. Historians and warriors understand this matter, and endeavor to keep the eye of the world or of posterity fixed upon men in masses, or on individuals at a distance. They often obscure, conceal, patch up, or pervert the truth, by representing the individuals in any thing but their every-day dress.

There is much that is ludicrous in the motley crowds rushing through Broadway at different hours; but when the city is seen in one view, the sight is a solemn one. If you are called to depart, or if you by chance arrive in the dead of night, the vacancy and silence of the streets are exceedingly impressive. Two hundred and forty thousand people obeying the laws of nature at least in repose. The dead of night, strictly speaking, lasts but a very short time in the principal thoroughfares; for the termination of the play at about twelve, and of fashionable parties at one, keeps up a rumbling of carriages for an hour or two, until the most remote routes have been performed, and the horses returned to their stables. After this is over, half hours and even hours of almost total silence sometimes intervene, while the watchman, in the dome of the City Hall, proclaims to the ears of the sick and the watchful that another day is approaching, whether desired or apprehended by them.

A cannon is fired at break of day on Governor's Island; but before this the lines of milk, bread, and butcher's carts are in motion, and some come rattling down the island from above, while others are collecting at the ferries on the Long Island and Jersey shores, and all are soon dinning the streets. From the heights of Brooklyn you may hear their rattling, increasing from the feeble beginning, until, joined by the drays proceeding from the north to the south part of the city to their stands, it swells into an unintermitted roar, like the sound of Niagara at Queens-ton, to stop not till midnight. Some time after daylight, while the lamps at the steamboat docks are glimmering, and those in the streets which, by mistake, have had oil enough, the first smoke begins to rise from the houses of laborers in the upper wards. Some five or ten early risers are putting spades to wood or coal; and their example is so contagious, that fires are speedily blazing in every house and almost every chimney in the city. In the cold season this is a singular sight; and when the wind is from the south in the morning, the heavy cloud which generally overhangs the city is blown northward, leaving the Battery in the light of the sun, while many of the other parts are deeply obscured. Soon after sunrise, floods of daily emigrants from the upper wards, meeting at Broadway and Canal street, pour down to the wharves, the mechanics shops, and the houses in building, many of them with convenient little tin-kettles, containing their dinners and preparations for heating them, all bound to their work. Then come the clerks of all degrees, the youngest generally first; and these, in an hour or thereabouts, give place to their masters, who flow down with more dignity, but scarcely less speed, to the counting-rooms of the commercial streets, hundreds of them, especially in unfavorable weather, in the omnibuses, which render the street so dangerous now at three or four o'clock in the afternoon. Ere these crowds have disappeared, they become crossed and mingled with some of the fourteen thousand children who go the public and primary schools at nine, and an unknown number who frequent the private schools of all sorts. Then are seen also the students of Columbia College and the University, the medicals in winter hurrying to Barclay street, lawyers, clients, and witnesses gathering about the City Hall, the Marine, and Ward Courts, with a set of spectators generally selected from those classes who have been ruined by the same process which is about to be repeated in the name of the State.—A burnt child dreads the fire, but a singed cat loves the chimney-corner.

The apple-women and orange-men at St. Paul's see a motley crowd passing from ten till twelve; and if it be a showery day, the shop-keepers have a good deal of conversation with chance visitors stepping in for shelter. After this, if the sky permits, (for bad walking is but a small objection) the fashionable promenading begins; and the window-glass has full employment in reflecting the forms and colors of dresses which vary with the moon.—

The movements of the crowd are now at common time, instead of the double quick step by which the business man is distinguished. A stranger would think that New York was a city of idleness, gayety, and wealth. But let him turn down almost any street at the right or left, and enter some of the dwellings of the industrious poor, and he would find all were not rich or unoccupied; let him glance at the chambers of others, and he would be convinced that some are wretched and in want of all things. Yet he need not blame too severely the gay and young for being so regardless of the sufferers near them; they know not of their existence, or realize not their own ability to aid them. All parents do not estimate the value of engraving practical and systematic benevolence upon their plan of education, and rather teach their children by example to despise the poor, than to regard them as beings offering occasions of moral self-improvement to the rich.

But it would be too long to tell all the aspects and fluctuations of the currents for a single day in the capital, or even to trace the course of a single drop, like myself, circulating one tour round the system. It is enough that the clocks and watches go on with their seconds and hours as if they marked no appointments for friendly or formal visits; no periods of payment, for persons who would prefer to keep their sixpences or their thousands; no departures or arrivals of cargoes; no changes in stocks—in short, as if prosperity or adversity, wealth or poverty, joy or disappointment, were not decided by every revolution of the hands for thousands of anxious individuals.

It is a solemn reflection, after the bustle has passed, and the traveller again contemplates empty streets and noiseless pavements, deserted stores and silent wharves, while weary bones are resting, the anxious busy at their dreams, and the sick and dying, or their attendants, alone conscious of the hour, that two hundred and forty thousand persons have spent another day. The time has rapidly passed, but in it how many millions of property have changed hands; what applications of capital have been determined upon, which will increase the comforts of whole districts of country; what plans have been devised by consummate commercial skill; how many a generous deed has been done with wealth honorably obtained; how many a piece of gold added to the miser's hoard! In that short space of time how many a tear has been shed by parting friends; how many a smile made by those who have returned; how many a foreigner has first touched the soil of America; how many a traveller, like me, has closed his visit to this busy city!

INITIA LATINA, or the Rudiments of the Latin Tongue, illustrated by progressive exercises; by CHARLES H. LYON, one of the Classical Instructors in the Grammar School of Columbia College. New York: HARPER & BROTHERS.—This new grammar, or rather *Accidence*—as in our younger days the elementary book of the Latin language was called—is, in the first place, very prettily printed, on very nice white paper: it is, too, accurately printed, and the marks of quantity are placed over syllables, so as to guide the eye even before the ear becomes instructed. We like it altogether much—but not without qualification. We object, for instance, to the change in the designation of the conjugations; which, instead of the old and universal first, second, third, and fourth, are called "*Stem Conjugation*," "*E Conjugation*," "*A Conjugation*," and "*I Conjugation*." The reason assigned for this is, that the third conjugation, having *e* short before *re* and *ris*, as the old Eton grammar has it, is the oldest, and that from it the others are derived. On this ground it is called—at the suggestion doubtless of Professor C. Anthon, who is vouched as godfather for the new nomenclature—the *Stem Conjugation*: then follows the present second under the name of *E Conjugation*. The old first is degraded to third; and the fourth is as it was, only under a new name.

It is always inexpedient, when obvious and urgent motives do not plead for it, to change old and well established designations. It is particularly so in school books, for this, among other reasons, that boys who have not studied the new book with the new names, are—if brought into a school where these are in vogue—nonplussed at the outset, and have to begin

over again a journey, never very inviting at best.—In the present instance, we perceive no possible advantage in the change, which seems founded in mere whim, or conceit, (in the Italian sense.)

The division of the long and short syllables in the "*stem conjugation*," seems to us objectionable.—*Leg-e*, when the *e* is short, would be pronounced, as it is intended to be, as though written with two *g*'s; *Leg-i*, when the *e* is long, should, in order not to mislead the eye, be divided thus—*Le-gi*.

TWO OLD MEN'S TALES—*The Deformed*—*The Admiral's Daughter*—2 vols. N. Y.—HARPER AND BROTHERS.—From some similarity in the title, or rather from the introduction of the awkward, and to most, unwelcome monosyllables, "*Old Man*," in each, these thrilling and highly wrought tales have been ascribed to Sir Francis Head, the author of "*The Bubbles*," by an *Old Man*. We suspect erroneously, however; though they evince a power of language, and of delineation of character and passions, that would not discredit the admirable sketches of the *Baden of Nassau*.

The first story, the *Deformed*, is a short one, scarcely filling more than half of a thin volume. The other occupies the remainder of the two volumes, and will be preferred. We will not give even a glimpse of either.

BOYS' AND GIRLS' LIBRARY OF USEFUL AND ENTERTAINING KNOWLEDGE, Vol. XXI. N. Y.—HARPER AND BROTHERS.—We delight to meet again in this volume with *Uncle Philip*, whose contributions to this really useful and instructive Library, printing by the Harpers, are not its least attraction.

When last we parted with *Uncle Philip*, it was after reading and warmly recommending his book on the Evidences of Christianity. We hear him now telling the story of the Discovery, Settlement, and History of Virginia, up to the period of the Declaration of Independence. The marvellous adventures of Captain Smith—the romantic story of Pocahontas—the hardships and sufferings of the first Colonists, combine to impart great interest to the History of Virginia; and of this, none is lost in adapting the narrative to the comprehension of children, and making it assume the form of dialogue. We agree with *Uncle Philip*, "that it is very important that all the boys and girls in America should know something about the early history of their own country;" and we hope, therefore, he will go on in providing them just such incentives to do so, as they will find in the History of Virginia.

THE CONSTITUTION OF THE UNITED STATES IN GOLD LETTERS: C. C. Wright & H. Durand, N. Y.—We mentioned, last week, the beautiful copy of the Declaration of Independence which had just then been issued from the Xylographic press of Messrs. Wright & Durand, of this city; and now have before us, in the same style of beautiful printing and elegant ornament, the Constitution of the United States, with the amendments thereto that have been adopted. We wish this may be generally purchased, for the instrument cannot be too often in sight.

Extract from one of Mr. Sharp's Letters, recently published in London,—

"There are few difficulties that hold out against real attacks; they fly like the visible horizon before those who advance. A passionate desire and an unwearied will can perform impossibilities, or what seem to be such to the cold and the feeble. If we do but go on, some unscathed path will open among the hills. We must not allow ourselves to be discouraged by the apparent disproportion between the result of single efforts and the magnitude of the obstacle to be encountered. Nothing good nor great is to be obtained without courage and industry; but courage and industry must have sunk in despair, and the world must have remained unornamented and unimproved, if men had not nicely compared the effect of a single stroke of the chisel with the pyramid to be raised, or of a single impression of the spade with the mountain to be levelled. All exertion, too,

is in itself delightful, and active amusements seldom try us. Helvetius owns that he could hardly listen to a concert for two hours, though he could play on an instrument all day long. The chase, we know, has always been the favorite amusement of kings and nobles. Not only fame and fortune, but pleasure is to be earned. Efforts, it must not be forgotten, are as indispensable as desires. The globe is not to be circumnavigated by one wind. We should never do nothing. 'It is better to wear out than to rust out' says Bishop Cumberland. 'There will be time enough for repose in the grave,' said Nicole to Pascal. 'As a young man, you should be mindful of the unspeakable importance of early industry, since in youth habits are easily formed, and there is time to recover from defeats. An Italian sonnet justly, as well as elegantly, compares procrastination to the folly of a traveller who pursues a brook till it widens into a river, and is lost in the sea. The toils as well as risks of an active life are commonly overrated, so much may be done by the diligent use of ordinary opportunities; but they must not always be waited for. We must not only strike the iron while it is hot, but strike it till it is made hot. Herschel, the great astronomer, declares that ninety or one hundred hours, clear enough for observations, cannot be called an unproductive year. The lazy, the dissipated, and the fearful should patiently see the active and the bold pass them in the course. They must bring down their pretensions to the level of their talents. Those who have not energy to work must learn to be humble, and should not vainly hope to unite the incompatible enjoyments of indolence and enterprise, of ambition and self-indulgence. I trust that my young friend will never attempt to reconcile them.'

We add some others, addressed to a young man:

Luckily you have not to overcome the disadvantage of expecting to inherit from your father an income equal to your reasonable desires; for though it may have the air of a paradox, yet it is truly a serious disadvantage when a young man, going to the bar, is sufficiently provided for.

"Vitam facit beatorum
Res non parva, sed relicta."

says Martial, but not wisely; and no young man should believe him. The Lord Chief Justice Kenyon once said to a rich friend asking his opinion as to the probable success of a son, "Sir, let your son forthwith spend his fortune; marry, and spend his wife's; and then he may be expected to apply with energy to his profession." In your case I have no doubts but such as arise from my having observed that, perhaps, you sometimes may have relied rather too much on the quickness of your talents, and too little on diligent study. Pardon me for owning this, and attribute my frankness to my regard. It is unfortunate when a man's intellectual and his moral character are not suited to each other. The horses in a carriage should go the same pace and draw in the same direction, or the motion will be neither pleasant nor safe.

Buonaparte has remarked of one of his marshals, "that he had a military genius, but had not intrepidity enough in the field to execute his own plans;" and of another he said, "he is as brave as his sword, but he wants judgment and resources: neither," he added, "is to be trusted with a great command." This want of harmony between talents and the temperament is often found in private life; and wherever found, it is the fruitful source of faults and sufferings. Perhaps there are few less happy than those who are ambitious without industry; who pant for the prize, but will not run the race. Now, this defect, whether arising from indolence or from timidity, is far from being incurable. It may, at least in part, be remedied by frequently reflecting on the endless encouragements to exertion held out by our own experience and by example.

"C'est des difficultés que naissent les miracles."

'It is not every calamity that is a curse, and early adversity especially is often a blessing. Perhaps Madame de Maintenon would never have mounted a throne had not her cradle been rocked in a prison.—Surmounted obstacles not only teach, but hearten us in our future struggles; for virtue must be learnt, though unfortunately some of the vices come, as it were by inspiration. The austerities of our northern climate are thought to be the cause of our abundant comforts; as our wintry nights and our stormy seas have given us a race of seamen, perhaps unequalled, and certainly not surpassed, by any in the world.

"Mother," said a Spartan lad going to battle, "my sword is too short." "Add a step to it," she replied: but it must be owned that this was advice to be given only to a Spartan boy. They should not

be thrown into the water who cannot swim: I know your buoyancy, and I have no fears of your being drowned.'

Another letter to the same young man has these sensible passages:

'If your low spirits arise from bodily illness (as is often the case,) you must consult Dr. Baillie. I can do nothing for you. Perhaps you should fast a little, and walk and ride. But if they are caused by disappointment, by impatience, or by calamity, you can do much for yourself. The well-known worn-out topics of consolation and of encouragement are become trite, because they are reasonable; and you will soon be cured, if you steadily persevere in a course of moral alternatives. You have no right to be dispirited, possessing as you do all that one of the greatest as well as oldest sages has declared to be the only requisites for happiness—a sound mind, a sound body, and a competence.

'An anxious, restless temper, that runs to meet care on its way, that regrets lost opportunities too much, and that is over-painstaking in contrivances for happiness, is foolish, and should not be indulged

"On doit être heureux sans trop penser à l'être."

"If you cannot be happy in one way, be happy in another; and this facility of disposition wants but little aid from philosophy, for health and good humor are almost the whole affair. Many run about after felicity, like an absent man hunting for his hat, while it is on his head or in his hand. Though sometimes small evils, like invisible insects, inflict great pain, yet the chief secret of comfort lies in not suffering trifles to vex one, and in prudently cultivating an undergrowth of small pleasures, since very few great ones, alas! are let on long leases. I cannot help seeing that you are dissatisfied with your occupation, and that you think yourself unlucky in having been destined to take it up, before you were old enough to choose for yourself. Do not be too sure that you would have chosen well. I somewhere met with an observation, which being true, is important—that in a masquerade, where people assume what characters they like, "how ill they often play them." Many parts are probably preferred for the sake of the dress; and do not many young men enter into the navy or army, that they may wear a sword and a handsome uniform, and be acceptable partners at a ball? Vanity is hard-hearted, and insists upon wealth, rank, and admiration. Even so great a man as Prince Eugene owned (after gaining a useless victory) that "on travaille trop pour la Gazette." Such objects or pursuits are losing their value every day, and you must have observed that rank gives now but little precedence, except in a procession.

'But I am really ashamed even to hint at such endless, and obvious commonplaces, and I shall only repeat the remark, which seems to have struck you—that in all the professions, high stations seem to come down to us, rather than that we have got up to them. But you, forsooth, are too sensible to be ambitious; and you are, perhaps, only disheartened by some unforeseen obstacles to reasonable desires. Be it so! but this will not justify, nor even excuse, dejection. Untoward accidents will sometimes happen; but, after many, many years of thoughtful experience, I can truly say, that nearly all those who began life with me have succeeded or failed, as they deserved.

"Faber quisque fortunæ præcipit." Ill fortune at your age is often good for us, both in teaching and in bracing the mind; and even in our later days it may be often turned to advantage, or overcome.—Besides—trifling precautions will often prevent great mischiefs; as a slight turn of the wrist parries a mortal thrust."

SUMMARY.

"Our worst apprehensions, (says the National Intelligencer of yesterday) for the safety of the expedition to the far West, composed of the regiment of Dragoons, &c. already begin to be realized. Brigadier General LEAVENWORTH, who commanded it in chief, is no more—he died of bilious fever, at a place called Cross Timbers, on the 22d of last month; and one or two other officers are reported to be ill. The command, by the death of Gen. L. devolved on Gen. Dodge, the Colonel of the Dragoons. The first act of his command, we hope to learn, will have been to cause the expedition to retrace its steps. We shall await with anxiety further intelligence of its movements."

The Little Rock Advocate, of 8th August, in confirming the report of the death of Gen. Leaven-

worth, adds that Lieut. McClure, of the dragoon corps, had also died of the same disease.

We have seen a letter dated Camp Washita, which describes the condition of the Dragoons as deplorable; the horses worn out, and disease among the men. Lieut. McClure, as well as Gen. Leavenworth, had died. There were 140 on the sick list. Col. Dodge has pushed on, on the 7th July, with 350 men, and no intelligence had been received from him up to the date of the letter we refer to.

A single officer, and five men carrying the coffin, constituted the whole funeral escort of Gen. Leavenworth.

The barque Mexicain, which arrived at this port on Saturday from Vera Cruz, brought between \$90,000 and \$100,000 in specie.

The Hon. John Branch has been elected to the Senate of North Carolina from the county of Halifax. It is not improbable, we think, that Mr. Branch may find himself a Senator in another body before he is six months older;—at least we will venture to predict such an event will not be prevented by the re-election of Mr. Brown, whose term in the United States Senate expires on the 4th of March next.

[From the Boston Atlas.]

Robert G. Davis, a youth born at the Sardwich Islands, and about 15 years of age—received the first medal and delivered the Valedictory address—at the recent examination of our Public Schools.

Presentation of Plate.—The passengers by the Columbus, from New York to Liverpool, have presented a superb piece of plate to Capt. Cobb, in acknowledgment of his gentlemanly conduct, his skill as a navigator, and the splendid manner in which he catered for them during the voyage.

Steamboat Disaster and loss of Lives.—The Cincinnati papers contain the following particulars of the accident to the steamboat Nimrod, which, on Saturday night, the 16th, at 9 o'clock, while bound down the river, ran aground on Quick Run Bar, ninety miles above Cincinnati. The connecting pipe between the boilers and cylinder immediately burst. Twelve persons, principally passengers, were scalded, eight of which have since died. The Helen Mar opportunely arrived shortly after the accident, and took the passengers on board. She arrived at our landing late on Sunday night, and her deck presented a melancholy spectacle of the dead and dying—three or four deaths having occurred since her arrival. The names of those who have died, are Augustus Fromid, or Fromm, wife and child, dead; they were citizens of Hamilton, Butler county, Ohio. John Boiest, or Baptista, from Wheeling, dead. Our fellow citizen, Mr. Aaron Valentine, city Councilman of the 4th Ward, was badly scalded, his wife slightly, and his child to death. Jane Ranaharn and child, dead, from Cumberland, Allegheny county. George Street, from Frankfort, Pa., and Washington Bishop, from Maryland, scalded, but not badly.

The Helen Mar brought the passengers of the Nimrod to our city. While we are writing this, the bodies of the dead are about being placed in their coffins. By some of the papers it is stated that the Nimrod ran on some stones which were thrown from a flat boat about a year since in the river.

BOSTON, TUESDAY, AUG. 26.—Mr. Durant's Eleventh Ascension.—Yesterday afternoon, agreeably to previous notice, Mr. Durant made his eleventh grand ascension (it being his second from Boston,) from his amphitheatre on the city land west of Charles street. The day was pleasant, and the wind was blowing with a pretty strong breeze from the north-east.

Six o'clock. We have this moment the satisfaction of hearing of Mr. Durant's safe arrival with the balloon at the Tremont House, where he was welcomed by the shouts and congratulations of a large collection of people. We learn that at 5 h. 6 m. he landed safely in a field west of Mount Auburn, and about six miles from the Amphitheatre. He was, therefore, 36 minutes in the air, and one hour and a half from his starting to his arrival at the Tremont House. He brought the rabbit with him, and it was exhibited in front of the Tremont. The parachute is in the shape of a large umbrella.

It happened that every thing was in readiness for the ascension at an earlier hour than was anticipated and consequently the balloon started at half past 4 instead of 5 o'clock, as had been announced. In consequence of this, we regret to say that many people were too late to see the balloon at starting.—

To enable such people to witness the operation, and to afford every body another opportunity to see the magnificent spectacle, it is hoped that Mr. Durant will undertake a third ascension from Boston.—As the balloon is uninjured, an early day would probably be convenient for the intrepid aeronaut, as it would be desirable to our citizens generally.

Specie.—The amount of Specie arrived at this port, from 28th March to 30th June was, \$4,365,467
From 30th June to 21st Aug. 530,935

\$4,896,402
The vessels just arrived from Havre, bring a good deal of specie in five franc pieces.—[Journal of Commerce.]

[From the Albany Evening Journal.]

DEATH OF SENATOR HASBROUCK.—We find the following melancholy intelligence in this morning's Argus:—

It is with deep regret that we have to announce the death of the Hon. Louis HASBROUCK, a Senator in the Legislature of this State, from the fourth District.—He died of apoplexy, at his residence in Ogdensburgh, on the 20th inst. His loss will be severely felt in the councils of the State and in all the relations of life.

Mr. HASBROUCK was a most valuable citizen. He removed from Ulster County, at an early day, to Ogdensburgh, where for more than 20 years, he has been an able and respected member of the bar. He was a member of the Legislature in 1814.

CHARLESTON, AUG. 15th.—*New Cotton.*—Three bales of the new crop were received this morning from Augusta, by the railroad, the same noticed in the Augusta Chronicle as having been raised on the plantation of Col. Paul Fitzsimon's and sold in that place, on the 12th inst. The quality is very good.—Two of the bales are about to be shipped to New York.—[Patriot.]

NEW ORLEANS, AUGUST 9.—*A new Exchange.*—We understand that at the monthly meeting of the Chamber of Commerce, held on Monday evening at their Chamber in Canal street, it was proposed and agreed to, that a committee be appointed to report to the next monthly meeting, the most eligible site upon which to erect an Exchange in our city, suitable to the great commercial interest of New Orleans. The following gentlemen were appointed as said Committee, viz.: M. Morgan, Thomas Barret, J. F. McKenna, John Garnier, H. C. Cammack. This movement will meet the approbation and concurrence of our whole community, unquestionably, and we hope lead to the erection of an edifice, such as proposed.

Bermuda.—Accounts from this Island to the 12th inst. have been received. On the 1st of August, the day on which the liberation of the slaves took place, divine service was held in the churches, and every thing was not only tranquil but solemn. Apprehensions however are entertained that the new freedmen will suffer for want of employment. The families had generally reduced the number of servants below the number of those they had held as slaves.—[Gaz.]

Sea Serpent.—In the vicinity of Cape Rosier, near Castine, Me., a Sea Serpent was seen for several days during the first fortnight in July, by a large number of credible persons. When seen in the morning, he usually carried his head about twelve feet above water; but in the afternoon his head was not so much elevated. His rate when passing through the water was sometimes incredibly rapid, leaving a long "wake" behind. In one instance, he was seen at a distance by the crew of a fishing schooner off Cape Rosier, three of whom got into a boat and rowed towards him. When they had proceeded some distance from the vessel he came directly towards them, boldly, and after approaching within a rod, with his head elevated, he went below the surface and passed under the boat, being in plain sight as he passed. Two of the men had muskets loaded, which they pointed at him as he approached; but his appearance was so formidable they thought it prudent not to fire unless he attacked them. He appeared to them, and to others who saw him at different times, to be about sixty feet long; and hence it may be inferred that there are several of these animals on our coast, as the serpent seen in this neighborhood has been often estimated by good judges to be nearly twice the length of that seen near Cape Rosier.

Another man who was taking fish out of the meshes of a net at the Cape, observed some disturbance in the water, and soon after ascertained that the Sea Serpent was helping himself at the other end of the net. Not liking his company, the man hastily withdrew.—[Boston Daily Advertiser.]

APPOINTMENT BY THE PRESIDENT.—William Littlefield, to be Collector of the Customs for the District of Newport, Rhode Island, in the place of Christopher Ellery, resigned.

Officers attached to the United States sloop of war Erie, sailed for the Coast of Brazil.

John Perceval, Esq. Commander; Jas. Williams, 1st Lieut.; John Pope, 2d do; Henry Eagle, 3d do; John E. Bishophain, 4th do; Chas. Chase, Surgeon; Greenville C. Cooper, Purser; Alfred Taylor, Acting Master; Jacob Zelin, Jr. Lieut. Marines; Ninian Pinkney, Assistant Surgeon; John A. Russ, passed Midshipman; John R. Tucker, do; Hendrick N. T. Dade, Thos. F. Davies, Carter W. Poindexter, Fred. A. Bacon, John L. Horden, Henry A. Warden, Nathan Harris, Geo. Wells, Midshipmen; Nathaniel B. Reed, Sailmaker; Edward Crocker, boatwain; David Marple, carpenter; Wm. Phillips, acting gunner; Daniel J. Browne, school master; David Selkain, assist. clerk; Archibald A. Peterson, pursers steward.

The following letter explains the changes, and the motives for making them, in the coinage of the new issues of gold.

MINT OF THE UNITED STATES,
Philadelphia, 9th July, 1834.

Sir: The certified copy of the Act relative to the Gold Coins of the United States, forwarded with your letter of the 7th, has been received.

In regard to your suggestion of affixing to the gold coinage, after the 31st inst. the date of the month, to designate the new coins from others of the current year, I have respectfully to observe, that for the purpose of such designation, the engraver has been directed to execute new dies, in which two improvements, contemplated for some years past, shall be introduced; one is, the omission of the words "E pluribus unum" on the reverse; the other is, the substitution of a new Head of Liberty without the dress-cap—the hair being only restrained by the cincture bearing the inscription "Liberty."

The cap has by many been regarded as intended for the classic cap of liberty, and under this idea has received favor, as proper to be retained, even with some who have not been insensible that it impaired the beauty of the coin. I have, however, to remark, that the cap on our coins was not designed as the Liberty Cap. It was not introduced on the silver coins until about the year 1806, and was then copied from what was considered a handsome specimen of the female head-dress of that day. On the gold coins a cap had been introduced from the first, which has certainly some resemblance to the usual form of the Cap of Liberty. I am however satisfied, from several considerations, and indeed have the direct assurance of Mr. Eckfeldt, the chief coiner, who has been familiar with the whole subject from the first, that it was not so intended. When a cap was introduced, as before stated, on the silver coin, that on the gold was conformed thereto.

It is wholly at variance with classic authority to place the Pileus, or Liberty Cap, on the head of the figure representing Liberty. When it is introduced in statuary, or on a medal, or on a coin, it is found borne by Liberty herself on a wand, or in her hand, or appears at her feet, and indicates her as the beneficial being through whose influence the blessings of freedom are conferred on others; and such a cap, placed on a freed-man, we know from the Roman annals, was the insignium of his freedom.

This view of classic propriety was, no doubt, very familiar to those under whose authority the first coinage of the United States commenced. The early copper coins bear the Cap of Liberty, but never on the head of the figure. The coinage of France of that period, presents also various pertinent examples in point.

It may be satisfactory further to remark, that soon after my appointment to the charge of the Mint, I addressed to Mr. Jefferson, who at the commencement of the Mint was a member of the Government, then resident in this city, an inquiry in regard to the authority on which the devices on our coins had been originally adopted, and particularly presented the question as regards the cap on the head of Liberty. His recollection, he informed me, did not reach the subject, and no one had been preserved in regard to it; but he was direct and explicit as to the unfitness of placing the Pileus or Cap of Liberty on the head of the figure—adding, "for we are not emancipated slaves."

I have the honor to be, with great respect, &c.

SAMUEL MOORE.

Hon. LEVI WOODBURY,
Secretary of the Treasury.

We regret to announce the resignation of the Hon. RUFUS CHOATE, Representative in Congress from Salem District. But we are happy to state that he is to become a resident of our own city, and devote himself to his professional pursuits.—[Boston Atlas.]

Yale College.—The annual Commencement of this Institution was celebrated at New Haven on Wednesday last. Number of graduates 64. The honorary degree of A. M. was conferred on Joshua A. Spencer, Esq. Rev. Erasmus Cole, and Edmund J. Ives. That of D. D. on Rev. Andrew Reed, and Jas. Matheson, the English delegates, the latter of whom was present. That of LL. D. on Hon. Samuel A. Foot, Governor of the State, and Hon. Thomas Scott Williams, chief justice elect. On the day previous, at 11 o'clock, A. M. the annual oration before the Phi Beta Kappa Society was delivered by James A. Hillhouse, Esq. His subject was "the character and services of Lafayette." At 2 P. M. an oration was delivered before the Linonian Society, by Rev. W. W. Andrews of Kent, Conn. At half past 3, the usual Prize speaking by undergraduates. In the evening, the Society of Alumni held their annual meeting. An address was made by Lucius Duncan, Esq. of New Orleans. The Society has now a fund of between 3 and 4 thousand dollars, the increase of which they have resolved to apply for the support of a lecturer on Natural History. The lectureship is filled by Charles U. Shepard Esq.—[Journal of Commerce.]

A QUARANTINE, as we learn by the Charleston Patriot of the 15th instant, was established on that day for all vessels, including steam packets, arriving from New-York. This, we are to presume, is an Anti-Cholera precaution.

Tornado in Mass.—The Northampton, Mass. Gazette contains some particulars of the tornado in that vicinity, on the 14th inst. The length of its path, so far as yet heard from, was about 30 miles, passing through Peru (Berkshire County) Worthington, Cummington, Goshen, Williamsburg and Whately, (all in Hampshire County) to Connecticut river. Its course was about due East.

In Cummington the width of the gale was from half to three fourths of a mile. The barns of Oren Tower, — Tower, Mr. Everett, Jesse Reed, Widow Scott, Stephen Shaw and Asa Bates were blown down. Widow Scott's house was much injured.

All the timber on James King's farm was prostrated, two large sheds were destroyed and his house and barn injured. Joshua Hayden had 30 or 40 acres of heavy timber, but not a tree (except some small ones) is left standing on his farm, hardly an apple tree remains upright in his orchard, and all his rail or wood fence is gone.

His house, barn, and cider-mill were damaged.—N. Warner, S. Shaw, Robt. Webster and others lost much valuable timber. The buildings and orchard of Nahum Bates were injured. Indeed, almost every thing within the range of the tempest in Cummington was more or less injured. A cow belonging to Asa Bates was killed, and several persons lost sheep.—Some of the forest trees were torn up by the roots and others twisted off. The direction of the storm was from west to east, but many of the trees fell to the north, and some to the west.

In Goshen, Maj. Ambrose Stone had 15 or 20 acres of valuable timber destroyed; Mr. Narramore's barn was unroofed, and his house damaged. Capt. Narramore's timber and orchard were blown down; Hincley Williams had one barn uncovered and the roof carried away; Wm. Packard's barn and Mr. Tilton's barn were destroyed; the congregational meeting house was partly unroofed; the Baptist meeting house had several holes made in it by sticks of timber forced against it by the wind, and it is said the whole building was removed several inches.

The old gentleman, who, with his grandson, was blown down a precipice in Cummington, was Mr. George Stearns, of Goshen. In the latter township, a man upon the road, was lifted from his wagon and carried senseless to the side of a wall. Upon recovery he found his horse and wagon in a neighboring corn field.]

We are informed that one house was demolished in Peru, and another house and two barns much damaged. There was great destruction among the timber. It is reported that a house in the southern part of Windsor was carried away. Much damage was done in Whately and the north part of Williamsburgh, but we have not learned particulars. We are told that a man whose farm lies in Worthington and Cummington had a quantity of grain in the shock in his field; and on examining the field the next morning, not a sheaf of grain could be found.

Missionary Meeting.—Seven missionaries, being about to embark from this city for Smyrna during the present week, received their instructions on Sabbath evening, in the Essex-street Church. The house was full, and the services were very interesting and impressive. The instructions were read by the Rev. Mr. Wisner, one of the Secretaries of the American Board of Foreign Missions. Addresses were made by the Rev. Mr. Winslow, late Missionary to Ceylon, and Rev. Dr. Beecher; introductory prayer by the Rev. Dr. Jenks. Mr. Winslow's address was specially to the Missionaries, and was highly practical and to the point. He bade them discard all romantic ideas, and to expect discouragement and disappointment; cautioned them against indolence and self-confidence; and inculcated the virtues of humility, unity of spirit, cheerfulness, faith, patience, and perseverance. All his remarks were delivered in an affectionate manner, and an experience of fifteen years abundantly qualified him to point out the difficulties of missionary life. Dr. Beecher remarked, that infidels reasoned correctly upon human principles, that we should not convert the world by sending out a few Missionaries, but they left out of view the Holy Ghost, which was promised by our Redeemer. The power of God was with the feeble arm of the solitary Missionary. He dwelt much upon the success which had crowned the cause, the revivals of religion at Missionary stations and at home, since the first five Missionaries were sent from this country. We had taken care of home, too, and had received back with interest the blessings we had poured upon foreign shores.

The Missionaries are, Rev. John B. Adger and wife, of South Carolina; Rev. Samuel R. Houston and wife, of Virginia; Rev. Lorenzo W. Pease and wife, of the State of New York; and Rev. James L. Merrick, a native of Massachusetts. Mr. Merrick is designated to the Mahomedans of Persia; Mr. Adger to the Armenians, to reside at Smyrna or Constantinople; Mr. Houston and Mr. Pease to the Greeks; the former to be stationed on the island of Scio, the latter on the island of Cyprus. They sail to-morrow in the brig Padang, for Smyrna. —[Boston Commercial.]

[From the Pittsburgh Gazette.]

REMARKABLE.—Mr. Montgomery the jailor of the county handed us the following communication, which he says was written by one of the prisoners. The falling of the stone he assures us, was witnessed by many, perhaps all the prisoners, some of whom are in confinement for debt, others charged with crimes. —He, himself, was in the county on that evening, but he declares that he has no doubt of the truth of their story. —He says that he picked up muscles on the next morning.

Remarkable Circumstance.—On Saturday evening, the 9th instant, about five o'clock, the southwestern hemisphere became suddenly overspread by heavy dark clouds, which indicated the fast approach of a storm, which was carried swiftly along by the angry wind, which smote the earth as though the very elements were at war with each other—soon the water began to gush from its cistern. During the extreme part of the rain, some of the prisoners in jail observed something falling, resembling the small stone that may be seen on the beach of a river.—What first attracted attention was the rattling upon the bricks in the yard. When the storm had subsided, the prisoners were not a little astonished as well as delighted, at finding that, not only the inactive stones were to be found, but that numbers of living muscles had been removed from their native element, and were ready for gathering within the jail walls—the number found is not accurately known, as some went immediately to work on the fresh dainty, opening, salting and swallowing—until they were consumed; one person, however, picked up ten before the others were informed that the yard abounded with fresh muscles—some of them, from appearance, must have weighed two ounces; there were also several round stones found, one of which would weigh four or five ounces, and which may yet be seen—on the same evening, there were some frogs taken captive, whilst hopping about, apparently rather dissatisfied in finding themselves confined within the jail walls—the ancients cannot recollect of such visitors making their appearance within the walls before.

Mr. Montgomery (keeper of the prison) found some of the muscles outside of the wall. It is requested that some of the learned would cast some light upon this mystery, and solve to us how those migrants left their watery home, sailed into the air, and landed inside the jail walls.

An Inquirer after Knowledge.

We cannot refrain from asking public attention to the account which follows, of the means of education in a little German principality, which, though called the Grand Duchy of Baden, is not half as large as this State of New York.

It is taken from the London Courier, through which paper an intelligent writer is addressing a series of letters to Lord Althorp, recommending the German system of schools and instruction as models for England. Here our Common Schools much need improvement, and possibly useful hints may be derived from statements such as that we now present.

Education in Baden.—I am now about to give the details of a well organized system of public instruction in a state which may be looked upon as purely agricultural—a state where education is compulsory by law, but where the law, without being severely enforced by the government, is very generally respected by the people—I mean the Grand Duchy of Baden. By your permission, I will begin with a few statistical facts, which may afford data for calculations in regard to England, relative to the object I have in view.

The Grand Duchy of Baden contains about 5929 3.5 square miles of territory, with a population of about 1,220,000 inhabitants, comprised in 110 cities and towns, 36 market towns, with 1,686 villages.—The price of beef and mutton, in almost all parts of the Grand Duchy, varies in the course of the year from 9 to 11 kreutzers, or from 3d to 3d 2.3; and the pound of the best wheat flour is on an average 2d 2.3 in the three winter months. The calculation of prices has been made from places at the extremes of the Grand Duchy. The reigning family is Protestant, the people Protestant and Catholic, and the followers of both religions, with no apparent difference of feeling on the subject of education, show an equal degree of willingness in sending their children to the schools.

The Catholic inhabitants, 814,000 in number, are instructed by 1,700 schoolmasters (of whom 300 are assistants) in 1,294 elementary schools.

The Protestant part of the population, amounting to about 389,000 persons, are taught by 790 masters (of whom 200 are assistants) in 583 schools.

The rest of the population consists principally of Jews, who fluctuate in point of number; but generally maintain 28 schools in the Grand Duchy. The total number of schools is 1,905.

In regard to the total number of children who frequent these elementary schools, two distinct calculations have been made at my request, by persons on whom I can place the fullest reliance; and the difference of the results is anything but trifling; the one giving the total number as 170,000, the other 198,000; leaving a discrepancy to the amount of 28,000. This difference I believe to have originated, 1st. In the fact of that calculation, which makes the number appear so much greater, having been made at a later period, after a slight increase of population. 2dly. In the fact of their being comprised therein the children of Jewish parents—and 3dly. In no allowance having been made for the children who absent themselves from school. I am inclined to believe, however, that the rate of the children who really attend the elementary schools relative to the number of inhabitants is as 1 to 7. The rate of the schools to the population is thus 1 to 641 inhabitants, and to the total number of schools (though some are always absent) the rate is 1 school to 103 scholars. There is one school also to 3 miles 3 27ths, and more than 1 to each considerable hamlet.

My Lord, this is a magnificent establishment—most magnificent, considering the extent, the degree of wealth, and the population of the land; nor are the means for supporting this establishment less worthy of notice and of admiration, although the people of Baden still feel that something remains to be done, and are anxiously striving for its accomplishment. The funds for the support of the Volksschulen proceed from three separate sources; and this arrangement, originating in the changes of times and circumstances, rather than in any uniform and synchronous plan, has been found to possess very considerable advantages, if there exist also some disadvantages.

1st. The Volkshulen, instituted, organized, and superintended by the State, from the State likewise derive that portion of the funds necessary for their support which is not supplied by other sources.

2d. Each individual parent whose child derives benefit from the institution, is called upon to contribute his part towards its maintenance.

3d. Various sources appropriated to the same purposes prior to the establishment of any general system, have, of course, been retained to diminish the burden of the State and of the parents.

From these three sources the Volkshulen derive their support. Of the first of these sources, i. e. the contribution of the State, it may be only necessary to say—as the amount varies from year to year—that by the last budget the sum required for the instruction of the people, University expenses included, was no less than three and a half per cent. upon the whole expenditure of the State, the expenses of collection and management being deducted.

The amount paid by the parents, called schulgeld, is also very difficult to ascertain, as it varies in different years; but although the sum demanded for each individual in some parishes is not always the same as in others, it is always trifling in amount. It is, however, very generally believed throughout Germany, that education, like other things, is not valued unless it be purchased, and consequently the system of schoolmoney is almost universally advocated by those who have a practical knowledge of the effects, although Nassau offers a brilliant example of the contrary system attempted with success.

In regard to the third source from which the school funds are derived in Baden, I must beg your Lordship's particular attention, as the multitude of old rights, laws, customs, foundations, and institutions, to meddle with which was dangerous, and to regulate which was difficult, rendered the introduction of any general system of education into Baden a much more complicated and arduous enterprise, than it could prove in England; and yet the enterprise has been undertaken without hesitation, and executed with complete success. The third source of which I speak comprises the following branches:—The revenues arising from various legacies and foundations (the destination of which has been uniformly respected, the State claiming merely the regulation of the schools, not any interference with appropriated funds), that portion of the revenue (whether paid in kind or in money) arising from church and school property which the custom assigns for the support of schoolmasters and school buildings; a certain portion of the tithes which must be considered as distinct from the church and school property of which I have spoken; a yearly distribution from the parishes; and last, the customary contribution of the *Herrschaft*, or of various Lords, possessing a seigniorial property in the schools upon their lands, with various rights thereunto attached, which rights have ever been held inviolate, and which have seldom, if ever, been abused.

The sum produced from all these sources is considerable, yet still insufficient to enable the state to establish a graduated scale of salary for the schoolmasters, beginning with 200 florins, or 16l. 1s. 4d. as the lowest, and ending with 500 florins, or 41l. 16s. 4d. as the highest salaries for instructors in primary schools, which plan was strongly recommended by the report of the school commission in 1831.

In regard to the higher schools, of which 29 exist, and the Universities, which are two in number, I shall not occupy your time, as the first are now undergoing a complete revision and alteration, and the latter could afford no example, though they might a warning, to Great Britain, especially in regard to the consequences of a want of scholastic discipline. Besides these, however, there exist in Baden five other excellent educational institutions, namely, a Polytechnic school, a deaf and dumb school, a blind school, and two distinct seminaries for Catholic and Protestant schoolmasters, each excellent in their system and organization, the Catholic containing about 112 scholars, the Protestant 50.

The organization of the educational establishment is extremely simple. With the Minister of the Interior rests the principal moving power, while to the clergy is committed the general superintendence. The bishop, of course, is at the head of the clerical branch of the administration, but each large district has its deacon, whose especial office it is to superintend, direct, and govern the various schools within his department.—Under him again, the immediate superintendence of the schools is confided to a committee of the parish council, presided by the clergyman of the place, whose duty it is, by constant visits and examinations, to make himself thoroughly acquainted with the state of the school, and the conduct of the schoolmaster therein, to counsel, advise, and reprove him where necessary, and in cases where the master is either obstinate in error, or firm in opposition to the opinion of the clergyman, who has no power of compulsion, the question at issue between them is brought first before the parish council, thence, if still unsettled, before the deacon, and ultimately before the grand

ducal council for public instruction. In addition to this regular organization, each large district has a certain number of inspectors, whose duty it is to hold a public examination of each primary school, at least once in the year, and to make a general report of the state of each to the Government.

The method of instruction, and the general discipline of the school, though very strictly laid down by law, still depends greatly upon the master; and I have had opportunities of ascertaining that the moral condition of a whole parish had been changed by the appointment of a good or bad schoolmaster, and his continued residence in the place. Were there space, some most striking instances of this fact might be given, showing the absolute necessity of what have been called Normal Schools, from the immense influence that primary schoolmasters exercise upon the moral condition of the people.

Although I have considered the educational system of Germany, more especially in a political and statistical light, yet I have not failed to visit the Volk-schulen, and to make myself acquainted with some of the details of instruction. The extent of instruction, however, is very various in different schools, according to the capability of the master, and the situation of the parish. Reading, writing, arithmetic, and singing, are taught in all the schools of Baden; and a thorough knowledge of the chief doctrines of the Christian Religion is invariably communicated in all Christian schools. Under a well instructed and judicious master, however, I have seen these branches of study carried far beyond their mere first principles, and that in a small school in a bad and poor situation. He had given to his scholars a very considerable knowledge of plain trigonometry; he had made his lessons in reading a vehicle for conveying much general information, and his lessons in writing a means of improving the style and of exercising the thinking faculties of his pupils. Not only were the scholars thoroughly acquainted with biblical history, but most of them could point out the geographical position, and many statistical facts concerning the countries of which they spoke, and could reason clearly and rightly upon any simple proposition placed before them. This, however, is not always the case, and it is only by very strict attention to the education of the masters that such results can be hoped for.

Allow me now to call your Lordship's attention to a few facts of some importance, as bearing upon the expense which the establishment of a general system of education would draw upon England. The very best authority which I have consulted, states the gross revenues of the Protestant schoolmasters in Baden to be under 170,000 florins per annum, which, when divided amongst 790 masters, gives a salary of 215 and a fraction to each, or about £18 per annum. The average rent, or interest of money sunk in schoolhouses, is computed at 60 florins or £5, and contingent expenses may be reckoned same sum of £5. Now, my Lord, I know this computation to be too high, and that a number of deductions have not been made in the calculation, which are made in fact. However, let us make the amount still higher, and reckon the average salary of all masters at 250 florins, or £20. 18s. 2, which every one to whom I have spoken considers a high average, and we shall find that the gross expense of each school is, in round numbers, £31. Each school is supposed to educate 103 scholars, as I have shown by a previous calculation; so that we may look upon it as certain that in the Grand Duchy of Baden, 100 scholars can be furnished with good primary instruction for £31 per annum. In drawing any deductions in regard to England, we must remember two points of difference between Germany and our own country: 1st, in the price of provisions, and 2dly, in the national character. The second point of difference was called to my notice by my admirable friend Dr. Schwartz, the father of German educationists, who proved to me that from the different habits and characters of the two nations, a greater pecuniary remuneration was necessary to induce an Englishman to devote himself to the task of a primary schoolmaster, than would be sufficient for a German.

The difference of prices between England and the Grand Duchy of Baden may be taken, on an average, at the rate of 3 to 2, as some articles are cheaper and others relatively dearer; which will raise the price of education to 46l. 10s. for the education of 100 children in England; and even, after adding to the master's salary very nearly ten pounds per annum more, to hold out the greater inducement which I have mentioned, the amount may be taken at 55l. per annum for the education of 100 children. I know not what may be the expense of the schools at present erected by the benevolent exertions of private individuals; but I am sure that under a general

system properly organized and superintended by the Government, the annual expense of educating one hundred children would not be greater than I have stated. Supposing, then, the population of England and Wales to amount to 14,000,000—and the same proportion of children, i. e. one in seven persons to seek the schools in our native country that do seek them in Germany—2,000,000 of persons would annually receive education at the expense of 1,100,000l. It may seem that this would be a great additional burden to an already burdened State; but I must not only contend that the burden, even at first, is more apparent than real, but also that ultimately, instead of a burden, it would prove a relief.—It can be statistically demonstrated, my Lord, that in all states where a well-organized system of education has been instituted, poverty and its consequent claims upon the public have been diminished in such a degree as to afford the certainty of an immense diminution of that tremendous burden the poor's rates, were such an educational institution established in England. I do not say that it would extinguish them, for there must always be support provided for the old, the sick, and the incapable of the poorer classes; but it would go far to reduce the poor rates to a name. Still it may be said the present expense would be a great burden on the finances of the state; but such is not the case. One half at least, or 5s. 6d. per annum for each scholar, might well be paid (and according to the best experimental opinions should be paid) by the parents of the children taught. From the 550,000l. remaining, a part must be deducted for the rent and repairs of the schoolhouses, which, beyond all doubt, should be maintained by the parishes which benefit by their institution; and to meet the remaining charge I need hardly point out to your Lordship, that there are already very considerable funds appropriated for the purposes of education, which could be applied to this purpose, without any change of destination, or any infraction of rights. The sum thus demanded of the state need but be very small indeed.

WHAT O'CLOCK IS IT?—When I was a young lad, my father one day called me to him that he might teach me how to know what o'clock it was. He told me the use of the minute finger and the hour hand, and described to me the figures on the dial plate, until I was pretty perfect in my part.

No sooner was I quite master of this additional knowledge, than I set off scampering to join my companions at a game of marbles; but my father called me back again: "Stop, Humphrey," said he, "I have something more to tell you."

Back again I went, wondering what else I had got to learn, for I thought I knew all about the clock, quite as well as my father did.

"Humphrey," said he, "I have taught you to know the time of the day, I must now teach you how to find out the time of your life."

All this was strange to me, so I waited rather impatiently to hear how my father would explain it, for I wanted sadly to go to my marbles.

"The Bible," says he, "describes the years of man to be three score and ten, or four score years. Now life is very uncertain, and you may not live a single day longer; but if we divide the four score years of an old man's life into twelve parts, like the dial of a clock, it will allow almost seven years for every figure. When a boy is seven years old then it is one o'clock of his life, and this is the case with you; when you arrive at fourteen years it will be two o'clock with you; and when at twenty-one years, it will be three o'clock, should it please God thus to spare your life. In this manner you may thus know the time of your life, and looking at the clock may, perhaps, remind you of it. My great grandfather, according to his calculation, died at twelve o'clock; my grandfather at eleven, and my father at ten. At what hour you and I shall die, Humphrey, is only known to Him to whom all things are known."

Never since then have I heard the inquiry, "What o'clock it is?" nor do I think I have ever looked at the face of a clock, without being reminded of the words of my father.

I know not, my friends, what o'clock it is with you, but I know very well what time it is with myself; and that if I mean to do any thing in this world, which hitherto I have neglected, it is high time to set about it. The words of my father have given a solemnity to the dial plate of the clock, which it never would have possessed in my estimation, if these words had not been spoken. Look about you, my friends, I earnestly intreat you, and now and then ask yourself what o'clock it is with you.

We regret to hear that Miss READ, the young female in Brooklyn, whom we mentioned a few days ago as having been badly burnt by the bursting of a spirit lamp, has since died in consequence of the injury which she sustained from that cause.—[Courier.]

THE MOTHER'S INJUNCTION,

On presenting her Son with a Bible
Remember, love, who gave thee this,
When other days shall come,
When she who had thy earliest kiss,
Sleeps in her narrow home;
Remember 't was a mother gave
The gift to one she'd die to save.
That mother sought a pledge of love,
The holiest for her son;
And from the gifts of God above,
She chose a goodly one.
She chose, for her beloved boy,
The Source of light, and life, and joy—
And bade him keep the gift,—that, when
The parting hour would come,
They might have hope to meet again
In an eternal home.
She said his faith in that would be
Sweet incense to her memory.
And should the scuffer, in his pride,
Laugh that fond faith to scorn,
And bid him cast the pledge aside
That he from youth had borne:
She bade him pause, and ask his breast,
If he, or she, had loved him best.
A parent's blessing on her son
Goes with this holy thing;
The heart that would retain the one
Must to the other cling.
Remember! 't is no idle say—
A mother's gift—Remember, boy!

FOLLY.—[From Blackwood's Magazine.]

There is folly in all the world,
Or go we east or west,
A folly that vexes the old,
And keeps the young from rest.
The miser has folly enough,
For his soul is in sordid bags,
And the spendthrift's folly, alas!
Brings him to sin and rage.
There is folly in statesmen's schemes,
For, spite of their plotting and wit,
There's a wiser hand above
That leads them with bridle and bit.
There's folly in power and pride,
That makes full many to fall,
There's folly in maiden's love,
But that is the sweetest of all.
But of all the follies, the worst—
For it stings with constant smart,
The scorpion of the mind—
Is that of a thankful heart.
For the thankful heart is cursed,
And with blessings compass'd grieves—
For it cannot rejoice with the hand
That gives nor yet receives.
To be thankful makes better the good:
And if Heaven should send us ill,
There is kindness in him that gives—
So let us be thankful still.
O let us be thankful in youth,
And for us be thankful in age—
And let us be thankful through life,
For there's pleasure in every stage.
Youth has its own sweet joys,
And he must be blind as a bat,
Who cannot see love's sweet smile,
And will not be thankful for that.
There are friends the dearest to cheer,
Fire our soul and run—
And affection makes wint'ry days
As bright as the summer's sun.
And when from the dearest on earth
We part, let us hope 'tis given—
A boon to be thank'd for still—
To meet them again in heaven.

I. A GITANILLA.—From the Songs of "Rookwood."

By the Guadalquivir,
Ere the sun be down,
By that glorious river
Sits a maid alone.
Like the sunset splendour
Of that current bright,
Shone her dark eyes, tender
As the witching light:
Like the ripple flowing,
Tinged with purple sheen,
Darkly, richly, glowing,
Is her warm cheek seen.
'Tis the Gitanilla,
By the stream doth linger,
In the hope that ere
Will her lover bring her.

See, the sun is sinking!
All grows dim, and dies;
See, the waves are drinking
Glories of the skies.
Day's last lustre playeth
On that current dark;
Yet no speck betrayeth
His long-lost look for bark.
'Tis the hour of meeting!
Nay,—the hour is past.
Swift the time is fleeting!
Fleeth Hope as fast.
Still the Gitanilla
By the stream doth linger,
In the hope that night
Will her lover bring her.

To the Editor of the New York American:

Sir—The following original lines, intended to express the first warm feelings of paternity, are with diffidence offered for insertion, if deemed to possess sufficient merit to entitle them to a corner, in your journal.

TO MY FIRST-BORN.

Less fondly to the trellis cling
The tendrils of the vine,
Than sheltered 'neath a parent's wing,
That parent's heart to thine.
A new and deeper chord of feeling
Thy touch to wake had power,
'Till my soul a bliss revealing
Ne'er felt until that hour—
The hour when in a mother's arms,
First bent my gaze on thee,
And heightened round a mother's charms,
Nurturing thy infancy.
Emotions warm that brimmed my soul,
Eureka! bade me cry;
For I had won the latest goal
Of happiness 'neath the sky.

RASSELAS.

FOR SALE.

A second hand double cylinder NAPIER PRINTING MACHINE, that will work about two thousand sheets an hour. In perfect order. It will be sold a bargain. Apply at this office.

A13 d&ctf

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THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in Morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in Marble Paper covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44. and probably not 25 cents, to any part of the country.

Published at 35 Wall street, N. Y., by

D. K. MINOR & J. E. CHALLIS.

RAILROAD IRON, &c.

Sealed proposals will be received until the 15th day of September next, for the immediate delivery thereafter at Suffolk, Va., of 250 tons of Railroad Iron in bars from 14 to 18 feet in length—2 inches wide by half an inch thick—pierced with countersunk holes; three of an inch in diameter, 1 foot or 13 inches apart from centre to centre; and for 16 tons of Spikes 4 inches long and five of an inch in diameter. Specimens of the latter, and drawings of the rail showing the size and shape of the hole, shape of the rail, and angle of the scarf, will accompany each bid.

WALTER GUYNN, Civil Engineer.

Engineer's Office, Portersmouth & R. R. R., Suffolk, Va., August 18.

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TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Philias Davis, patentee of the celebrated wire drilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber dares himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.

DEAN WALKER a 30

RAILWAY IRON.

Ninety-five tons of 1 inch by 1 inch, Flat Bars in length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 2 3/4, 3, 3 1/4, and 3 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

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TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jarvis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1853.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal-pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1853.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails, with square points. This machine will make about sixty 60 nails, and about forty 100 nails in a minute, and in the same proportion larger sizes, even to spikes for shins. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1853.

A29 t RM&F

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

J31 qt

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1853.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1853.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1853.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,

Germant. and Norrist. Railroad

m1 ly

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

J25 1f

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.

Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8

ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEATTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heatte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1853.

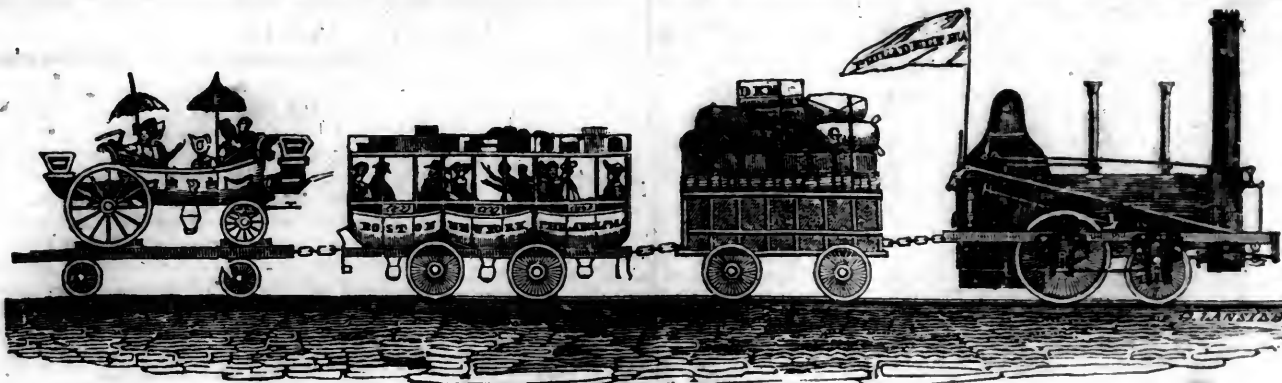
To Messrs Ewing and Heatte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, SEPTEMBER 6, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 6, 1834.

Internal improvements within our State, by her own resources, are in every sense more desirable than if made or aided by the United States; yet there are certainly exceptions to this. Such, for instance, are the improvement of so great a thoroughfare as the Hudson, and the connection of the great lakes, by cutting a ship canal round the falls of Niagara. These clearly fall within the province and duty of the General Government.

For the Hudson, a small appropriation of \$70,000 has already been made, by Congress. Captain Talcott, an accomplished officer of the United States Engineers, has, it is understood, been ordered to take charge of the work. According to the tenor of the law, the improvement, towards making which this sum was voted, is to be effected in conformity with a plan laid down in a report made some years ago by Col. Dewitt Clinton. What that precise plan is, we know not, not having the report; but from the nature of the stream itself, and of its tributaries, we apprehend great, if not insuperable, difficulties will be found, in any attempt permanently to deepen the obstructed channel. The quantities of earth, timber, &c. brought down by the spring freshes, and the rich meadows through which the river passes, will, it may be feared, constantly accumulate fresh depósitos—at or near the Overslaugh. After all, perhaps, a ship canal from Troy to Hudson would be found, in the end, the cheapest, as it certainly would be an effectual, substitute for an obstructed river.

The other work which the United States must one day undertake—and they cannot perhaps undertake it too soon—is a ship canal around the Falls of Niagara. This, as every one who has seen the ground may have perceived, is easily practicable; and as, by the time it shall be completed, the free navigation of the St. Lawrence should be conceded to us by Great Britain—as a right, not as a favor—as deduced

from the general principles that nation has been a party to and sustained in Europe, and not as resulting from any peculiar relations existing between that country and this—there would by that channel, and by the ship canal which this State is expected to construct from Oswego to the Hudson, be two new outlets opened to the fertile regions of the West.

Thus much of internal improvements by the agency of the general government.

This State, meanwhile, has a great work to perform, in which this city is full as much interested as that portion of the country where it is to be effected—a Railroad through the South Western tier of Counties. Facilities for this route, greater than the most sanguine hopes had anticipated, have, it is said, been developed by the survey; and when it is considered how little has been done for that portion of the State, and how important it is in the active competition going on for the trade of the Western States, to obtain a communication with Lake Erie, as far South as possible, so as to be available late in the fall and early in the spring without interruption from frost, it will be admitted that the proposed Railroad through the South Western tier of Counties has strong claims upon the State for aid.

See page 552.

On the Construction of Railroads.

To the Editor of the Railroad Journal:

SIR,—You know it is only a matter of course that I should read the article of "J." on the subject of a road of earth expressly for steam carriages, in your 32d number, with peculiar gratification. It is by no means certain that the subject will attract the attention of those who are most interested, and able to turn the suggestions to a good practical account. I hope it may. However, I offer you a few further observations in relation to it of a plain character. Experience must show what kind of road is best for this purpose. I observe, that at this time, (the season is dry,) the heavy stage, with its small wheels of narrow tire, and when full of passengers and baggage, (near 3 tons,) in passing by my door, if the wheels happen to go a little out of the common track, which has been beaten into dust by the horses' shoes and the wheels, they make a track or indentation that is scarcely perceptible.

The materials of this road are not gravel, but a mixture of sand and clay, such as constitutes either the upper or the second stratum of earth generally through this region. It is perfectly apparent then, that, when dry, if it were accurately graduated, and not cut up by horses' feet and narrow tires, it would be little inferior to a rail. During the time a drizzling rain is falling, it certainly is softened one eighth

or one fourth of an inch, but immediately after the rain it dries and recovers its solidity, and this result would be accelerated and perfected by the passing of such wheels as "J." has suggested. From the showing of this writer and various articles which have appeared in the Journal, it is manifest that the advantage which a railroad has over a road of earth is limited to a road level, or nearly so; and that when you arrive at an ascent of one in fifty, it is even better than a railroad. Can this be so? Few railroads can be constructed without occasional ascents as great as one in fifty. But evidently, if a line of road have one such inclination, this, of course, limits the performance of the locomotive, for, practically, it is of no use to give it a greater load on the level portion than it can take over the ascent; and all the advantage which a railroad has over a road of earth, practically, is lost. Nay, if it should have one ascent near to that which requires additional aid, it is greatly superior, and that superiority increases rapidly as the inclination is greater. I say again, can it be so? What is, then, the necessity of railroads?

But, furthermore, the construction of a railroad is a nice affair; every part must be kept perfectly tight and in its place; only small wheels can be used; and, although for trial and exhibition a locomotive may run even 40 or 50 miles an hour, yet, practically, they do not exceed 15 or 20. Whereas, it appears to me, that by the use of large wheels, (and why may they not be made even 15 feet diameter,) a locomotive may be driven on a road of earth, ordinarily, at any velocity which the resistance of the atmosphere will admit—say 50 to 60 miles an hour. It is certain, at least, that the progress of the large wheel is not only greater for each revolution, but its motion is much more smooth and equable, and not subject to jostling or agitation. I am not at present aware of any disadvantage attending large wheels, except their gravity causing a greater indentation of the road, and greater resistance in ascending an inclination. The first, I think, would be prevented by the increased diameter and breadth of tire, and the latter compensated by the greater adhesion; and finally, engines of almost any required power could be used.

Perhaps most of the above remarks are merely repetitions of what you have published before; but if there is not some very great fallacy or mistake in all that has appeared on this subject, they ought to be repeated until noticed and tested by experiment.

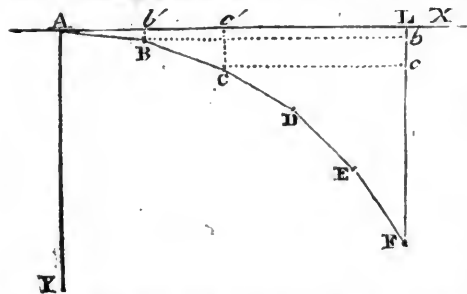
But, one word more: if roads of this description, by reason of frost, are not adapted to northern regions, they certainly are to Virginia, Kentucky, and all the southern part of our favored land, where little inconvenience is occasioned by frost.

C. O.

On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points. By J. S. VAN DE GRAAFF. Continued from page 533. [For the American Railroad Journal.]

13. Let AB, BC, CD, &c. represent the successive chains by which a given curve ABCD, &c., may be traced from its origin at the station A, in such a manner as to touch a given right line, AX, at that station; and let EF represent the *n*th chain, counted from the origin at A.

Taking AX and AY, for a system of rectangular co-ordinate axes, it is proposed to investigate formulas which will express the values of the co-ordinates AL and LF, of the station at F.



Put $x = AL$, and $y = LF$. The inclination of the first chain AB, to the axis of x , is found by Art. 10 to be $= T$; and therefore the projections of AB upon the co-ordinate axes will be, $Ab' = AB \cdot \cos. T$, and $Lb = AB \cdot \sin. T$. But as all lines are supposed to be measured in chains, it follows that the projections of AB upon the co-ordinate axes are, $Ab' = \cos. T$, and $Lb = \sin. T$. Again, by Art. 10, the inclination of the second chain BC to the axis of x is $= 3T$, and consequently the projections of BC upon the co-ordinate axes, are $b'c' = \cos. 3T$, and $bc = \sin. 3T$.

In like manner let each of the other chains be projected upon the co-ordinate axes; and then taking the sums of those projections, the following equations will obviously be the result,
 $x = \cos. T + \cos. 3T + \cos. 5T + \dots$

$$\cos. \{T \cdot 2n-1\}.$$

$$y = \sin. T + \sin. 3T + \sin. 5T + \dots$$

$$\sin. \{T \cdot 2n-1\}.$$

The reason for writing the last term, in each of these two series, as the *n*th term, requires no explanation; and the sum of *n* terms of each series being taken agreeably to the known principles of analytical trigonometry, the following formulas will be the result,

$$x = \frac{\sin. 2nT}{2 \sin. T}$$

$$y = \frac{\sin. 2nT}{\sin. T} \quad (VI.)$$

The form in which the expressions (VI.) appear is that most convenient for logarithmic computations; and it is also a form which will be required hereafter for other purposes. But for use in the field, with a table of natural sines and cosines, the expression for the value of y may have a better form. Thus, agreeably to the principles of analytical trigonometry, $2 \sin. 2nT = 1 - \cos. 2nT$; and consequently the expressions (VI.) become,

$$x = \frac{\sin. 2nT}{2 \sin. T}$$

$$y = \frac{1 - \cos. 2nT}{2 \sin. T} \quad (VII.)$$

Such are the formulas which it was proposed to investigate. For an example in figures, let the modulus of curvature be 1° , and suppose it were required to find the values of AL and LF, corresponding with the extremity of the 40th chain. In this case, then, $2nT = 80^\circ$; and by the table of natural sines and cosines, at the end of this volume, I find $\sin. 80^\circ = .98481$, $\cos. 80^\circ = .17365$, and $\sin. 1^\circ = .01745$; hence,

$$x = \frac{.98481}{.03490} = 28.214 \text{ chains; and}$$

$$y = \frac{1 - .17365}{.03490} = \frac{.82635}{.03490} = 23.675 \text{ chains.}$$

If, therefore, the chain used in tracing the curve be 100 feet in length, then $AL = 2821$ feet, and $LF = 2367$ feet.

14. Let the modulus of curvature be given from which a circular arc is traced in the field with a given chain; it is then proposed to determine the radius of the arc described.

It is very obvious that when *n* is made variable in (VII.), the maximum value of x will express the required radius; but when x is a maximum, it follows that $\sin. 2nT$ must be a maximum also, if it be supposed that $\sin. T$ remains constant. Now, the quantity $\sin. 2nT$ obtains its maximum value when $2nT = 90^\circ$; in which case $\sin. 2nT = 1$. Hence, denoting the radius of the described circle, in chains, by R , the result is,

$$R = \frac{1}{2 \sin. T} \quad (VIII.)$$

The most simple formula which can possibly be obtained to express the radius of curvature may be had by means of the cosecant of the angle T . For by the principles of trigonometry,

$\text{Cosec. } T = \frac{1}{\sin. T}$; and consequently (VIII.) becomes,

$$R = \frac{1}{2} \text{Cosec. } T. \quad (IX.)$$

To save the trouble of computation, the following table is here subjoined:

T	R	T	R	T	R
0°. 3'	572.96	1°. 3'	27.28	2°. 3'	13.98
6'	286.48	6'	26.05	6'	13.65
9'	190.99	9'	24.91	9'	13.33
12'	143.24	12'	23.88	12'	13.03
15'	114.59	15'	22.92	15'	12.74
18'	95.49	18'	22.04	18'	12.46
21'	81.85	21'	21.22	21'	12.19
24'	71.62	24'	20.47	24'	11.94
27'	63.66	27'	19.76	27'	11.70
30'	57.30	30'	19.10	30'	11.46
33'	52.09	33'	18.49	33'	11.24
36'	47.75	36'	17.91	36'	11.02
39'	44.07	39'	17.37	39'	10.81
42'	40.93	42'	16.85	42'	10.61
45'	38.20	45'	16.37	45'	10.42
48'	35.81	48'	15.92	48'	10.24
51'	33.70	51'	15.49	51'	10.06
54'	31.83	54'	15.08	54'	9.88
57'	30.16	57'	14.69	57'	9.72
1°. 0'	28.65	2°. 0'	14.33	3°. 0'	9.55

For an application of the above table to an example, suppose it be required to determine the radius corresponding to a modulus of curvature of 1° , as in the last numerical example. Looking in the column marked R, and opposite to 1° in the column marked T, I find 28.65, which is therefore the radius in chains; and if the modulus of curvature, 1° , appertains to a chain whose length is 100 feet, then the radius of the arc described will be 2865 feet. But if the modulus of curvature, 1° , has reference to a chain whose length is only 50 feet, then the curve traced will have a radius of only the half of 2865 feet.

15. It appears from (VIII.) that the radius of curvature is directly as the length of the chain, and inversely as the sine of the modulus of curvature. Hence, if the radius of curvature be given, then the length of the chain will be directly proportional to the sine of the modulus of curvature. If therefore a curve be traced from a given modulus T , and with a chain whose length is unity, and it be required to find what modulus will trace the same curve with a chord whose length in chains is p , let the required modulus be denoted by T' , and we have, the proportion $1 : p :: \sin. T : \sin. T'$; from which is obtained the formula,

$$\sin. T' = p \times \sin. T. \quad (X.)$$

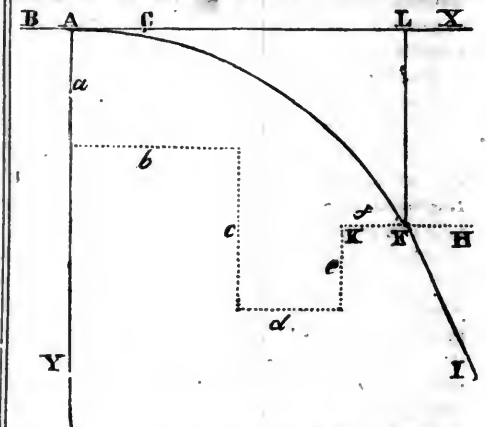
Example. Suppose the length of the chain to be 100 feet, and let it be required to determine the modulus of curvature which will trace a curve whose radius is 10743 feet, by taking chords whose lengths are 10 chains each. Here the radius of curvature is 107.43 chains; and by inspecting the table of radii, given in the last article, I find that the radius 107.43 is situated between the moduli, $0^\circ 15'$, and $0^\circ 18'$; and therefore, by proportional parts, I find the true modulus which corresponds to the radius 107.43 to be $0^\circ 16'$, and which would, consequently, trace the proposed curve with the given chain.

Hence, $\sin. T' = 10 \times \sin. 0^\circ 16' = 10 \times .00465 = .0465$; and by the table of natural sines, I therefore find $T' = 2^\circ 40'$, which is the modulus required.

In all cases where the angle T' does not exceed two or three degrees, the result obtained from (X.) will not differ, by any material quantity, from that obtained agreeably to the principle given in Article 5.

16. Take a system of rectangular co-ordinate axes, having their origin at a given station in a tangent line, from which a certain required curve is to be laid, passing through a point designated by the co-ordinates x, y ; the given tangent line coinciding with the axis of x . Parallel respectively to each of the co-ordinate axes, let any number of rectangular lines be traced from the origin, and terminating in the point designated for the required curve to meet; these rectangular lines being selected in any convenient manner to pass any obstacle which may happen to occur. Let the algebraic sums of each of those rectangular lines be taken, agreeably to the axis to which they are respectively parallel. Those sums will obviously give the values of the co-ordinates x, y ; and from thence it is proposed to determine a formula, expressing the value of the modulus of curvature of the required curve. And it is also required, from the same data, to determine a method by means of which the instrument may be immediately directed into the true tangent at the designated point x, y .

Let AX represent the given tangent line, A the given origin, and AX, AY, the co-ordinate



axes. Take F for the given point, designated by the co-ordinates $AL = x$, and $LF = y$; and let the lines marked with the small letters, a, b, c, d , &c. denote the rectangular lines, originating at A, and terminating at F, and traced in any arbitrary manner parallel respectively to each co-ordinate axis. The algebraic sums of those lines give

$$x = b + d + f$$

$$y = a + c - e.$$

It will in all cases be more convenient to determine the values of x and y , agreeably to the method here proposed, than to trace the lines AL and LF in a direct manner, even if the latter were always practicable. Very often, however, the three, a, b, c , will be sufficient.

The values of the co-ordinates x, y , having now been determined, the next object is to find the necessary modulus of curvature which will trace a curve from the origin at A, passing the

point F. For this purpose let each of the expressions (VII.) be squared,* and let the last of the two be divided by the sum of the squares; the result is,

$$\sin. T = \frac{y}{x^2 + y^2} \quad (XI.)$$

The formula thus obtained is remarkably simple, and convenient for use; and it may perhaps be well to observe, that the *safest* method of recording the lines *a, b, c, &c.*, in the field, will be to take on a piece of paper the form $\begin{Bmatrix} x = \\ y = \end{Bmatrix}$, and then record each line in its proper equation, and with its proper sign, immediately as their values are determined. Example: A system of rectangular lines having been traced to a designated point, let the resulting equations be $\begin{Bmatrix} x = 20 - 2 + 4 \\ y = 8 + 3 + 1. \end{Bmatrix}$ In this case, then, $x = 22$ chains, and $y = 12$ chains, and $\sin. T = \frac{12}{484 + 144} = \frac{12}{628} = .01911$; and by the table of natural sines I therefore find, $T = 1^\circ 53'$; which modulus will trace the curve required.

But if the curve AF, as first determined by means of (XI.) should appear to be too abrupt, or if from any other cause it should be considered advisable to commence the curve from a different origin upon the tangent line AX, as for instance at B or C, and still retain the same point F, then the necessary modulus of curvature from the new origin is easily obtained from the former measurements. For taking α to denote the distance AB or AC, the new co-ordinates will obviously be $x \pm \alpha$, and y ; and consequently upon the same principle as in (XI.), the required formula for the new modulus is,

$$\sin. T' = \frac{y}{x \pm \alpha + y} \quad (XII.)$$

If, for example, the curve last considered had been commenced 3 chains back upon the tangent line AX, as at the point B, then the co-ordinates would have been $x + \alpha = 25$, and $y = 12$; and, therefore, $\sin. T' = \frac{12}{625 + 144} = \frac{12}{769} = .01561$; or, $T' = 0^\circ 53'$; which is the modulus required to trace a curve from the new origin at B, through the point F.

The direction of the tangent will now be considered. It is very evident that the two curves considered in the two last examples will have very different directions in passing the point F; and it is a matter of considerable importance in the field, after the rectangular lines *a, b, c, &c.*, have been traced to any proposed point, to be able to examine, by the direction of the instrument, what the direction of the curve would be passing from the origin through that given point. Indeed, in different situations, a curve cannot be selected without such a datum; and if the rectangular lines, *a, b, c, &c.* were not sufficient to furnish that datum with facility, a curve would have to be actually laid upon the ground in order to judge of its fitness, even if we knew a point F through which it would pass. A formula for this purpose is however easily obtained from the rectangular lines *a, b, c, &c.* Let FI represent a tangent from the point F; there would then, evidently, be no difficulty in directing the instrument, when placed at F, into the position FI, if we knew the inclination of that tangent to the original tangent AX, at the origin. For supposing KF to be the last rectangular line traced, it will, of course, be either parallel to AX, or perpendicular to it; and in either case it furnishes the means of directing the instrument into the line FH, parallel to the original tangent at the origin. We have then only to deflect the angle HFI, equal to the inclination of the two tangents, when that inclination is known, and the direction of the curve at F may then be seen at once, from the position of the instrument, without that delay which would be occasioned by actually tracing

a curve upon the ground, which would ultimately have to be relaid.

The result therefore is, that a formula must be investigated, expressing the inclination of the two tangents, in terms of the given co-ordinates *x, y*. Take D to denote the inclination required; then by (IV.), $D = 2nT$; and therefore by (VII.), $x = \frac{\sin. D}{2 \sin. T'}$, and $y = \frac{1 - \cos. D}{2 \sin. T'}$.

$$\text{Hence } \frac{\sin. D}{x} = \frac{1 - \cos. D}{y}; \text{ or, } \frac{\sin. D}{1 - \cos. D} = \frac{x}{y}.$$

Now, substituting for $\frac{\sin. D}{1 - \cos. D}$, its value

Cot. $\frac{1}{2}D$, agreeably to the principles of trigonometry, the following formula is the result,

$$\text{Cot. } \frac{1}{2}D = \frac{x}{y} \quad (XIII.)$$

Example 1. Take the same curve which was proposed as an example for (XI.) In this case, then, the co-ordinates are $x = 22$ chains, and $y = 12$ chains; and, therefore, $\text{Cot. } \frac{1}{2}D = \frac{22}{12} = 1.83333$; or, by the table of natural cotangents, $\frac{1}{2}D = 28^\circ 36'$; or, $D = 57^\circ 13'$. Hence deflect the angle HFI = $57^\circ 13'$, and the instrument will then indicate the true direction which the proposed curve would have in passing the point F, if traced from the origin at A, by means of the modulus of curvature before determined.

Example 2. Let the direction of the curve which was proposed as an example for (XII.) be required.

Here the co-ordinates are $x + \alpha = 25$, and $y = 12$; and, therefore, $\text{Cot. } \frac{1}{2}D = \frac{25}{12} = 2.08333$. Hence, $\frac{1}{2}D = 25^\circ 38'$, or, $D = 51^\circ 17'$; and consequently, in this case, deflect the angle HFI = $51^\circ 17'$, to obtain the direction required. This curve would therefore intersect the former, at the point F, with an angle of $5^\circ 56'$.

In all cases where both of the angles D and T have to be found, the most convenient method will be to determine the value of D by means of (XIII.); and then compute the value of T from that of D. For by a reference to (IV.) and (VII.), the following theorem will be easily deduced,

$$\sin. T = \frac{\sin. D}{2x} \quad (XIV.)$$

17. It is frequently necessary that several points should be designated, through which a curve is required to pass, by means of a change of curvature at each of those points. To illustrate this case, and to show the method of operation which ought to be pursued under such circumstances, take AX, (see fig. last art.) for the primitive tangent line, and AX, AY, for primitive co-ordinate axes, whose origin is the commencement of the required curve. Trace, parallel to those axes, a system of rectangular lines given by the equations

$$\begin{Bmatrix} x = a + b + c + \&c. \\ y = d + e + f + \&c. \end{Bmatrix}$$

and terminating at the first designated point. Let the instrument be then placed at that point, and directed into tangent, agreeably to the method explained very fully in the last article. Take this second tangent as the axis of *x*, for a new system of rectangular co-ordinate axes; and parallel to these new axes, trace a second system of rectangular lines, given by the equations

$$\begin{Bmatrix} x = a' + b' + c' + \&c. \\ y = d' + e' + f' + \&c. \end{Bmatrix}$$

and terminating at the second designated point. Let the instrument be now placed at this second point, and again directed into the proper tangent, by the same means as before. Take this third tangent as the axis of *x*, for a third system of rectangular co-ordinate axes; and parallel to this second new system of axes, trace a third system of rectangular lines, given by the equations

$$\begin{Bmatrix} x = a'' + b'' + c'' + \&c. \\ y = d'' + e'' + f'' + \&c. \end{Bmatrix}$$

and terminating at the third designated point. Continue this obvious order of proceeding until

all equations $\begin{Bmatrix} x = \\ y = \end{Bmatrix}$ have been obtained for all the designated points; and then by means of those equations, and (XIV.), compute all the moduli of curvatures. Returning now with the instrument to the primitive origin at A, let each curve be traced from its proper modulus of curvature, agreeably to the principles explained in Art. 9; and the line will be found to pass through all the designated points.

If proper care be observed in chaining the different systems of rectangular lines by means of which the equations $\begin{Bmatrix} x = \\ y = \end{Bmatrix}$ have been obtained, there can be no disappointment in the result; and consequently, if the designated points have been judiciously selected, there will very seldom be a necessity of tracing the same part of a line the second time. And thus the method of co-ordinate axes, in the hands of an individual to whom that term is familiar, is susceptible of being made one of the most important facilities in the field, as will be further illustrated in subsequent articles.

In tracing the various systems of rectangular lines through the different points which may be designated for a curve, there is a principle of practical convenience which must be here mentioned. I mean the principle of designating such points, for a change of curvature, as will cause each section of the whole curve, between the designated points, to be composed of an integer number of chains, when those curves come to be ultimately traced, after their respective moduli of curvatures have been ascertained by the methods which have been already explained. It is indeed necessary, in every case, except where the roadway is perfectly horizontal, to know the length of each of those separate curves, in order to select the designated point judiciously with respect to the grade; and this datum must therefore always accompany the levels. When a system of those rectangular lines have been traced to any given point, and the corresponding equations $\begin{Bmatrix} x = \\ y = \end{Bmatrix}$ have been thus obtained, the distance from the origin to that given point, in a right line, will obviously be truly expressed by $\sqrt{x^2 + y^2}$; which is a formula rendered very convenient for use, by means of the table of squares and square roots of numbers, subjoined to this volume. And this quantity may be frequently taken as the length of the intervening curve, by which to compute what the grade would be at that given point, and will always furnish an easy method of obtaining the approximate distance necessary in making a proper selection for the position of a line as far as the levels have an influence. The next object then must be, finally, to designate such a point, as near the point fixed by the levels as a desirable curvature will permit, and which will produce a curve, from the origin, containing an integer number of chains; but as this last condition is only for convenience in subsequently tracing the curve, it must be done without injury to the line, which is in fact always practicable.

Suppose the first system of rectangular lines to be terminated at the first point selected from the nature of the ground. Let $\begin{Bmatrix} X = a + b + c \\ Y = d + e + f \end{Bmatrix}$ be the resulting equations, and compute the value of T, and the value of a certain angle D, from the following formulas,

$$\text{Cot. } \frac{1}{2}D = \frac{X}{Y}$$

$$\sin. T = \frac{\sin. D}{2X} \quad (XV.)$$

Having now obtained the values of D and T, let a certain quantity, N, be found from the following expression,

$$N = \frac{D''}{2T} \quad (XVI.)$$

If, then, N be an integer number, it will express the number of chains in a curve passing from the origin to the point designated by the

* See note, Art. 20.

equations $\begin{cases} X = a + b + c \\ Y = d + e + f \end{cases}$, and the angle D'' will then give the inclination of the new tangent at that point, agreeably to (XIII.); and T will express the modulus of curvature as appears from (XIV.). But if N is not an integer number, take n the nearest integer number to it, and retaining the value of T , compute the corresponding new co-ordinates x, y , by means of (VII.)

Finally, let two other rectangular lines $h = x - X$, and $k = y - Y$, be traced from the point producing the equations $\begin{cases} X = a + b + c \\ Y = d + e + f \end{cases}$, and a new point $\begin{cases} x = a + b + c + h \\ y = d + e + f + k \end{cases}$ will be thus obtained, to which a curve being traced from the origin, by means of the modulus of curvature T , it will contain the integer number of chains denoted by n .

[To be continued.]

In Massachusetts a steam waggon to run on common roads has been invented. Several trials have proved its efficacy. They intend to endeavor to make it pack and unpack all its packages, and keep its own account of freight.

The contracts for the Cumberland Railroad have been taken up, and the workmen have commenced operations.

Good Business.—The number of passengers conveyed on the Worcester Railroad, which is completed only to Needham, during the month of August, was 13,664, and the amount received from them, \$4705 66!

The Rochester Democrat contains the following paragraph:

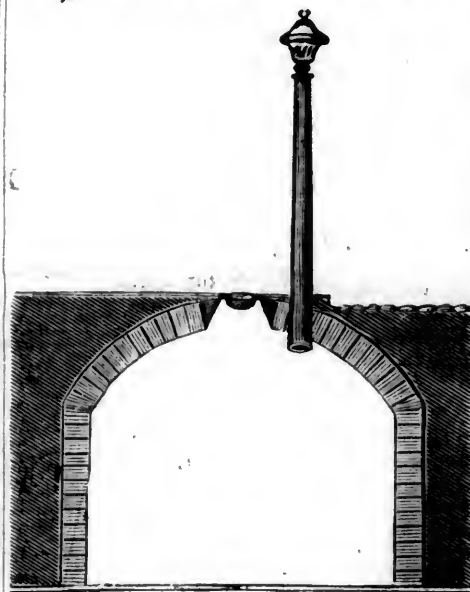
Erie Canal Navigation Suspended!—Among the strange occurrences of the day, we have to notice on Wednesday for the first time, since its completion, a total suspension of business on the Canal at this place. Nor is the suspension of navigation more to be deprecated than the evil of low, and impure water at this season of the year is to be dreaded. And when we look to the causes that have produced this state of things, we are the more surprised that our citizens submit to it as patiently as they do. We assert without fear of contradiction, that there exists no good cause, at this time, why boats should be aground, and that too for a number of days together. And this assertion is backed up by men whose experience is not to be brought into question, that to-day, and for the last two months, since a deficiency in the canal has been felt, there has been no good reason why we should not have full banks, and business going on as in years past. Years too, when greater droughts have prevailed than at this time, there was no difficulty experienced in feeding the canal at this place from lake Erie, and we again assert, there is no reason why it cannot now be done.

The Baltic Sea.—A paragraph lately published in the London papers from the St. Petersburg Commercial Gazette, mentions, in confirmation of the opinion long entertained that the waters of the Baltic are subsiding, that the water in the port of that city has become considerably lower within the course of the last twenty years. Many facts are quoted in confirmation of the same opinion. It is believed that 2500 years ago Sweden and Norway were a complete island. Many towns on the shores in this sea which were anciently ports for shipping, are now some miles from the sea. The port of Lodisa is now four miles from the sea, and that of Westerwich two miles. Torneo was once visited by large vessels, it is now in the middle of the peninsula. Many islands which were formerly distinct are now joined together, and others have been united with the continent. Some writers have argued that in 2000 years the Baltic will entirely disappear, and that for want of navigation the inhabitants of the shores will be compelled to resort to railroads for maintaining the commerce with distant countries.—[Boston Daily Advertiser.]

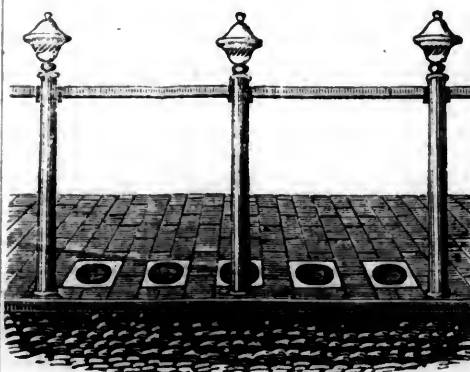
There is now making at the steam engine boiler manufactory of Mr. John Harrison, near St. Mary's bridge, in this town, perhaps the largest vessel that ever was put together in this kingdom, of wrought iron. The dimensions are as follows:—Diameter,

47 feet; depth, 20 feet 3 inches; weight, between 50 and 60 tons. It will contain 218,947 imperial gallons, or 980 tons of water, which will be a pressure on the bottom of 88lbs. on the square inch.—[Derby Mercury.]

ROCKWELL'S PATENT VAULT LIGHT.—Every citizen is aware that the common vault light, or grating, which may be seen on our sidewalks at every few steps, are not only unsightly to the eye, but often positively dangerous. Very frequently they are found loose, often broken, with a bar or two out, and in winter so slippery as to render it hazardous to step upon them. Independent of these considerations, by their openness to permit rain, snow, and dirt, to pass into the vault, and render them wet, cold, and filthy, the advantages of Rockwell's Patent Light are many. There is nothing unsightly in their appearance; but, on the contrary, they are ornamental,—are made to set secure in stone, and immovable, except when it is necessary to remove them. The passenger may put his foot on them with perfect security; and whilst they keep the vault dry, and permit ventilation to go on, possess, in addition, this advantage: they furnish, by means of the glass in the centre, light to enter, and from its convex shape, to radiate on all sides, thus giving light to the vault. Fig. 1 shows the vault, with the light, and a hollow



post through which air will pass. This pipe can be stopped up in winter if necessary, or converted into a chimney. Fig. 2 is intended



to represent the appearance outside, covering a space of 25 feet in the street, with hollow cast iron awning posts, and vault lights made perfectly tight.

Mr. Rockwell, the inventor, has also made these vault lights without ventilation holes, which are admirably adapted for vegetable vaults, where light only is required, thus excluding all cold and wet, but serving as windows to light these hitherto dark apartments.

The durability of this light, compared with the common vault covering, will be found to bear no comparison with the difference in price, which is little more than the most common in use, independent of its superior qualities.

Persons about to build, or those who would wish to improve their vaults, may see this simple, yet beautiful and economical improvement, in front of the Exchange, where two of them have been placed over vaults,—in front of the New-York Gazette,—or at the store of the proprietor, Broadway, near John street.—[Mechanics' Magazine.]

Report of the Managers of the Franklin Institute of the State of Pennsylvania for the Promotion of the Mechanic Arts, in relation to Weights and Measures. Presented in compliance with a Resolution of the House of Representatives. [From the Journal of the Franklin Institute.]

To the Hon. JAMES FINDLAY, Secretary of the Commonwealth of Pennsylvania.

The Managers of the Franklin Institute of the State of Pennsylvania, for the promotion of the Mechanic Arts, respectfully present to the Secretary of the Commonwealth their report in relation to the subject referred to them by the direction of the House of Representatives. At the stated meeting of the Managers next subsequent to the receipt of the communication of the Secretary of the Commonwealth, dated May 29th, 1833, a committee was appointed to consider the subject, and to report to the Managers of the Institute. Their report, which has been unanimously adopted, is now respectfully submitted. It is believed that no more time has been consumed by the committee than was required by a careful investigation of the subject intrusted to them, and the Managers hope that the delay of this report beyond the time of meeting of the Legislature will be attributed to the necessity of the case.

ALEXANDER FERGUSON, Chairman.
WM. HAMILTON, Actuary.

Report in relation to Weights and Measures in the Commonwealth of Pennsylvania. Adopted by the Managers of the Franklin Institute, January 25, 1834.

The Committee of the Franklin Institute, appointed by the Board of Managers to consider the subject of weights and measures, referred to them by direction of the House of Representatives of the Commonwealth, respectfully report:

That since the date of their appointment, in June last, they have given to the subject the attention which its importance, so well deserved. In order to have before them, in a condensed form, the facts relating to the practical bearing as well as to the theory of the matters of inquiry, the Committee requested from three of its members reports upon the systems of weights and measures, of England, and of France, and upon the state of the question in our own country. The reports contained in the appendix, herewith presented, resulted from this request. In the first of these is given a description of the French metrical system, and of the scientific operations required in its establish-

ment; in the second, a brief history of the weights and measures of England, with the method of connecting the recent and reformed system with a scientific basis; and in the third, an abstract of the reports upon weights and measures made to the Congress of the United States, and to the State Legislatures of Pennsylvania and New-York. An examination of these reports will show from how many points our subject has been viewed, and in what varied lights, and how little novelty can be expected in any view which at this time may be submitted. This circumstance will perhaps be found of important practical benefit, for a desire to present what is novel may have led to much of the inapplicable speculative inquiry with which the subject is encumbered.

The Committee think that they may assume that the House of Representatives of the Commonwealth, in referring the bill relating "to weights and measures and to admeasurement" to the Managers of the Franklin Institute, did not intend to confine their report exclusively to the consideration of that bill, but rather that it should form the basis of their investigations.

With this view of their duties, the Committee would propose to consider the subject under two suppositions: the first, that the Legislature of Pennsylvania shall determine, or have determined, to legislate in relation to a system of weights and measures for this Commonwealth, independently of other states; secondly, that a combined action by the several states, or by the Congress of the United States, may be admissible.

In legislating upon any matter which in its varied ramifications affects almost every business in which men engage, there cannot be too much caution. Usages have grown up in all trades, which have become a part of those trades which require a portion of an apprenticeship to learn, in contravening or changing which, by law, the interests of the citizen, if not his rights, are infringed. Hence the necessity of entering thoroughly into details which can only be supplied by the members of each art, or trade, from their own knowledge of their own wants, and which should properly vary with the progress of that art; or of leaving such details to adjust themselves, upon the basis of careful legislation upon general principles.

A system of weights and measures, which aims at furnishing such general principles, should establish the standard of linear measure, and fix the relation of the standard of capacity measures to that of the linear measure; should provide for procuring, preserving, and distributing positive standards of measure and of weights, and should refer the entire system to natural invariable standards, by which its permanence might be secured. It should be accompanied by a supplementary law less fixed in its character, which should state the principal denominations of the several measures and of the weights, and their relation to each other and to the standards.

The system may contemplate an entire change in the standards and in the denominations; or it may aim at providing standards in conformity with those in most common use, and by which the accuracy of existing standards may be at all times tested, and at improving existing denominations.

The case of an entire change is presented by the French metrical system, where throwing aside, in their measures, the denomina-

tions of foot and toise, they adopted a new denomination, the metre corresponding to a new length, the ten millionth part of a quadrant of a terrestrial meridian. The present English system is in part of the second kind; leaving to usage to establish the denominations, it aims at providing positive standards of authority, and of perpetuating them by their comparison with invariable standards furnished by nature. The inability of the first system to contend against usage, is to be found in the establishment by law in France of a metrical foot, one-third of a metre in length, of a metrical pound half the kilogramme of the new system in weight. Had one currency been in use throughout our infant country when the present currency was established, it is not impossible that its beautiful simplicity might, even at this day, have existed only in theory.

Sound policy, nevertheless, requires that, from time to time, such changes should be introduced in existing denominations as will tend to simplify the system, and to bring it gradually nearer to perfection; but even in these, perhaps, the law should follow indications of change dictated by convenience, rather than undertake to lead them.

A system of weights and measures and of denominations based upon that in common use in our country, would include the following particulars: first, a reference to some existing measure as the standard of length; as, for example, to a certain yard measure in the possession of the State, which should be declared at a certain temperature to be the linear unit. The multiple and submultiple denominations of this standard should be declared as lines or nails, inches, feet, perches, &c. Second, a unit measure of capacity, as, for instance, the bushel, should be defined in reference to the linear standard. This unit might be taken for both dry and liquid measures, or it might be deemed advisable to conform to usage by providing different units for liquid and for dry measure. In regard to the denominations an obvious improvement might be made by avoiding the use of the same name for things essentially different, as a gallon for different capacities according to its use in dry or in liquid measure, a change which would not fail to be sanctioned by general adoption. Third, a reference to a positive standard for weight, as a certain pound in the possession of the State. The multiple and submultiple denominations to be regulated. And here a question presents itself, whether it may be possible to have but one unit of weight denominated the pound, rejecting the troy or avoirdupois pound, as may be thought advisable. In choosing between them, the difficulty presents itself that the former pound has been legalized by Congress in our coinage, by referring to the standard troy pound in possession of the mint, while the latter is the pound generally used in commerce. It is probable that this innovation could not be made with advantage at present. In regard to the denominations a similar difficulty is presented in the ton, which is either 2,240 or 2,000 lbs. according to locality, or to usage, or to agreement. To the adoption of the ton of 2,000 lbs. technically called the short ton, there does not seem to be any insuperable objections. It is so convenient in practice that it has been legalized by several of the States, and is used in many cases in our own Commonwealth.

In providing for the distribution of positive

standards throughout the State, the nature of the material of which they shall be made will be an important item. For the material of their positive standards of length, the French adopted iron, the English brass; for those of weight, the former employed platinum for the original standard, and brass for the copies; the latter brass for both. In case of the adoption of either metal, it would be important to inquire by experiment more carefully than has been hitherto done, into their relative expansions under different circumstances of manufacture. This would not bear merely upon the theoretical perfection of the standards, but upon that in practice, for two standards which were alike when made in winter, might, if compared in summer, differ so much that one would be thought to require the expense of alteration. If the yard stick of the merchant will not be changed by this difference, it will become sensible in the chain of the surveyor, and the landholder will find his limits affected by it.

Next, the positive standards thus provided should be referred to some natural invariable standard. The necessity for this reference is so frequently denied that the object would seem not always to be perceived. Positive standards are liable to change by accident and by use. Let us suppose a case in which a standard of measure belonging to the Commonwealth, and carefully deposited in one of its offices, receives injury in taking it down for examination or in course of a comparison of another measure with it. The county standards are resorted to, for the purpose of recovering the original length of the standard, but if not well preserved, or if frequently used, they disagree. It is in such a case, and the probabilities are strong of the occurrence at some time of similar cases, that the natural invariable standard becomes the means of deciding between the varying measures. The length of a pendulum vibrating seconds or the arc of a meridian is measured by using either of the measures; the length thus found is the same number of inches and parts of an inch with that of the pendulum or of the arc, which was previously fixed with reference to the original standard, or is so many parts of an inch too long, or too short, and the length of the original measure is known by reference to that which has been tested. But it is not necessary to resort to any supposition of accident which may occur to the positive standard; the experience of England has shown that, under ordinary care, changes will be found from century to century, and that measures which are at one time easily known and recognized to be the standards, may at some other time be the subjects of antiquarian research. Part of the reproach under which the scientific operations here referred to lie, namely, that they are liable to corrections as science progresses, is due to the fact that experimenters have not been satisfied with stating the results of experiment, but have endeavored to deduce from theory the relation between those results and others in other circumstances, using for this purpose the data furnished by the science of the day. Thus they have not been satisfied with stating that the pendulum vibrating seconds, and in a circular arc, measured with a means described, at a given temperature and pressure, and at a particular spot, was a certain number of inches of the standard; but they have undertaken from their experi-

ment to conclude what the length would be in a vacuum, in a small arc, at an assumed temperature and pressure, at the level of the sea, and in a particular latitude, and these before the weight of the air, the effect of its buoyancy, &c. were well known and established, even according to the knowledge of the day.

The Committee, in the discharge of the duty committed to them by the Managers, proceed to submit their examination of the bill referred by the House of Representatives; in this they will be as brief as is permitted by the fact that many of the provisions of it are at this time the law of the State. If the Committee are correct in the ideas which they have already expressed in relation to the requisite enactments for regulating weights and measures, the objection to the bill, on the score of its leaving general principles to enter partially into details, is a sound one; this remark has reference more particularly to that part of the bill which relates to admeasurement, in relation to which it will be necessary for the Committee to go into minutiae, in order to be intelligible.

The twenty-seventh and twenty-eighth sections establish a certain ratio between the weight of different commodities, and the measured bushel, in regard to which, as far as the usage of this portion of our State can be ascertained, four of the commodities mentioned are not bought and sold by weight; and of the two which are, one is always purchased at a different weight per bushel from that assigned in the sections, the brewers of Philadelphia always buying their barley at the rate of forty-eight pounds to the bushel. Salt of all descriptions pays duty at the rate of fifty-six pounds to the bushel, and is in all cases sold by measure. The usage will probably be found to be different in other parts of the State, for where materials are concerned which have weights in proportion to their bulk, varying with soils and seasons, or, as in the last case, with the moisture of the air, equitable dealing could not fail to produce such differences.

In regard to the scale of anthracite coal, provided for by section twenty-nine, no mention being made of the bituminous coal, usage has established its scale by weight, and no necessity exists for providing a ratio between measure and weight.

The measure of an acre of land, of a cord of wood, or bark, the contents of a hogshead of cider, each is made the special subject of a section, while other superficial measures, the measurement of lumber, &c., the contents of casks of beer, ale, whiskey, &c. &c., are left, as indeed all should be left, to the regulation of inspection laws, or to usage.

Section tenth is liable to similar objections, as providing for a peculiar form to be given to the bushel for measuring lime, which is one only of the many commodities sold by the heaped bushel. A provision for a legal standard bushel would regulate all such cases. The law provides in section seventh for both a wine and a beer gallon, a provision which the committee consider particularly objectionable, the inconvenience of two different measures having the same name, is obvious, and practice confirms the conclusion: the beer gallon being no longer, as far as the committee can ascertain, in use, at least in the city of Philadelphia.

The Committee would further remark, that they have not been able to find why the

regulator of the weights and measures of the city of Philadelphia should not be subjected to the same enactments with other regulators or inspectors: the want of inspection laws to regulate the duties and fees of the office seems to be felt by the citizen who now fills, with industry and zeal, the office of regulator of this city.

Leaving these details, the Committee would urge a general objection to the portion of the bill referring to the positive standard for weights and measures. It is that, after providing for procuring those standards and distributing them, by means which would require an expenditure not at all, however, beyond the necessity of the case, it renders nugatory the whole of the work done, by providing that whenever the United States' standards shall be declared, those of the State shall conform thereto. The existence of a system which has cost the State much time and labor is thereby made contingent upon their obtaining standards which may be those adopted by Congress at some future day, or upon the want of action of the United States upon the matter. The difficulty of a change after a complete distribution of standards would necessarily be much greater than at a time when the want of some standard was generally admitted.

With great deference to the body who are to consider the subject, the Committee have prepared an altered draught of a bill in conformity with the views which they have submitted in the foregoing, and which they respectfully submit for examination, under the supposition that legislation is, at this time, deemed advisable. The bill containing the general provisions for a system of weights and measures is accompanied by a supplementary one establishing the legal denominations. In regard to the manner of this appointment of regulators or sealers of weights and measures, to the securities to be required for the faithful performance of their duties, to the penalties for negligence, and to the penalties for infringement of the provisions of the bill, the Committee do not consider it within their province to offer any remarks, further than that they are of opinion that they may conveniently form a separate subject of legislation, and should not be incorporated with the general enactments.

The Committee will next proceed to a more grateful portion of their duty than that which required the criticism of the bill referred to them; namely, to consider the case in which action by the Congress of the United States may be deemed by the Legislature to be advisable. Next to the inconveniences which result from a varying standard of measure and weight in the same community or neighborhood, may be ranked those produced by a want of uniformity in the standards of different contiguous States; for it must happen, in a republic organized as is our own, that the different parts of the same State have less frequent communication requiring the use of such standards, than the adjacent parts of the different Commonwealths. So impressed are the Committee with this view, that they would express it as their decided opinion that the most imperfect system of weights and measures which has ever been framed, would, if applied in all the States of our Union, be preferable to the most perfect system which should be adopted by any one Commonwealth singly. The Constitution having delegated to Congress the

power "to fix the standard of weights and measures," there seems to be no doubt but that that body have authority to legislate upon such a system as has been offered for the consideration of the House of Representatives of this Commonwealth, in which the object is rather to fix standards so that they shall not be liable to change for the future, than to make innovations in existing legal standards. Indeed, in most of the laws of more recent origin adopted by several States, there is a distinct provision, that when Congress shall furnish a system of weights and measures for the United States, the temporary State standards shall be made to conform to the national standard. The exceeding importance of uniformity is thus distinctly set forth, from quarters of the highest authority in the different parts of our extended republic.

In the multitude of objects to which the national legislation must be directed, it is hardly to be wondered at, that no action should have taken place upon this one. If the wants of the States, or any of them, should be expressed, Congress could hardly fail to take up a subject upon which so much unanimity of view might be expected. Frequent consideration has been given by that body to providing a system of weights and measures, even without the stimulus just referred to, as appears by a reference to the analysis of their proceedings accompanying this report. So far as the collection of the revenue is concerned, the object of uniformity in the standards is near its accomplishment, under directions, issued from the Treasury Department of the United States, for the distribution of standards to the custom-houses; and thus one motive which might have induced the action of Congress is removed, and the necessity for exertion on the part of the States, to secure so desirable an object, is increased. That standards issued to the custom-houses can be substituted for national standards, even though legalized in the collection of the revenue, by an act of Congress, is obviously impossible: unrecognized by the laws of the States which contain no provisions deferring to such standards; not placed at all in some of the States, and but sparingly distributed in any, they could not, even by usage, and in violation of the State laws, become standards. They would tend merely to increase the diversity of standards, and unless conforming to those of the State in which they were introduced, would cause duties to be paid on commodities by one measure or weight which were sold by a different standard. The Committee would therefore most respectfully request the Managers of the Franklin Institute, to urge upon the House of Representatives, of this Commonwealth, to call the attention of Congress, through our Senators and Representatives, to the necessity of fixing the standard of weights and measures throughout the United States; and further to suggest that the co-operation of the Legislatures of other States be obtained by executive communication.

Your Committee feel satisfied that the House of Representatives of this Commonwealth may lay the subject now under consideration before Congress in a form so conveniently adapted to their legislation upon it, that a speedy action will be ensured. But should this action be delayed for two or three years, the inconvenience of action under existing laws, for such a period, would hardly counterbalance the probability of benefit to

be derived from legislation by Congress. If such just hopes should be disappointed, the people of this Commonwealth would then confidently look to the care of their legislature to furnish them with standards so essential to the dealings of all classes of the community.

COMMITTEE.

Alex. Dallas Bache,
S. V. Merrick,
William H. Keating,
Rufus Tyler,
M. W. Baldwin,
Benjamin Say,
Asa Spencer,
Abraham Miller,
R. M. Patterson, M. D.
Scars C. Walker,
Benjamin Stancliff,
Thos. McEuen, M. D.
Edmund Draper,
David H. Mason,
Benjamin Reeves,
Thos. P. Jones, M. D.
Frederick Fraley,
Samuel Moore, M. D.
Samuel Hains.

An Act to fix the Standards of Measures and Weights in the Commonwealth of Pennsylvania.

Section 1.—Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, in General Assembly met, and it is hereby enacted by the authority of the same: That the standard unit of all measures of length shall be the "yard," to conform to that in use in this Commonwealth, at the date of the Declaration of Independence, the positive standard to be obtained as hereinafter described; and that one-third of said yard shall be one foot, and one-twelfth of said foot shall be one inch.

Section 2.—And be it further enacted by the authority aforesaid, That the standard of liquid measure shall be the gallon, to contain two hundred and thirty-one cubic inches of the standard aforesaid, and no more. And that the standard of dry measure shall be the bushel, to contain two thousand one hundred and fifty cubic inches and forty-two hundredths of a cubic inch of the standard aforesaid, and no more.

Section 3.—And be it further enacted by the authority aforesaid, That the standard of weight shall be a pound, to be computed upon the troy pound of the mint of the United States, referred to in the act of Congress, of 19th May, 1828, to wit—the troy pound of this Commonwealth shall be equal to the troy pound of the mint aforesaid; and the avoirdupois pound of this Commonwealth shall be greater than the troy pound aforesaid, in the proportion of seven thousand to five thousand seven hundred and sixty.

Section 4.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor of this Commonwealth to procure, within — years from the date of the passage of this act, a standard yard, to constitute the positive standard of length in this Commonwealth; said standard to be equal in length, at the temperature of melting ice, to the distance between the eleventh and forty-seventh inches on a certain brass scale of eighty-two inches in length, procured for the survey of the coast of the United States, and now deposited in the war department. The material of said standard to be brass, and the divisions upon it to

be inches and parts of an inch of the brass scale aforesaid.

Section 5.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor to procure, within — years after the passage of this act, for the use of this Commonwealth, a standard gallon and bushel, to conform to the provision of section second, of this act. The material of said standard to be cast brass.

Section 6.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor of this Commonwealth to procure, within — years after the passage of this act, a duly authenticated copy of the troy pound of the mint of the United States, to constitute the positive standard of weight of this Commonwealth. The material of said standard to be brass.

Section 7.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor of this Commonwealth to have the positive standards of measures of length and capacity, and of weight, provided by the foregoing sections, inclosed in suitable cases and deposited in the office of the Treasurer of this Commonwealth, to be by him there carefully preserved.

Section 8.—And be it further enacted by the authority aforesaid, That it shall be lawful for the Governor of this Commonwealth, when he shall deem it expedient, to have tested the conformity of said positive standards of measure and weight to the foregoing provisions of this act, or to the natural invariable standards hereinafter provided.

Section 9.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor to provide, within — years after the passage of this act, for each of the counties of this Commonwealth, at the charge of the counties respectively, duly authenticated copies of the positive standards of measures of length, of capacity, and of weight, referred to in the foregoing sections, of the material therein referred to, and of approved construction. And having caused the same to be duly stamped, to have them delivered to the Commissioners of the counties respectively, to be used as standards for the adjusting of weights and measures, and for no other purpose.

Section 10.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Commissioners of the respective counties, at least once in every ten years, and oftener if they have reason to believe it necessary, to cause the standards of the respective county to be examined and tried, and, if necessary, to be corrected or renewed according to the standards of the Commonwealth heretofore referred to.

Section 11.—And be it further enacted by the authority aforesaid, That it shall be the duty of the Governor, within — years after the passage of this act, to cause the positive standards, herein described, to be referred to natural invariable standards, and to deposit in the office of the State Treasurer the authentic certificates of such reference, with the apparatus by which it was made. The length of the standard yard to be compared with that of the pendulum vibrating seconds at a certain and defined spot in the Independence Square in the city of Philadelphia or in some unalienable public property, at an ascertained and convenient temperature and pressure; all the circumstances of the comparison to be stated. The standard of weight to be compared with that of one hundred

standard cubic inches of water, at its maximum density, and at a convenient atmospheric pressure.

An Act to fix the Denominations of Measures and Weights in the Commonwealth of Pennsylvania.

Section 1.—Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, in General Assembly met, and it is hereby enacted by the authority of the same: That the denominations of linear measure of this Commonwealth, whereof the yard, as heretofore provided, is the standard unit, with the relations thereof, shall be as follows:

12 inches make 1 foot.
3 feet make 1 yard.
5½ yards make 1 rod, pole, or perch.
40 rods make 1 furlong.
8 furlongs make 1 mile.

Section 2.—Be it further enacted by the authority aforesaid, That the denominations of superficial measure of this Commonwealth, whereof the square of the linear yard, as heretofore provided, is the standard unit, with the relations to said standard, and to each other, shall be—

30¼ square yards make 1 pole or perch.
40 square poles make 1 rood.
4 square roods make 1 acre.
640 acres make 1 square mile.

Section 3.—Be it further enacted by the authority aforesaid, That the denominations of liquid measure of this Commonwealth, whereof the gallon, as heretofore provided, is the standard unit, with the relations to said unit and to each other, shall be—

4 gills make 1 pint.
2 pints make 1 quart.
4 quarts make 1 gallon.
31½ gallons make 1 barrel.
2 barrels make 1 hogshead.
2 hogsheads make 1 pipe.
2 pipes make 1 ton.

Section 4.—Be it further enacted by the authority aforesaid, That the denominations of dry measure of this Commonwealth, whereof the bushel, as heretofore provided, is the standard unit, with the relations to said standard and to each other, shall be—

4 pecks make 1 bushel.

And the minor divisions of the peck shall be its aliquot parts. Provided, that the form of the dry measures shall be conical, that the diameter of the circle of the top of the measure shall be not less than one twentieth greater than the diameter of the bottom of the measure, and the height not more than nine twelfths of the diameter of the bottom.

Section 5.—Be it further enacted by the authority aforesaid, That the denominations of weight of this Commonwealth, whereof the troy pound, as heretofore provided, is the standard unit, with the relations thereof to said standard and to each other, shall be—

24 grains make 1 penny-weight.
20 pennyweights make 1 ounce.
12 ounces make 1 pound.

Section 6.—Be it further enacted by the authority aforesaid, That the denominations of weight of this Commonwealth, whereof the pound avoirdupois, as heretofore provided, is the standard unit, with the relations to said pound and to each other, shall be—

16 drams make 1 ounce.
16 ounces make 1 pound.
25 pounds make 1 quarter.
4 quarters make 1 hundred.
20 hundreds make 1 ton.

On the Proposed Ship Canal from Oswego, through Utica, to Albany.

To the Editor of the Railroad Journal:

SIR—Having understood that you were one of the advocates for the proposed ship canal, from Oswego through Utica to Albany, I have transcribed the following facts, and have added a few suggestions in relation to them, with a view to their insertion in your paper. I shall deem myself amply repaid for the trouble I have taken, if it is the means, in however humble a way, of engaging the attention of our citizens towards this highly important object. The idea of a water communication from Lake Ontario to the Hudson is by no means one of those forced and chimerical projects by which the present day is so eminently characterized; indeed, we believe that it is the first towards which any attention was turned. As early as the year 1791, Mr. Elkanah Watson, one of the Commissioners of the Indian Treaty at Fort Stanwix, travelled as far west as the village of Geneva, and so impressed was he, by his personal observation, of the practicability, and comparatively small outlay of an internal navigation from Albany to Oswego, that in a letter written to a friend while on his very first excursion, he says, "We are sailing parallel to the great Ontario Ocean, which I hope to see; and enjoy in delightful anticipation the prospect of a free and open water communication from thence to the Atlantic via Albany and New-York." Upon his return, he immediately communicated the result of his observations to General Schuyler, with a view of obtaining the influence of this great man towards bringing the project, in some shape, before the Legislature of the State: with what success, the writer is not aware. The ensuing year, however, the "Western Inland Lock Navigation Company" was incorporated, for the purpose of improving the navigation of the Mohawk and Seneca rivers, and of opening a communication between both, by means of Wood creek and Oneida lake; and eventually to effect a complete communication with Lake Ontario. Owing, however, to the want of the necessary means, little else was done than the construction of the locks at Little Falls, and some trifling improvements in the Mohawk. The Erie Canal at that time became the all-absorbing project, and merged in itself the little interest that had been excited in this, at that day considered, minor undertaking.

We have mentioned the above facts in support of the assertion, this project is not the result of a day's growth. Surely, the remark of the "time not having yet arrived for agitating this question when can hardly be thought valid," we see that, even at a time when the immense forest west of Utica was a stranger to the sound of the axe, when even the name of the Erie Canal was as yet unknown, men were found so convinced of the importance of this work, as to have organized themselves into a company, and to have actually commenced the construction of a work having the very same objects in view as that which we are at present advocating. As soon, however, as the experiment of the Erie Canal was successfully tested, the old project of a communication with the lake was again revised; and after some little delay, the year 1826 witnessed the commencement, and 1828 the completion, of a canal, of the same dimensions, from Oswego to Salina. This, together with the one proposed from Sodus Bay to Montezuma, has for its object the interception of the lake trade. The necessity, however, of a transhipment at the harbors of Oswego and Big Sodus, from the larger craft of the lake to the smaller barges of the canal, has so much increased the cost of transportation as will inevitably prevent their attaining in any great degree the objects proposed by the Ship Canal.

Fully alive to their interests the inhabitants of Oswego and Utica have since been taking the necessary preliminary steps, the Legislature has been petitioned—committees have

been appointed for the collection and transmission of information on the subject, and with a view to engage the attention of the people towards this project.

We have endeavored in the above to give some little history of the Canal. We would now adduce some few facts, and endeavor to prove by them that the day has arrived when the State in general, and the City in particular, (if they would consult their own interests,) are called upon to take immediate measures towards the construction of this work.

The policy of Great Britain towards her Canadian colonies is one of the utmost liberality. She is fully aware of the great facilities they possess by nature, and she is rapidly improving those facilities by the most magnificent works of art. The Rideau Canal, and that now constructing round the Rapids, have proved that the river St. Lawrence is not the bugbear we always believed it to be. The success of the Welland Canal is no longer a matter of speculation. The Ship Canal from Lake Huron to Lake Ontario is now under examination by British engineers. The St. Johns and Chambly Canal will be finished in a year. In short, on our whole frontier, such preparations are making, as will, if not shortly counteracted by our own exertions, divert from us our boasted trade; and which, in peace, will feed the treasury, and, in war, will nerve the energies of a jealous and enterprising commercial rival. Every inducement is now offered by the government for emigration to their colonies. The climate of Upper Canada is as genial, the land as fertile, and the facilities of purchasing and settling as great as in any of the States. And we need only mention that there were 50,000 emigrants landed last year at Montreal, to prove that the tide of emigration is setting towards the Canadas.

Such is the present state of things abroad; let us now turn our attention to our sister cities. Among them, too, the spirit of improvement is making the most rapid progress. Boston, Philadelphia, Baltimore, Washington, and Charleston, are all, (some by canals and some by railroads,) making every exertion to secure for themselves a portion, at any rate, of the trade of the "far west." Pennsylvania is the most ambitious competitor we have to contend against. By her increased and increasing facilities, she is rapidly driving us from the valley of the Mississippi. Owing to the lateness of the season at which the harbor of Buffalo is clear from the ice, our Erie Canal is a nullity till about the 20th April, full six weeks later than the Pennsylvania Canal.

Differences seem to have arisen between the New-York and Ohio Canal Boards, which have produced a conditional resolution of the Ohio Commissioners for doubling the rates of toll on the Ohio canals, on all merchandise transported in a direction from Lake Erie." And even if this unfortunate collision should be adjusted, Pennsylvania is determined to avail herself of all her advantages, and by an immediate extension of her Beaver Canal, intercept, at the mouth of the Conneaut at Lake Erie, that trade upon which our Canal mainly depends. Thus, fellow-citizens, do we see that while we are vainly relying on the infallibility of our one canal, our powerful neighbors are not leaving a stone unturned to effect their object. Should this state of things be allowed to continue without any exertion to counteract its evil effects, the day is not far distant when we shall be obliged to yield to another that enviable distinction, which we have so long held, of the "great commercial emporium."

Let us now look upon the reverse of the picture, and consider the means we possess for an effectual means of preserving our western trade.

Small as is the Oswego Canal, and notwithstanding the necessity of the transhipment on the lake, goods are now carried from

New-York to Cleveland for a less price by way of the lake than by the Canal, as will appear by the following.

"Comparative View of Expenses in the transportation of Merchandise from New-York, via the Erie Canal and Buffalo, to Cleveland, Ohio, and by the new channel of Lake Ontario and the Welland Canal, to the same place."

The present regular price for transportation from New-York, per the Erie Canal and Buffalo, to Cleveland, as charged by Hart, Griffith & Co. and others, is,

For dry goods, per 100 lbs. - - - \$1 56

On all heavy goods, per 100 lbs. - - - 1 45

The present regular price for transportation from New-York, via Oswego, Lake Ontario, and the Welland Canal, to Cleveland, as charged by I. S. Wyckoff, agent for Troy, Oswego, and Ohio Line, is,

For dry goods, per 100 lbs. - - - \$1 20

On all heavy goods, per 100 lbs. - - - 1 09

The Ontario channel is a new one, and forwarders say the price of freight will be reduced when vessels are built better adapted to the Welland Canal navigation. Vessels are now building for this purpose, to carry 180 tons."

How much the more, then, will we be enabled to compete with other means, if we do away, by the ship canal, this extra transshipment.

Objections have been urged against the risk incurred by the navigation on the lakes. We need only, we think, adduce the fact, that insurance is effected at as low a rate upon them as on our inland canals. Harbors are numerous on all the lakes; on Ontario are Oswego, Big Sodus, Genesee, and Braddock's Bay; on Erie are Black Rock, Buffalo, Dunkirk, Erie, Conneaut, Ashtabula, Cunningham, and Cleveland. There are also harbors at the mouths of Grand, Black, and Huron rivers; in all of which, improvements requiring immense outlays of money have been made, under a judicious system of operations, by the General Government. Nature, too, in favoring us with a milder climate than Montreal and Quebec, has done much to aid us. All then we want to divert into our own lap the trade and resources of this immense section of country is the ship canal. Let this communication be once effected, and "hundreds of ships that now bound upon the billows of these inland seas," bearing away to our neighbors, for want of a market at home, our own productions will seek this easiest, and most natural channel. Let us awake, then, fellow citizens, to our own interests, ere yet it is too late: exert ourselves now, and in three years' time, with an expenditure of only 2,000,000 of dollars, we are safe.

In the coming session of the Legislature this project will be submitted for their consideration; we have no doubts for its result—the means only are wanting; and we hazard little in saying, that the name of that statesman, who, throwing aside the petty trammels of party politics, shall urge to a successful completion the Ship Canal, shall be handed to latest posterity, hallowed by the association with that of the "immortal Clinton." B.

[FOR THE NEW YORK AMERICAN.]

Oswego, August 27, 1834.

Mr. Editor: I noticed in your paper of the 22 inst. an article signed "Pearl street" on the subject of the contemplated convention at Utica on the 11th of next month, to consider the project of a Ship Canal from Oswego to Utica, and thence to the Hudson. The writer is evidently unacquainted with the object in question, although he treats it, in a manner, as if he was quite *au fait*. Permit me through your columns to furnish to "Pearl street," and others, some of the principal reasons that will probably be offered to the convention at Utica in favor of the project.

1. The vast superiority in point of economy in transportation effected upon natural water communications admitting of navigation by large vessels or Steamboats, over transportation upon Canals and

Railroads. This has been satisfactorily proved by experience on the Hudson, the Lakes and the great rivers of the west—for instance, a bushel of wheat is now carried from Troy and Albany to New York, for three cents, while the same transportation for a like distance upon the canal can not be effected for less than ten cents: the conclusion therefore seems unavoidable, that if the products of the west can find a passage to the Ocean by Steamboats or other large vessels, they will undoubtedly seek that channel.

3. The extraordinary efforts now making in the Canadas for the improvement of the great natural navigable facilities existing within those Provinces, namely, the gigantic work in progress on the St. Lawrence of locks 200 feet in length, 55 feet in width, and 9 feet in depth from the mitre sill. The existence of the Welland Canal, connecting Lakes Erie and Ontario by a ship canal, with locks of 110 feet in length, 22 feet in width, and 8 feet in depth; probably to be hereafter enlarged to a corresponding size with those now constructing on the St. Lawrence. The contemplated construction of a Railroad from Queenstown to Chippewa. The easy connection by ship canal, of Lake Huron, through Lake Simcoe, with Lake Ontario, now being surveyed by order of the Canadian Government.

3. Communications will be laid before the Convention from the ablest Engineers, proving that a ship canal can be constructed with ease from Lake Ontario; via Oswego and Oneida Lake, to Utica, at a cost of less than one million of dollars, and although the cost from Utica to the Hudson will be considerably greater, that it is easily within the means of the State.

4. It will be urged that the existence of the Welland Canal, and the improvements on the St. Lawrence, not only destroy the arguments used by the Canal Commissioners in their report of 2d March, 1811, to the Legislature, against the route by Oswego, but actually prove the necessity of its being adopted on the most enlarged plan it is capable of, without further delay.

[In that famous report the Commissioners say: "Two routes have been suggested to obtain the trade of the West; one, the direct communication to Lake Erie, now adopted—the other, a cut round Niagara Falls, and from Albany by Rome to Oswego, terminating the Canal there." Notwithstanding that limited pecuniary resources were at that time a great impediment, still on a comparison of the cost and obstacles of the former with the latter, they put the interrogation, "Whether being less difficult and expensive, it would not be advisable to descend into Lake Ontario, rather than encounter the difficulty and expense of the other course?" To which they reply: "The Commissioners believe it would not; and without relying as they might for support of their opinion on the comparative expense of transportation, it is sufficient to say, that articles for exportation, when once afloat on Lake Ontario, will, generally speaking, go to Montreal, unless our British neighbors are blind to their interests."

5. It will be stated, that the Erie Canal from Buffalo to Albany will in a few years scarcely suffice for the transportation of the produce of our own State, much less carry that of the great West, should the cost of transportation even be no obstacle.

6. It will be shown, that unless a cheaper mode of transportation of the produce of the West can be adopted, it must and will in a few years hence find its way down the St. Lawrence! I will here instance the effect it may have in our own State: The freight of a barrel of flour from Rochester to New York, on the Erie Canal, is not less 62 1/2 cents—from Oswego, 58 cents. A great quantity of Western flour is annually sent to Boston, &c. Let the improvements on the St. Lawrence be once completed—namely, locks of 200 feet long, 55 feet wide, and nine feet deep—what will prevent our Eastern merchants from constructing suitable vessels of a large class, and carrying to Oswego, Rochester, &c., their fish, their oil, and thousand other bulky articles, and bringing away our Western flour and other produce.

Sir, we ask no favors from your citizens—we only wish to open their eyes to their true interests! For that purpose the Utica Convention has been called; and if "Pearl Street" can point out a better plan to secure the Western trade to New York, I for one shall cheerfully submit to the loss of the few crumbs that I expect to fall to my share if the object of the Utica Convention should be carried into effect. All we desire is to arouse the New-York merchants from the state of lethargy and security in which they have been for some years past. Let them look to Pennsylvania, and they will learn that Cotton and Tobacco are now coming up the Ohio to Pittsburgh, and are thence brought to Philadelphia in considerable

quantity. I have heard from good authority that flour is brought from Pittsburgh to Philadelphia for 75 cents per barrel. And what, I ask, will be left to New York of the great western trade, when the Canadian improvements once completed, offer a still cheaper channel than any now existing for the transportation of the bulky products of the West.

I am, with great regard, your most ob't serv't.
AN OLD MERCHANT.

[FOR THE NEW YORK AMERICAN.]

MR. EDITOR: As the newly raised regiment of Dragoons have, ere this, started on their summer campaign, one object of which seems to be to effect a treaty with the Pawnees, I have thought that a brief account of these Indians might not prove unacceptable, and; perhaps, in this armed truce of politics would serve to fill a column of the "American," not devoted to more important matters.

The Pawnees may be divided into two classes or tribes, the Pawnee Piqua's or Pawnees of Arkansas and Texas, and the Pawnees of the Missouri. The former are a roving race like the Sioux, have no permanent villages, and when not engaged in predatory excursions, follow the range of the Buffalo. It is of course difficult to estimate their numbers: however, I should suppose that 3000 warriors would be within bounds. They must be numerous; for their war parties often amount to 3 or 400, and they have been known to carry on, at one time, successful wars both against their ancient enemies, the Osages, and the Mexican tribes of Comanches and Teton. Their language is the same with that of the Pawnees of the Missouri, with whom they are on friendly terms, although there exists no formal alliance between the tribes, unless, which is not unlikely, a league has recently been made. They are good horsemen, and are well supplied with large droves of that noble animal. Their arms and mode of fighting are similar to those of the Pawnees of the Missouri.

The Pawnees of the Missouri consist of three bands, residing in separate villages. They are in strict alliance, and may, perhaps, bring into the field 2500 or 3000 horses. They are called—the Pawnee Republicans, whose village is on the Republican branch of the Konzas—the Grand Pawnees and the Pawnee Loups. The towns of the two last are on the la Platte, and within a few miles of each other. A Pawnee village consists merely of a promiscuous collection of Dirt Lodges; these are spacious and permanent dwellings: a description of them would not probably be new to your readers. For some months in the year the whole tribe are absent on the Buffalo Hunt: they then live in Skin Lodges. A Pawnee Brave in his war dress is a truly formidable looking personage: he wears an enormous head dress, formed of feathers of the eagle, the swan and other large birds, a necklace of the claws of the grisly bear, and leggings of deer-skin, grotesquely embroidered with quills of the porcupine; the edges are fringed with feathers and tufts of horse hair, dyed of various colors, and not unfrequently human scalps interspersed with beads and small bells. The buffalo robe floats loosely in the wind, and is secured around the waist by a girdle, leaving the arms, face and the body naked, and smeared with parti-colored pigments in quaint figures. The face is also painted in the same savage taste; black, the war color, always predominates. His horse, a fine animal of the wild breed of Mexico, is gaily caparisoned with broad leathern bands, on which are sewed beads and pieces of colored cloth, and fringed with feathers, bells, and small pieces of tin and other metals. For arms, he uses the bow, which is short, and well adapted for use on horseback: it is usually ingeniously made of ribs of the buffalo, strengthened with sinews of the elk or deer: his quiver, formed of panther or bear skin, hangs at his back, well stored with arrows; these are well feathered, and 30 inches in length, without the head, which is of iron, very long and narrow, and loosely fitted to the shaft: the lance is 7 1/2 feet in length, sharp pointed and adorned with feathers: the war-club, which usually hangs attached to the saddles, is about 3 feet long, and is made of some heavy wood; the head is often armed with iron spikes, inserted in the wood, and is similar in form to the ancient mace: this formidable weapon is equally adapted for close conflict, or to be

hurled by the hand. The knife and tomahawk, as other Indians. A very few are (or rather were) armed with carbines. The shield now only remains to complete his equipment: it is circular, about two and a half feet in diameter, and is formed of prepared buffalo skin, called by the trappers *Pas* (quere *Pare?*) *Fleche*; it is ornamented with rude emblematizing, fringed with feathers and bells; when not in use it is slung by the side of the quivers. The shield is an admirable defence in conflicts with an Indian foe; for when mounted the Pawnees discharge their arrows from under their horses necks; then with the assistance of the shields their bodies are almost entirely protected.

From the roving habits of these tribes, I think the prospect of finding them in their villages is but faint: they will either be absent on their annual hunt, when their lodges are nearly deserted, or what is still more likely, the approach of so large a force will excite their natural distrust to such a degree, that they will at once retire *en masse* to their distant encampment in the desert, or in the gorges of the mountains, whence they will not emerge until compelled by the approach of winter. Thus there is little probability, even were it desirable, that our troops will come into collision with these Indians; for although brave, they never attack but with the chances in their favor. Like other savages, the Pawnee always endeavors to surprise his enemy, and like them prefers an hour or two before dawn, and a dark and stormy night. An impetuous charge is made; and if at all successful, the contest rages for hours with the greatest fury; but should they be too warmly received at the outset, or lose many warriors in the course of the fight, they retreat at a preconcerted signal, scattering into small parties, to divide and distract the attention of their pursuers, and when in safety make for the distant rendezvous previously appointed.

ALPHA.

Love and Romance.—A greater number of young girls, between the age of fifteen and eighteen, and of young men between eighteen and twenty-four, fall victims to what they call love, than any other particular class of disease—and more particularly in England and Ireland than any other country on earth. This is from the force of early impressions peculiar to those countries, and of comparatively recent growth, the effect produced by a certain class of romance writers. These writers give an obliquity to the young mind which leads to destruction. Scarcely has a young girl laid by her *Reading made Easy*, when she becomes a subscriber to some trashy library, and the hours which, in the country, or in a land where education is unknown, they would employ in jumping about in the open air, are now consumed with intensity of thought upon the maudlin miseries of some hapless heroine of romance, the abortion of a diseased brain. Her imitiveness, as Spurzheim would phrenologically observe, becomes developed, and she fixes on her favorite heroine, whom she apes in every thing—sighing for her sorrow, and moaning to be as miserable. She fixes immediately upon some figure of a man—some Edwin or Edgar, or Ethelbert, which she thinks will harmonize with the horrors of the picture, and she then enjoys her tears and her tortures to her heart's satisfaction. Languor, inaction, late hours, late rising, and increasing sighing, derange her digestion—paleness, loss of appetite, and general debility follow; the cause continues, the effect increases, and hectic fever puts an end to the romance. We have known a young Irish lady who read herself into this situation. She was, at the age of 13, as lively, as healthy and as beautiful a little promise of womanhood as that country ever produced. When the Leadenhall-street romancers crossed her way, an officer of a very different sort of troop became her hero. She would "sit in her bower" (the second floor window) and gaze—and gaze upon his steed, his helmet, and his screaming black-haired crest, as he passed to mount guard, until she sobbed aloud in an extacy of melancholy. She never spoke to this 'knight,' nor did she even seek to have an acquaintance—lest, perhaps, that a formal proposal, a good leg of mutton dinner, and all the realities of domestic happiness might dissipate the sweet romantic misery she so much delighted in. A year passed over—she pined in thought, and with a green and yellow melancholy, entered a convent (for that is the climax of romance,) where she died in a few months.—[Medical Advertiser.]

The Emperor of Russia has, through the medium of Baron de Krudener, Minister Plenipotentiary at Washington, presented Joshua Shaw, Esq. Artist, of Philadelphia, with \$500, for an improved percussion cannon lock, invented by Mr. Shaw.

NEW-YORK AMERICAN.

AUGUST 30—SEPTEMBER 6, 1834.

LITERARY NOTICES.

LETTERS ON PRACTICAL SUBJECTS, TO A DAUGHTER, by Wm. B. SPRAGUE, DD., Pastor of the Second Presbyterian Church, Albany. Third American edition, revised and enlarged. New York, D. APPLETON & Co.—It is no longer asked now, with a supercilious air, in England, "who reads an American book?" American books not only are read, but, as we find by some prefatory remarks in the well printed and handsome volume before us, they are sometimes printed—and, with slight alterations, reprinted as English works.

Such, it seems, was the fate of Dr. Sprague's "Letters to a Daughter," originally published anonymously in this country. A genuine edition of the work was circulating in England under the direction of the London Tract Society, when a Glasgow bookseller seized upon it, made some omissions but no additions, and put forth a volume under the title of "The Daughter's Own Book." By this title it was republished in Boston, as a book of foreign origin—and by this title it was noticed and praised in this paper, without any suspicion, as far as we remember, of its being a piracy.

The present edition is issued under the sanction of Dr. Sprague's name, and is the only one therefore for which he is in any way responsible. It remains only for us to say, that the terms of commendation in which we spoke of "the Daughter's Own Book," we very cheerfully, and with greater emphasis, desire to repeat of "Letters on Practical Subjects to a Daughter." We present the whole of Letter XI—not as better than others, but as treating of a topic that is not always sufficiently considered by young persons.

Intercourse with the World.

MY DEAR CHILD.—In several of the preceding letters I have taken for granted that you are to mingle, in greater or less degree, in society. It is equally essential to your respectability and usefulness, that you should not live the life of a recluse. The constitution of your nature and the circumstances of your condition clearly indicate that you were made to be social. As it is a subject, however, in relation to which there is a strong tendency to extremes, and on which you will be in great danger of being misled, I shall suggest a few thoughts in the present letter, which may serve to aid in forming your opinions and directing your conduct.

I begin my advice to you on this subject by a caution that you should not make your entrance into society at too early a period. It too often happens that girls, long before they have completed their education, and even at a comparatively early stage of it, have contracted a strong relish for being in the world; and unless prevented by the influence of parents or instructors, they are found thus prematurely in the gayest circles of fashion. The consequence of this is, that at best, a divided attention is rendered to their studies; that their opportunities for intellectual improvement are enjoyed to little purpose; and that the period in which should be laid the foundation of a solid and useful character, is perverted to the formation of a habit of mental inaction, and not improbably to cherish a spirit of intolerable vanity.

Now I do not insist that you should actually decline all society up to the time of completing your education; but I wish that your visiting, previous to that period, should be, for the most part, of an informal character; and that you should not generally consider yourself at liberty to accept invitations, even if you should receive them, to mingle in set circles. This accidental intercourse of which I have spoken, is all that will be necessary during the period of your education, to aid you in the formation of your manners; and any thing beyond it will almost inevitably interfere with your intellectual improvement, and of course detract from your ultimate standing in society.

Let me assure you too that you will be far less acceptable in society, if you make your appearance prematurely, than if you wait till a proper period. The common sense of the world is quick to discern any impropriety on this subject; and if, while you are yet a child, you are seen among those of mature age, virtually claiming to be as old as they, you can

expect nothing else but that you will be set down as deficient either in modesty or good sense. Better for your reputation that you should come too late into society than too early; for though in the one case you might lose something in point of manners, yet in the other you would lose more in the estimation of the world, on the score of delicacy and correct judgment.

It is not more important that you should avoid going into society too early, than it is, that when you do enter it, you should avoid mingling in it too much. One bad effect of this would be, that it would leave you with too little time for the discharge of your private and domestic duties. The culture of your mind and heart, in connexion with the ordinary cares of domestic life, requires that a large part of your time should be spent at home; and you cannot, without great injustice to yourself, and those with whom you are connected, neglect these more private duties, for the sake of being always in the bustle of the world. It is a rare thing that you will find a lady who devotes an undue proportion of her time to visiting, but that if you follow her into the domestic circle, to the chamber and the fireside, you will find that she evinces a proportional neglect of some of the duties belonging to the station she occupies. She is either neglecting to cultivate her understanding, or neglecting to keep her heart, or neglecting to use the means which Providence has put into her hands for the intellectual and moral improvement of those with whom she is immediately connected.

Recollect also that the error against which I am endeavoring to put you on your guard, would not only prevent your attention to more important duties, by occupying the time which should be allotted to them, but it would serve actually to give you a distaste for those duties. Allow yourself in a constant round of company, even for a short period, and it will be strange indeed, if you not begin to feel that company is your only element; if you do not, in a great degree, lose your relish for the pleasures of the domestic fireside; if you do not find yourself complaining of ennui, when you happen for a season to be providentially shut up at home. I need not stop to show how entirely such a habit of feeling must disqualify a female for the most important relations she can ever sustain.

Moreover, an extravagant fondness for society, and an excessive indulgence of this inclination, are almost sure to create a habit of dissipation, both as it respects the intellect and the feelings. The mind, by being conversant with the ever varying scenes of social life, loses, in a great degree, the command of its own powers; and the attempt to concentrate them on any particular subject, were scarcely more likely to succeed than would be an attempt to collect every mote that was floating in the surrounding atmosphere, while the atmosphere was agitated by a whirlwind. The moral feelings too are subject to a similar influence; for not only is there usually an entire absence of self-communion, and all that secret discipline of the affections, which is essential to the right keeping of the heart, but too often there are the levities of the world, scenes from which there is a studied exclusion of religion, and even a designed introduction of much that is fitted to bring religion into contempt. I do not say that this evil, in its whole extent, is commonly found in any of the walks of decent society; but I do say that it sometimes exists in the frightful dimensions which I have attributed to it; and that it commonly exists in so great a degree as to render an excessive intercourse with the world a fruitful source of mischief.

You will anticipate me when I say, in this connexion, that it becomes you to use the utmost caution in selecting the circle with which you are to associate. I hardly need admonish you to set it down as a fixed purpose that you will never, intentionally, be found in any circle in which there is any thing to encourage immorality, or any lack of reverence for the sacred principles and precepts of religion. I would have you, moreover, beware of mingling in the gay world; in scenes which are designed to produce an unnatural and feverish excitement of the spirits, which are fraught with no intellectual or moral advantage, and in which the introduction of grave or useful discourse would be the signal for disquietude or disgust. I do not, by any means, insist that your associates should all be from the number of those who are professedly or actually pious; nor do I object at all to your intercourse with them being of a cheerful, and sometimes, if you please, an amusing character; but I do insist that they should be persons of correct moral views and habits, and that your associating with them should be for some higher purpose than merely to kill time, or to cultivate a

spirit of trifling. It were desirable too, as I have had elsewhere occasion to remark concerning your particular friends, that the circle with which you chiefly associate, should possess a good degree of intelligence; that thus your social intercourse may be instrumental of improving not only your heart but your understanding. If you take due precautions on this subject, the time that you pass in society, instead of being lost, may subserve, in a high degree, your most important interests; while the neglect of such precautions will render the same hours a mere blank in the period of your probation.

It is natural and proper that those with whom you chiefly mingle should be from the same walks of life with yourself. You may, however, sometimes providentially be thrown among those, the circumstances of whose birth and education have given them a rank quite superior to any which you can claim; and as the case may be, persons of this character may proffer you their confidence and friendship. In all cases of this kind, never suffer yourself to be deluded by any thing that is connected with the pride or circumstance of life; and do not think it a privilege to mingle in society of the most elevated worldly rank, provided there be any thing in it to put in jeopardy your moral principles and feelings. And let me say too, that, though you may very properly accept a fair and honorable introduction into any circle, no matter how elevated, yet you ought never, by a single action, word, or look, to signify a wish for any such distinction. It would indicate a species of ambition certainly not the most honorable, and if you should accomplish your object, it is more than probable you would meet the reception which is due only to an intruder.

You would do injustice to yourself, and be wanting in the discharge of your duty, if you should not occasionally, and even frequently, mingle in the lower classes of society. Not that I would be an advocate for confounding or annihilating those distinctions which Providence has manifestly ordained; nor would I have you, in your intercourse with those in the humble walks of life, lose sight of the mutual relations which you and they sustain to each other.

But I would have you go among them with the benign aspect of friendship; I would have you make them feel that you recognize them as fellow creatures, placed in many respects, on the same level with yourself; and I would have you leave an impression upon their minds that the adventitious distinctions of life are really of little moment, compared with those points in relation to which all stand upon an equality. The condescending yet dignified familiarity which this species of intercourse would discover, would do more than you can easily imagine, to render the poor contented and cheerful, and to secure for yourself their gratitude and confidence. And let me say too, that its influence upon your own heart would be most salutary; that it would serve to refine and elevate your social affections, and confer dignity on your whole character.

There is one more point involved in the general subject of this letter which is too important to be omitted—I refer to the deportment which it becomes you to maintain towards the other sex. The importance of this, both as it respects yourself and others, you can scarcely estimate too highly. On the one hand, it has much to do in forming your own character; and I need not say that any lack of prudence in this respect, even for a single hour, may expose you to evils which no subsequent caution could enable you effectually to repair. On the other hand, the conduct of every female who is of the least consideration, may be expected to exert an influence on the character of every gentleman with whom she associates; and that influence will be for good or evil, as she exhibits or fails to exhibit, a deportment that becomes her. Indeed, so commanding is this influence, that it is safe to calculate upon the character of any community, from knowing the prevailing standard of female character; and that can scarcely be regarded as an exaggerated maxim, which declares that "women rule the world."

Let me counsel you then never to utter an expression, or do an act, that even looks like soliciting any gentleman's attention. Remember that every expression of civility, to be of any value, must be perfectly voluntary; and any wish on your part, whether directly or indirectly expressed, to make yourself a favorite, will be certain to awaken the disgust of all who know it. I would not recommend to you any thing like a prudish or affected reserve; but even this were not so unfortunate an extreme, as an excessive forwardness. While you modestly accept any attentions which propriety warrants, let there be no attempt at artful insinuation on the one hand, or at taking a man's heart by storm on the other.

Be not ambitious to be considered a belle. Indeed I had rather you would be almost anything else that does not involve gross moral obliquity, than this.—It is the fate of most belles that they become foolishly vain, think of nothing, and care for nothing, beyond personal display, and not unfrequently sacrifice themselves in a mad bargain, which involves their destinies for life. The more of solid and enduring esteem you enjoy, the better; and you ought to gain whatever of this you can by honorable means; but to be admired, and caressed, and flattered, for mere accidental qualities, which involve nothing of intellectual or moral worth, ought to render any girl, who is the subject of it, an object of pity. You are at liberty to desire the good opinion of every gentleman of your acquaintance; but it would be worse than folly in you to be ambitious of a blind admiration.

I will only add, that you ought to be on your guard against the influence of flattery. Rely on it, the man who flatters you, whatever he may profess, is not your friend. It were a much kinder office, and a real mark of friendship, to admonish you tenderly, yet honestly, of your faults. If you yield a little to flattery, you have placed yourself on dangerous ground; if you continue to yield, you are not improbably undone. Adieu for the present.

YOUR DEVOTED FATHER.

ÆSCHYLUS—constituting Vol. XIII. of *Harper's Classical Family Library*. New York: HARPER & BROTHERS.—The translation here offered of the Tragedies of Æschylus is by the Rev. R. POTTER; and it is received by scholars as one giving as distinct a glimpse, as translation ever can, of a great original. The volume is preceded by an Essay, or a large portion thereof, on the Grecian Drama, &c. together with a Memoir of Æschylus, from the pen of Mr. Harford, which that gentleman had prefixed to his translation of *Agamemnon*. To the scholar and to the unlearned both, this will be a welcome volume.

THE CHRISTIAN YEAR—Thoughts in Verse for the Sundays and Holidays throughout the Year—Phil: CAREY, LEA & BLANCHARD.—The author of these "Thoughts in Verse," beautiful and breathing, is the Rev. Mr. KEBLE, Professor of Poetry in the University of Oxford. The American Editor we take to be the Right Rev. Bishop of New Jersey—himself a poet, and the more alive, therefore, to the poetical beauties of a work devoted to aid the influence of the sublime Liturgy of the Episcopal Church.

"Apart from its high poetical merit," says the American Editor, "the Christian Year is recommended most earnestly for its pure, affectionate and elevating character, as a family book." We cannot more effectually confirm the opinion thus expressed, than by copying the lines on

HOLY BAPTISM.

Where is it, mothers learn their love?—
In every Church a fountain springs
O'er which th' eternal Dove
Hovers on softest wings.

What sparkles in that hallowed flood
Is water, by gross mortals eyed:
But seen by Faith, 'tis blood
Out of a dear Friend's side.

A few calm words of faith and prayer,
A few bright drops of holy dew,
Shall work a wonder there
Earth's charmers never knew.

O happy arms, where cradled lies,
And ready for the Lord's embrace,
That precious sacrifice,
The darling of his grace!

Bless eyes, that see the smiling gleam
Upon the slumbering features glow,
When the life-giving stream
Touches the tender brow!

Or when the holy cross is sign'd,
And the young soldier duly sworn
With true and fearless mind
To serve the Virgin-born.

But happiest ye, who seal'd and blest
Back to your arms your treasure take,
With Jesus' mark impress'd
To nurse for Jesus' sake.

To whom—as if in hallow'd air
Ye kneel before some awful shrine—
His innocent gestures wear
A meaning half divine:

By whom Love's dally touch is seen
In strengthening form and freshening hue,
In the fix'd brow serene,
The deep yet eager view,—

Who taught thy pure and even breath
To come and go with such sweet grace?
Whence thy reposing faith,
Though in our frail embrace?

O tender gem, and full of heaven!
Not in the twilight stars on high,

Not in moist flowers at even

See we our God so nigh.

Sweet one, make haste and know Him too,

Thine own adopting Father love,

That like thine earliest dew

Thy dying sweets may prove.

We should add, that the typographical execution of the volume is excellent.

A HISTORY OF THE CHURCH, FROM THE EARLIEST AGES TO THE REFORMATION. By the Rev. GEORGE WADDINGTON, M. A. Fellow of Trinity College, Cambridge. 1 vol. New York: Harper & Brothers.—We have here, by a Protestant Episcopal clergyman, a history that strikes us, from the perusal of many of its chapters, as eloquent, learned, and impartial—if impartiality can be attained by any one who has strong and honest convictions, that amid contending sects, his own is clearly right.

The history of the Church is, in some sense, the history of the errors and wanderings, of the vices and virtues, of our common nature. It is, therefore, of more universal interest than any mere profane history. It is, too, addressed to our eternal as well as temporal interests. We think that Mr. Waddington has imparted to this volume, large as it is—for it contains nearly 600 pp. of double columns—such a degree of attraction, that will commend it to readers of all classes.

The book is stereotyped, and in a fine, clear, legible character. Extracts are, of course, quite insufficient to impart any just idea of such a work as this. In presenting the following, therefore, we are rather tempted by the circumstance, that in his narrative of the persecution of the Christians by Marcus Antoninus, Mr. Waddington opposes himself directly to the authority of Gibbon:

Marcus Antoninus.—It seems singular, that a historian, who makes great profession of candor and universal humanity, should almost have excepted from the number of persecutors the only name (as far at least as this part of our inquiry) to which that ignominious designation appears justly and certainly to belong: for under all the preceding emperors, the injuries inflicted upon the Christians had either been occasional, as arising from some casual circumstance, or staining only a portion of their reign; or partial, as confined to a few provinces, or perhaps cities of the empire. Moreover, they had been sometimes excited, and generally encouraged, by popular irritation; they had been directed against a small and obscure and calumniated sect, through the operation, and according to the seeming intention, of the ancient statutes. And the efforts of individual emperors, were, for the most part, turned rather to the suspension or mitigation of these statutes than to the rigid enforcement of them. In addition to this, let us not forget, that those individuals possessed little means or opportunity to inform themselves respecting the peculiar principles, doctrines, or habits of Christians; still less to examine the foundation of their belief, or even to understand that it had any foundation:—if they permitted the work of destruction to proceed, it was in ignorance and blindness. On the other hand, Marcus Antoninus undertook the task of 'punishment' or prosecution among the earliest of his imperial duties, and he continued to fulfil it with unremitting diligence throughout the nineteen years of his splendid administration. He acted on liberal principles, and his principles were not of partial or local operation, but were equally applicable to every province of his empire. And thus he every where enforced the laws in their full severity; the lives and the property of the convicted were forfeited by the most summary process of justice; and the search which was made after the suspected, and which the uninformed humanity of Trajan had so nobly discouraged, sufficiently proves the activity of the pursuer, and the earnestness of the pursuer, but the most important distinction is probably this:—Marcus Antoninus knew much better the nature of the evil which he was committing: he was acquainted, to a certain extent at least, with the opinions of the Christians, and the innocence of their character; and it is not likely that he had entirely neglected to examine the grounds of their faith. He watched the process of his own inflictions, and when he perceived the fortitude with which all endured, and the eagerness with which many courted them, he coldly reproved the unphilosophic enthusiasm of the Martyrs. And yet, perhaps, his own philosophy was not quite devoid of enthusiasm, or, at least, it was

not strictly regulated by reason, when it led him to labor for the destruction of the most moral and loyal portion of his subjects, only because they disclaimed the very superstitions which he placed his pride in despising. Nor again was his practice consistent with his professed contempt of these: for it is said, and seemingly on good foundation, that Marcus Antoninus was frequent in consultation with the Chaldean sages, deeply conversant with the mysteries of astrology, credulously attentive to oracular prophecy, obedient to the premonitions of dreams, which he believed to descend from Heaven—assertions not incredible, nor inconsistent with his studies or his principles; and there is ground to hesitate whether we should not rather convict him of superstition than hypocrisy. But it is certain that his understanding was of the broadest and most comprehensive description; that it was enlightened by every worldly knowledge, and fortified by frequent meditation; that his character was founded in excellent dispositions, confirmed by the best principles which were known to the Pagan world. His general regard for justice has never been questioned; even his humanity is commonly celebrated; and if the representations of history be not exaggerated, he reached as high a degree both of wisdom and of moral excellence as is attainable by the unassisted faculties of man—and yet this prince polluted every year of a long reign with innocent blood.

In our natural anxiety to honor every form of human excellence, we search for his excuse in the religious policy so long established in the empire.—But we find that those of his predecessors who were disposed to soften or suspend its operation upon Christians, possessed the power to do so; and we cannot doubt that the despotic authority of Marcus would have enabled him to revise or repeal those oppressive statutes, if he had learnt from the books of his philosophers the virtue or the meaning of Toleration. This, indeed, is the real and only ground of his defence; and we shall regard his conduct with less indignation, if we reflect how feeble were the mightiest principles of conduct with which he was acquainted; on what a loose and shifting foundation they rested; how large was the class of virtues which they did not comprehend, and how imperfect were the motives which they proposed for the practice of any. And thus considered, we shall discover, perhaps, some trace of heavenly providence in the circumstance, that the imperial philosopher, flourishing in the maturity of his science, and deficient in nothing which nature or man could bestow, was armed with the highest temporal authority and permitted to direct it against the infancy of our faith. From the splendid imperfection of Marcus Antoninus, from the perseverance of his powerful enmity, from its final failure, we may learn what narrow limits have been assigned to the virtue and wisdom and power of unassisted man; and we derive a new motive of gratitude for that heavenly aid, which has fixed our social happiness on a certain and eternal foundation.

The greatest prince of antiquity was succeeded by a son, who neither inherited his virtues, nor imitated his crime; so far from this, that we might almost imagine it to have been the object of Commodus to redeem his numerous vices by his humanity towards the Christian name.

Severus ascended the throne in the year 193, and is represented by Tertullian to have bestowed testimonies of approbation on several distinguished Christians, and openly to have withstood the popular fury which assailed the sect. But this account will apply only to the earlier part of his reign; for in the year 202 (about the time of the publication of Tertullian's *Apology*) he issued an edict, which indirectly occasioned a variety of inflictions, the most barbarous of which appear to have been perpetrated in Egypt. The professed object of that edict was only to prevent conversion either to Judaism or Christianity; for the fears of the emperor began to be awakened by the extraordinary progress of the latter.—Its effect was to oppress and torture the most zealous ministers of the faith, and to inflame the prejudices of the people against all believers. This enactment continued in force for about nine years, until the death of Severus; and from that period, indeed we extract, the injuries inflicted by Maximin (from 235 to 238 A. D.) and directed chiefly against the instructors and rulers of the churches, the Christians, though occasionally liable to popular outrage, had not much reason to complain of the injustice of the government until the accession of Decius, in the year 249.

THE POLITICIAN'S MANUAL, by EDWIN WILLIAMS. New York: J. VAN NORDEN.—Not only to politicians by profession, but to all who desire to watch

the mutations of public opinion, and from the lessons of the past to read the future, does this little pamphlet present accurate and full means of information.

LA REVUE FRANÇAISE, pour Aout. N. Y., HOSKINS & SNOWDEN.

LA FRANCE LITTÉRAIRE, Vol. 5, No. 2. N. Y.

Bonaparte, the inexhaustible Bonaparte, supplies one of the most attractive papers in the first named of these periodicals. It is a supplement to the *Mémoires and Recollections of the Duke de Gaete*, Minister of Finance under the Empire. It is too long, however, to be translated, at least for today. From *La France Littéraire* we take a shorter one, also connected with the glories of Napoleon, and which certainly records a most extraordinary and, to us, entirely new military feat:

Presence of Mind and Courage of General Bethencourt.—At the moment when the first Consul at the head of the army of reserve was about to cross the great *Saint Bernard*, he ordered General Bethencourt with a corps of 1100 men to move upon Avons by crossing the *Simplon*. Arrived at the pass of *Yeuville*, this General found himself suddenly checked by an unforeseen obstacle.

The wooden bridge, thrown across a mountain torrent some sixty feet wide, having been carried away by an avalanche, all means of communication between the two banks were cut off: the bed of the rushing torrent lying far below. This old bridge, of the slightest structure, and which was used only by foot-passengers and mules, was built on wooden beams, of which one end was inserted in holes in the rock, and the other was supported by a cross piece. General Bethencourt, whose orders to advance were imperative, resolved at any hazard to do so; and he proved in the end what a resolute purpose can effect.

He remarked that the holes in which the beams had been inserted were perfect; the weight of the falling timber having drawn out the whole of it. A volunteer, whose name even, at that epoch of prodigies, no one thought of inquiring, proposed to let himself down so as to place his feet in these holes, and then, aided by some little inequalities in the rock, to get down, swim across the torrent, and ascend as best he could the opposite wall. The intrepid soldier immediately carried his purpose into effect in the presence of the whole army, trembling at every instant lest he should fail in the unheard of attempt. The anxious eyes of all followed his movements with intense interest: they beheld him reaching, after imminent perils, the borders of the foaming stream, and instantly casting himself into the waves broken with rocks. He reaches the opposite bank; and then, with the assistance of his bayonet and an iron hook, he digs his way up, as it were, an almost perpendicular wall of rock. The summit attained, he proceeds to fasten securely the end of a rope he had carried with him, of which *Gen Bethencourt* held the other end; this is then drawn tight, and the General, by way of example, swings himself by his hands from this rope, and thus passes over the abyss. The soldiers emulously follow, and one by one, each carrying his arms, his knapsack, and 60 rounds of cartridge, the whole body passed over in the same way. The detachment immediately took up the march, descending the mountains to the plains of Italy, and had the honor to arrive on the field of *Marengo* at the height of the battle, and in time to take part in and sustain the movement of *Dessaix* which determined the victory.

SAUVAN,

formerly Head Clerk in the Dept of the Interior.

GALE MIDDLETON, a novel, by the author of *Brambletye House*—2 vols., Philadelphia, Carey, Lea & Blanchard.

Horace Smith, in the hero of this new work, has struck out an original character, which he sustains, with a great variety of difficult scenes.

The insolence of fashionable "Exclusiveness," and the meannesses of the low ambition to be admitted within its precincts, are incidentally displayed with great force; but they will neither correct the one nor check the other.

THE FAREWELL ADDRESS OF WASHINGTON. New York: C. C. WRIGHT & DURAND.—The Xylographic Press of these artists has added another historical document to their series, executed in the same gol-

den colors and finished manner as the Declaration of Independence and the Constitution of the United States, heretofore published by them. They have thus, in a convenient and ornamental form, furnished three documents, with which every American should be thoroughly familiar.

NEW MUSIC.—The week has been prolific of new Music. From *Atwill's Music Saloon*, 204 Broadway, we have a *Set of Quadrilles*, arranged for the piano forte, from the *Pirata* by J. B. Duvenoy—*La Valse Tyrolienne*, from the opera of *La Fiancée*—"On the mountain high," a Tyrolese song, sung by Madame Otto, at Niblo's—"The Young Arab," a ballad, by Geo. Hargreaves.

From *James L. Hewitt & Co.*, 137 Broadway, we have "The Motherless," as sung by Miss Cawse and composed by C. A. Hodson. "The Mountaineer's Return," a Son of the Alpine peasants, composed and arranged by L. Devereaux. "Meet me by the Linden tree," a ballad, of which music and words both are by Geo. Linsey. "The Golden Girl," a ballad, sung by Mrs. Wood; and "The Dew Drop," a celebrated Rondo, sung by Miss Paton, Miss Stephens, and Madame Malibran, composed by C. E. Horn.

The pieces from Hewitt's are very handsomely got up, and each ornamented with an appropriate lithograph.

FOREIGN INTELLIGENCE.

ONE O'CLOCK.—By the *Columbia*, Captain Britton, we have received London dates to the 28th July, from which we make the following extracts. No Liverpool papers have yet been received.

LONDON, MONDAY, JULY 28.—Both Houses met on Saturday.

In the Lords, the Lord Chancellor took his seat on the Woolsack at 4 o'clock. Dingle and Lspworth, two individuals who have been in custody of the Sergeant at Arms, for refusing to appear at their Lordships' bar to give evidence on the Warwick Disfranchisement Bill, were brought up, and upon their undertaking to appear and give evidence whenever called upon to do so, they were ordered to be discharged upon payment of their fees.

It was then ordered that the Warwick Bill should be further proceeded with on Tuesday next, at 10 o'clock in the morning.

Soon after 5 o'clock, Mr. Charles Wood, accompanied by several other members of the House of Commons, presented the bill at their Lordships' bar. The Bill was received, and on the motion of Lord Melbourne, read a first, and ordered to be read a second time this day. Their Lordships then adjourned.

The Commons met at twelve o'clock.

Lord Althorp moved the order of the day for the third reading of the Irish Disturbance Suppression Bill. Mr. Reimayne, as an amendment, moved "That the Bill be read a third time that day six months." After some discussion, the House divided, and there appeared for the amendment, 21; against it, 82.—The Bill was then read a third time.

Mr. O'Connell then proposed to insert in the Bill two clauses, to provide that nothing in the bill should be construed to prevent officers being tried by a civil tribunal for offences committed against individuals. A conversation of some length followed, and terminated in a division, when there appeared for the clauses 24; against them 69.

Upon the question that the Bill do pass, another division took place, when the numbers were for the passing of the Bill 60; against it 25. The Bill was then passed, and sent to the Lords.

The House then resolved itself into a Committee on the Stamp Acts, and leave was given to bring in a Bill to repeal the Stamp Duty upon Almanacks.

In reply to a question put by Mr. O'Dwyer, Lord Palmerston said the opinion of the Law officers of the Crown was that General Moreno was not amenable to any tribunal in this country.

The House adjourned at a quarter past Five.

PORTSMOUTH, JULY 26.—The royal consort of Don Carlos, and her sister, (the Princess of Beira,) with the three children of Don Carlos and their household retinue, returned to their lodgings in this town on Wednesday afternoon. It is the intention of the royal family to take up their residence in this place or neighborhood until the portending political events in Spain shall decide them to fix upon a more per-

manent residence. We understand that if Don Carlos should prove unsuccessful in his present enterprise, he will embark in the *Lulworth yacht*, which has been provided for his safety. This vessel left Boulogne on the 6th instant, and is now cruising off the coast, between Bayonne and St. Sebastian.

We have received the Paris Papers of Friday.—The portion of their contents which is most interesting, is that which relates to Spanish affairs, and the progress of Don Carlos. The accounts given in the different journals are contradictory in the extreme. By some of them it is stated that the Prince continues to act with great caution, confining himself to the mountainous parts of the country, and studiously avoiding a descent into the plain to which General Rodil is most anxious to draw him. Other accounts represent him as proceeding in his enterprise with every prospect of ultimate success, and state that his agents are actively employed in the purchase of arms and ammunition for his service both in France and England. The *Indicateur* of Bordeaux says, "The report of an insurrection at Madrid, meets no credit here." The following is the only extract by these papers:

The *Journal de Paris* says:—"Don Carlos continues retired in the mountains, studiously avoiding a descent into the plain, where General Rodil wishes to draw him. No news of an engagement has yet been received. Letters received to-day from Rodil announce that he has taken all necessary measures, and expresses a confident hope of success."

BRUSSELS, JULY 24.

OFFICIAL.—"The King of Belgium having notified his acceptance to the Spanish Government, the Queen Regent of Spain has, by a special decree with the council of Ministers, recognized the Kingdom of Belgium, and appointed M. Chevalier P. L'Allemet de Argatz, Charge d'Affaires at Brussels.—[Moniteur.]

Brussels papers to the 24th instant were received last night. By the extracts which we have given below, it will be seen, that up to the 12th instant Don Miguel was still at Turin, though his residence there was not expected to be of long continuance. His inclination, it appears, would lead him to Vienna, but doubts are entertained whether it would suit the policy of that Court to receive him at present. Should such be the case, he has determined to fix his residence at Rome. These papers contain no information on any other subject.

Joseph Bonaparte, the ex King of Spain, (under the title of Comte de Survilliers,) who with a part of his family and suite, have been staying at the Crown Inn, Urbridge, some few days, and who has, together with his brother Jerome, taken the mansion of the late B. Way, Esq., Denham-Place, near Urbridge, for a term of years, have left for that place, having waited the completion of some necessary repairs.—[Windsor Express.]

In relation to the British Post Office, it is stated in an official report, that in addition to the immense quantity of property passing daily through the Post Office, the amount of which it is not possible to estimate, and the numbers of letters constantly enclosing sovereigns and money (about 700 a day in and passing through London only) there are not less than 1000 letters annually put into the post without any address whatever. In many of these letters there are valuable enclosures, and in the course of a single year there have been above 100 letters of this description, which on being opened for the purpose, of being returned to the writers, have contained property to the amount of between £20,000 and £30,000.

The quantity of tea, on which duty was paid in Great Britain for the year ending January, 1834, was 31,829,075 lbs.

According to an official return of the number of criminals in England and Wales, for the seven years ending with 1833, they amounted to 131,818.

The Russian journals give a statement of the present population of St. Petersburg. The number of male inhabitants is 291,290, and of females 153,845, total amount, 445,135. In this number, 1,968 are ecclesiastics, 38,894 belong to the nobility, and 47,548 to the army.

NEW COMET.—On the 8th of April, it is stated, Professor Gambart, at Marseilles, discovered a new comet, of a pale light color, with a diameter of four or five minutes. Owing to the state of the atmosphere, and its disappearance on the 13th, little has been ascertained of the stranger, except that on the 10th, 16h. 23m. 45s. sidereal time, its right ascension was 20° 9' 7", and the south declination 22° 33'.

Among the curiosities which M. Ruppel has brought from Abyssinia, are two remarkable manuscripts. One is a Bible, said to contain a new work of Solomon, one or two new books of Eedras, and a considerable addition to the fifth Book of Esther, all perfectly unknown in Europe. It also contains the Book of Enoch, and fifteen new Psalms, the existence of which was already known to the learned. The other manuscript is a species of code, which the Abyssinians date from the Council of Nice (324), the epoch at which it was promulgated by one of their kings. This code is divided into two books: the first relates to canonical law, and treats of the relations of the Church with the temporal power; the other is a sort of civil code. There are also some remarkable hymns, because they present the return of consanguinity, the only feature of poetry to be found in Abyssinian literature.—[Galignani.]

Odessa, April 22.—Another valuable remnant of antiquity has been found at Kertsch. It is a magnificent sarcophagus of fine white marble, six feet in length, and twenty-seven in breadth. On the lid are two colossal figures; one is that of an old man, leaning on his left arm, and holding a half-unrolled paper. The other is a woman, on whose shoulder the old man rests his right hand. On the sides of the sarcophagus are several groups in alto-relievo.—Every part of the sarcophagus is of admirable workmanship, and proves that the artist must have lived when Grecian art was in its greatest splendour. Unfortunately it is not entire; but all the pieces belonging to it have found, so that it may be entirely restored.

There has been lately imported into France by a traveller of the name of Delangremer, a new fruit called "Nafe d'Arabie." It would appear that this fruit possesses tranquillizing and soothing properties, and that its medicinal use may be regarded as of high importance.

Pedestrianism.—On Tuesday evening, after a very heavy fall of rain, Coates, the pedestrian, accomplished an extraordinary feat in Brown's grounds, at Brighton. He commenced by picking up fifty stones placed one yard apart in a straight line, and put each singly into a basket (the distance being nearly two miles); this he did in eleven minutes. He then walked a mile in seven minutes, wheeled a barrow one mile in eight minutes, walked backwards half a mile in six minutes, ran a pair of coach wheels half a mile in five minutes and a half, hopped 100 yards in half a minute, and lastly, jumped over twenty common hurdles five yards apart in one minute; the whole occupying fifty-seven minutes and a half. The match was stated to be for 25*l.*, and Coates was liberally backed. He has scarcely recovered from the fatigue he had undergone when he offered to bet 10*l.* to 5*l.* that he completed a similar task the same evening within the hour. There was a very considerable concourse of spectators.

SUMMARY.

Long Island.—The farm of the Misses Stewart at New Ulricht on the Narrows, about nine miles from the city, and consisting of one hundred acres, was sold by auction last Thursday for \$47,000. We understand a city is to be built upon it. The situation is very pleasant. The advance in real estate on Long Island, and on Staten Island, within the last year, has been very great.—[Jour. of Com.]

The notorious Cobbett has recently published—it is said, for we have not seen it—an address to the Irish, warning them of a purposed invasion of their country by the United States of America!

The Brattleborough Inquirer says.—A gentleman from Dummerston, (Vt.) informs us that the drought is so great in that vicinity, that the grasshoppers are reduced to mere skeletons, and sit upon the fences, with tears in their eyes, for the want of something wherewith to satisfy the cravings of hunger!

Accident.—As a gentleman (Mr. Isaac Heard, of Charleston), and his lady were on Saturday evening passing the Railroad in Newton, they were run over by the Worcester and Boston Railroad Locomotive Engine. Their horse was instantly killed, and the carryall dashed to pieces. Fortunately, Mr. Heard and his lady escaped unhurt. Mr. Heard was not aware of being in the neighborhood of the Railroad track. One of the cars was thrown off the road by the shock.

It will be found necessary, we suspect, for the safety of travellers on common roads, to require that whenever a train of railroad carriages approaches a

point where the railroad intersects the common road, notice, by ringing a bell or blowing a horn, shall be given.

QUICK TRAVELLING AND CHEAP.—The steamboat *Champlain* reached the dock yesterday afternoon at 4 o'clock, from Albany; whence she started at 6 o'clock; and made all the usual landings. Time, 10 hours,—distance 150 miles,—price of passage 50 cents!

The *Champion*, opposition boat, was only about ten minutes behind.

[From the *Troy Daily Advertiser* of yesterday.]

QUICK PASSAGE.—The steamboat *Erie*, Capt. Benson, left the wharf at N. York, yesterday, at 6 A. M., and arrived in this city at 4h. 53m. P. M. She arrived at Poughkeepsie at 10h. 58m. A. M., and at Albany at 3h. 53m. P. M.; having performed the trip from New York to Albany—deducting the time lost in making 13 landings—in the short period of nine hours and one minute.

REV. DR. BEDELL.—The religious community of Philadelphia, and the friends of religion generally, will hear with regret of the death of this eminent divine. He expired on Saturday morning, at 1st more, on his way to this city. He had spent a good portion of the summer at the mineral springs of Bedford, without receiving any essential benefit, consumption being, in fact, the malady by which he was finally swept from life. Dr. Bedell was a pure, noble minded, and highly intellectual man. As a clergyman, he was eminently popular; as a scholar, authentic in his taste, and rich in his attainments. In all deeds of charity and goodness he was pre-eminent. While the memory of his well-spent life remains, his name cannot cease to be cherished with a reverent affection by every lover of piety and talent.—[Philad. Com. Intel.]

Col. Don Vincent Bausa, Governor, ad interim, of the city of Matanzas, died at that place of apoplexy, on the 12th ult.

EMANCIPATION IN THE BRITISH WEST INDIES.—

The following extract is from a letter received here today of the 12th ult., from the Island of Trinidad:

"Our island has been in the greatest uproar and confusion since the 1st inst. The negroes are flocking into town and refusing to work as apprentices under the new act for six years—the militia have been under arms for several days in succession, doing night duty also. About 100 negroes have been sent to jail for various terms of punishment, and many have been publicly flogged. They have at last consented to go to work; but I doubt much whether they won't break out every now and then when the whim takes them. Indeed one can hardly wonder at their discontent, for it cannot be denied by any one of common humanity and justice, that it is very hard, after being declared FREE, to be made apprentices for six years to learn—what? what they have been doing all the days of their lives.

We are all quiet now, and the militia have been dismissed for the present."

Considering the ignorance of the negroes, and the consequent incapacity to understand the terms on which they have been declared Free, it was not to be expected that the great and important change in their relation to those whom they had before served as masters, would be effected without some difficulties and disturbances: thus far, they have been fewer than we apprehended.

Since the above was in type, we have received by the *Joshua Greenwood*, Capt. Jackson, arrived here from Trinidad, "The Port of Spain Gazette" of the 8th instant, which says—"We are happy to say that tranquility has been restored in Port of Spain, and that accounts from the various districts throughout the island are satisfactory. There are two or three estates whose gangs are still about, and others which, although on the property, refuse to work; but these are solitary instances, and not sufficiently numerous to cause uneasiness."

EARTHQUAKE.—The same paper gives this account of an earthquake:

Letters received in town from Colombia, state that the town of *Santa Martha* (province of Ferra Firma) has been totally sunk by an earthquake. Water rushed over the site of the former town, and all the houses and inhabitants were engulfed.

Quarantine by Proxy.—The *Charleston Courier* says:—

"The steam packet *William Gibbons*, went to sea on Saturday night. The John Stoney, after having taken the passengers out of her that arrived from New York, took her place, and will perform the quarantine to which the *W. G.* had been subjected."

Amherst College.—The Commencement, on Wednesday, is said to have been of a highly respectable character. The number of strangers present was very great. The degree of A. B. was conferred upon thirty young gentlemen.

The day preceding Commencement, a discourse was delivered before the literary societies, by Gulian C. Verplanck of New York. This discourse is spoken of by those who heard it, as a very able and highly finished production.

The Degree of D. D. was conferred, we understand, upon Rev. George Redford of England; and that of L. L. D. upon Gulian C. Verplanck.—[Springfield (Mass.) Republican.]

[From the *Boston Commercial Gazette*.]

HARVARD UNIVERSITY.—At a meeting of the Board of Overseers, at the Council Chamber in Boston, August 25, 1834, the following resolutions were reported by a committee and unanimously adopted:

1. Resolved, That the students of Harvard University, have no just or equitable claim to exemption from prosecution before the civil and criminal tribunals of the commonwealth, for trespasses upon property, or against persons, whether belonging to the University or otherwise.

2. Resolved, That the proceedings of the President and Faculty of Harvard University, on the occasion of the recent riots and disturbances among the students at that Seminary, meet with the entire approbation of this Board.

3. Resolved, That the Circular published in the name of the Senior Class of Harvard University, relating to the recent riotous disturbances among the Students at that Seminary, is of a disorderly character, and entirely inconsistent with the station and duties of undergraduates at that University.

We are authorized to say, that on the above occasion, there was a numerous attendance of the Board of Overseers, and that every vote and resolution in relation to the above subject, was passed *ne mine contradicente*.

We observe by the Boston papers of yesterday that the Annual Commencement was held as usual on Wednesday.

[From the *Philadelphia Herald*.]

BANK OF THE UNITED STATES.—At the General Triennial Meeting of the Stockholders of the Bank of the United States, held at their Hall, in the city of Philadelphia, on Monday, the first day of September, 1834,

Robert Ralston, Esq. was called to preside, and Joseph Hemphill, Esq. appointed Secretary.

Nicholas Biddle, Esq., the President of the Bank, on behalf of the Board of Directors, submitted to the Stockholders, in compliance with the 13th article of the 11th section of the Charter of the Bank, "an exact and particular statement of the debts which shall have remained unpaid after the expiration of the original credit, for a period of treble the term of that credit, and of the surplus profits, if any, after deducting losses and dividends."

He also presented a general view of the present situation of the Institution, showing the statement of its liabilities and resources.

Whereupon, the following resolutions, moved by Joseph R. Ingersoll, Esq. were read, and unanimously adopted:

Resolved, That the thanks of this meeting be, and they hereby are, presented to the President of the Institution, and the Board of Directors, for the fidelity and skill which they have manifested in the management of the concerns of the Bank.

Resolved, That the Stockholders feel continued and undiminished confidence that the further administration of the concerns of the Bank, will be conducted with wisdom and zeal by those who have heretofore so satisfactorily directed them; and that the last resolution adopted at the triennial meeting of the Stockholders, held on the 1st day of September, 1831, which authorizes the President and Directors to make application for a renewal of the Charter, and to accept such terms of renewal as they may consider just and proper, is hereby revived and continued.

On motion of Richard Price, Esq. the proceedings of the meeting, signed by the Chairman and Secretary, were ordered to be published, and the meeting then adjourned.

Signed ROBERT RALSTON, Chairman.
JOSEPH HEMPHILL, Secretary.

[From the London New Monthly Magazine, for July.]
SKETCHES OF HUMAN FOLLY.

Perhaps there is nothing less surprising in the history of human weakness than the deep and painful belief in the existence of spirits, of a friendly and of a hostile character, which may be traced through almost every age and every climate. When a man is walking alone in the gloom of night, he feels that he has to trust to his mind for the light that is to conduct him on his journey. The outlines of his own frame are no longer visible to the eye, all outward objects assume a similar shadowy form, and between the optical illusions which are produced by darkness, and his alarm for his own safety, he recoils more and more upon the spirit that is within him for the succor of which he stands in need. Under these circumstances, it is almost unavoidable, unless he be endowed with a firm and well disciplined intellect, that being at the moment much more conscious of his ethereal than of his physical nature, he should people the forest or the plains around with phantoms of every description.

One of the most extraordinary instances that have fallen within my notice so far as concerns the general faith in the existence of spirits, and consequently in the possibility of the dead returning again to life, is the story of Johannes Cantius, which was related to Dr. Henry More by a Silesian physician, and the truth of which cannot be disputed. I do not, of course, mean to express my belief in the tale that Cantius after his death appeared again in his native town; it is certain, however, that his townsmen were violently agitated for some time by rumors to that effect, and that these rumors were credited to a great extent throughout the whole province of Silesia.

Cantius was one of the Aldermen of the town of Pertsch, and bore a high reputation for integrity and good sense. The Mayor sent for him one day to assist in settling a dispute which had taken place between some wagoners and a merchant of Pannonia.

When the reference was brought to a conclusion, the Mayor invited Cantius to supper; the invitation was accepted. The supper, as usual in all mansion-houses, was excellent, and nobody enjoyed the feast more than Cantius, who frequently exclaimed, while he quaffed the Mayor's best Rhenish, "It is good to be merry while we may, for mischiefs grow up daily." Being obliged, however, to leave the party early, in consequence of a journey which he had to perform, he returned home, went to his stable, and ordered out one of his geldings. When the horse was led to the door, it appeared to have lost a shoe. Cantius lifted the leg of the animal to look at the hoof, when it gave him a violent kick in the stomach. He cried out immediately that he was a dead man, for that his interior was all on fire. He fell sick, and exhibited the greatest agony of mind, saying that his sins were so enormous that they could never be forgiven. This disclosure was so inconsistent with the general habits of his life, that no person could account for it, until by some means it was discovered, or suspected, that, with a view to secure his worldly interests, he had sold his soul to the Prince of Darkness. It was then remembered, though a prosperous man, his riches came to him very suddenly, and that a mysterious black cat was seen frequently in his company. The moment of his death was signalized by the commencement of an awful tempest, which raged at his funeral still more tremendously; but when he was buried, all was calm again, as if the earth had been relieved of the presence of some demon.

After he was buried, a rumor arose that a spirit was seen walking about on the premises of the late Alderman. The report received "confirmation strong" from the watchman of the ward, who deposed that he heard unusual noises in the house, as if persons were within it, throwing the furniture and everything else about in the most reckless manner. He added that the gates, which were carefully barred every night, were found wide open very early in the morning, although nobody was known to have withdrawn the bolts, or to have passed through the gates. The agitation of the scene extended even to the late worthy alderman's horses. They appeared in the morning covered all over with foam, as if they had been ridden vast distances during the night, and yet it would appear from the strange noises they made, that they had never been out of the stable. The dogs performed their part in the general incantation, for they kept the whole town awake by barking and howling the night long in a most extraordinary manner.

A maid servant of Pertsch, who paid peculiar attention to the transactions that were going on, swore

that she heard some person riding up and down the stairs on horseback, and galloping through the rooms. The house shook to its foundation, and she thought every moment that it would tumble about her ears. The windows were filled with flashes of lurid light. The new master of the house, not knowing what to think of the matter, went one morning to explore the adjacent territory; snow was on the ground, and he clearly traced upon it the impressions of feet, which were neither those of a horse, nor the cow, nor of any known animal. But the alarm of the town became indescribable, when it was ascertained that Cantius had been actually seen by several persons riding up and down in the court-yard of his eddant domicile, and not only here, but also in the public streets, and along the neighboring valleys and hills, with a terrific rapidity, as if he had been chased by some infernal huntsman. The ground flashed with fire as he fled on his courser over the rocks and ridges of the mountains.

At one time Cantius was seen wrestling with an unhappy Jew, and torturing him with the most wanton ferocity. At another, a wagoner reported that as he approached the town, Cantius met him and vomited fire in his face. The parson of the parish was every night rolled backward and forward in his bed by Cantius, who did not leave him until he was quite exhausted. The parson's wife was treated in the same manner by Cantius, who usually penetrated through the casement in the shape of a dwarf. A boy's lips were found pressed together in such a way that he could not open them again. This was the work of Cantius. At a certain hour of the night, the candles burned with a diemal blue flame. It was the sure token of the approach of Cantius. Bowls filled over night with milk, were found empty in the morning, or the milk was turned into blood; old men were discovered in their beds strangled; the water in the fountains was defiled; cows were already sucked dry when the milk-maid claimed her usual tribute; dogs were seen dead with their brains knocked out, and the poultry disappeared—all these extraordinary occurrences were the doings of Cantius.

In the shades of the evening a head appeared looking out from the window of an old tower; suddenly it changed its form, and assumed that of a long staff, or a horrible monster—it was Cantius. In short, so numerous were the shapes which this unquiet ghost assumed, and such was the terror which he excited among the good folks of Pertsch, that travellers avoided the town, trade decayed, and the citizens were impoverished so much, that measures were at length taken for the purpose of ascertaining whether the alderman was dead or alive. Accordingly, a body of the people proceeded to open his grave; all his neighbours non-existent who had been buried before or after him, were found to have undergone the usual process of "dust to dust," while the cuticle of Johannes was as soft and florid, and his limbs as supple, as if he had only just fallen asleep. A staff was put into his hand—he grasped it with the strength of a giant. His eyes opened and closed again. A vein in his leg was lanced, and blood issued from it in a copious stream. All this happened after Cantius had been reputed to have occupied his grave six months. An inquest was held on the body, for which there was a precedent in the case of a shoemaker of Breslaw, and the judges condemned the alderman to be burnt. But a difficulty still remained to be got over; for, with all the efforts they could make, they could not remove the body from the grave; it was so heavy. At length the citizens had the good luck to discover the horse which had killed Cantius, and, though the tug was tremendous, this animal succeeded in disinterring the remains. Another formidable obstacle to the absolute dissipation of the body remained to be conquered; it was placed over a fire, but it would not burn! It was then cut into small pieces, which were reduced to ashes, and the spirit of Cantius never appeared again! This is a very extraordinary story. But its preservation, and the minuteness with which it details so great a variety of circumstances, clearly show that, even if it had been wholly invented, it must have been, at all events, suited to the credulity of the age.

I have read many wonderful things about Ireland, in a strange legendary account of that country, which I have met with; but the tradition of the Laughing Skull possessed a sort of horrible drollery altogether unequalled. It is said that a comic actor or minstrel, by name Clepsanus, once flourished in that island, who was the Liston of his time; his face was such a farce in itself, that any person, no matter how much oppressed by the most agonizing grief at the moment, who looked at him, found it absolutely impossible to avoid laughing. Having

fretted his hour upon this stage of life, he made his exit, and was buried in the church-yard, where, in due course of time, all that was mortal of him disappeared save his pericranium. The grave-digger, while making room in the same spot for a new claimant, shovelled up the skull of the minstrel, and, without at all remembering to whom it had once belonged, placed it on a large stone that was on the surface of the earth. Some stragglers came into the churchyard, and happening to approach the said stone, they set up such a peal of laughter that the grave-digger was astonished. He looked about to ascertain the cause of their mirth, when his eye falling on that part of the caput, from which the mouth and tongue of Clepsanus had formerly set so many an audience in a roar, he too, yielded to the contagion, and laughed till he could dig no longer. The funeral train, for whose reception he had been preparing, next appeared, rending the air with that melancholy howl, which even yet may be heard in some parts of Ireland, on such occasions. But as the procession advanced, and reached within view of the skull of Clepsanus, the notes were suddenly changed to shouts of irresistible merriment. The tradition adds, that this singular relic might be seen even within a century or two ago.

The death of Henry IV. (assassinated by Ravallac) placed not only the Queen, but I may add the interests of the kingdom, entirely in the hands of Galigai. Her ambition knew no bounds. Her husband was raised to the dignity of Marechal d'Ancre, and provided with a magnificent income. Her apartments in the palace were soon crowded with courtiers of the first rank in the country. She had the insolence to shut her doors against them, whenever she chose to be relieved from their importunities. It was said that when she thus secreted herself, she was employed in incantations, the object of which was to preserve her influence over the Queen, and to render it immutable. The young King, Louis XIII., was one day playing in his apartments, which were near those of the Marechal. Disturbed by the noise, she went and told him that he must desist, for that the noise gave her the migraine. Outraged by her audacity, the youth answered, that if his noise reached her chamber, Paris was large enough for her to choose another. This slight occurrence got bruited abroad, and conducted not a little to direct the tide of public opinion against both Galigai and her husband; they were hated by the King, the nobility, and the people.

Several persons, who evinced peculiar hostility to the two adventurers, died in a mysterious manner. Their deaths were publicly attributed to the contrivances of the Marechal, to which her magical powers enabled her to have recourse. Concini was assassinated by the direct orders of the King. She heard the intelligence without a tear—without even the slightest emotion. But when she was informed that his body was exhumed and burnt as that of a convicted sorcerer, she trembled for the fate that impended over herself. She was ordered to the Bastille. Before she was removed from her apartments, they were plundered of every description of property which they contained,—her splendid furniture, her matchless caskets filled with jewels, and even of her wearing apparel,—under the pretence of searching for the instruments of her supernatural operations. She was obliged to appear before a commission specially appointed to try her. She was accused of being cognizant of the treason of Ravallac, and of assisting him to carry his designs into execution. But the principal charge against her was that of sorcery; and in proof of her guilt, certain letters were produced which were written by her secretary, addressed to a Jewish Physician named Montallo. It was deposed that after the arrival of this Italian Jew at Paris, the Marechal ceased to attend mass, and that she very frequently carried in her mouth small balls of wax, from which she divined whether her enemies were likely to die or live. It was further stated by her own coachman, that he had seen her sacrifice a cock in the church at midnight; and the Procureur-General cited several authorities from Hebrew books to show that this oblation was Jewish and Pagan, and could have had no other object in view than that of contributing to the magical ceremonies practised by the prisoner. It appeared also in evidence that the Marechal frequently expressed her repugnance to be looked at by particular persons, because they enchanted her; and that she was known to have often consulted Isabel, a famous sorceress at Paris in those days. Amulets were produced which she admitted to have worn, according to the common practice of the age, as preservatives against the powers of darkness; and several Hebrew books, which were said to have been

found in her cabinet, were brought forward as proofs of the illicit means which she had adopted, in order to enslave the mind of the Queen. "My only sorcery," she nobly exclaimed, when interrogated on this point, "has been the power which a strong mind must always exercise over a weak one." She met her death with great firmness; the catastrophe was afterwards celebrated in a tragedy entitled "The Foreign Magician."

The manufacture of Brazen Men was at one period a favorite object of pursuit among the magicians of the continent. The best of these automata seems to have been the production of a celebrated Dominican friar, named Albertus Magnus, who was Bishop of Ratisbone in the twelfth century. He employed it as a domestic, and it was said that the image answered all questions put to it. This, of course, was an exaggeration. But certainly Albertus was no common practitioner in the art. Being desirous to pay his court to William, then Earl of Holland, from whom he wished to obtain a grant of a certain tract of land on which he intended to erect a convent for his order, he invited the prince to a magnificent entertainment. It was the depth of winter, the ground was covered with snow; nevertheless, the preparations for the banquet were made in the open air. When William and his retinue arrived at the place where the festival was to be held, they were astonished and much annoyed to find that they were to dine exposed to all the inclemency of the season. Albertus bore their murmurs with great complacency, and with some difficulty persuaded them to take their seats at the table. They took care, however, to wrap themselves in their cloaks, and to secure themselves against the cold as well as they could. No sooner were they seated than the snows melted away, the trees put on their summer dress, and were peopled with various birds that made the air resound with their melody. The ground was carpeted with fresh verdure, and a group of youthful pages splendidly attired appeared ready to wait on the guests, and viands and wines of the most luxurious description seemed self-arranged on the table. The sudden transition from winter to summer extended even to the skies, for the temperature of the atmosphere became so high that the prince and his followers were obliged to divest themselves of their cloaks and other superfluous garments. The change was enchanting beyond expression. The prince was delighted, and readily yielded the suit of the friar. The grant was no sooner made than the table and the beautiful pages vanished, the snow came down from the heavens in sheets, the song of the birds ceased, the trees again faded to their wintry aspect, and the guests, hastening to resume the garments which they had put aside, were very glad to betake themselves to the neighboring cottages for shelter.

The Emperor Jehangire, to whose curious autobiographical Memoirs I have already alluded, gives us an account of an entertainment which he received, very similar to that provided by Albertus, with this difference, that in the East the wonders of the scene were avowedly wrought by artificial means. He was proceeding in the winter season from Mandou to the province of Gujerat, when he was invited to spend some days at the villa of a nobleman near Ahmedabad, whose daughter was one of the inmates of his harem. The young lady was the director of the preparations on the occasion. "In the course of five days," says the emperor, "by employing various artificers of the town, to the number of four hundred individuals, in different branches of decoration, she had so effectually changed the appearance of the gardens, by making use of colored paper and wax, that every tree and shrub seemed as abundantly furnished with leaf and flower, and fruit, as if in the very freshness and bloom of spring and summer. These included the orange, lemon, peach, pomegranate, and apple; and among flowering shrubs, of every species of rose, and other garden flowers of every description. So perfect, indeed, was the deception produced, that when I first entered the garden it entirely escaped my recollection that it was no longer the spring of the year nor the season for fruit, and I unwittingly began to pluck at the fruit and flowers, the artificers having copied the beauties of Nature with such surprising truth and accuracy. You might have said, without contradiction, that it was the very fruit and flower you saw, in all its bloom and freshness. The different avenues throughout the garden were at the same time furnished with a variety of tents and canopies of velvet of the deepest green; so that these, together with the verdure of the sod, contrasted with the variegated and lively tints of the rose, and an infinity of other flowers, left altogether such an impression on my mind, as that in the very season of the rose I never contemplated in

any place, garden, or elsewhere, anything that afforded equal delight to the senses."

Next to the extraordinary performances of the Indian wonder-workers, which I have already described, on the authority of Jehangire, we must rank those of the Bohemian Ziito. In Europe, his deeds of enchantment are altogether unequalled. When his royal master, Wenceslaus, was about to be married to Sophia, daughter of the Elector Palatine of Bavaria, a great number of Bavarian jugglers attended the court of the latter to Prague, to assist in giving variety to the amusements which were to follow the nuptials. The day for the grandest performances having arrived, Ziito was present. In personal appearance he looked like a satyr. His mouth reached from ear to ear; and his shaggy hair and deformed features gave him the aspect of a monster. Mingling with the crowd of spectators, he watched the tricks of the jugglers, until, at length, he broke out into a violent passion, and reproached them with the bungling manner in which they went through their exhibitions on so important an occasion. The principal performer repelled the attack of the Bohemian with similar violence of language; and the controversy seemed likely to give rise to blows, when Ziito, without any further ceremony, to the horror of the court, swallowed up his antagonist, rejecting only his shoes, because they were dirty! He then retired for a few minutes, and returned again, leading the magician by the hand, as if nothing had occurred between them.

But this was not all. Ziito then successively assumed the likeness of a variety of persons; now resembling one individual, now another. At one moment he appeared in the most ragged attire, in the next his garments were of the most sumptuous description. He flew, as it were, in the air; not, however, as if he were sustained by wings, but as if he were sailing in an invisible ship, rising and descending with an undulating motion, without touching the earth; and all this without any apparent exertion on his part. The guests of the King were seated at the banquet; they put out their hands to help themselves to the dishes before them; in the very act their hands were converted, by the influence of Ziito, into cloven feet! He went down to the court-yard, where he appeared in a carriage drawn by cocks and hens. While the royal guests were crowding the windows to behold this exhibition, he planted the antlers of the stag on their heads. They could not withdraw from the windows; and he availed himself of the opportunity to apply to his own use the most dainty luxuries he could find on the table at which they had been sitting!

Ziito was at one time very much in want of some cash. He took up a few grains of corn, and metamorphosed them into as many hogs. These he drove to the house of a dealer in swine, to whom he sold them for ready money. He warned the dealer not to drive them to the river side for water—a hint which the man laughed at as a joke; but when he did drive them thither, the moment they touched the element the animals resumed their pristine character of grains of corn. The dealer, in a furious passion, sought out the enchanter all over Prague. At length he met with him in a shop, and charging him with the imposition which he had practised, demanded back the purchase money. Ziito, having no money in his purse, preserved a dogged silence. The angry creditor took hold of his leg to pull him into the street; the leg and thigh came away from the body of Ziito, who summoned his mutilator before a magistrate for the injury he had received. His worship was of opinion that the loss of the limbs was a fair set-off against the debt, and Ziito escaped the prosecution of his dupe.

It was currently believed in England, in the fourteenth century, that Raymond Lulli, a magician from Majorca, who was said to have gained possession of a philosopher's stone, and who was actually invited to this country on that account by Edward I., supplied that monarch with six millions of money, to enable him to carry on the war against the Turks. Lulli boasted little of his power of transmuting the base metals into gold. He said that his "great art" was a certain hidden faculty, by which he enabled any person to argue for many hours consecutively in the most logical manner, on any subject whatever, even though the party had never before paid the matter the slightest attention. Had Lulli flourished in our days, he would be an invaluable acquisition to many members of Parliament.

The art of transmutation was so fully believed in England in the fourteenth century to have been carried to perfection, that an act was passed in the fifth year of the reign of Henry IV., by which the manufacture of gold or silver from the base metals was

made a felony! The ground solemnly alleged for the enactment of this law was the apprehension entertained by the commoners of those days, that if money were obtainable in this fashion, the King might supply himself with treasure *ad libitum*, without the assistance of Parliament, and so convert it to the purposes of despotism. The prevalence of a similar belief here, even late in the fifteenth century, is proved by patents which were granted by Henry VI., with a view to encourage researches in pursuit of the philosopher's stone!

My purpose in writing these papers is to show, that the extravagant fancies entertained by the men of former days were in a great measure the natural result of the mixed constitution of the human mind—fitted for existence here and for enjoyment hereafter. The yearnings of our ambition for that higher state to which we are destined, render us but too eagerly disposed to pursue any faint imaginary glimpses, which the intellect may catch of the invisible regions around us. But these impulses tend to convince us of the extensive ranges of conception over which the imaginations of man is permitted to wander, in order to prove, as it were, the incipient wings which are eventually to bear the soul to higher stages of thought, and a nobler sphere of action.—It was also my purpose, in re-producing the follies of the olden times, to compare them with some of these which we find prevailing in the present day, in order to show that however the object of pursuit may be varied, the average of wisdom and madness in every age of the world remains very much the same.

RAILROAD IRON, &c.

Sealed proposals will be received until the 15th day of September next, for the immediate delivery thereafter at Suffolk, Va., of 250 tons of Railroad Iron in bars from 14 to 18 feet in length—2 inches wide by half an inch thick—pierced with countersunk holes 1/16 of an inch in diameter, 1 foot or 13 inches apart from centre to centre; and for 16 tons of Spikes 4 inches long and 1/16 of an inch in diameter. Specimens of the latter, and drawings of the rail showing the size and shape of the hole, shape of the rail, and angle of the scarf, will accompany each bid. WALTER GWYNN, Civil Engineer.

Engineer's Office, Portsmouth & R. R. R.
Suffolk, Va., August 18.

a 38 34

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Works for Railroad Cars, and having made arrangements with Mr. Phiehas Davis, patentee of the celebrated wire drilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to W. E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER, a 30

RAILWAY IRON.

Flat Bars in	lengths of 14 to 16
95 Twenty-five tons of 1 inch by 1/2 inch.	feet counter sunk
200 do. 1 1/2 do. 1/2 do.	holes, ends cut at
40 do. 1 1/2 do. 1/2 do.	an angle of 45 de-
800 do. 2 do. 1/2 do.	grees with ap-pling
500 do. 3/4 do. 1/2 do.	plates, nails to suit.
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON,
9 South Front street, Philadelphia.
Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. W. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbonale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New York, January 29, 1853.

[FOR THE NEW YORK AMERICAN.]

LINES ON THE DEATH OF A YOUNG FRIEND.

How oft I've gazed upon this face,
And seen upon this brow, now cold,
Deep passions linger, and could trace
Where each in turn had left its mould.
And this, then, is the end of all
The hopes you fondly cherish'd—
All ended here in space so small—
And with thy youth have perish'd.
And this that I now gaze upon
Is doom'd to darkness and decay;
For Death in thee his work has done,
And 'tween thee from the cheerful day.
I'd mourn for thee, but that I know,
Thou hadst a hope beyond the tomb;
A hope that now does brighter grow,
A star amid surrounding gloom.

R.

THE DEAD CHILD.

"She was my idol. Night and day to scan
The fine expansion of her form, and mark
The unfolding mind, like vernal rose-buds, start
To sudden beauty, was my chief delight.
To find her fairy footsteps following me,—
Her hand upon my garments,—or her lip
Long sealed to mine,—and in the watch of night
The quiet breath of innocence to feel
Soft on my cheek,—was such a full content
Of happiness, as none but mothers know.
Her voice was like some tiny harp that yields
To the slight finger'd breeze,—and as it held
Long converse with her doll, or kindly soothed
Her moaning kitten, or with patient care
Coun'd o'er her alphabet,—but most of all
Its tender cadence in her evening prayer,
Thrill'd on the ear like some ethereal tone,
Heard in sweet dreams.—

But now I sit alone,
Musing of her,—and dew with mournful tears
The little robes that once with woman's pride
I wrought, as if there was a need to deck
What God had made so beautiful. I start,
Half fancying from her empty crib there comes
A restless sound,—and breathe the accustomed words,
"Hush, hush, Louisa, dearest."—Then I weep,
As though it were a sin to speak to one
Whose home is with the angels.—

—Gone to God!
And yet I wish I had not seen the pang
That wrung her features, nor the ghastly white
Settling around her lips. I would that Heaven
Had taken its own like some transplanted flower,
Blooming in all its freshness.—

—Gone to God!
Be still, my heart!—what could a mother's prayer,
In all its wildest ecstasy of hope,
Ask for its darling like the bliss of heaven?"

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, in any part of the country.

Published at 35 Wall street, N. Y., by

D. K. MINOR & J. E. CHALLIS.

A12 if

PRACTICAL TREATISES OF CIVIL ENGINEERING, ENGINEERING BUILDING, MACHINERY, MILL WORK, ENGINE WORK, IRON FOUNDRY, &c. &c. Designed for the use of Engineers, Iron Masters, Manufacturers, and Operative Mechanics. By Charles John Blunt and R. Macdonald Stephenson, Civil Engineers, Architects, &c. &c. Consisting of examples worked through their entire detail of fundamental principle, organization, and process of execution; and being in every case the known great works of British and Foreign Engineering complete at length. Exemplifying the practical application of the Laws of Statics, Dynamics, Hydraulics, Hydrostatics, Pneumatics, and General Mechanics; accompanied by full reports, specifications, estimates, and journal of progress; and illustrated by the formulae, calculation, tables, &c. in use by the first authorities. The working plans and general views of these important subjects are laid down in original drawings of great practical accuracy and careful execution, and occupying upwards of five hundred folio and imperial folio plates. In divisions, containing from ten to fourteen plates, in a portfolio. Price one guinea. Division I. is received. For sale, and subscription options are solicited, by

WM. A. COLMAN, No. 122 Broadway, English Publication Warehouse.

see 2 31s

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—Fitch Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,

347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine.
MECHANIC'S MAGAZINE and Register of Inventions & Improvements.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars: a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J35 if

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS:
Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repair within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

E. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m18

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines. And other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency, but the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and to the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 if RM&F

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted. Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 144 Water street, corner of Maidenlane. J31 6t

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested. Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germantown, and Norrist. Railroad.

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, SEPTEMBER 13, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 13, 1834.

HUDSON AND ONTARIO SHIP CANAL.—The following communication came too late to hand for last week's Journal: we give it, however, although too late to aid in the object for which it was mainly designed.

Our views relative to the works to which it relates, are well known. Of the New-York and Erie Railroad we have often spoken: we have from its first agitation taken a decided stand in its favor, and shall not cease, while we live, to urge the importance of its early accomplishment, until we shall have taken an excursion on it to Lake Erie. Our opinion, however, of the importance of this road, and the obligation which we consider the State under to aid in its construction, does not prevent our feeling warmly interested also in the work named at the commencement of this article. We have had occasion, more than once, to speak of it; and we shall often hereafter refer to it, and do all in our power to promote its accomplishment—believing, as we do, most religiously, that to aid in such works, is to promote the happiness, improvement, and welfare of the great mass of the people, and that too without detracting a particle from the comfort of those not immediately benefitted by the particular work. With these views relative to the two most important works in this State, and, perhaps it may be said, in the United States, we are desirous to see the friends of each pursuing a conciliatory course, and where opportunity presents, aiding and forwarding the other. The friends of neither need be apprehensive that there will be a lack of business for them. No one who looks

over the immense fertile country far west, which must, or rather will, if permitted, find a market in this city, will, we think, doubt the necessity and propriety of the adoption of early measures to ensure their completion, or entertain any apprehensions of their want of business to render them a profitable investment to the stockholders, or to the State, if constructed under its direction, as the canal should be; but the railroad should be managed by a company, the State contributing at least one-third to its stock, and of course receiving its share of the profits. Our reasons for this opinion are, that the establishment for transportation should also belong to the road, and not to a separate company, as then the whole would be managed together, and more harmoniously.

To the Editor of the Railroad Journal :

I perceive, Sir, by the newspapers, that a convention is to be held in the city of Utica, on the 11th inst., for the purpose of taking into consideration the importance of constructing a STEAMBOAT CANAL from Oswego, on Lake Ontario, to Utica, and eventually to the Hudson river. This, Sir, is a subject of vast importance to the city of New-York, as well as to Utica and Oswego, and must therefore be constructed at an early day, if our citizens desire to retain the present, and also to secure the rapidly increasing future trade of the great West.

The rapidity with which the fertile lands of Michigan, Illinois, and Indiana, bordering mainly on the great lakes, or rivers easily made navigable, are brought into cultivation, has seldom, if ever, had a parallel; and the ease with which a crop of wheat is raised on much of those lands, is unknown to, and can hardly be imagined by, those who have not visited them. It is not uncommon for a man who has the means, to put in 100 or more acres of wheat the first year of his residence on his new farm; much of which, perhaps most of it, being prairie, requires only a powerful team, with a sharp plough, after having burned the grass, to prepare it for sowing. Thus, you will perceive, Sir, that immediate cultivation of the soil will follow, and immense quantities of grain will be raised in that country, if a ready and cheap mode can be devised for transporting it to market. The important question, therefore, to be answered, is, how shall this be accomplished? I ask how shall a direct, easy, and cheap communication be opened between the Hudson and Mississippi rivers?

Will you allow me, through your Journal, to give my views, and at the same time to ask of

those who have more intelligence upon the subject, and more leisure to investigate it, an expression of theirs through the same medium, that the public may be informed as to its feasibility and importance?

I would commence operations upon the section between Oswego and Utica, which might be completed by the time the Utica and Schenectady Railroad shall be ready for use, upon which and the present canal the trade of the lakes and the northern part of the State of New-York will be accommodated, until there shall be time to enlarge the present canal from Utica to the Hudson; and also to construct a Steamboat Canal around the Falls of Niagara, thus opening a direct communication between Chicago and New-York, by which wheat may be transported, as I am informed, for less than 20 cents per bushel. By this arrangement we shall be prepared to intercept a good part of the trade of the upper lakes, passing through the Welland Canal; and which, unless so intercepted, when the present improvements in course of construction around the rapids of the St. Lawrence, with locks 200 by 55 feet, with 9 feet of water, shall be completed, will find its way to Montreal and Quebec.

To the city of New-York, Sir, I consider this work of great importance. To its inhabitants, then, but more especially to the owners of real estate, and to the MERCHANTS of New-York, would I address myself, and ask them to reflect one moment upon the interest they have at stake in the completion of this work. Let them not fold their arms, and say "we are sure of the trade we now have and also of its regular increase." Let them not rest easy until by their exertions they shall have effected the adoption of this important, and another equally, at least to a certain section of the State, important work—I mean, Sir, the NEW-YORK AND ERIE RAILROAD, a work of so much importance to the southern part of New-York, and, as it is now ascertained, of so easy accomplishment, as to demand a prompt adoption by our next Legislature—a work, Sir, too long delayed, when so loudly called for, and so much needed, by so large a portion of the State.

With the immense and rapidly completing works of Pennsylvania, on the one hand, and the progressing works of Canada, on the other, New-York must, indeed, be blind to her own interest, if she hesitates one moment in adopting and pushing forward these two grand works of improvement, which will place her beyond competition for the trade, at least, of the vast region of fertile country bounding upon the great "inland seas" of the west. This, however, is not all: complete these two works, and another of equal importance to New-York will follow—I mean from CHICAGO, on Lake Michigan, to the navigable waters of the Illinois river,

—thereby opening a direct and safe inland steamboat communication between New-York and New-Orleans of over 3,500 miles, and that too, with only about two hundred and seventy-five miles of canal, which may be estimated at probably not over \$50,000 per mile, or \$13,750,000—but a trifle more than New-York has already expended on her canals: an amount, Sir, which the city of New-York alone could without inconvenience furnish; and by so applying it, increase the value of its property by the increase of business from this source alone, over and above what it would be without it, more than double that amount. And, Sir, do I over-rate the enterprize and intelligence of the city of New-York, when I say, if permitted so to do, she would, at her own expense, construct this splendid work? I think not, and am therefore desirous to arouse those who are so much interested to the importance of taking part in the proceedings of the Utica Convention on the 11th—a period, by the by, very convenient for the subject, being the day after the meeting of the two political State Conventions, at the same place and at Herkimer, at which will undoubtedly be assembled delegates from every county in the State, and who may come prepared to take part in its deliberations.

A NEW-YORKER.

SHIP CANAL FROM OSWEGO TO THE HUDSON.—Our columns furnish the report of a Committee of the Chamber of Commerce, made some time ago, in relation to this magnificent project, and to the interest which this city in particular has in its accomplishment. No order has as yet been taken by the Chamber on the matter—meanwhile we ask attention to the statements and reasoning of the Report, and have only space to add here, that a Convention is to assemble at Utica on the 11th inst., (next Thursday) of delegates from the various counties, and from this city, more immediately interested in such an improvement.—[N. Y. American, of Monday, 8th inst.]

Report of the Committee of the Chamber of Commerce, upon the Letter of "the Corresponding Committee of the Citizens of the County of Oswego."

The Letter and Documents which were referred to us, indicate two projects of great importance to the nation at large, and especially interesting to the people of this State: the first proposes the construction of a Ship Canal around Niagara Falls, by means of which a communication will be effected between Lake Ontario and the upper Lakes. Vessels navigating Lake Erie and Lake Ontario can now approach within eight miles of each other, and the proposed work would not, probably, much exceed that length. We have no calculation of its cost, except an incidental assertion of the Committee of the Citizens of Oneida County, that a Canal, of sufficient capacity, to meet all the probable wants of our inland Commerce, can be completed for less than two millions of dollars: but, if the opinion of its importance which those gentlemen have expressed be correct, the question of expense is unworthy of the consideration of the Government of the United States, under whose superintendence it should be executed. We will briefly state some of the reasons which have been urged, why this should be a National Work.

1. The large number of States whose resources would be thereby developed, and their productions borne to a market with greater economy of time and money. New York, Pennsylvania, Ohio, Indiana, Illinois, and Michigan Territory, are all directly interested, being bounded in part by the chain of Lakes on our Northern frontiers; Kentucky and Western Virginia have an indirect interest in the project, through their communication with Lake Erie, by means of the Erie and Ohio Canal; and States more remote, by their artificial works and the means of communication which Nature has provided, would largely participate in that increase of facilities, and advancement of prosperity, which would result from the completion of this magnificent enterprize.

2. The chain of Lakes furnishes the natural and expeditious mode of communication with the Indians of the North-west. The removal of the chief impediment which obstructs their navigation, would enable the Government to give greater efficiency to its paternal zeal in favor of this unhappy race, and by bringing them nearer to the blessings of civilization and Christianity, change them from cruel foes or capricious friends into industrious and useful neighbors.

3. The inestimable importance of our having the command of the Lakes in the event of our being again involved in a war. If this work were constructed, all the munitions of war could be conveyed with so much ease and rapidity, that any point threatened with attack could be strengthened with little delay, and a single fleet would form the cheap and efficacious defence of our most extended and most valuable line of frontier.

4. The rapidity with which the industry and enterprise of the people of Canada, sustained by the rich rewards of a fertile soil, and encouraged by the munificent policy of their Government, is raising up a dangerous rival in our immediate neighborhood; dangerous in peace, from the numerous temptations and inducements which she offers to many of the most productive regions in our country to seek with her a market for the sale of their own products, and the purchase of foreign commodities; and in war, from her numerical force, increasing with wonderful rapidity, and from the position which she occupies in relation to us, a position which she is continually strengthening. From the Documents accompanying the letter referred to us, it appears that the emigration from the British Isles to the Canadas averages 50,000 annually; that, in addition to the Rideau and Welland Canals, several schemes of extensive intercommunication have been commenced; that the soil in general is extremely fertile; that, of the thirty steamboats which last year navigated Ontario and the St. Lawrence, only three belonged to ports on the American side; and, to use the language of a recent Memorial to Congress, "that, during the last five years, it has grown, in the resources of population and wealth, in agricultural improvements, commercial enterprise and industry, beyond what is known to have been accomplished within the same period in the most flourishing parts of our own favored country."

These considerations enforce the necessity of our acting with a liberal zeal, to counterbalance the exertions of so sagacious and enterprising a rival; and if the Government of the United States should refuse to interfere, the project by which we shall at once be placed upon an equality with our competitor, and perhaps secure a superiority, is amply within the resources of our own State. When effected, the result will be that, instead of seeing the products of the most fertile portion of our Northern and North-western territory carried to Montreal, we shall have a large portion of our Canadian neighbors resorting to the market of New York, through the channel, the constructing of which is the second project suggested in the papers now under consideration.

This proposes to provide the means of passing vessels of from 100 to 200 tons burthen, from Lake Ontario to the Hudson, by improving the navigation of the Oswego River and Oneida outlet, making a navigable communication from the head of Oneida Lake to the Mohawk, and removing or overcoming the impediments which that river offers. The individuals recommending this measure are men of practical wisdom, who have long had the subject under consideration; and they confidently express the opinion, that a steamboat communication, by this route, between Ontario and the Hudson, would not cost more than two millions of dollars. An enlightened policy would induce our State to execute the work at ten times that cost, if we can credit the prophecy of Judge Wright, that "the completion of the Welland Canal, and of the Canal around the Rapids of the St. Lawrence, will secure to the Canadas one half of the trade of Ohio, Indiana, Illinois, and Michigan."

We have unquestionably derived great advantages from the Erie Canal, and we owe a large debt of gratitude to that illustrious man whose decision and energy created it; but it cannot be denied, that it has nearly reached the maximum of its utility, and that the resources of our industrious and enterprising population require additional means for their full development. Many bulky and heavy articles are excluded from the Canal by the rates of toll, and the number of these will continually enlarge, as the products of our skill and labor are increased. The great lumber counties lying along our Southern line are threatened with an entire exclusion, and are sometimes compelled to resort to the Baltimore market, over the Rapids and intricacies of the Susquehanna, instead of seeking that which habit and inclination would indicate. If a steam navigation were open from the city of New-York to Oswego, the numerous rivers and lakes which run through the central and Southwestern parts of our State, towards Ontario, would supply, with easy additions from Art, the means of junction with that Lake, which, upon

the completion of these two schemes, would be the termination of an inland sea, having a greater circumference than the Euxine. The existing Canals, together with a Railroad through the Southern tier of counties, from the Hudson to Lake Erie, would bring all parts of the State, which are not immediately within the scope of the proposed improvements, into an expeditious and economical communication with the Atlantic. We shall then have done all that a liberal policy can suggest, to develop and improve the blessings of a bountiful Providence.

The limits within which we deem it expedient to confine this report, do not permit our entering into a detail of arguments and illustrations to support the opinions which we have expressed, nor do we consider ourselves called upon to recommend any immediate action by the CHAMBER OF COMMERCE; but, inasmuch as every question of internal improvements within our State is deeply interesting to all classes of individuals in our city, and in a particular degree to our merchants, we respectfully recommend the adoption of the following resolutions.

Resolved, That a Standing Committee be appointed to originate, receive, and answer communications of our fellow-citizens throughout the State, upon the subject of Internal Improvements.

Resolved, That the Secretary be requested to assure the Corresponding Committee of the Citizens of the County of Oswego, that this Chamber appreciates the public spirit which animates them,—concurs in opinion with them respecting the importance of the projects which they recommend,—and will cheerfully co-operate in attempts to conduct them to an early completion.

ISAAC S. HONE,
JOHN S. CHART,
AUGUS. WYNKOOP.

June 2, 1834.

INTERNAL IMPROVEMENT. — *Great Railroad from New-York to Washington, through Philadelphia to Baltimore.*—The continuous line of railroad which is intended to run uninterruptedly from New-York to Washington, through Philadelphia and Baltimore, is undoubtedly one of the most magnificent works of the present day, either in this country or in Europe. In point of extent it far surpasses any line yet possessing the slightest prospect of completion in the United States.

The series of railroads from New-York to Washington, under different charters, granted by different States, which combined into one continuous line, uniting the two large and all the intermediate cities in question, could be completed, but for one obstacle, in probably one year or eighteen months. This obstacle is the small section of 26 miles between Trenton and New-Brunswick, in New-Jersey; a section which is indeed under the operation of a charter for one of the old fashioned turnpike companies, but does not, at present, possess those powers of transportation and management which are necessary to transform it into a railroad.

We have procured from the best sources of information a full and accurate statement of the present condition and prospects of the whole series of these railroads, which, combined, will bring New-York and Washington within eight hours distance of each other, and of course, all the intermediate cities in like proportion. This information is so interesting that we cannot deny ourselves the pleasure of communicating it to the public.

And first, the railroad from Washington to Baltimore. The length of this section is 37 miles, being a branch of what is called the Baltimore and Ohio Railroad, chartered under the joint powers of Congress, and of the State of Maryland. This road is now in the process of construction. A large section is finished, and it is believed that it could be completed in less than a year.

2. From Baltimore to Port Deposit Bridge on the Susquehanna. This section is also chartered by the State of Maryland—the stock subscribed; the route surveyed and located, and could be put under contract and finished with great expedition. The road is nearly straight and very level—the only exception being a very small sweep up Port Deposit Bridge. Length of this section 41½ miles.

3. From Port Deposit Bridge to the Maryland and Pennsylvania line—distance 10 miles. This section is also chartered, the stock subscribed, route surveyed and located, and only waits the action of the New-Jersey Legislature upon the Trenton and New-Brunswick section.

4. From the Maryland and Pennsylvania line to the Columbia Railroad, near Coatesville,—distance 20½ miles. This section is also chartered, surveyed and located, being in the same situation as the two preceding sections. From Coatesville to the Susquehanna, the ground is particularly well adapted for a railroad. The line laid out runs along a gentle ridge, almost level the whole distance till it descends the bank of the Susquehanna. The ground resembles the famous ridge road of Western New-York.

5. From Coatesville on the Columbia Railroad to Broad street, Philadelphia,—distance 45½ miles. This is now in use. Not a word need be said of this section to a Philadelphia reader. It is crowded daily with passengers.

6. From Broad street, through the Northern Liberties, &c. to the Delaware river, distance one mile. Nothing need be said of this short cut.

7. From Philadelphia to Trenton Bridge,—distance 26½ miles. This section we have already described. It is nearly completed, and will be ready for the locomotive before the termination of the season.

8. From Trenton Bridge to New-Brunswick,—distance 26½ miles. This is the only section throughout the whole line, from Washington to New-York, that is not chartered for a railroad. It is the condition of this section in which exists the whole obstacle to the completion of a line of railroad that would confer lasting benefits on the whole Atlantic seacoast—but of this, more anon.

9. From New-Brunswick to Jersey city, opposite New-York,—distance 30½ miles. This section will be completed and ready for trade next year—more than half will be ready this season.

Thus, at one view, we have a continuous line of railroads through the whole route from New-York to Washington, a distance of 239½ miles, including the breadth of the North River, that could be constructed and made ready for travelling in about a year from this date, provided the Legislature of New-Jersey would remove the only obstacle that stands in the way of such a magnificent improvement.—[Phil. Inq.]

Report of the Chief Engineer to the President and Directors of the Baltimore and Port Deposit Railroad Company

BALTIMORE, March 29, 1834.

To the President and Directors, &c.:

GENTLEMEN,—At the commencement of the present year I had the honor of receiving the appointment of your engineer. In obedience to instructions accompanying the announcement of my election to that office, I set on foot as soon as practicable, a survey, the completion of which on the last day of February has enabled me to submit to you the following report. This survey, a plan and profile of which I herewith present, was made with all the rapidity consistent with a proper regard to accuracy in the field operations, as I was given to understand that it was important that I should lay before you its results at an early day, in order that application might be made to the Legislature of Maryland during its late session, for aid in the prosecution of the proposed work. Much exertion was made to accomplish this object, but without success, as the session terminated too soon after the completion of the surveys to allow time for the preparation of the necessary estimates and drawings. While I regret that the wishes of the Board could not be gratified as to the time of

the presentation of the Report and map, I am glad of the opportunity which the delay has afforded, of rendering both of them more fully illustrative of the subject to which they refer.

In explanation of the map, I will describe the principal characteristics of the route which has been surveyed. The intersection of Boston and Hudson streets, near the margin of the Patapsco, a short distance west of Harris' creek, was selected as the point of commencement. From thence two lines were traced, one of them crossing the arm of the Patapsco just without the mouth of the creek, and pursuing the middle of Boston street to the eastern boundary of the city upon the shore of the river, passing close to the Mansion House Tavern, and turning to the left with a curvature of 2100 feet radius, until the Trap road is crossed; ascending thence the valley of O'Donnell's Run, east of the Canton race course, by a straight line, to the summit dividing that run from a drain of Harris' creek; then turning to the right by a curvature of 2300 feet radius, until a point is attained opposite the buildings forming the Orange farm improvement. This route is here joined by the other, which, proceeding from the starting point above described, occupies the middle of Hudson street to the bridge over the mouth of Harris' creek, where it begins to deflect to the left by a curve of 500 feet radius, and follows the bluff and serpentine eastern bank of that creek by a series of curvatures, of radii from 7 to 1200 feet, till, leaving the steep shores of the stream, it ascends by a line of very gentle flexure the favorable slope of that drain of it which heads at the Orange farm, uniting with the line first described near the farm buildings, about a quarter of a mile from the Philadelphia turnpike. Of the two lines, the Boston street route is the longest by half a mile, but has much the advantage in point of curvature, besides being recommended by other considerations of which the Board are already aware; the estimate has therefore been made upon it. From their point of re-union, the single route thence pursued descends a drain tributary to Black River, by a line partly straight and partly curved, with radii of 17,000 and 10,000 feet, crossing the North Point road near its own level, and lying upon ground in which moderate alternate cutting and filling is required. The tide-water of Back River is then crossed, near the residence of General Stansbury, the width of the crossing, which is somewhat oblique, being 900 feet, and the level of the road assumed at 18 feet above medium tide. The route now conforms to the course of Northeast Creek, whose banks are bluff, and broken by inlets, from the tide receding to various distances from the general line of the margin of the creek. This part of the profile, therefore, presents a rough aspect, though the cuttings and fillings are neither very long nor deep; numerous culverts will be required on this portion of the line. The principal branch of Northeast Creek is now crossed in the vicinity of Mrs. Stemmer's mill, a little to the left of which the line passes, and along the north side of the mill-pond, ascending a drain supplying the pond, and crossing a ridge between it and a drain of Middle River, about half a mile north of the meeting house. This ridge is the highest ground encountered between Northeast Run and the Gunpowder. The route then crosses several other drains of Middle river, the dividing ground between which is in every instance of moderate elevation. The last of these drains being passed near the termination of a range of highlands called the Blue Hills, separating the waters of Bird River and Middle River, the route soon after reaches ground sloping towards Bird River, which lies to its left, and crosses two or three of its small tributaries, traversing for a considerable distance the extensive and finely cultivated tract belonging to Robert Oliver, Esq. and attaining the bank of the Gunpowder at a point about three quarters of a mile to the left of

this mansion. The Gunpowder is now crossed from Cedar Point to Caldwell's Point, between which its width is one mile, and its depth from 5 to 8 feet. From its eastern bank the line ascends a shallow ravine, passes a low summit, and, avoiding an inlet from the river which is encountered a little beyond the head of that ravine, ascends towards the dividing ground, separating the waters of Gunpowder and Bush rivers. This summit being attained, a descent towards the latter river is commenced, and the route reaches it after passing over ground of a favorable character, crossing two small streams running into Bush River, and approaching its western bank along the easy slope of Dulany's Creek. The width of Bush River at the place of crossing is one mile; above the mouth of Dulany's Creek the width is not more than three quarters of a mile; but it is questionable whether the approach to the west bank of the river, at the last point, would be as favorable as that of the line surveyed. A comparative location of the two routes connected with the two crossings, can alone determine this question. On arriving at the east bank of Bush River, the depth of which is from 6 to 8 feet, the ground is found to rise rapidly from the beach, and a cutting, whose extreme depth is 17 feet, must be encountered for about half a mile; after getting through which the route reaches the gently undulating ground dividing the waters of Church Creek from those of Sod Creek, or Beaver Dam. To the surface of this ground the road-bed may be so closely accommodated, for a distance of about four miles, as to render the graduation very cheap. No stream is crossed in this distance, and consequently no masonry will be required. About two miles west of Swan Creek the hollow of Beaver Dam Branch is passed, beyond which an immediate deflection to the left becomes necessary to accommodate the high ground between those two streams. A pretty favorable pass through this ridge is found near to Hall's Cross Roads, on the post road to Havre de Grace, where the route bends again to the right for the purpose of occupying a ravine which affords the only advantageous approach to Swan Creek, whose banks are of the most irregular and precipitous character, indented by deep coves, and rising almost vertically from the water to heights of 40 and 60 feet. The part of the line connected with the crossing of Swan Creek will be costly, on account of the great difference of level between the ridge at Hall's Cross Roads and the waters of this creek, and the short distance between them, which make it necessary to cut deeply into the ridge, and embank to a considerable height upon the creek, in order to obtain a grade of moderate inclination. Ascending from the tide of Swan Creek, the route again assumes the most favorable character; and crossing several tributaries of that creek and the Susquehanna, it reaches the latter by a line of direct course and gentle undulation, leaving the town of Havre de Grace about half a mile to the right, and striking the river at the base of the highlands which form its border. From its encounter with the Susquehanna, the survey passes over ground of a character totally opposite to that which it has hitherto traversed. The tide washes the bottom of the rugged hills which confine the river, leaving at high water no beach at their base. It will therefore be necessary to cut the road out of the steep declivity of the banks, pursuing the windings of their coves, and rounding their prominent points of rock by curves of short radii. A considerable quantity of rock must be excavated upon the first two miles of this part of the route; it will blast well, however, and much of it may be removed by the crowbar, as it lies in loose masses, unconnected but by their weight. After passing these two miles, the river banks become of easier slope, and less stubborn material, and the west end of the Port Deposit bridge may be reached

—thereby opening a direct and safe inland steamboat communication between New-York and New-Orleans of over 3,500 miles, and that too, with only about two hundred and seventy-five miles of canal, which may be estimated at probably not over \$50,000 per mile, or \$13,750,000—but a trifle more than New-York has already expended on her canals: an amount, Sir, which the city of New-York alone could without inconvenience furnish; and by so applying it, increase the value of its property by the increase of business from this source alone, over and above what it would be without it, more than double that amount. And, Sir, do I over-rate the enterprize and intelligence of the city of New-York, when I say, if permitted so to do, she would, at her own expense, construct this splendid work? I think not, and am therefore desirous to arouse those who are so much interested to the importance of taking part in the proceedings of the Utica Convention on the 11th—a period, by the by, very convenient for the subject, being the day after the meeting of the two political State Conventions, at the same place and at Herkimer, at which will undoubtedly be assembled delegates from every county in the State, and who may come prepared to take part in its deliberations.

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The Letter and Documents which were referred to us, indicate two projects of great importance to the nation at large, and especially interesting to the people of this State: the first proposes the construction of a Ship Canal around Niagara Falls, by means of which a communication will be effected between Lake Ontario and the upper Lakes. Vessels navigating Lake Erie and Lake Ontario can now approach within eight miles of each other, and the proposed work would not, probably, much exceed that length. We have no calculation of its cost, except an incidental assertion of the Committee of the Citizens of Oneida County, that a Canal, of sufficient capacity, to meet all the probable wants of our inland Commerce, can be completed for less than two millions of dollars: but, if the opinion of its importance which those gentlemen have expressed be correct, the question of expense is unworthy of the consideration of the Government of the United States, under whose superintendence it should be executed. We will briefly state some of the reasons which have been urged, why this should be a National Work.

1. The large number of States whose resources would be thereby developed, and their productions borne to a market with greater economy of time and money. New York, Pennsylvania, Ohio, Indiana, Illinois, and Michigan Territory, are all directly interested, being bounded in part by the chain of Lakes on our Northern frontiers; Kentucky and Western Virginia have an indirect interest in the project, through their communication with Lake Erie, by means of the Erie and Ohio Canal; and States more remote, by their artificial works and the means of communication which Nature has provided, would largely participate in that increase of facilities, and advancement of prosperity, which would result from the completion of this magnificent enterprize.

2. The chain of Lakes furnishes the natural and expeditious mode of communication with the Indians of the North-west. The removal of the chief impediment which obstructs their navigation, would enable the Government to give greater efficiency to its paternal zeal in favor of this unhappy race, and by bringing them nearer to the blessings of civilization and Christianity, change them from cruel foes or capricious friends into industrious and useful neighbors.

3. The inestimable importance of our having the command of the Lakes in the event of our being again involved in a war. If this work were constructed, all the munitions of war could be conveyed with so much ease and rapidity, that any point threatened with attack could be strengthened with little delay, and a single fleet would form the cheap and efficacious defence of our most extended and most valuable line of frontier.

4. The rapidity with which the industry and enterprise of the people of Canada, sustained by the rich rewards of a fertile soil, and encouraged by the munificent policy of their Government, is raising up a dangerous rival in our immediate neighborhood; dangerous in peace, from the numerous temptations and inducements which she offers to many of the most productive regions in our country to seek with her a market for the sale of their own products, and the purchase of foreign commodities; and in war, from her numerical force, increasing with wonderful rapidity, and from the position which she occupies in relation to us, a position which she is continually strengthening. From the Documents accompanying the letter referred to us, it appears that the emigration from the British Isles to the Canadas averages 50,000 annually; that, in addition to the Rideau and Welland Canals, several schemes of extensive intercommunication have been commenced; that the soil in general is extremely fertile; that, of the thirty steamboats which last year navigated Ontario and the St. Lawrence, only three belonged to ports on the American side; and, to use the language of a recent Memorial to Congress, "that, during the last five years, it has grown, in the resources of population and wealth, in agricultural improvements, commercial enterprize and industry, beyond what is known to have been accomplished within the same period in the most flourishing parts of our own favored country."

These considerations enforce the necessity of our acting with a liberal zeal, to counterbalance the exertions of so sagacious and enterprising a rival; and if the Government of the United States should refuse to interfere, the project by which we shall at once be placed upon an equality with our competitor, and perhaps secure a superiority, is simply within the resources of our own State. When effected, the result will be that, instead of seeing the products of the most fertile portion of our Northern and Northwestern territory carried to Montreal, we shall have a large portion of our Canadian neighbors resorting to the market of New York, through the channel, the constructing of which is the second project suggested in the papers now under consideration.

This proposes to provide the means of passing vessels of from 100 to 200 tons burthen, from Lake Ontario to the Hudson, by improving the navigation of the Oswego River and Oneida outlet, making a navigable communication from the head of Oneida Lake to the Mohawk, and removing or overcoming the impediments which that river offers. The individuals recommending this measure are men of practical wisdom, who have long had the subject under consideration; and they confidently express the opinion, that a steamboat communication, by this route, between Ontario and the Hudson, would not cost more than two millions of dollars. An enlightened policy would induce our State to execute the work at ten times that cost, if we can credit the prophecy of Judge Wright, that "the completion of the Welland Canal, and of the Canal around the Rapids of the St. Lawrence, will secure to the Canadas one half of the trade of Ohio, Indiana, Illinois, and Michigan."

We have unquestionably derived great advantages from the Erie Canal, and we owe a large debt of gratitude to that illustrious man whose decision and energy created it; but it cannot be denied, that it has nearly reached the maximum of its utility, and that the resources of our industrious and enterprising population require additional means for their full development. Many bulky and heavy articles are excluded from the Canal by the rates of toll, and the number of these will continually enlarge, as the products of our skill and labor are increased. The great lumber counties lying along our Southern line are threatened with an entire exclusion, and are sometimes compelled to resort to the Baltimore market, over the Rapids and intricacies of the Susquehanna, instead of seeking that which habit and inclination would indicate. If a steam navigation were open from the city of New-York to Oswego, the numerous rivers and lakes which run through the central and Southwestern parts of our State, towards Ontario, would supply, with easy additions from Art, the means of junction with that Lake, which, upon

the completion of these two schemes, would be the termination of an inland sea, having a greater circumference than the Euxine. The existing Canals, together with a Railroad through the Southern tier of counties, from the Hudson to Lake Erie, would bring all parts of the State, which are not immediately within the scope of the proposed improvements, into an expeditious and economical communication with the Atlantic. We shall then have done all that a liberal policy can suggest, to develop and improve the blessings of a bountiful Providence.

The limits within which we deem it expedient to confine this report, do not permit our entering into a detail of arguments and illustrations to support the opinions which we have expressed, nor do we consider ourselves called upon to recommend any immediate action by the Chamber of Commerce; but, inasmuch as every question of internal improvements within our State is deeply interesting to all classes of individuals in our city, and in a particular degree to our merchants, we respectfully recommend the adoption of the following resolutions.

Resolved, That a Standing Committee be appointed to originate, receive, and answer communications of our fellow-citizens throughout the State, upon the subject of Internal Improvements.

Resolved, That the Secretary be requested to assure the Corresponding Committee of the Citizens of the County of Oswego, that this Chamber appreciates the public spirit which animates them,—concurs in opinion with them respecting the importance of the projects which they recommend,—and will cheerfully co-operate in attempts to conduct them to an early completion.

ISAAC S. HONE,
JOHN S. CHART,
AUGS. WYNKOOP.

June 2, 1834.

INTERNAL IMPROVEMENT. — Great Railroad from New-York to Washington, through Philadelphia to Baltimore.—The continuous line of railroad which is intended to run uninterruptedly from New-York to Washington, through Philadelphia and Baltimore, is undoubtedly one of the most magnificent works of the present day, either in this country or in Europe. In point of extent it far surpasses any line yet possessing the slightest prospect of completion in the United States.

The series of railroads from New-York to Washington, under different charters, granted by different States, which combined into one continuous line, uniting the two large and all the intermediate cities in question, could be completed, but for one obstacle, in probably one year or eighteen months. This obstacle is the small section of 26 miles between Trenton and New-Brunswick, in New-Jersey; a section which is indeed under the operation of a charter for one of the old fashioned turnpike companies, but does not, at present, possess those powers of transportation and management which are necessary to transform it into a railroad.

We have procured from the best sources of information a full and accurate statement of the present condition and prospects of the whole series of these railroads, which, combined, will bring New-York and Washington within eight hours distance of each other, and of course, all the intermediate cities in like proportion. This information is so interesting that we cannot deny ourselves the pleasure of communicating it to the public.

And first, the railroad from Washington to Baltimore. The length of this section is 37 miles, being a branch of what is called the Baltimore and Ohio Railroad, chartered under the joint powers of Congress, and of the State of Maryland. This road is now in the process of construction. A large section is finished, and it is believed that it could be completed in less than a year.

2. From Baltimore to Port Deposit Bridge on the Susquehanna. This section is also chartered by the State of Maryland—the stock subscribed, the route surveyed and located, and could be put under contract and finished with great expedition. The road is nearly straight and very level—the only exception being a very small sweep up Port Deposit Bridge. Length of this section 41½ miles.

3. From Port Deposit Bridge to the Maryland and Pennsylvania line—distance 10 miles. This section is also chartered, the stock subscribed, route surveyed and located, and only waits the action of the New-Jersey Legislature upon the Trenton and New-Brunswick section.

4. From the Maryland and Pennsylvania line to the Columbia Railroad, near Coatesville,—distance 20½ miles. This section is also chartered, surveyed and located, being in the same situation as the two preceding sections. From Coatesville to the Susquehanna, the ground is particularly well adapted for a railroad. The line laid out runs along a gentle ridge, almost level the whole distance till it descends the bank of the Susquehanna. The ground resembles the famous ridge road of Western New-York.

5. From Coatesville on the Columbia Railroad to Broad street, Philadelphia,—distance 45½ miles. This is now in use. Not a word need be said of this section to a Philadelphia reader. It is crowded daily with passengers.

6. From Broad street, through the Northern Liberties, &c. to the Delaware river, distance one mile. Nothing need be said of this short cut.

7. From Philadelphia to Trenton Bridge,—distance 26½ miles. This section we have already described. It is nearly completed, and will be ready for the locomotive before the termination of the season.

8. From Trenton Bridge to New-Brunswick,—distance 26½ miles. This is the only section throughout the whole line, from Washington to New-York, that is not chartered for a railroad. It is the condition of this section in which exists the whole obstacle to the completion of a line of railroad that would confer lasting benefits on the whole Atlantic seacoast—but of this, more anon.

9. From New-Brunswick to Jersey city, opposite New-York,—distance 30½ miles. This section will be completed and ready for trade next year—more than half will be ready this season.

Thus, at one view, we have a continuous line of railroads through the whole route from New-York to Washington, a distance of 239½ miles, including the breadth of the North River, that could be constructed and made ready for travelling in about a year from this date, provided the Legislature of New-Jersey would remove the only obstacle that stands in the way of such a magnificent improvement.—[Phil. Inq.]

Report of the Chief Engineer to the President and Directors of the Baltimore and Port Deposit Railroad Company

BALTIMORE, March 29, 1834.

To the President and Directors, &c.:

GENTLEMEN,—At the commencement of the present year I had the honor of receiving the appointment of your engineer. In obedience to instructions accompanying the announcement of my election to that office, I set on foot as soon as practicable, a survey, the completion of which on the last day of February has enabled me to submit to you the following report. This survey, a plan and profile of which I herewith present, was made with all the rapidity consistent with a proper regard to accuracy in the field operations, as I was given to understand that it was important that I should lay before you its results at an early day, in order that application might be made to the Legislature of Maryland during its late session, for aid in the prosecution of the proposed work. Much exertion was made to accomplish this object, but without success, as the session terminated too soon after the completion of the surveys to allow time for the preparation of the necessary estimates and drawings. While I regret that the wishes of the Board could not be gratified as to the time of

the presentation of the Report and map, I am glad of the opportunity which the delay has afforded, of rendering both of them more fully illustrative of the subject to which they refer.

In explanation of the map, I will describe the principal characteristics of the route which has been surveyed. The intersection of Boston and Hudson streets, near the margin of the Patapsco, a short distance west of Harris' creek, was selected as the point of commencement. From thence two lines were traced, one of them crossing the arm of the Patapsco just without the mouth of the creek, and pursuing the middle of Boston street to the eastern boundary of the city upon the shore of the river, passing close to the Mansion House Tavern, and turning to the left with a curvature of 2100 feet radius, until the Trap road is crossed; ascending thence the valley of O'Donnell's Run, east of the Canton race course, by a straight line, to the summit dividing that run from a drain of Harris' creek; then turning to the right by a curvature of 2300 feet radius, until a point is attained opposite the buildings forming the Orange farm improvement. This route is here joined by the other, which, proceeding from the starting point above described, occupies the middle of Hudson street to the bridge over the mouth of Harris' creek, where it begins to deflect to the left by a curve of 500 feet radius, and follows the bluff and serpentine eastern bank of that creek by a series of curvatures, of radii from 7 to 1200 feet, till, leaving the steep shores of the stream, it ascends by a line of very gentle flexure the favorable slope of that drain of it which heads at the Orange farm, uniting with the line first described near the farm buildings, about a quarter of a mile from the Philadelphia turnpike. Of the two lines, the Boston street route is the longest by half a mile, but has much the advantage in point of curvature, besides being recommended by other considerations of which the Board are already aware; the estimate has therefore been made upon it. From their point of re-union, the single route thence pursued descends a drain tributary to Black River, by a line partly straight and partly curved, with radii of 17,000 and 10,000 feet, crossing the North Point road near its own level, and lying upon ground in which moderate alternate cutting and filling is required. The tide-water of Back River is then crossed, near the residence of General Stansbury, the width of the crossing, which is somewhat oblique, being 900 feet, and the level of the road assumed at 18 feet above medium tide. The route now conforms to the course of Northeast Creek, whose banks are bluff, and broken by inlets, from the tide receding to various distances from the general line of the margin of the creek. This part of the profile, therefore, presents a rough aspect, though the cuttings and fillings are neither very long nor deep; numerous culverts will be required on this portion of the line. The principal branch of Northeast Creek is now crossed in the vicinity of Mrs. Stemmer's mill, a little to the left of which the line passes, and along the north side of the mill-pond, ascending a drain supplying the pond, and crossing a ridge between it and a drain of Middle River, about half a mile north of the meeting house. This ridge is the highest ground encountered between North-east Run and the Gunpowder. The route then crosses several other drains of Middle river, the dividing ground between which is in every instance of moderate elevation. The last of these drains being passed near the termination of a range of highlands called the Blue Hills, separating the waters of Bird River and Middle River, the route soon after reaches ground sloping towards Bird River, which lies to its left, and crosses two or three of its small tributaries, traversing for a considerable distance the extensive and finely cultivated tract belonging to Robert Oliver, Esq. and attaining the bank of the Gunpowder at a point about three quarters of a mile to the left of

this mansion. The Gunpowder is now crossed from Cedar Point to Caldwell's Point, between which its width is one mile, and its depth from 5 to 8 feet. From its eastern bank the line ascends a shallow ravine, passes a low summit, and, avoiding an inlet from the river which is encountered a little beyond the head of that ravine, ascends towards the dividing ground, separating the waters of Gunpowder and Bush rivers. This summit being attained, a descent towards the latter river is commenced, and the route reaches it after passing over ground of a favorable character, crossing two small streams running into Bush River, and approaching its western bank along the easy slope of Dulany's Creek. The width of Bush River at the place of crossing is one mile; above the mouth of Dulany's Creek the width is not more than three quarters of a mile; but it is questionable whether the approach to the west bank of the river, at the last point, would be as favorable as that of the line surveyed. A comparative location of the two routes connected with the two crossings, can alone determine this question. On arriving at the east bank of Bush River, the depth of which is from 6 to 8 feet, the ground is found to rise rapidly from the beach, and a cutting, whose extreme depth is 17 feet, must be encountered for about half a mile; after getting through which the route reaches the gently undulating ground dividing the waters of Church Creek from those of Sod Creek, or Beaver Dam. To the surface of this ground the road-bed may be so closely accommodated, for a distance of about four miles, as to render the graduation very cheap. No stream is crossed in this distance, and consequently no masonry will be required. About two miles west of Swan Creek the hollow of Beaver Dam Branch is passed, beyond which an immediate deflection to the left becomes necessary to accommodate the high ground between those two streams. A pretty favorable pass through this ridge is found near to Hall's Cross Roads, on the post road to Havre de Grace, where the route bends again to the right for the purpose of occupying a ravine which affords the only advantageous approach to Swan Creek, whose banks are of the most irregular and precipitous character, indented by deep coves, and rising almost vertically from the water to heights of 40 and 60 feet. The part of the line connected with the crossing of Swan Creek will be costly, on account of the great difference of level between the ridge at Hall's Cross Roads and the waters of this creek, and the short distance between them, which make it necessary to cut deeply into the ridge, and embank to a considerable height upon the creek, in order to obtain a grade of moderate inclination. Ascending from the tide of Swan Creek, the route again assumes the most favorable character; and crossing several tributaries of that creek and the Susquehanna, it reaches the latter by a line of direct course and gentle undulation, leaving the town of Havre de Grace about half a mile to the right, and striking the river at the base of the highlands which form its border. From its encounter with the Susquehanna, the survey passes over ground of a character totally opposite to that which it has hitherto traversed. The tide washes the bottom of the rugged hills which confine the river, leaving at high water no beach at their base. It will therefore be necessary to cut the road out of the steep declivity of the banks, pursuing the windings of their coves, and rounding their prominent points of rock by curves of short radii. A considerable quantity of rock must be excavated upon the first two miles of this part of the route; it will blast well, however, and much of it may be removed by the crowbar, as it lies in loose masses, unconnected but by their weight. After passing these two miles, the river banks become of easier slope, and less stubborn material, and the west end of the Port Deposit bridge may be reached

without much further difficulty or expense. The best mode of getting upon the bridge will furnish matter for deliberation, and may be attended with some inconvenience, as, from the confined character of the adjacent ground, the axis of the bridge must be at right angles to the line of the railroad, till within a very short distance of their meeting. In the crossing of the bridge by the railway, it will be necessary to raise the surface of the islands dividing the different sections of the structure, to a level with its flooring, and provision will probably be demanded for strengthening it to bear the heavier burthens it will be required to sustain, compared with those which have hitherto passed over it. The conveyance of the road down the Susquehanna to a junction with the foot of the inclined plane terminating the Oxford Railroad, and to a connection with the town of Port Deposit, will be managed with sufficient facility. The survey terminates in that town at a point opposite the Methodist church.

In addition to the line actually surveyed, the map exhibits a view of several collateral routes which were examined, and which, in the location of the road, would demand attention. A particular description of them is considered unnecessary, as their characters will appear from an inspection of the drawings.

I will now present an estimate of the cost of the different parts of the projected work, under the several heads of the graduation, masonry, pile bridging, and railway.

THE GRADUATION.

The excavation and embankment upon the 35½ miles of the route from Baltimore to the Susquehanna, has been calculated with considerable exactness, and the line between those points is divided for the convenience of the estimate into 26 sections of various lengths. Upon the 5½ miles from where the route touches the Susquehanna, to Port Deposit, no sufficiently precise computation of the quantity of material removed in the formation of the road-bed could be made, in consequence of the rugged nature of the ground embraced in that part of the survey, over which, in the brief time allowed, a location could not be made as a basis for the necessary calculations. This latter part of the route will therefore be estimated separately, by comparison with other ground of a similar character, on which railroads have already been constructed. A near approach to the cost of graduating the entire line will thus be obtained, notwithstanding the approximate nature of the latter part of the estimate. The first section begins at the boundary of the city of Baltimore, about three-quarters of a mile from the starting point of the survey. This distance within the city it was thought best to consider by itself, as its graduation might be made under circumstances not affecting that of the rest of the line: it is therefore called the "city section." In stating the quantity of earth removed, no distinction is made between excavation and embankment, for the sake of greater simplicity.

[The tabular statement of the details of the estimate, showing the lengths of the sections, the number of cubic yards in each, the cost per cubic yard, and the entire cost, is omitted, and the general results presented as follows.]

The united length of the 26 sections above specified is 32 miles 2581 feet, upon which the aggregate quantity of earth to be removed and supplied is 599,829 cubic yards, at an average cost per cubic yard of 21 ²/₁₀₀ cts. making the total cost equal to the sum of \$126,099 20, which, for the above distance, is at the average rate of \$3881 31 per mile for the removal of the earth alone. About 10 miles of the route passes through timbered land, the clearing of which for the necessary breadth may be estimated at \$250 per mile, or for the whole distance, \$2500, which, added to \$126,099 20, makes \$128,599 20, or per mile \$3,958 26.

The cost of graduating the part of the route which pursues the precipitous bank of the Sus-

quehanna, from the end of the 26th section to the bridge, and thence to the town of Port Deposit, I have approximately estimated as follows, guided by a comparison of the ground in question with a hill side of a similar character occurring in the ravine of the Patapsco, upon the route of the Baltimore and Ohio Railroad.

7000 feet at the rate of \$2 50 per ft.	\$17,500
6500 " " " 1 00 "	6,500
14780 " " " 50 "	7,390

28280 feet graded for the sum of \$31,390 at the rate of \$5860 06 per mile.

Upon the city section the quantity of earth to be removed is estimated at 18,385 cubic yards, which, at an average of 15 cents per yard, will cost \$2757 75. A part of the line within this section crosses an arm of the Patapsco. No estimate is offered, however, for the necessary bridging, as I considered it probable that the improvements now in progress under the direction of the Canton Company, would embrace the extension of their water front along the line of Boston street, so as to provide a foundation for this part of the railway.

Upon a recapitulation of the several parts of the estimate, it appears that the cost of the graduation for the entire distance of 41 miles 1323 feet, or 41½ miles, will be as follows:

Distance.	Cost.
From the city boundary to the Susquehanna, 34.2435	\$128,599 20
From the end of the 26th section to the Methodist Church in Port Deposit, - - - 5.1880	31,390 00
City section, - - - .3847	2,757 75
Totals, - - - 40.2932	\$162,746 95
For superintendence and locating curves, add 10 per cent., -	16,274 69

\$179,021 64
From which, for the whole distance, including the length of the Susquehanna Bridge, 3671 feet, is deduced an average cost per mile of \$4,339 91.

THE MASONRY.

The numerous small streams intersecting the line of the survey will be passed by rectangular culverts constructed in the most economical manner. With the exception of the tide rivers, there are but three streams requiring bridges, the principal branch of North-East creek, at Mrs. Stemmer's Mill, Swan creek, near the head of its tide, and Wilton Run, a considerable branch of the latter. These three bridges will consist of stone abutments, with superstructures of wood. The masonry they will require will be included in the statement I will proceed to give. The cost of the superstructures will be stated separately.

[The particulars of the quantity and cost of the culvert and bridge masonry upon each of the 26 sections are omitted, and the aggregates alone stated, as follows.]

The total number of perches upon the 26 sections, from Baltimore to the Susquehanna, is 7,302; the average estimated cost of which per perch is \$4 27 ³/₁₀₀, making the entire cost equal to \$31,201.

The two small bridges over Stemmer's Run and Wilton Run, are allowed a space of 15 feet each, which, at the rate of \$10 per running foot for their flooring, will make their cost \$300. A space of 100 feet is proposed for the passage of Swan creek, by a frame upon the plan of Col. Long, costing \$15 per foot linear; making the cost of the superstructure of this bridge \$1500. Adding these items to the cost of the masonry, the result will be thus, for the 26 sections:

Total cost of culvert and bridge masonry, - - -	\$31,201 00
Wooden superstructures for three bridges, -	1,800 00
	\$33,001 00

For the part of the route along the Susquehanna, the masonry required will be nearly thus:

18 culverts at an average of \$100 each, - - -	1,800 00
Bridge over Steele's Run, at junction with Oxford Railroad, -	300 00
	\$35,101 00
Add 10 per cent. for contingencies and superintendence, -	3,510 10

Entire cost of masonry upon 41½ miles, - - - \$38,611 10 being \$936 03 per mile.

In estimating the quantity of the masonry, I have allowed large vents for all the streams crossed by the route. It may, in the construction of the road, be safely practicable to reduce the size of many of the culverts, and in no case do I think an increase in their dimensions will be required. I have been aided, in fixing their cost per perch, by a knowledge of the contract prices for similar structures upon the lateral railroad to Washington, which passes through a country affording about the same facilities for procuring materials as those which exist upon the route to Port Deposit, excepting the portion of it along the Susquehanna, where stone may be procured immediately on the line at the least possible expense.

THE PILE BRIDGES.

In order to effect, at a reasonable expense, the passage of the wide inlets of the Chesapeake bay, which are crossed by the route, it is obvious that the above description of bridge must be resorted to, being manifestly cheaper in its construction than any other structure of wood, stone, or other material that could be devised. The great width of the Gunpowder and Bush rivers would preclude the employment of any mode of crossing them, other than an economical one. This species of bridge, in its simplest and cheapest form, consists of a succession of rows of piles supporting the roadway, each row containing only a sufficient number to sustain the vertical pressure of the flooring and its load. Where the structure is not subjected to shocks from ice or drift wood, the rapid current or violent agitation of the water, this form has sufficient solidity. But it would not be proper to leave the bridges which it is proposed to throw over the rivers in question unfortified by precautions against the shocks just described, which, in the Gunpowder particularly, will at times take place, especially at the breaking up of the winter, when considerable bodies of ice and timber urge their way outwards to the bay. I have therefore provided, in the design which I submit, for the security of the bridges against accidents, even at the expense of a considerable augmentation in their cost. The details of the estimate of this part of the work are as follows. The rows of piles are supposed to be driven at intervals of 12 feet. The cost of that number of feet in length of the proposed bridge is therefore exhibited.

1 cap piece, 22 feet long, 10 by 12, -	\$2 64
4 pieces scantling, 5 by 52, 48 feet linear, - - -	3 60
2 joists, 3 by 12, 24 do., - - -	86
Bracing for piles, 4 by 8, 60 do., -	1 92
Two-inch plank for flooring, 576 feet board measure, - - -	5 76
Hand railing, 100 feet do., - - -	1 00
Horizontal timbers bolted to piles at low water mark, - - -	2 70
10 iron bolts, ½ inch square, averaging 3 lbs. each, at 7½ cents, -	2 17
18 lbs. spikes and nails, at 6 cents, -	1 08
6 piles averaging 30 feet long each, 180 feet run, at 7 cents, - - -	12 60
Driving piles, at \$1 50 each, - -	9 00
Workmanship to superstructure exclusive of the railway, - - -	12 00

Cost of 12 feet in length of the bridge, \$55 33 being \$4 61 per foot.

When the location shall have been established upon the most favorable line, the lengths of the several pile bridges will be thus:

Back river, - - - -	900 feet
Gunpowder, - - - -	5,300 "
Bush river, - - - -	3,800 "

Aggregate length of pile bridges, 10,000 feet which, at \$4 61 per foot linear, will show their entire cost to be - \$46,100

Adding 10 per cent. for contingencies and superintendence, - 4,610

\$50,710

For this sum it is believed that a stability may be given to these bridges which will secure them from those accidents against which it is of such great importance to guard them, as their destruction or serious injury by ice or drift wood, by breaking the continuity of the railway, which they contribute to support, would stop the transit upon the entire line.

THE RAILWAY.

In the construction of the first track, I would recommend the adoption of the cheapest plan upon which a railway could be built sufficiently firm to withstand the action of the probable transportation over it for 5 or 6 years after its completion. Within this time, by the aid of the first, a second track may be laid down of a more permanent and perfect description. In this way the immediate outlay upon the work would be made as small as possible; and opportunity be afforded to test the value of the projected road as an investment of capital, to construct the second track in the most economical manner, and to apply to it any improvements in the form of railways, which may, in the mean time, be discovered. In the following estimate I have pursued the principles just expressed. It is proposed to obtain the timber of which the railway will be constructed, from the country adjacent to the line of the road, and no difficulty in procuring the required quantity is anticipated. The railway will consist of oak logs of dimensions confined within certain limits, supported by sleepers eight feet apart; the sleepers and intermediate parts of the logs resting upon the earth; the iron rail bearing upon the longitudinal sills properly hewn for the purpose.

ESTIMATE.

11,000 feet linear of oak sills, hewn upon the upper and under sides, delivered on the road at 7 cents per foot, - - - -	\$770
675 oak sleepers delivered in a rough state upon the road, at 30 cents each, - - - -	203 50
760 plates for the joinings of the rails, at \$33 92 per thousand, - - - -	25 78
1,000 lbs. 4½ inch spikes, at 9½ cents per lb. - - - -	92 50
Small nails for plates, - - - -	3 58
Transportation of 23 tons iron, by water and land, at \$3 per ton, - - - -	69 00
Workmanship of a mile of single track, - - - -	750 00
Dressing off the road bed and opening drains, - - - -	50 00
Local superintendence in pay of contractor, - - - -	100 00
Contingencies 7 per cent., \$144 44—superintendence 5 per cent. \$103 17	247 61
22½ tons bar-iron rails, 2½ inches broad, ½ inch thick, at \$45 per ton, - - - -	1,006 65

Cost per mile of single track, \$3,317 62

For the entire distance of 41½ miles the cost of a single track will therefore amount to \$136,851 82.

Allowing for the above distance of single track 3½ miles of a second track, laid down at the same time with the first, and to be used for the accommodation of trains passing each other, or stationary at depots, and for the reception of cars employed in repairs, we have a

length of 45 miles of single track, which, at the above rate per mile, will cost - \$149,292 90
Allowing 25 turnouts for the whole length of the line, at \$110 each, 2,750 00

Entire cost of 45 miles of single railway, - - - - \$152,042 90

RECAPITULATION.

The several items of the foregoing estimate being brought together, present the following result as the entire cost of the work:

Graduation with 10 per cent. added for contingencies, - - - -	\$179,021 64
Masonry with do. do. - - - -	38,611 10
Pile bridging with do. do. - - - -	50,710 00
Railway and contingencies, - - - -	152,042 90

\$420,385 64

Being for the distance of 41½ miles, at the rate of \$10,191 17 per mile.

In addition to this sum to be expended in the construction of the road, a further outlay for putting it into operation will be required immediately after its completion, which may be estimated nearly as follows:

4 locomotive engines with their tenders, at \$4,000 each, - - - -	\$16,000
10 passenger coaches, at \$600 each, - - - -	6,000
50 transportation cars, at \$150 each, - - - -	7,500
Depots, water stations, car houses, &c., cheaply built, say, - - - -	5,000

\$34,500

With this addition to the cost of constructing the road, the capital to be expended before any of the advantages of the project can be realized, will be \$454,885 64.

The business of the road could indeed be commenced with a rather less costly establishment than the one above estimated: but if the anticipated success attend the work, the sum of \$35,000, at least, must be laid out within the first year from its completion, and may therefore be regarded as a present expenditure.

CONCLUDING REMARKS.

Having gone through the preceding details, I respectfully submit their results to you with a few further observations. The encouragement to the prosecution of this work is undoubtedly great. As its projectors, you are well acquainted with the advantages in point of trade and travelling which it will be likely to secure, whether as a part of the great inland thoroughfare from north to south, or in its connection with the valley of the Susquehanna. A work holding out such prospects of profit to its proprietors would justify a large expenditure in its construction. Its estimated cost must, however, be admitted to be moderate, when compared with that of a majority of the railroads hitherto constructed; for when completed, with a second track, its cost will not probably exceed \$15,000 per mile. The annual charge for repairs to the graduation must also be small, on account of the inconsiderable depth of the excavations and embankments, which, neither by slips or settlements, will give rise to expense in their removal or supply, or interruption to the use of the road. And yet, this economy in the first cost and subsequent repairs is consistent with the employment of ascents and curvatures of as favorable a character in respect to the moving power and speed of transit, as those which are used upon the Lateral Railroad to Washington, and the advantages of which upon that road have only been obtained by a most costly graduation. It should be a subject of particular congratulation to this Company, that they are enabled to impart to their work those valuable characteristics of gentle ascents and curvatures, inasmuch as by means of them they can compete upon more equal terms with the water carriage from the Susquehanna, and transport the United States' mail with a rapidity as great as that with which it will be conveyed upon the Washington Railway.

In concluding this report, it is with much

pleasure that I acknowledge the value of the aid I have received in the survey upon which it is founded from Messrs. H. R. Hazlehurst, Hopewell Dorsey, and James Murray, who executed the field and office duties under my direction. By their industrious and well directed efforts, the surveys were completed in about seven weeks after their commencement, although conducted in mid-winter, and for a part of the time during the prevalence of very inclement weather. The aggregate length of the lines run was about 50 miles, 7 of which were traced with the precision and care of a definitive location. From the experimental survey previously executed by Messrs. Poppleton, Dawson, and Isaac Knight, as far as the Gunpowder River, I derived assistance in conducting the line to that point in the route, and the general map of the country between Baltimore and the Susquehanna, made in illustration of the reconnaissance of the Messrs Shivers, also yielded me some useful information.

With great respect, I remain, gentlemen, your obedient servant,

BENJ. H. LATROBE.

DIVIDEND.—The Saratoga and Schenectady Railroad Company have declared a semi-annual dividend of four per cent., payable on the 22d inst.

The nett profits of the Liverpool and Manchester Rail Road for the six months ending 30th June, were 34,692l. The Directors have ordered a dividend for that period, £4 10s. per share.

Improved Method of Sheathing the Bottoms of Vessels.

To the Editor of the Mechanics' Magazine:

SIR,—Having in a late communication described an apparatus for raising vessels for the purpose of repair, I shall now propose an improved method of sheathing the bottoms of vessels, as follows: Long plates of copper, or other metal, are cut to a breadth and shape nearly corresponding with those of the planks over which the sheathing is to be laid; and these plates are so placed on the planks that the edges of each plate shall lie between the seams of the planks. Each plate is first tacked to the bottom with small tacks or nails, merely sufficient to sustain it, till two or more plates are placed side by side, the edges of each two plates being nearly one fourth of an inch apart; then a flat rod of copper or brass, about five eighths of an inch wide, and one eighth of an inch thick, having counter-sunk screw holes through it at every two or three inches of its length, is placed over the seam formed by the edges of each two plates, and is fastened with wood screws, or nails with heads similar to those of wood screws, that when driven the heads may be even with the surface of the metallic rod. The plates and rods should be as long as the vessel to which they are applied; but when this is not practicable, the ends of each piece must be chamfered so that the end of one piece may extend a little over that of another, without occasioning any projection or unevenness in the surface. The principal object of the improvement is to facilitate the speed of vessels, particularly steamboats. For this purpose, plates of an alloy, composed of tin and lead, equal quantities, are decidedly preferable to those of copper.

I claim as original the method of fastening long plates of sheathing by means of rods, as above described.

R. PORTER.

Billerica, Aug. 12, 1834.

Animal Mechanics, or Proofs of Design in the Animal Frame. Part II., showing the Application of the Living Forces. [From the Library of Useful Knowledge.]

(Continued from page 487.)

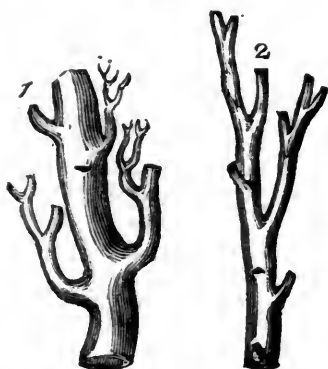
With these facts before us, we turn with interest to what the anatomist too often contemplates with unconcern: we mean the different curves in the branching of the arteries and veins; for by this law of hydraulics the junction of the branches and trunks of the arteries and veins ought to be different, as the one vessel, the artery, carries the blood out from the heart, that is, from trunk to branch; and the other vessel, the vein, carries it in the opposite direction towards the heart, or from branch to trunk.

And, in matter of fact, their branchings are very different, and characteristic of the vessels. We have heard a teacher of anatomy express himself in this manner: "The arteries are active and powerful vessels, which carry the arterial blood out from the heart; and they receive the forcible impetus of the heart. When they are wounded, the man bleeds to death; therefore, nature conveys these vessels into the recesses of the body, taking advantage of every protecting bone—conveying them so that the bones and the muscles protect them. There are no irregularities in their course, and their branches go off at a determined angle, and never irregular; but the veins," he would continue, "are vessels of less importance: they convey the blood back to the heart, with a languid motion, and if they are wounded the blood flows with so diminished a force that you can stop it with the pressure of your finger; accordingly, nature is more negligent of them: they run in all their courses irregularly—some deep, some superficially; and their branches join their trunks with awkward irregular curves and elbows."

This is in good feeling and is in part true; but it contains somewhat of the error which runs through most anatomical discourses, of supposing things are irregular, as if the objects in view were inartificially and imperfectly attained. From inattention to the hydraulic principle, he seems not to have considered that the connection of trunk and branch must vary according to the direction of the stream—that the direction of the branch, which is adapted to lead the stream from the trunk into the branch, must be altered when the design is to convey the fluid from the branch into the trunk.

The reader will now understand, that the branch of the artery (fig. 18, No. 1,) gently diverges from the direction of the stream,

Fig. 18.



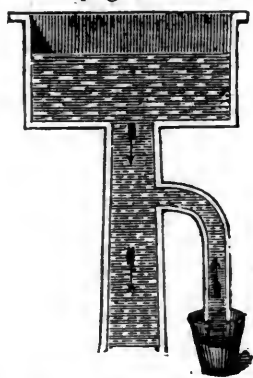
while the branch of the vein, in No. 2, enters abruptly and at right angles. We may

illustrate this, by observing, that if we could suppose the vein substituted for the artery, and the artery for the vein—if the vein carried the blood outwards, instead of towards the heart, and the artery conveyed the blood back to the heart,—the blood could not run in the circle; it would be retarded, and congestion would take place, somewhere in its course.

We have seen by the demonstration above, that if the veins of the human body were rigid tubes, and if a hole were made in their sides, air might be drawn in instead of the blood flowing out. This is a matter of vital consequence, for if a very little air be blown into the veins of an animal it dies in an instant, and there is no suffering, nor struggle, nor any stage of transition, so immediately does the stillness of death take possession of every part of the frame.

In conversation with Napoleon's celebrated surgeon, Baron Larrey, on the case of a young man wounded in the neck, he said he had no hesitation in declaring the cause of death to be air drawn in by the veins of the neck, and he quoted instances occurring at the battle of Wagram. These circumstances greatly increase the interest of an experiment made by Dr. Barry, who found that on introducing a tube into the vein of the neck, and placing the other end of the tube in a vessel of water, the water rose during inspiration. The difficulty of explaining this arises from those veins being membranous tubes, and consequently compressible; but in the act of inspiration, not only are the ribs and breast bone raised, but the muscles of the neck attached to the collar bone rise from the veins of the neck. By this means, instead of suffering the compression of the incumbent parts, the atmospheric pressure is taken off the veins; they are brought to the condition of rigid tubes; and the principles of hydraulics explain the rest. Thus, fig. 19 is a reservoir emptied by a perpendicu-

[Fig. 19.

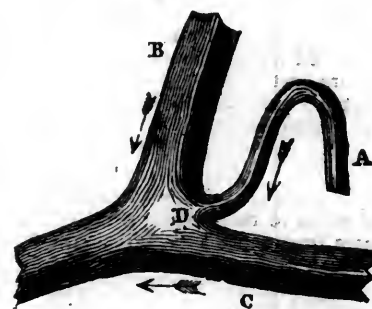


lar tube, into which a smaller tube is inserted. The water descending by the larger tube will draw the water up through the lesser tube, so as to empty the glass, in which its lower end is immersed.

We shall here give an example of the manner in which the trunk of the absorbent system joins the venous system, a circumstance which has not escaped the notice of anatomists. The absorbing or lymphatic system consists of a set of vessels different from arteries and veins, which imbibe by a sort of capillary attraction at their extremities, and convey their fluids towards the centre, without any such impulse as the proper blood vessels receive from the heart. The stream in the trunk of this vessel has no

force to impel it into the stream of blood in the veins; it enters, therefore, in this manner.

Fig. 20.



A is the trunk of this system, called the thoracic duct; B is the great jugular vein descending from the head; and C, the great vein coming from the arm. These veins join at an angle, and the streams from them, in the direction of the arrows, leave a point between them at D, where there is no pressure. If two tubes enter into a larger tube obliquely, and the water be flowing from the lesser tubes into the greater one, and if a hole be bored at the angle of their union, the water will not escape at that hole. Therefore, the fluid from the thoracic tube A meets with no impediment at the point D; when entered, we have seen, by a former diagram, how the attraction of the more forcible stream will draw the contiguous fluid after it. By this contrivance, if we may use the word, the fluid in the absorbing system finds access to the red blood, and is carried into the heart. We might continue this subject by considering the influence of respiration on the circulation; but we shall pursue the inquiry into the hydraulic principles, as applicable to the circulation, independently of pneumatics.

The law of inertia, which is of easy comprehension as it regards solids, is also applicable to fluids; it is easier to keep a column of water in a pipe in motion than to put it into motion from a state of rest.

In a forcing pump, when after each movement of the piston the columns of water become stationary, power is unnecessarily lost by bringing the column of water, which is in this state of rest, again into motion; but if a second blow of the engine be given to the column of water whilst it is yet moving, it is found to be more easily pressed forward, and no part of the force is lost in urging it from a state of rest into motion. This is evinced in the contrivances of the engineer. He employs two forcing pumps instead of one, and he so applies his lever as to operate alternately on the one and the other; to the end that the water in the pipe may be kept in uninterrupted motion. Let us apply this principle to the circulation of the blood.

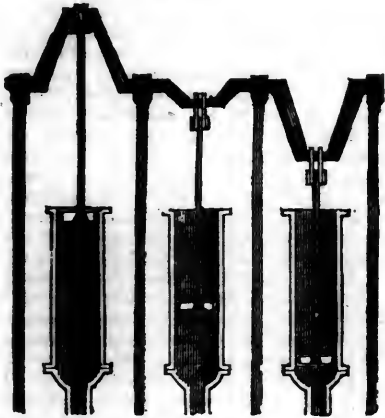
If the heart were the only power forcing on the blood, there would be a cessation of motion after each pulse of the heart, and therefore a great part of its power would be lost. This explains why there is a power in the artery as well as in the heart. The artery being muscular seconds the operations of the heart; its muscularity, and the muscularity of the heart, are powers exercised alternately, and which, acting like the double stroke of the engine, permit no interval to the motion of the column of blood. If the heart had to act upon a column of blood

at rest, not only much of its force would be unnecessarily exhausted, but it would be excited to propel an inert body, and a dangerous shock would arise from the resistance.

If we pursue this subject, and inquire what is essential to such a hydraulic machine as we are contemplating, we shall perceive that the engineer meets with a difficulty in adjusting the powers of his two pumps, and finds an interval, or pause, in the application of their forces.

To obviate this, he makes three cylinders, the pistons of which are moved by a crank,

Fig. 21.

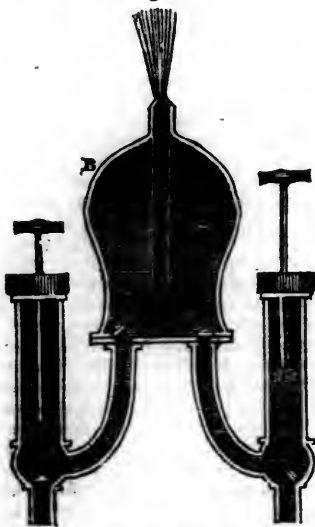


which so orders the descent of the pistons as to fill up this interval, so that one of the pistons shall be always descending; and these pumps propelling the water into a common tube, there is no interval to the motion of the fluid through it.

By this example we are led to look for something corresponding in the machinery of the circulation. We find no third active power, however; yet we find a quality in the blood vessels which answers the purpose much better. But to comprehend this, we must observe that the engineer has a more admirable contrivance than this of a third pump to adjust the action of the other two.

He confines a body of air, which, by its elasticity, performs the office. The pipes

Fig. 22.



of two forcing pumps are carried into the reservoir, B; they convey the water up to C, by which time the air is compressed, and its elasticity thereby increased. That elasticity is exerted without interval, and, acting on the water, C, propels it into the tube, D, uninterruptedly.

Just such an elastic property is possessed by the arteries. The great artery which goes out from the heart, as we have had repeated occasion to observe, makes a sweeping curve; it is capacious, and is the most perfectly elastic of any thing in nature. Here then we have the three powers which the engineer finds necessary to employ. We have the alternate action of the heart and the artery, and we have an elasticity, which, though passive, is essential, both to the uniform flow of the blood, by filling up the interval in the action of the two powers, and to the safety of the engine itself; for without this elasticity, there would be such a jar as must speedily destroy the mechanism.*

There is nothing more admirable than the influence of this elastic power; it is greatest in the coats of the artery near the heart, weaker in the coats of that artery as it recedes from the heart: this very evidently declares its use, but we shall take a more sufficient proof, although an unhappy one.

As life advances, the arterial system loses much of its elasticity, and becomes rigid. This is so common an occurrence that we can no more call it a disease than the stiffened joints of an old man: it is the forerunner or the accompaniment of the decline of life. But this sometimes takes place too early in life, and to an extreme degree; and from its effects we must call it morbid, for it not unfrequently happens that the muscular power of the heart being still entire and vigorous, the arteries can no longer sustain it. They are not now endowed with that power which, yielding to the heart's action, resists, and recoils the more it yields,—which takes off all sudden shock, and which in yielding wastes no power, since on its recoil it gives as much force to the acceleration of the blood as was lost of the heart's action. The artery then, becoming rigid, yields indeed to the heart's impulse, but has no recoil. It is permanently dilated or enlarged. It is now called aneurismal. A stronger impulse from the heart, excited by inordinate action or passion, chips and bursts the now rigid coats of the artery. If the breach be sudden, it is death; if it be gradual, a pouch forms—a true aneurism. And now we have the proof we require: for this bag coming to press upon the solid bones, they are destroyed. That action of the heart which was so lightly and so easily borne whilst the vessels were elastic, now beating upon a solid structure, in a short time destroys it. Thus we are led to a more accurate knowledge of the fine adjustment of the active and resisting properties in the circulating vessels during youth and health, by what takes place on a very slight derangement of those powers.

* But does the blood flow uniformly? Not precisely so in the arteries, since the stroke of the heart is more powerful, or rather more concentrated, than that of the arteries. During the contraction of the ventricle of the heart, the artery is dilated, but it is never emptied; and the flow of the blood forwards in the course of the circulation is not for an instant interrupted.

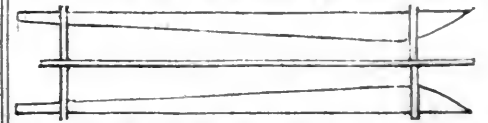
REMEDY FOR DRY ROT.—The London Literary Gazette, of June 14, contains a sketch of a lecture upon Dry Rot, delivered by Mr. Faraday at the Royal Institution, from which we learn that a complete remedy has been discovered by a Mr. Kyan, who submitted his proposition to the Lords of the Admiralty, who have caused it to be proved and have advised him to take out a patent for it. The process is as follows: The tim-

ber is immersed in a solution of the corrosive sublimate, which is pumped into a tank, in which the timber is held down by a transverse beam, so as to prevent its floating, and after submersion for a week the operation is completed.

It has already been adopted with the timber used in the National Gallery, the new works at the British Museum, the warehouses of the East India Company, by various churches and other public buildings; and many engineers connected with the Liverpool, Manchester, Stanhope, Tyne, and Wear railways, are using timber thus prepared, in lieu of stone sleepers. It is also extensively introduced in the ship yards of England, and many gentlemen have adopted it in their domestic architecture.—[Nat. Gaz.]

Twin-Passage Boat for Canals. [From the London Mechanics' Magazine.]

SIR,—It occurred to me when I was writing the concluding paragraph of my last letter to you, that twin passage-boats having the form shown in the annexed sketch, (which



is a top view,) would send no waves towards the banks, and might be used to advantage on canals that had no stone facing along the sides. The two outside surfaces of the boats are straight and parallel in the direction of their length, but may be curved like any other boat, from the top edge downwards, and the two interior sides must have the gishape as nearly as possible. The two cross-pieces connect the boats, and the tow-line is fixed to the part running up the centre. Any wave that is formed between the boats will settle at the stern, and act in the same way as the wave in the case of the Paisley canal passage-boats; and the parallel outside surfaces of the boats can raise no wave. I made a model five feet long, with the other dimensions in proportion, to try its effect, and when it was drawn through the water at the best velocity, the water all around was perfectly smooth, although there was a large wave formed between the boats. The wave commenced a little behind the bow, and it was level with the surface of the canal before it reached the stern; if the curved sides of the boats had been out, this wave would have been driven to the banks of the canal.

As twin boats are not likely to upset, they may be built very narrow, and not take up much room in the breadth of the canal, if their draft of water is increased. Part of the deck that holds the boats together, may be formed into seats, and all the passengers may sit with their feet down into the boats, and their faces towards the banks of the canal. The centre part of the deck may be used for walking upon, as the passengers, when standing on it, will be high enough to see over the awnings that cover the cabins. At places where the deck, for the sake of binding the boats more firmly together, must stretch from outside to outside, doors may be left from the deck to the cabins. As no waves leave a boat of this sort, it certainly must take less power to work it, on which account I think the principle may be applied to little sailing craft, such as pleasure boats. The waves that are formed by

the *paddle* of a twin steamboat might be got quit of by forming the stern properly. In my model, the outsides were plain and parallel in the up and down, as well as in the length direction. I am, sir, yours truly,

JAMES WHITELAW

Glasgow, April 18, 1834.

RAILROAD TRAVELLING IN ENGLAND.—"Although the whole passage between Liverpool and Manchester is a series of enchantments, surpassing any in the *Arabian Nights*, because they are realities, not fictions, yet there are certain epochs in the transit which are peculiarly exciting. These are the startings, the ascents, the descents, the tunnels, the Chat Moss, the meetings. At the instant of starting, or rather before, the automaton belches forth an explosion of steam, and seems, for a second or two, quiescent. But quickly the explosions are reiterated, with shorter and shorter intervals, till they become too rapid to be counted, though still distinct. These belchings or explosions more nearly resemble the pantings of a lion or tiger, than any sound that has ever vibrated on my ear. During the ascent they became slower and slower, till the automaton actually labors like an animal out of breath, from the tremendous efforts to gain the highest points of elevation. The progression is proportionate; and before the said point is gained, the train is not moving faster than a horse can pace. With the slow motion of the mighty and animated machine, and the breathing becomes more laborious, the growl more distinct, till, at length, the animal appears exhausted, and groans like the tiger when nearly overpowered in combat by the buffalo.

"The moment that the height is reached and the descent commences, the pantings rapidly increase; the engine, with its train, starts off with augmenting velocity; and in a few seconds it is flying down the incline like lightning, and with a uniform growl or roar, as a continuous discharge of distant artillery. At this period, the whole train is going at the rate of thirty five or forty miles an hour! I was on the outside, and in front of the first carriage, just over the engine. The scene was magnificent, I had almost said terrific. Although it was a dead calm, the wind appeared to be blowing a hurricane, such was the velocity with which we darted through the air. Yet all was steady; and there was something in the precision of the machinery that inspired a degree of confidence over fear—of safety over danger. A man may travel from the Pole to the Equator, from the Straits of Malacca to the Isthmus of Darien, and he will see nothing so astonishing as this. The pangs of Etna and Vesuvius excite feelings of horror as well as of terror; the convulsion of the elements during a thunder storm carries with it nothing but pride, much less of pleasure, to counteract the awe inspired by the fearful workings of perturbed nature; but the scene which is here presented, and which I cannot adequately describe, engenders a proud consciousness of superiority in human ingenuity, more intense and convincing than any effort or product of the poet, the painter, the philosopher, or the divine. The projections or transits of the train through the tunnels or arches, are very electrifying. The deafening peal of thunder, the sudden immersion in gloom, and the clash of reverberated sounds in confined space, combine to produce a momentary shudder or idea of destruction—a thrill of annihilation, which is instantly dispelled on emerging into the cheerful light.

"The meetings or crossings of the steamtrains flying in opposite directions are scarcely less agitating to the nerves, than their transits through the tunnels. The velocity of their course, the propinquity or apparent identity of the iron orbits along which these meteors move, call forth the involuntary but fearful thought of a possible collision, with all its horrible consequences. The period of suspense, however, though exquisitely painful, is but momentary; and in a few seconds the object of terror is far out of sight behind.

"Nor is the rapid passage across the Chat Moss unworthy of notice. The ingenuity with which two narrow rods of iron are made to bear whole trains of wagons, laden with many hundred tons of commerce, and bounding across a wide, semi-fluid morass, previously impassable by man or beast, is beyond all praise, and deserving of eternal record. Only conceive a slender bridge of two minute iron rails, several miles in length, level as Waterloo, elastic as whalebone, yet firm as adamant! Along this splendid triumph of human genius—this veritable *via triumphalis*—the train of carriages bounds with the velocity of the stricken deer; the vibrations of the

resilient moss causing the ponderous engine and its enormous suite to glide along the surface of an extensive quagmire as safely as a practised skater skims the icy mirror of a frozen lake.

"The first class or train is the most fashionable, but the second and third are the most amusing. I travelled one day from Liverpool to Manchester in the lumber train. Many of the carriages were occupied by the swinish multitude, and others by a multitude of swine. These last were 'neat as imported' from the Emerald Isle, and therefore were naturally vociferous, if not eloquent. It was evident that the other passengers would have been considerably annoyed by the orators of this last group, had there not been stationed in each carriage an officer somewhat analogous to the Usher of the Black Rod, but whose designation on the railroad I found to be 'Comptroller of the Gammon.' No sooner did one of the long-faced gentlemen raise his note too high, or wag his jaw too long, than the 'Comptroller of the Gammon' gave him a whack over the snout with the but-end of his shillelagh; a snubber which never failed to stop his oratory for the remainder of the journey."

[From the Glasgow Courier]

STEAM CARRIAGES ON PUBLIC ROADS.—Since our last notice, these vehicles have continued to perform their trips, with increasing success, between Glasgow and Paisley. Although the roads still remain in a much worse condition than is usual at this season of the year, and, although the broken stones laid on them by the Trustees had done considerable damage to the machines, these obstacles have been entirely overcome, and the carriages are daily crowded with passengers. As an indication of the perfect confidence placed in the vehicles, we may observe that several parties of ladies and gentlemen have made excursions to Paisley, and returned with them as a pleasure trip. The following is the running of morning trips on the six last days, the time being reckoned between Tradeston, Glasgow, and the Tontine, Paisley:—Thursday, 17th July, ten o'clock coach to Paisley, 40 minutes; Friday, 18th July, 44 minutes; Saturday, 19th July, 35 minutes; Monday, 21st July, 50 minutes; Tuesday, 22d July, 50 minutes; Wednesday, 23d July, 35 minutes. We have only further to remark, that the carriage which left Glasgow yesterday, at 12 o'clock, did the distance, from the Half-way house to Paisley, fully 31 1/2 miles, in ten minutes, being at the rate of upwards of 21 miles an hour! And that, on the two last trips on Saturday, the anxiety to get places was so great, that the carriage to Paisley took out 28 passengers, and returned with 39!

WM. COBBETT.—At the suggestion of a correspondent, we copy from the *Encyclopedia Americana*, a biographical notice of this individual.

COBBETT, William, a notorious political writer in England and America, was born in 1766, in the county of Surry, England, the son of a farmer, from whom he received the rudiments of his education—reading, writing and arithmetic. In 1783, he left the plough for London, where he became "an understrapping quill-driver," as he calls himself, to an attorney in Gray's Inn. This employment not suiting his restless disposition, he enlisted as a common soldier in 1784, and remained in England a year, spending his leisure hours in reading and study, particularly in the study of grammar. He wrote out the whole of Lowth's grammar two or three times, got it by heart, and repeated it every morning and evening. He then sailed to join his regiment in America, and remained there, in Nova Scotia and New Brunswick, till 1791, when the regiment was relieved and sent home.—Serjeant-major Cobbett here left the service, and terminated his military career. In 1792, he first came to the United States, after a short visit to France.—He began his career in Philadelphia, as a writer of political pamphlets, under the well known name of *Peter Porcupine*; soon after engaged in the business of a bookseller in that city, and published, at the same time, a daily newspaper, called the *Porcupine*. The French interest, which then prevailed in the United States, he opposed with great violence, mingling the coarsest personal abuse with the severest political invective. Having been convicted for a libel on Doctor Rush, and condemned to \$5000 damages, he left the country, and returned to England in 1800. Here he published the *Works of Peter Porcupine*, containing a faithful picture of the United States, &c. (London, 1801, 12 vols., 8vo.), consisting of selections from the *Porcupine*, with remarks illustrating them, and of his other personal and political writings, previously published in America.—

This work was dedicated "to a declared enemy of republicans and levellers." In it Doctor Priestley (*Observations of Priestley's Emigration*), Doctor Rush (in the *Rush-Light*), Doctor Franklin, &c., were unsparingly abused. He soon after established the *Weekly Political Register* (commenced in 1802), which has been conducted with considerable talent, but great bitterness. In 1810, he was convicted of a libel with intention to excite a mutiny, and condemned to confinement in Newgate, and to pay a fine of £1000. Although the fine was paid by subscription among his friends, he addressed a letter to the king in 1828, praying his majesty to restore him the sum. In 1815, he became the champion of Napoleon, whom he had assailed with the utmost vehemence. In 1817, he again visited America; but we soon after find him in England, where, in 1819, he published his *Year's residence in America*. He was never naturalized in the United States, objecting to the oath required, abjuring all allegiance to any other power. He now connected himself with the party called *radicals*; and we often find him haranguing at public meetings with great success; but, a convicted libeller on both sides of the Atlantic, twice cast out by his own country, and as often rejected by America, alternately praising, abusing, calumniating and panegyricizing the same party, his inconsistency and self-contradictions have much diminished his influence, notwithstanding his great address and his popular eloquence. Besides his works already mentioned, the principal are *Parliamentary Debates*, from 1803—10—11, 20 vols. 8vo.; *Maitre Anglais*, or *English Grammar for the Use of Frenchmen*, which has obtained great reputation in France, where it has passed through many editions (the examples, illustrating the rules, are severe attacks on royalty); his *Life*, written by himself (1816); *Treatise on Cobbett's Corn* (1828); (the title-page of this work is printed on paper made of the husks of Indian corn). In the latter part of 1829, he was engaged in delivering lectures on the causes of the existing distress in England, and the best means of relieving it.

* By this term this modest gentleman designates Indian corn or maize, the cultivation of which he has been endeavoring to introduce among his countrymen.

[From Crawford's *Mission to Ava*.]

"The circumstances which attended our introduction to his Majesty, appeared to call for a distinct remonstrance; and in conformity with what I had intimated to the Burmese chiefs at the opening of the conference, I addressed them in the following terms, through Mr. Judson. My notes were prepared during the intervals of the conference, and handed over to the interpreter, who had time to translate and consider them before he spoke. The language, as it now stands, is nearly a literal translation of what he delivered in Burman.

E. "The principal business of this day's conference being over, I take this opportunity of addressing you respecting some circumstances of an unpleasant nature which occurred yesterday. This embassy, you are aware, came to the Burman Court from a great government exercising sovereign authority.—The presents which we brought were offered as marks of friendship only. When you recollect the issue of the late war, was it not generous on the part of the Governor-General to send an embassy and presents in this way? Was it not conferring a favor? (Here the junior Atwen-wun very readily replied, 'Yes, yes.') The mission was conveyed to the Palace on elephants miserably equipped, compared to those on which your own officers of all ranks rode. We were made to dismount at the corner of the palisade of the Palace. Your own officers rode in their litters to the very gate. Your officers of every rank made use of their umbrellas to the very gate of the Palace. We were rudely requested to take ours down, long even before reaching the Rung-d'han. A Sare-d'hangyi wanted us to make an obeisance to the Palace when we were not near it, although I had repeatedly caused it to be signified that we should make no obeisance except to the King in person, and your officers had acquiesced in this arrangement: this was an act of gratuitous rudeness. I beg that the Sare-d'hangyi may be reprimanded. The list of the Governor-General's presents was read along with the list of presents from Saubwas and others. There was great impropriety in this, which cannot escape yourselves. I mention all these matters, that they may never happen again. I am convinced they were unknown to his Majesty, or they would not have occurred now."

B. "It is the uniform custom of the country, in the case of embassies from China, Cochinchina, and Siam, that the ambassador dismount at the corner of the palisade. All these points of etiquette are settled by the King's order. There was no intentional disrespect in the present case. All the Government officers desired to treat the Ambassadors handsomely. So far as the Saré-d'haugyi has behaved improperly and disrespectfully, it is his own affair, and we will take measures for seeing him punished."

"Many questions were put to us respecting our reception at the Court, and the things we had seen. They knew that I had visited the Court of Siam, and a great object with them was to obtain a favorable answer to the comparison which I should draw between that and the Burman Court. No essential point connected with the wealth or strength of the two nations was at all touched upon. The principal topics were the comparative splendor of the two palaces, of the court, of the courtiers, and of the King. They were especially desirous to know, whether the King of Siam had or had not a white elephant. On the first-mentioned topics they received such replies as gratified them; but on the important subject of the white elephant, it seemed, under all circumstances, not necessary to withhold the truth from them. They were sensibly mortified when I informed them, that the King of Siam had six white elephants instead of one, and that I had actually seen four of them. They asked, whether the Siamese elephants were equally white with that which I had seen yesterday. I replied that the Siamese elephants were all whiter. They seemed to doubt the accuracy of my information, and began a sort of cross-questioning. They begged to know when I had visited Siam; who was King at the time; his age; his successor, &c. &c. I satisfied them with precise dates and circumstances. They dropped the subject, and their silence evidently implied that they were chagrined that every circumstance of the parallel drawn between themselves and the Siamese should not have received a flattering answer."

It has been already intimated that the Burmese nobles were rather intent upon trifles; but, with the weakness, they had the penetration of children. Of this, the basis on which the parties were to treat, or the duties of an Ambassador, may afford a specimen:

"The Envoy Crawford is a distinguished, wise, and prudent man, selected by the English ruler. He has come to the royal country in the capacity of Ambassador. We also are persons trusted and favored by the Rising Sun Monarch; and we are selected and appointed by his Majesty to discuss whatever is to be discussed. The discussions relate not to the personal affairs of the Envoy Crawford, the affairs of his children, or of his wife. We also speak not of our personal affairs, the affairs of our children, or of our wives. It is our business to please the golden heart of the Rising Sun Monarch, and his to please the heart of the English ruler; and thus we are to have regard to the good of both parties. It is proper to bear in mind, that the way to preserve peace between the two great countries, is to keep in view the welfare of both countries and sovereigns, and so to manage the discussion, that there may be no excess, but straightness and right."

The childishness is not confined to the Ministers. An "exalted personage" is represented as far from being one whom "passion cannot shake," the effects are shown in no very dignified manner.

"On the 10th instant, a circumstance took place, which in almost any other country would have been very immaterial, but which was here attended with unpleasant consequences to the mission. His Majesty, contrary to the custom of his predecessors, is frequently in the habit of going abroad with little pomp or ceremony. On the occasion now alluded to, he was amusing himself on the river side with an elephant fight. Four or five soldiers of the European escort happened about this time to cross the river, and passed by without noticing the King, or indeed being aware that he was present. This gave high offence. According to the Burmans, the soldiers ought to have squatted down, thrown off their shoes, and held up their hands in an attitude of supplication. I was immediately waited upon by the chiefs to remonstrate upon the conduct of the soldiers, which was represented by them to be such as would cost a Burman his head! I had the satisfaction to find, on inquiry, that the soldiers were not in the least to blame; and assured the chiefs, that had they been aware of his Majesty's presence, they would have conducted themselves with every possible respect towards him, and rendered him the same compliment as to their own sovereign. This assurance, however, fell far short of their expectations.

I informed them, therefore, that the soldiers should not again be allowed to enter the town, to prevent the possibility of all misunderstanding on the subject. Independent of my assurance, however, they took effectual steps to prevent their doing so, by ordering the gates of the town to be closed whenever persons belonging to the Mission presented themselves. As an apology for this ungracious proceeding, the example of the Chinese Embassy was quoted; no individual belonging to which, it was stated, and I believe correctly, was ever allowed to enter the walls of Ava. The King was described to us as being in a high state of irritation—going about with a spear in his hand, as his custom on such occasions, and vowing destruction to his recreant Ministers, whom he charged with all kinds of offences. If I am rightly informed, his irritation arose from a different cause. Upon our first arrival, his Ministers appear to have deceived him with false hopes and expectations, by representing 'that the British Mission was sent by the Governor General to make submissions, and to atone for what had passed, by entering into arrangements for the restoration of the ceded provinces, and the remission of the debt due.' There was a necessity for undeceiving his Majesty at last; and his coming to a knowledge of the real facts was, in all probability, the true cause of the displeasure which his Ministers feigned to attribute to the pretended disrespect of the European soldiers. I should have mentioned also, that offence was taken at the conduct of some of our native followers, and especially of the Lascars, or native seamen of the steam-vessel. The charge against them also was want of due respect when the King presented himself. It was stated that they did not throw themselves, as they should have done, into a crouching attitude; but stood on tiptoe, and stared—far too curiously."

"The Ministers last night reported to the King the progress of the negotiation. His Majesty was highly indignant; said his confidence had been abused, and that now, for the first time, he was made acquainted with the real state of affairs. He accused the Ministers of falsehoods, malversations, and all kinds of offences. His displeasure did not end in mere words; he drew his dá, or sword, and sallied forth in pursuit of the offending courtiers. These took to immediate flight—some leaping over the balustrades which rail in the front of the Hall of Audience but the greater number escaping by the stair which leads to it; and in the confusion which attended their endeavors, tumbling head over heels, one on top of another. Such royal paroxysms are pretty frequent; and although attended with considerable sacrifices of the kingly dignity, are always bloodless. The late king was less subject to these fits of anger than his present majesty, but he also occasionally forgot himself. Towards the close of his reign, and when on a pilgrimage to the great temple of Mengwan, a circumstance of this description took place, which was described to me by an European gentleman, himself present, and one of the courtiers. The King had detected something flagitious, which would not have been very difficult. His anger rose; he seized his spear, and attacked the false Ministers. These, with the exception of the European, who was not a party to the offence, fled tumultuously. One hapless courtier had his heels tripped up in his flight; the King overtook him, and wounded him slightly in the calf of the leg with his spear, but took no further vengeance."

SIMEON SOUTH'S LETTERS TO HIS KINSFOLK.—The most entertaining chapters in the book, are those which show up the folly and stupidity of English visitors on the Continent, and the successful endeavors of the *chevaliers d'industrie* to cheat them of their money and daughters. The following extract contains nothing new, but describes the process just mentioned with spirit and truth. It can hardly be deemed an exaggerated picture of the extreme gullibility of our countrymen abroad; though it should be added that such occurrences are now more rare than formerly.—[London Spectator.]

John Bull is nowhere more foolish, more ridiculous, than when he is abroad. He and Mrs. Bull and their daughter Polly look up with so much adoration to, are so proud to be acquainted with, titled personages, and so vain of exhibiting the cards of Madame la Duchesse, M. le Marquis, &c. &c., that they are equally assiduous to form the acquaintance so eagerly wished for, but with more polished though more crooked address managed, by the intrigantes and the chevaliers. Mrs. Bull is enraptured with the condescensions of the former. Polly waltzes, and is in love with the latter. John does not like his daughter marrying a Frenchman; but Mamma would be

so delighted to see Polly a duchess; and besides, Monsieur Count Shaddo is so handsome, and even so condescending as to eat his dinner at first once, and now seven times a week with the Bull family, that John, to be let alone, is at last obliged to yield to his wife's teasing and to Polly's sighs. He agrees to give the lovers a respectable sum on the wedding-day, as M. le Comte's father will give him nothing down; although the former is to inherit the estate and chateau in the South of France. The estate and the Count's father are always at a great distance from Paris. That both exist, all the intrigantes will swear. John is bamboozled; his wife is in ecstasies with the idea of her family being so soon allied to nobility, and the anticipated precedence and consequences she will have attained at the country balls. Polly, pretty Polly, is desperately, irrevocably gone in love! She is so happy; the Count says such delicious things to her; tells her she is an angel; sings divinely; plays on the piano with such admirable taste and execution; and Polly Bull promiscuously with dignity and ease; quadrilles with such admirable elegance, such natural grace; waltzes like a sylph; gallopedes so *elastically*; dresses so fashionably, yet so modestly; speaks French so purely,—so well that, but for her beauty, charms, and accomplishments, she might be taken for a Parisian. They marry; John comes down handsomely with drafts on his banker. He too is now delighted. His daughter has her cards printed "Madame la Comtesse Shaddo de Montpellier." Mrs. Bull is in raptures. John must be more generous—a few hundreds more. What a hard-hearted old skin-flint the Count's father is; but what can be expected from a Carlist, whose son is a Liberal?—John Bull, too, is a Liberal; and must be delighted that his son-in-law is so; and more, Count Shaddo is a contributor to the *Journal des Debats*, the oracle of the Doctrinaires. Count Shaddo has exigencies: he whispers insinuations to Polly, Poll hints the matter to her mother. Mrs. Bull to John: John begins to feel qualms of prudence, having already signed drafts to the amount of rather more than any previous year's expenditure. When John reflects, he becomes a rational animal,—discreet too. He says, "I must first talk over the matter with the Count." He must have a fair statement of his affairs, dates, items, names, and totals. John now viewed the matter as he would his debtor at a meeting of creditors. Count Shaddo bows himself with the utmost *sang froid* into John's presence, commences with a flood of compliments, and politics. John stops him short by saying, "Count when I transact business, I come at once to the point. Mrs. Bull tells me, that Poll tells her that you want an advance—a credit. Now to the point: let me have a full and true statement of all your affairs, private and public, with vouchers for each item, and I will advance what appears reasonable and prudent. Until then, not one farthing shall I give; my mind is made up." John sat back in his chair: the Count began to compliment him. "I am very well, Count," said John, "I want only a satisfactory schedule of your affairs, with the vouchers; mind, that I never will admit an item, in matters of business, without *bona fide* vouchers. No compliments, Count, until you bring the schedule. No, no, no, I am John Bull, downright and upright, all the world over!" The Count bowed out of the salon. An acquaintance of three weeks with the Bull family supplied him with 66,000 francs, and with Polly—no bad game. But as John must be satisfied with more substantial matter than the cobwebbery of a *chevalier d'industrie's* politesse, Shaddo neglects Polly; she is miserable, and Ma intreats Pa to give the Count more money. "No," says John, "I never will give Poll's husband a premium to live with her. She took him for better and for worse; and I have just learned from my banker, in Rue Lafitte—whom, if I were not a calf, instead of what I ought to be, a Bull, I should have consulted before I consented to Poll's marriage—that her ignoble husband (Poll screeches) is not Count Shaddo, the son of the Marquis de Shaddo de Montpellier, but plain Mr. Shadow, *chevalier d'industrie*, and the bastard son of a grocer in Rue Saint-Martin; that he keeps a pretty young mistress; and that an old, rich, voluptuous dowager keeps him. So much for the Bull family's visit to Paris."

INTERCOURSE WITH THE WORLD.—Increasing our connections with mankind is like an extended line of an army, vulnerable at many points, and liable to be broken and discomfited. If we concentrate and incastellate our forces, we may, indeed, remain undisturbed, and we may also lose all in a coup-de-main. Alas! how dark is the ken of human foresight.

NEW-YORK AMERICAN.

SEPTEMBER 6—12, 1834.

LITERARY NOTICES.

PRACTICAL PERSPECTIVE for the Use of Students; translated from the French of *T. P. Thénot*, by one of his Pupils. New York: Bliss, Wadsworth & Co.—The aim of this treatise is to enable those who have not acquired the mathematical principles upon which the art of perspective is founded, still to comprehend and observe its rules.

The translation here offered has the sanction of the professors of the art, and its lessons are enforced by good engravings.

FRANCIS BERRIAN, or the Mexican Patriot: by T. MOTHY FLINT, 2 vols. Philad.—Key & Biddle.

This is a second edition of a work heretofore noticed in these columns, as developing, amid many improbabilities, scenes of great interest. The writer—as our readers from the frequent extracts we have made from his various publications know—possesses in no ordinary degree the power of moving the passions; and there are occasions in these volumes when this power is abundantly exercised.

THE KNICKERBOCKER for September. N. Y.—J. Disturnell.

THE NEW-ENGLAND MAGAZINE for September.—Boston—J. T. Buckingham.

The first paper in this number of the Knickerbocker, is from the same pen as *Francis Berrian*, and presents the substance of an elaborate lecture delivered by the writer before the Cincinnati Lyceum on "The Past—the Present—the Future."

This is a mighty subject. In the present instance, however, it is treated cursorily but cleverly. Of the Past, the lecturer thus speaks:

The most important intellectual era which our world has seen, was the period of the invention of printing. Well might the retainers of the hierarchy of the day give out, that the inventor borrowed it of Satan; for it rung the eternal knell to bulls and anathemas, and all the terrible influence which the priesthood possessed over hood-winked ignorance and blind submission. The press lifted its mighty banner, labelled from the beginning, "*No aristocracy of science—no influence but persuasion.*" Truth heard in her dungeon, felt that her time was come, burst her chains, threw open her prison doors, and with persuasion in one hand and reason in the other, commenced her unwearied and unabating progress. The reformed nations took up the Bible, and insisted that God had given them the inalienable right of interpreting it for themselves. The polarity of the needle, and, as a consequence, America was discovered, and a new and irrepressible impulse was given to the human mind.

True, there was a strong revulsion. The Inquisition kindled its fires. Galileo had published that the earth moved round the sun, instead of the sun round the earth, as was the orthodox doctrine of astronomy. The priests, on the contrary, willed the sun to move and the earth to stand still; and they had power to compel Galileo to burn his books, and abjure his doctrine. But the stubborn order of the universe continued to chime the eternal music of the spheres in its own way, bulls and anathemas to the contrary notwithstanding. Persecution was as powerless to shake the invincible purpose of the free spirit, as to reverse the movements of the heavenly bodies. As one martyr to the truth fell one after another, ten aspirants arose to replace the victim, and to thunder in the ears of tyranny, that neither fear, fire nor death can awe the free mind, or change its convictions. Every year brought accessions to the mass of knowledge, and vigor and fearless ness to the spirit of inquiry. Truth became eagle-eyed, and capable of contemplating the sun with undazzled vision.

The early magistracy and priests of our country had learned in a school—for, in fact, the age knew no other school—that fines may convince, that imprisonment is an admirable framer of syllogisms, that the fear of death can alter a man's convictions in a moment, and that the argument of perdition is perfectly irresistible, unless the mind were given over to judicial blindness. They had seen the Catholics of the old world ply the Lutherans with these most persuasive reasonings. They had observed that the

Lutherans, as soon as they had ability, charitably propounded them to the Calvinists. The Calvinists, having felt their efficacy, in their own case, made a gracious tender of them to Servetus and his followers.

Intrepid for indurance as they were, our puritan fathers relished not this vehement ratiocination; and as they came over the seas, they talked earnestly about freedom of conscience and opinion; meaning, as it afterward appeared, that they understood all to be free who were of their opinion, and none else. But though the avowed object of their coming to America, was, that they might make sermons of such length and opinions as pleased them, they early began to bethink them of the easy and approved modes of conversion in the father land. The Quakers were among the first to experience the benefit of these remembrances. Scarcely had their own sined hair ceased to smell of the fires of persecution, from which themselves had escaped, before they began to persecute in their turn. History and song have lauded our forefathers; and of right, for they were great and good, notwithstanding this inherent infirmity of the age and the human mind; but for this we praise them not.

To the eternal honor of our country, its genius from the beginning has been hostile to cruelty; and the argument by fire has never been allowed. It soon also renounced that by fines, imprisonment, and banishment. Our first act, after becoming a nation, was to forget the whole doctrine of persecution, to restrict the priesthood to spiritual functions, to lay a final interdiction upon the bans between church and state, and to engraft perfect freedom of opinion, as the master principle, into the body and spirit of our constitution.

Here then we can proudly point to one country, where all opinions are equal in the eye of the law.

Passing on to "the Present," and rapidly indicating some of its peculiarities, this summary evidence of improvement is presented:

As an evidence that the condition of humanity is improving, in consequence of the progress of the age, we select the fact that it has been demonstrated, by comparison of the bills of mortality of most civilized countries, that the annual number of deaths has diminished in the ratio of from three to six per cent., and that in the same countries the length of human life has been extended nearly in the same proportion. As one of the chief elements of this result, we may count the benevolent, and we might add, sublime efforts, that have been made for the suppression of intemperance. An equally palpable one is the discovery of vaccination. What spectacles of horror and mortality would not American cities have exhibited, but for this discovery! In demonstration of the ignorance, prejudice and error, that are yet to be vanquished, we produce the fact, that our bills of mortality present no inconsiderable number of deaths of victims either to ignorance or disbelief, or reckless neglect of the vaccine disease, as a preservative against small pox. Are proofs required of improved comfort? We select the improved facilities of rapid, cheap, and comfortable travelling; for we hold, that of all our physical enjoyments, that of cheap and pleasant travelling is the highest and most beneficial. Let us take the Great West for example. A family can now travel a thousand miles in many directions, cheaper and more comfortably than they could an hundred, when we first descended the Ohio. Contemplate the pleasure of meeting the intelligent, distinguished, and beautiful,—statesmen and scholars—from every nook of our vast country, courting the cool breezes of the sea, or quaffing medicinal waters at the points of fashionable resort. Not only the most rational pleasure, but enlarged liberality, the breaking down of sectional feeling, and improved ideas in every respect, cannot but result from those annual summer excursions. The beautiful bay of N. York is wedded by a chain of the most commodious water communications, embracing all the vast fresh water seas of the north, with the Mississippis and the Gulf of Mexico. Add to this view the great railroad to the Ohio, and the rail-car hoisting its flag to the breeze, and floating from the queen city of the Chesapeake towards the beautiful valley of the Ohio, at the rate of fourteen miles an hour.—Need we ask, what would have been the aspect of Cincinnati at the present day, but for the invention of steamboats? Need we contrast the farmer's team, starting in the month of March through the bottomless mortar beds from Dayton to this flourishing and beautiful city, with the canal boat bringing down its thirty tons of freight, its pleasure party, and its band of music at the same trip? In a word, the whole relative order of things in the West, com-

pared with its condition when we first saw it, is the contrast of the immense steamboat proudly sweeping past Cincinnati with its gay town of six hundred inhabitants, and its burthen of five hundred tons, and rounding to the levee at New Orleans in eight days, with the flat boat, moving with the current, starting with the first verdure of spring, to encounter the toil, insalubrity, current, storms, sand-bars, snags, and nameless dangers, with its unwieldy motion, and making a fortunate voyage, if its owner returns safe to his family, to find his harvest ripe for the sickle.

"The Future" is thus sketched out in part:

Let us imagine some features of the anniversary address of him who shall have the honor to lecture to this Lyceum fifty years to come.

"Permit me," he will say, "to take a retrospect of things as they existed fifty years ago. Let me begin with religion. There were then in the land nearly three hundred Christian sects, with the most unpronounceable names in the language. They all proclaimed that God was love, and the Saviour the Prince of Peace; and that, to be his disciple, was to go about doing good. I venerate the gospel, and I dare not go into the Christian practice in those times. If all those sects had had thunder at command, how often it would have thundered! They wrote books against each other, and tracts, and pamphlets, and reviews, and sermons, and journal paragraphs; and there was pope and anti-pope, and presbyter and anti-presbyter, and high church and low church and no church, and radicals and ranters—*ad infinitum*; and the world was stunned with the fierceness of their puerile disputes. In fact, literature was obliged to adopt a term for the spirit of religious disputation. It was named *Odium Theologicum*, or as they translated it in those times, a *righteous hatred*. It is said that all the sects were never known to agree but in one thing, and that was, to allow the current value to the circulating medium of the country. But we are removed fifty years from those gloomy times; and now the greater portion of mankind are Christians on the ground of investigation and conviction; and those who are still so unhappy as not to be so, are obliged, by reverence for the truth, to say of all the sects, 'See how these Christians love one another!' The Christian of every sect takes his brother of every other by the hand. A minister of the gospel is no longer known by the name of his denomination, or by his garb or cloth, but by his mental enlargement, his broad and philosophic views of Christianity, the sanctity of his life, and his more active zeal to do good. Not a book of controversial divinity has been written for the last ten years. The motto of every church, the distinctive badge of every denomination, is, 'Glory to God in the highest, on earth peace and good will to men!' They had hackneyed the term *education*, even fifty years ago, in all the changes of dull common-places. But the elements of that sublime science had scarcely been separated from their chaos. Think of their devoting seven years, the morning and the prime of life, to Latin and Greek, particles and prosody included! The Hamiltonian and Bolmarian systems of teaching languages were scouted from learned halls, as too vulgarly efficient and rapid in teaching. The venerable fathers had entered the interior of the temple of science through the discipline of birch and tears, and for the credit of the fans, they would not permit a cheaper admission for their sons than themselves. The pupil was taught from the catechism, the pulpit, and the Sunday school; that all good children were so humble as to *esteem others in honor better than themselves*. As they went forth to the secular instruction, the same children were bidden to reach the head of the class, or expect no favor from their parents. On one day in the week they heard that the highest virtue is benevolence, and the best union of character the properties of the serpent mixed with those of the dove. For the other six days, the serpent was the chief inculcation by way of precept and example.—The priest, the instructor, the *litterateur*, the politician, the dancing-master, the world, and the ladies, all communicated distinct and the most opposite impulses; so that nothing could be a more perfect motley of rules of life than the instructions fired in the memory of the pupil. Is it strange, under such circumstances, when cast into the whirlpool of the world's seductions, that the subject was carried down with the current, and listened finally to his dissipated companion, who assured him that every thing was a lie and a cheat but pleasure, and power, and money? All are aware that we have long since consigned Jupiter and Juno, Mars and Venus, Apollo and Minerva, with the famous Nine inclusive, to the *mules and bats*, to moulder with the things that were—

We now learn ancient languages for the power which translation gives us over words, and for the spirit of the classics and the philosophy of language. But we acquire modern languages, especially French, German, and Spanish, to perfection, for very different purposes. We study profoundly the natural and exact sciences; and we surround the minds of pupils with such a series of influences, as that one never counteracts the other. Every thing concurs to imbue the young mind with Christian principle and feeling; that is to say, with the most perfect philosophy of morality; and the whole impulse of education is to form a firm, balanced, and consistent character.

Passing over the other articles in prose and poetry, we make room for the following very honorable and characteristic letter from Gen. Washington:

Extract of a letter to the Editor of the 'American Museum.'

MOUNT VERNON, JULY 21, 1788.

SIR:—If I had more leisure, I should most willingly give you any such communications (that might be within my reach) as would serve to keep up the reputation of your Museum. At present, occupied as I am with my agriculture and correspondences, I can promise little. Perhaps some gentleman connected with me may make some selections from my repositories: and I beg you will be persuaded, that I can have no reluctance to permit any thing to be communicated, *that might tend to establish truth, extend knowledge, excite virtue, and promote happiness among mankind.*

With best wishes for your success, I am, Sir, your most obt' h'ble serv't,
GO. WASHINGTON.

Mr. Mathew Carey.

In conclusion, we present a highly poetical invocation to

NIGHT.

Why should I seek my rest?
My thoughts are tranquil now;
And pleasant scenes in Memory's track,
And gentle hours come thronging back,
Forgotten long ago—
Till dreaming, waking, I am blest!
The holy, pensive Night!
Away with sleep for me—
I love the thoughts that round me press,
The mystery, and the loneliness—
The varied fantasy
That come when vanishes the light.
The day! the day! I fear!
With all its bitter, carking care,
Its weary round of toil—its gain,
Its strife, its pleasure, and its pain—
Its many thorns, that wear
Into the struggling soul, and rankle there—
Its heartless, hollow mirth.
Its tempting voice, that to the ear will come;
Its gay delusions, soon to pass away—
Before the sun-set tells of closing day:
Its rudely mingled hum,
Bringing the soaring spirit to the earth.
Oh no! the busy day
Hath few bright spells, like thee, most holy Night—
Few dreams of Heaven—no deep and thrilling tone,
Soothing the chilled heart and the spirit lone:
Telling of worlds of light,
Where yet our wandering steps may find a way.
Deep night! One breath of thine
On the flushed brow, falls like a cheerful spell;
There drops a healing balm from thy wing:
A gift of thought, of peace, 'tis thine to bring,
Sounding the heart's deep well—
Lighting its depths with many a ray divine:
Then shall I call it given
For sleep, and seek my rest, this holy time—
While the deep stars are looking from on high,
Stop the thrilling ear and close the musing eye?
Is there not now some heart that once with mine
Did mingle, watching the wide, solemn heaven?
Give me, fond Memory, but one music tone—
Give me bright presence back. Now wave thy wand:
Yet rain upon the ruined shrine thy glow,
As if upon the sweet wild flowers that blow
Far midst the rocky cliffs, in mine own land,
Freshly and fair—the passing moon beams shone.
Oh Night! thine is the power
To call long vanished scenes around the soul,
With a new beauty—link the broken chain
Once more, and weave the silken bond again,
That o'er our spirits held a blest control,
In youth's fair morning hour.
Then is it not most meet
That to the dreamer o'er vain hopes, but high,
And to the seeker after visions gone—
The pensive, lonely wanderer, whose home
Gleams not as once upon his waking eye,
Night should be sweet?

This number of the *New England Magazine* is, as usual, well sustained. None of the papers heretofore objected to by a correspondent of this paper, calculated to infuse a spirit of religious scepticism, appear.

There are many good articles—among them a just and well written biographical memoir of Dr. J. W. Francis, of this city, from which we purposed to make a long extract, but the foreign news prevents.

We insert the following short and lively paper:

My System of Philosophy.

There is nothing in heaven or earth not treated of in my Philosophy.

I have invented a new system of Philosophy, and I am happy to announce to the public the completely satisfactory termination of my labors on this subject. I first modeled it ten years ago. I have fulfilled to the letter the injunction of the ancient poet, Horatius Flaccus, namely, to keep my work nine years before publishing. In the mean time it has received all the reviews, revisions, alterations, amendments, and improvements, that human ingenuity could suggest or devise. It is now perfect.

I have given this system the name of *Phrenodontology*, a name derived from three Greek words, signifying the mind, a tooth, and the word or doctrine. (I explain for the benefit of the unlearned, as this system is of universal application.) "Phrenodontology," therefore, means the doctrine of the mind in connection with the teeth—and not, as some trifling minds would interpret it, "in the teeth of Phrenology." This system is *not* in the teeth of Phrenology. It does away, entirely, Phrenology, Materialism, Idealism, Scepticism, and all other similar vanities. The questions will not be asked—

"Are you a Phrenodontologist?" "Are you a disciple of the great Dr. Glanzknecht, the father of Phrenodontology?" "Do you believe in Phrenodontology?" It may possibly be asked in the wilds of Ethiopia, "Have you heard of the System?" But even this will soon cease to require an answer. Every body will know, every body will believe, every body will practice it. It is, consequently, far beyond the reach of criticism or satire.

I perceive the reader is impatient to know more of this truly wonderful science. One instant more, and I will commence some account of it. But first I wish to take notice of an objection to the name I have given it—an objection to the name, (observe, gentle reader,) to the name, and not to the science. Some minds of little thought and slow observation have remarked, that, from the similarity of the name, *Phrenodontology* might be confounded with Phrenology. If there be any, who, upon second thought, come to such a conclusion, let them read the tenth sentence in this article, and be convinced that their conclusion is incorrect. Now for the doctrines:—

First. The mind of man is situated in, and developed upon, his teeth. Here the question arises—"What is the mind?" I answer, the compound of all mental and moral qualities, propensities and sentiments. This is evident, for, if it be asked, "What is the compound of all mental and moral qualities, propensities, and sentiments?" what but the mind? Any one, therefore, who doubts the truth of my definition of the mind, should be placed, as soon as may be, in the hospital for idiots, for the foundation of which hospital—to be conducted upon purely Phrenodontological principles—I have made a provision of one hundred and thirty thousand dollars in my will. (I wish I could afford to have it put in operation now; but as I have not yet received from the government of any of the nations of the earth, the pensions they will undoubtedly award me, on the receipt and knowledge of my system, I think the scheme impracticable.)

"The mind of man lies in his teeth." This proposition requires no proof. As soon as it is stated, we perceive the utter absurdity of the doctrine inculcated by the Phrenologists, and so generally believed, that *the brain* is the seat of the mind. If facts, however, are required, we can state them. The only difficulty is in selecting from the vast mass with which we are surrounded. I will relate a circumstance which once happened to myself, and by which I nearly lost my life. It was about eight years ago—two years after I had discovered my system. Had I lost my life before my system was revealed to the world—but no—I'll not dwell upon the thought.

I was walking along the street, one day, when I observed a man approaching me, who, as I judged from the shape of his face, had a remarkable protuberance in the internal dexter corner of the second molar of the left lower jaw, where is situated the organ that would make a man a murderer. I should have avoided him, had my caution been great. As it was, my curiosity being far more developed, I approached, and stopped him. "Bless me!" said I,

* I am happy to be able to assume this title without vanity, of which quality my Phrenodontological development shows that I have none. It is a title which must be universally accorded to me.

† I have adopted many terms from the late science of Phrenology, as I find them convenient; and the science, being superseded and defunct, has no further use for them.

"my dear sir, will you have the kindness to let me look at your mouth a moment?" His looks expressed what I then took to be surprise, but what, upon recollection, I am satisfied must have been *demoniacal rage and malice*. Further than this, he made me no answer, but opened his mouth in such a manner as a shark would, when about to bite a man's head off. I have, a thousand times since, shuddered at the thought of my situation at that moment. It was as I had supposed,—the organ of murder was *horribly* developed. "Well, sir," said he, in a voice of thunder, "what is the result of your examination of my mouth?" "I should think, sir," was my reply, "that you were more likely to have committed a murder than any person of my acquaintance." "What, sir," said he, "do you—" "It is a fact, sir," said I, "for—" I should have said more, but he gave me such a blow, that it laid me stunned upon the pavement, thus showing to all, what I was perfectly aware of before, viz. his murderous disposition. I have never met this man since, and I have no doubt that he was a murderer, escaped from justice. My fall however, proved a fortunate one for me, for it knocked out one of my front teeth, containing the organ of avarice. Before this fall, I was, it must be confessed, exceedingly avaricious,—afterwards the propensity left me entirely.

This leads me to state a fact that is, probably, unknown to most of the world. Every body has heard of the horse whom his master taught to live on shavings, but who, unfortunately for the cause of the experiment, died soon after he had acquired that faculty. Well; *that horse belonged to me, and I was the master, who succeeded in teaching him this mode of nourishing himself.* The way it happened was as follows:—I had observed one day, (it was just after the discovery of Phrenodontology,) that this horse had the organ of docility, which is situated in one of the incisors of the upper jaw, very prominently developed. My avarice suggested to me the idea of teaching him to live upon shavings alone. He soon acquired the power, but (alas!) died soon after. I discovered, after his death, that his organ of vivativeness was extremely small. I have his jaws in my collection, which the curious are invited to call and see. Since the loss of my avarice, my curiosity and my love of science would have led me to try the same experiment with another horse; but I never have been able to find one equal in docility to my lost nag.

A lady once informed me that one of her sons had a propensity to steal. He would steal any thing and every thing that came in his way; and she applied to me, as she said, because she knew me to be versed in matters of the mind, and she wished me to devise some punishment for her son, that would be likely to effect a change in his mind. I requested leave to examine his teeth. The boy was sent for, although the mother could not see what his teeth had to do with his thievery. I examined his Phrenodontological development, and found the organ I expected prominent. I immediately advised his mother to have one of his bicuspidate teeth extracted. The operation was performed and the boy has not been known to steal since.

Having proved this point, then we come to the second proposition. But no,—I ought not to go any farther with this,—for I would not deprive any one of any of the pleasures they will derive from the perusal of my work,—the "Outline of the System of Phrenodontology"—now offered to the world, and for sale at any of the bookstores. I am naturally inclined to be prolix. I once made a stump speech nine hours long, and, probably, should not have stopped then had not I been arrested and sent to Bedlam for an insane man. But in my "Outline,"—which the reader had better buy immediately,—I have, I fear, been too concise, the whole work being comprized in one small printed folio volume of seven thousand pages. Only think, gentle reader, but seven thousand small printed folio pages, upon such a subject as PHRENODONTOLOGY.

NEW YORK LITERARY GAZETTE, &c. edited by A. D. PATTERSON.—In a large 4to. form, this new candidate for public favor presents itself, with all the aids of external embellishment, good type and good paper. Its criticisms, too, though not evincing any remarkable vigor of style, or labor of research and comparison, are fair enough—excepting that on the little volume of "Things as they Are," in which, passing over what is really clever, fresh, and original, in its pages, the critic pounces with all his might upon the errors of haste, and, occasionally, of bad taste.

The Gazette is to appear semi-monthly, at the cost of 12 1-2 cents.

It is proposed to publish by subscription an English translation, made in this country of "My Prisons," by Silvio Pellico, and of the "Additions" to that work by Pietro Maroncelli, for the benefit of the latter gentleman, now a dweller among us. Subscription lists will be found in the Athenæum and the office of this Gazette. It seems hardly necessary to express a hope that this undertaking will meet with complete success. Americans, especially, must sympathize with the unfortunate and distinguished individuals who for so long a period were the victims of despotic persecution on account of their liberal principles.

Signor Maroncelli is an object of the strongest interest from his history; and he is every way worthy of the utmost consideration on account of his private virtues, his high endowments and extensive attainments. Such a refugee from the tyranny of the old world, may be deemed to have a positive claim upon us for protection and assistance. He has been, as it were, the advocate and defender of our institutions abroad, and has testified his devotion to them with a martyr's spirit and constancy. It ought to be proved to him that his merits in this respect are fully appreciated. The cause for which he suffered is our cause, and it behoves us to make manifest the gratitude we should feel for his efforts in its favor, as well as the commiseration we experience for the misfortunes which they produced.

We extract the above announcement from the National Gazette, and, concurring as we do in what is so well and justly said of Signor Maroncelli, and of the cause in which he suffered, we shall take the greatest pleasure in aiding such a publication for his benefit.

FOREIGN INTELLIGENCE.

TWO DAYS LATER FROM ENGLAND.—By the *St. Andrew* from Liverpool, papers of 30th from London and 31st from Liverpool are received.

It was expected that Parliament would be prorogued on or before the 12th of August.

The bill for the admission of Dissenters to the Universities, was passed in the House of Commons, July 29th, and sent to the Lords. On the same day the Irish Coercion bill was ordered to a third reading.

In Madrid, the ravages of the Cholera had been deplorable. The population of that city, including the ordinary number of strangers, soldiers and clergy, is under 200,000—out of which, the daily mortality for some days exceeded 400.

The young King Otho, of Greece, seems to experience difficulties from his revolted *Mainote* subjects. In an attempt to put down the insurgent Maniotes, a large body of government troops were obliged to capitulate.

Earl Bathurst, formerly Secretary of the Colonial Department, died at his residence in London, July 27th.

The Earl of Oxford has paid all his creditors. The estates have been at nurse for a quarter of a century, and during that long period his Lordship has been in seclusion. Haywood Hall, a romantic place in the midst of a wood, has been his dwelling.

The St. Petersburg papers announce the arrival of Captain Ross in that city.

Passengers may now travel in about twenty-seven hours from London to Brussels.

In the year ending Jan. 5, 1833, the quantity of wool exported from Sidney, New South Wales, was 1,334,948 lbs.; in the year ending January 5 1834, the total quantity exported was 1,784,203 lbs.

Hobart Town papers estimate the total value of articles of colonial produce, exported from Van Diemen's Land in the year 1833 at £152,966, and of the imports, consisting chiefly of British manufacture, during the same period, at £352,864.

The ports of Greenock and Port Glasgow have been approved of by the Lords of the Treasury as ports for the importation and warehousing of tea.

Cherries have not been so plentiful in Kent for the last fifty years. They are hawked about at Maidstone, literally in cart loads, at a penny per pound.—The crop of apples is also good, but pears, plums, and filberts are a failure.

At the recent exhibition of manufactures in Paris, the King of the French conferred the decoration of the Legion of Honor on Mr. Pierre Erard, the celebrated harp and pianoforte manufacturer.

A gentleman named Young, residing at Main,

Elgin, has in his possession a sparrow perfectly white. He secured it when going to roost one evening, and it is now quite tame.

The King of Prussia has conferred upon Baron Nathaniel Von Rothschild, the title of "Secret Counsellor of Commerce."

Charles X. has bought the domain of Nachod, in Bohemia, for 2,500,000 florins. This estate was said to comprise more than 40,000 inhabitants, and to confer almost absolute sovereignty on its proprietor. The Ex-King may therefore still play the Monarch on a small scale.

Anonymous Wine.—On Lord Byron's favorite servant one day opening a bottle of wine in Greece, his lordship questioned him as to its name and lineage, of both of which Fletcher acknowledged his ignorance. "Then away with it," rejoined Byron, "I hate anonymous wine."

Fifteen persons were killed lately at Stradella, in Piedmont, by the falling of a church tower, a short time before divine service.

Elisonde, in the North of Spain, which Don Carlos has made his head quarters, is a small town at the left bank of the Bidassoa, the chief place of the valley of Bastan, and eight leagues and a half north of Pampeluna.

Letters written from Gibraltar by the Neapolitan Consul, and received at Marseilles, announce that peace has been concluded between the King of the two Sicilies and the Emperor of Morocco.

Demoralized state of the British Army.—Mr. Ellice has informed the House of Commons, that "in the last two years one fifth of the whole Army on English stations has passed through the public gaols." One fifth in two years is the same as the tenth annually; and this presents to be sure a pretty picture.

Mr. George Thompson, the eloquent lecturer against slavery in the British Colonies, will embark at Liverpool for the United States on the 8th of August, there to exert his talents in behalf of the unfortunate beings oppressed by republican freemen.

So says an English journal. We say, he'd better stay at home.

Monument to the Memory of Mr. Canning.—In addition to the bronze colossal figure erected about two years ago in the enclosure fronting Palace-yard, a beautiful marble statue of this distinguished individual, by Chantrey, has just been erected in Westminster Abbey, the expense of both being defrayed by a public subscription, which was raised for the purpose among his friends and admirers, at the time of his decease, and which amounted to upwards of £11,000.

Here is a sum of \$50,000 nearly, paid by a few admirers of *George Canning*, in order to construct a monument to his memory; while by this nation, led to Independence by *GEORGE WASHINGTON*, no monument has been erected to his name.

THE REFORMED HOUSE OF COMMONS differs in many of its scenes, certainly, from the more measured and staid character of former Houses. On a recent occasion, while discussing the Irish Tithe bill, Mr. O'Connell proposed an amendment, which he thus sustained:

The object of his amendment was to relieve the tithe-owners immediately, to the extent of 40 per cent. If this plan should render it necessary to draw upon the Consolidated Fund for a small amount, the people of England would not begrudge it, in order to effect the settlement of this important and difficult question. (An expression of dissent from the Ministerial benches.) "Oh!" exclaimed the Hon. and Learned Member, "Oh, I wish we were blacks!" (A laugh.) If the Irish people were but black, we should have the Hon. Member for Weymouth coming down as large as life—(Laughter)—supported by all 'the friends of humanity' in the back rows, to advocate their cause. (Cheers and laughter.) They would think little of 120,000l. or 1,000,000l., if it were to be given to 'the sweet lovely blacks of Ireland.' (Continued laughter.) The Hon. and Learned Member concluded by moving an amendment to the effect before stated.

Mr. Spring Rice and others on the Ministerial benches feebly opposed the amendment.

The Committee then divided, when there appeared—

For the amendment	82
Against it	33
Majority against Ministers	49

The announcement of this division was received with cheers.

Lord Althorp then proposed that the other clauses connected with this part of the bill should be postponed for the present. The decision to which the Committee had just come deranged most of the details of the bill. The alteration thus made in the bill would carry the principle of the bill more rapidly into effect than he considered prudent.

Mr. O'Connell said, that whatever course the noble Lord might think it right to adopt after this decision, this was clear—that it was the duty of those who had supported the amendment which had just been carried to give every aid to the noble Lord in forming the new machinery of the bill, and in seeing whether this experiment could not be carried fully and fairly into effect. He should consider it to be his sacred duty to give the noble Lord every support in his power upon this very important subject.

Mr. Shaw said, that after the opposition which the honorable and learned gentleman had received from government, it was undoubtedly his duty to give the government his support. (Hear, hear.)

Lord Althorp hoped that the Hon. and Learned Recorder for Dublin did not mean to insinuate that his opposition to this amendment had not been sincere. (Hear.) The Hon. and Learned Gentleman seemed to have forgotten that Ministers had it no longer in their power to command willing majorities, in consequence of the changes made in the constitution of the House by the Reform Bill. (Loud cheers.) He was ready to admit that, on occasions where a great principle had been involved, and where, if the motion had been carried against the Ministers, Ministers could not have continued to carry on the business of the country, he had expressed in the House a determination to resign, if the question were decided against them. But on the details of a measure merely carrying out a principle of which he approved, more rapidly than he thought advisable, he should have been ashamed of himself if he had had recourse to the inducements of which he had availed himself on former occasions.

Mr. Shaw had no intention to question the sincerity of the noble Lord. (Hear, hear.) But he must again say that, notwithstanding the large, and he was sorry to add, the overbearing majority against Ministers, he could not bring himself to believe that Ministers generally wished the decision on this amendment to be such as the noble Lord wished it to be. (Hear, hear.) He believed that many gentlemen who usually supported Ministers, had avowed that, on this question, Ministers wished to be beaten. (Loud cries of "Name.")

Mr. Ireton said, that a supporter of the Government had that day asked him how he intended to vote upon this amendment. He had replied, that he did not think that he should vote at all; but that, if he did vote, he should vote in favor of Ministers. The gentleman told him immediately that he need not give himself that trouble, for the Ministers wished to be beaten. (Loud cries of "Hear," and of "Name, name.")

Lord Althorp said it was true that he had not desired any Irish members to vote in favor of the original clause; but it did not follow therefrom that he wished the clause to be lost. On the contrary, he wished it to be carried, as he thought that it would prove beneficial to Ireland. (Hear.)

The amendment was then put and carried.

The avowal of Lord Althorp that minorities could no longer control majorities, as in former days—the *non-chalance* of Mr. Ireton, whose vote seemed a matter of as much indifference to ministers as to himself,—and the character of the whole proceeding here recorded, are novelties in St. Stephen's Chapel.

THE REFORMED HOUSE OF COMMONS.—We annex another illustration of the working of the House, which used to be called an assembly of the "first gentlemen in England." It is to be remarked, however, to the credit of those whom Reform has introduced to the House, that they seem by common consent to be exempted from any participation in disorderly scenes of the nature of those recorded below. The disturbers are, for the most part, young sprigs of fashion.

[From the London Courier, of July 29.]

The debate being on the question of admitting Dissenters to the University, and having been got at somewhat late in the evening,

Lord Palmerston, rose amidst most discordant sounds. The noble Lord said the argument of the last Right Hon. speaker was founded on this—that it was incompatible with the religious principles which formed the groundwork of the Universities, that persons differing from those principles should be empowered to partake of the advantages they offered. That was his argument; and he should cut it from under him with one simple remark. (Coughing, scraping of feet, and expectoration.) How did the Right Hon. Gentleman reconcile his argument with the practice? (Uproar.) Dissenters could have the benefit of education at Cambridge as completely now, as they could under the provisions of the bill which they were then discussing. But it was said that the measure before them was subversive of the true interests of the State. (Coughing, and vehement cries of bah, divide, divide.) He denied that it was so, and would declare his honest opinion, that it would tend to strengthen and perpetuate those great interests. He really could not see on what ground those who consented to the repeal of the Test and Corporation Acts, and the emancipation of the Catholics, opposed this act of substantial justice.—(Great uproar and yelling.)

Sir R. Inglis essayed to address the House, but for many seconds his words were completely drowned in the noise. The Right Hon. Baronet was understood to declare that whatever might be thought of the authorities of the Universities, they would be found to act from conscientious motives, and on lofty principles. He could very well believe that a Whig would prefer place to principle—(Cheers and confusion)—that he would betray the latter at any sacrifice, to secure the former; but not so with the men to whom he (Sir R.) alluded.

Mr. G. W. Wood rose to reply. (The laughing, jeering, shouting, and coughing, were such as has seldom been witnessed.) The Hon. gentleman said it had been declared that the bill in its present stage was essentially different from what it was when he had the honor to introduce it to the House. (At this moment two Hon. members suddenly entered from the smoking room into the Opposition gallery, and stretching themselves at full length on the seats, secured from the observation of the Speaker, commenced a row of the most discreditable character.) This he denied—"I say, can't you grow?" laughter and uproar. The provisions had not been altered—"Hear him how he reads"—Mr. Wood occasionally glanced at a memorandum in his hand—the enactments were in every respect unaltered. (Loud cheering, followed by bursts of laughter.) The question was—"Read it, read it!" and a great uproar—the question—"Just so, read it!"—the question was—"Great cheering and laughter"—whether—"That's the question"—whether the Universities should be open to all, or be for ever under the control of mere monopolists—"Where's the man who crows?" laughter and loud cries of "Order" from the Speaker. Public opinion—"Oh, dear," and great uproar, during which the Speaker, evidently excited, was loudly calling for order, and turning his glass in every direction to note the delinquent members—public opinion was decidedly in favor of this bill. (The scene here was indescribable.)

The Speaker rose, and with much indignation in his tone and manner said, "I really think that some one among those who are calling out in this strange and unparliamentary manner, would better satisfy the Hon. members with whom he is acting by moving at once that the debate be adjourned, than by taking a course of opposition which is so greatly at variance with the established usages of the House." (Loud cheers.)

Mr. G. W. Wood resumed.

There have been scenes in our House of Representatives, but nothing like this.

By the Charlemagne we have the King of France's speech on opening the Session of the Chamber. It is even more unmeaning than such documents usually are.

The "three days" of Paris had been celebrated; but, as we infer, with diminishing interest. There is indeed little left for rejoicing, to those who looked to the result of the resolution achieved in those days for a more liberal form of government than that which they overthrew. The nation, however, at large, was never more prosperous or more powerful.

HOLLAND.

PARIS, 31st JULY.—Important news is brought by the Holland papers of the 28th July, received by express. We read in the *Hendelsblad*—"We are informed of good authority, that on the 22d, the King had issued a decree by which all the members of the *Shuttery* (National Guard) have been sent home, with unlimited leave of absence."

DON CARLOS.—It is now again certain—if there be any faith in telegraphic despatches—that this Pretender is within the borders of Spain; though from the annexed description of the place where we was at the latest dates—taken from the *Journal des Debates* of the 30th July—he was, it appears, so near the French frontiers, that a short run only would be requisite, in case of need, to save him from the clutches of the Queen's troops:

Lezaca, where Don Carlos was on the 28th July, is a little hamlet on the left bank of the *Bidasoa*, one league south of Vera, upon the road from Bayonne to Pampeluna, and a league and a half [about our miles] from Biriaton, the first village in France, which is now occupied by a battalion of the 4th Light Infantry.

PARIS, JULY 30.—The Government received yesterday morning the following telegraphic despatch of the 28th instant from Bayonne:—"Don Carlos arrived yesterday at Lezaca, near our frontier. Zavala with the Biscayans is near Oyarzem, and El Pastor is marching against him. Rodil is in the *Borunda* endeavoring to block up Zumalacaregu, who is near Lecumberg. Some result is expected to-morrow."

A second telegraphic despatch, dated Madrid, 24th July at five in the evening, announces that the Regent had opened the Cortes in person at one o'clock of the same day, and that Madrid was perfectly tranquil.

PARIS, JULY 31.—No important news from Spain has been received to-day. The *Journal des Debates* announces that bands of Carlists have appeared in Caledonia.

FROM JAMAICA.—The *John W. Cater* from Kingston, (Jamaica,) brings papers of 15th ult., which prove that in the large Colony where slaves were so numerous, the emancipation law had gone into effect without disturbances of any significance. This is intelligence that must gratify all right thinking men.

The Despatch one of the warmest Journals in the Island in opposition to the plan, says:

"We have devoted a large portion of our columns to the accounts received from the country relative to the state of the apprentices, from which our readers will observe things are going on as well as the most sanguine patriot could wish. We have seen letters from every parish in the island on this all engrossing subject, and the writers are unanimous in declaring that the laborers went to their work on Monday with the utmost alacrity, and were going on with their work in the usual manner. No doubts were expressed of the new system, and we congratulate the inhabitants at large on the prospects we have now before us. Let us, however, continue on the alert, as we have dangerous and disappointed characters among us, whose sole object is agitation in the hope of being able to create an ill-feeling between the masters and their servants. In this, however, from what we have heard, they must fail in every instance where proper pains have been taken to explain the nature of the tie which at present binds them to each other. The laws are sufficiently strong to coerce the unruly, and to protect the industrious from ill treatment; and if this fact is strongly impressed on the minds of the apprentices, there is no doubt they will patiently await the hour of their emancipation, and by their zeal and assiduity in the fulfilment of their prescribed duties; and their respectful bearing towards their superiors and employers, justify the confidence which has been reposed in them."

SUMMARY.

The steam packet *David Brown* left Charleston on the 3d inst., but put back in consequence of some damage to the machinery. Would leave again on the 6th, for this port, via Old Point Comfort.

Letters have been received at the Navy Department from D. Deacon, Esq., commanding the U. S. frigate *Brandywine*, announcing her safe arrival at Rio Janeiro, after a run of fifty days from the Cape of the Chesapeake.

The Convention of the People of the State of Tennessee, which has been in constant session in Nashville since the 19th of May last, closed its labors on Saturday the 30th of August. They have adopted a revised and amended Constitution, which will be immediately submitted to the people, by the circulation of fifteen thousand copies of it, side by side with the old Constitution, for their ratification or rejection at an election to be held for that purpose on the first Tuesday and Friday in March next.

BATTLE WITH THE PAWNEES.—The following highly interesting information is furnished by the *Arkansas Gazette* of the 19th ult.

Desperate Engagement between the United States Dragoons and Pawnee Indians.—By a gentleman from Washington county, we learn that the United States Dragoons have recently had a bloody fight with the Pawnee Indians, in which the latter lost 80 killed and 150 prisoners. Our informant derived his information from a young man who was at Fort Gibson when the prisoners were brought in under the escort of a detachment of the Dragoons. The remainder of the United States forces belonging to the exploring party, were left in pursuit of the Indians. The Pawnees are said to have fought desperately, and to have killed eight of the Dragoons. Several Osage prisoners were retaken at the same time, from whom it was pretty satisfactorily ascertained, that the young man whom the Pawnees took from the Rangers last summer, had been killed.—These are the only particulars that our informant was able to collect. To-day's mail, or that of Saturday next, we hope will furnish the details of this affair.

BROWN UNIVERSITY.—The Hon. Asher Robbins delivered an oration, and the Hon. Tristram Burges, a poem, before the Phi Beta Kappa Society on Tuesday. The Providence Journal says—

Those who sat near enough to the pulpit to hear both the oration and the Poem, enjoyed a rare intellectual entertainment—and the large number to whom the learned orator failed to make himself audible must have been amply repaid for their patient attention by the beautiful, dignified and pathetic poem of Mr. Burges.

The Hon Mr. Robbins exhibited, in the treatment of his subject, (the importance of a National Literature) more than he has done on any former occasion that we are aware of, the profundity of his classical acquirements, for which he was already distinguished.

FLORA MACDONALD.—All our readers know the romantic heroism with which this young woman, Flora MacDonald, conducted the escape of Prince Charles Edward from Scotland, after the fatal battle of Culloden. It is not so well known that she was long afterwards a resident of North Carolina; and adhering to the principle of loyalty which in early life taught her to hazard every thing in the cause of the Royal Stuarts—she, on the breaking out of the American revolution, took sides for the King.

The true sentiment of honor and duty is well expressed in the last lines of the subjoined reflections of *Chateaubriand*. Travelling in the wilds of this country,—then a young man and a soldier, and attached by sentiment and social position to the cause of the monarchy,—he learned from a newspaper casually thrown in his way the flight of Louis XVI. from Paris, his arrest at Varennes, and subsequent imprisonment in the capital. Instantly abandoning all his plans, he returned to offer his arms to his Sovereign. He met with much hardship and little gratitude; whereupon he thus soliloquizes:

"The Bourbons had not need, that a cadet of Brittany should return from beyond the seas to offer them his obscure devotion: if I had lit the lamp of my hostess with the journal which changed the destinies of my life, and continued my voyage, no one would have perceived my absence, for none knew that I existed. It was a simple question between me and my conscience which brought me back to the theatre of the world. I might have done as I wished, as I was the only witness of the debate. But of all witnesses this is the one before which I should fear most to blush."

TOLEDO GAZETTE.—Nothing (says the Cincinnati Gazette) marks more strongly the current of population and improvement setting North-west, than the growing up of new towns, and the appearance of newspapers. A day or two ago we received the first number of the Toledo Gazette, dated August 14. The subjoined extract informs where Toledo is, and what it has been.

"OUR PLACE.—This town, lately called by the two appellations of Port Lawrence and Vistula, is handsomely situated upon the north west bank of the Maumee River in Michigan. The interests of these two points, as above described, are the same, inasmuch as they are dependent upon the same section of the country for support, and possess in all respects the same local advantages. The town is laid out upon a liberal and judicious scale, with wide and spacious streets, cutting each other at right angles, with intervening alleys two rods wide. It is about four miles from the entrance of the river into Maumee Bay. From this point to the Lake, the navigation has no obstruction to vessels and steamboats of the largest class, and the harbor is perhaps the best and easiest made of any on the Lake. There is no perceptible current in the river, as at this point it is on a level with the Lake, except such as is produced by the wind, and of course the waters here are not affected by freshets or rains. The depth and width of the river are such as to enable vessels to beat up, or down against a strong wind, it being about three-fourths of a mile wide, and of an average depth of twelve feet. The easterly part of the town, latterly called Vistula, became the property of the present proprietors in August, 1833; and a few lots were sold last fall. Early this spring, sales commenced, and have briskly continued.

There is no place in the western part of the Union that possesses greater advantages of location than this. We are aware that in making this assertion we are saying a great deal, but for its truth we need only refer those who are acquainted with our position to a map of the country. On the north-west and south, we have the finest and most extensive agricultural districts, much of which is already thickly populated, and great numbers of emigrants are daily removing to our town and neighborhood. A survey is now being made of a route for a Railroad from this place to Adrian, in Lenawee county, 22 miles north-west.

The section of the Road, which is chartered to extend to the navigable waters of Lake Michigan, will be put under contract this fall, or early next spring.

[COMMUNICATED.]

In a very learned notice on "*Measures, Weights and Money*," by Col. Pasley, Royal Engineers, F. R. S. &c., just published in London, the author pays the following tribute to our countryman John Q. Adams.

"I cannot, however, pass over the labors of former writers, without acknowledging in particular the benefit which I have derived, whilst investigating the historical part of my subject, from a book printed at Washington, in 1821, as an official Report upon *Weights and Measures*, made by a distinguished American statesman, Mr. John Quincy Adams, to the Senate of the United States, of which he was afterwards President. This author has thrown more light into the history of our old English *Weights and Measures*, than all former writers upon the same subject, and his views of historical facts, even when occasionally in opposition to the Reports of our own Parliamentary Committees, appear to me to be the most correct. For my own part, I confess that I do not think I could have seen my way into the history of English *Weights and Measures*, in the feudal ages, without his guidance."

Such men as J. Q. Adams are honors, not to their country only, but the empire of learning. Now infinitely above the knaves and dunces now most prominent in governing the country—the counterpart of the gentry of whom Cicero said, "*ad honores adipiscendos, et ad rempublicam gerendam nudè veniunt—nulla cognitione rerum—nulla scientia ornati.*"—They have to be sure figured in the annals of Cabinet Literature, but it was only to show "with how little wisdom the world is governed."

Boston.—The ship *Dover*, arrived at this port last evening from Calcutta, having on board a fine large elephant eighteen years old. A Rhinoceros was also shipped, but died on the passage.

PRINCE PUCKLER MUSKAU.—This distinguished, spirited, and intelligent traveller, may be daily looked for upon our shores. A letter from Bavaria, from which we subjoin an extract, apprises us that he would embark for this port in the Havre packet of the 8th ult.

He will find a cordial welcome, and, we fear,—seeing that it will all be put in a book,—a deference for his title, little in harmony with the republican professions of which he will hear and read so much. *Extract of a letter from Bamberg, Bavaria, of 24th July.*

I beg in advance your good offices for his Highness, Prince Puckler Muskau, who has spent some weeks with me here, and intends making a tour through the United States, when he will spend some weeks in New York. He will embark in the Havre packet of 8th August.

[From the Alabama Advocate.]

WESTPOINT ACADEMY.—The report of the Visitors to this institution will be found in our paper to-day, and exhibits its past and probable benefits to our country in a very flattering aspect. We regret that the voice of clamor and prejudice should be raised against this national nursery of scholars and soldiers, which appears to us, while it continues to be as judiciously managed as it has been, capable of furnishing many bright and useful ornaments, not only to the scientific and military departments of our Government, but even to the social and intellectual circles of life. There is no college in our country where mathematical science is more profoundly and accurately taught—none where discipline is more perfect—none where there is a more complete and vigorous development of the physical powers. If to blend the sympathies of young minds with the rising glory of the nation; if to inspire noble, generous and elevated sentiments of honor; if to be educated by the country for the country; if to cherish a high and chivalrous reliance upon the skill and valor of our own officers, are objects worthy of national care and consideration, surely this institution eminently merits the support and encouragement which it has hitherto received. It has been made a ground of objection to this Academy, that its favors have been conferred too exclusively upon influential and wealthy families. We apprehend that this spirit of imputed favoritism has been very much exaggerated. Perhaps the error lies in wishing to make that a monopoly which was never intended to be such.

Was this institution established as a public charity, where the poor only were to be educated? Such, we presume, was not the sole and primary object of its organization. It was to draw out and foster the common talent of the nation, come from what sphere it might, and array it, when occasion required, in defence of Liberty and the Constitution. We should undoubtedly prefer that much the largest proportion of students should be taken from that class who are destitute of the means of obtaining a liberal education. Not that they should look upon it as a favor to which they are exclusively entitled; but because the boundaries of knowledge are thereby widened, and the sympathies of minds, thus nurtured at the public expense, will become more closely entwined with the institutions of our land—the sentiment of gratitude will be deeper and stronger towards a government which scatters, with a benignant hand, the lights of virtue and intelligence among its most obscure and unfriended citizens.

[From the (Osteo) Cooperstown Republican.]

"TEMPLETON HALL."—This venerable mansion, once the residence of Judge Cooper—the "Judge Templeton" of the "Pioneers"—has lately been purchased by his son, James Fenimore Cooper. For several years it has been almost wholly unoccupied, and has suffered much from the weather—the walls however are still good, and the whole building is to be thoroughly repaired and fitted up for the future residence of Mr. Cooper. We welcome him back to the home of his youth, and hope he may spend many pleasant years amid the scenes which his pen has immortalized.

[From the Philadelphia National Gazette.]

It is with deep regret that we record the death of Don Juan Bautista Bernabeu, his Catholic Majesty's Consul General for the United States. This distinguished gentleman, sunk, on the 3d inst., under a very painful malady, which he bore for a long time with exemplary fortitude. He was born at Alicante, in Spain on the 14th June 1772, and served his King, in honorable stations, upwards of forty years. A more loyal and zealous Spaniard never lived; and it

enthusiastic devotion to the character and welfare of his country, and a thorough performance of official duties give title to favors from the Spanish government, his very respectable family may claim much on his account, from its gratitude, justice, and liberality.

The Blind Man's Bible.—We have before us, in a goodly quarto volume, the Gospel of St. Mark, printed, or rather embossed, for the use of the blind. This is the first book that has been prepared in this country, on this plan. It is the handy work of Mr. Snider, the gentleman who acts as secretary of the institution, and is a beautiful illustration, if not fulfilment, of the prophecy, that the "blind shall see." This admirable specimen of the art of embossing letters, is worthy the attention of the curious.—[U. S. Gaz.]

The Norfolk Herald of Friday last, notices, with great satisfaction, the arrival there of a locomotive engine, long expected from Philadelphia, for the Portsmouth and Roanoke rail-road, and talks of riding in an hour to Suffolk, which used to be deemed as much of an undertaking as a trip to Richmond now is.

Wreck of the ship New Jersey of Providence.—The ship *Bashaw*, Captain Blacklor, arrived at Boston, last Thursday from Batavia, and has communicated to the editor of the Commercial Gazette the following particulars:

"The English brig *Reliance* has been lost on Louisa Shoal, while employed in saving the property of the American ship *New Jersey*, wrecked there in November last. The English ship *Madeline* accompanied the *Reliance* in the wrecking expedition, had returned to Singapore with the crew and merchandise saved by both vessels, which, together with two boxes of dollars, amounted to about 40,000.—The property saved on a previous expedition amounted to about \$9000. The remainder of the specie and some quicksilver were still left on the shoal, and another expedition was about ready to proceed in March with apparatus for blowing up the lower decks of the *New Jersey*, when it was expected there would be nothing to prevent their obtaining the rest of the property, the season of the year being favorable. The property already saved had been equally divided among the persons respectively concerned in the expedition without recourse to law and equity, and in such a manner as to prevent any further claim being made upon it."

Capture at sea and murder.—Another piece of information brought by Capt. Blacklor, is, that about the 16th of April, the English schooner *Gem*, of Leith, while on her way from Sourabaya, for New South Wales, was captured in the Straits of Bally, by sixteen prow boats, and all hands murdered.

Hint for a "Cavalier Seul."—In certain cities of the south, where gentlemen having felt the icy chill of a refusal to an invitation to dance, where a lady who is declared to be engaging, declares herself engaged, a form is used which prevents any such disappointment. At the door of the *salon à danser* is a *corbeille* of artificial flowers, from which each visitor selects one and presents it to the lady of his choice. She wears the ornament in her *ceinture* until she has danced her two sets, and then returns it to her partner. Thus a lady who wears no bouquet is disengaged, and the offer of the flower saves the trouble of a speech and the pain of refusal.—[Le Cameleon.]

The *Berlin State Gazette* gives the following details upon the monument about to be raised to the memory of Gutenberg:—One of the bas-reliefs of the pedestal will represent Gutenberg showing to Faust the movable types he had invented, with an inscription underneath in Latin and in primitive-shaped letters, of the sublime sentence from Genesis—"God said let there be light, and there was light."—Another bas-relief will have engraved on it a representation of the first printing-press established by Gutenberg and his two partners. On a third bas-relief will be represented the distribution of the Holy Scriptures to the people.

Quite above board.—Samuel Terry, an English convict in New South Wales, is in possession of a clear income of sixty thousand pounds sterling. His several estates, containing upwards of 100,000 acres, and his property in the town of Sydney bring him in 10,000 pounds per annum. He has 17,000 heads of horned cattle, and 400 brood mares. All this property he has acquired since his emancipation.

[From the New England Galaxy.]

HUMAN LIFE,
OR THE FIRST AND LAST MINUTE.

Minutes Pass.—The anxious husband paces slowly across his study. He is a father, a man child is born unto him. Minutes pass—the child has been blessed by a parent, whom it cannot recognize, and pressed to that bosom, to which instinct alone guides for sustenance—the young wife too has faintly answered to a husband's questions, and felt his warm kiss on her forehead.

Hours pass.—The low moaning from the closely covered cradle, tells of the first wants of its occupant. The quiet tread of the nurse speaks of suffering around her; while her glad countenance says that the very suffering which she is trying to alleviate, is a source of joy; and the nameless articles, which from time to time she arranges on the hearth, tell of a new claimant for the courtesies and attentions of those who have progressed further on the pathway of existence.

Days pass.—Visitors are thronging the chamber, and the mother, pale and interesting after her recent sickness, is receiving their congratulations, and listening proudly to their praises of the little treasure, which lies asleep in its rocking bed at her feet.—The scene shifts, and the father is there with her alone, as the twilight deepens about them, while they are planning the future destiny of their child.

Weeks pass.—The eyes of the young mother are sparkling with health, and the rose blooms again on her cheek; and the cares of pleasure and home engage her attention, and the father is once more mingling with the world; yet they find many opportunities each day to visit the young interior of life; to watch over his dreamless slumber; to trace each other's looks in his countenance, and to ponder upon the felicity, of which he is the bearer to them.

Months Pass.—The cradle is deserted. But the chamber floor is strewn with play things, and there is a little one loitering among them, whose half lisp'd words and hearty laugh, and sunny countenance tell you that the entrance into life is over a pathway of flowers. The cradle is empty, but the last prayers of the parents are uttered over the small crib, which stands by their own bedside, and their latest attention is given to the peaceful breathings of its occupant.

Years Pass.—Childhood has strengthened into boyhood and gambled along into manhood. Old connexions broken—parents are sleeping in their graves—new intimacies are formed—a new home is about him, new cares distract. He is abroad, struggling amid the business of life, or resting from it with those whom he has chosen from his own generation. Time is beginning to wrinkle his forehead, and thought has robbed his looks of their gaiety, and study has dimmed his eyes. Those who began life, after he had grown up, are fast crowding him out of it, and there are many claimants upon his industry and love for protection and support.

Years pass.—His own children have become men, and are quitting him, as he also quitted the home of his fathers. His steps have lost their elasticity—His hand has become familiar with his cane, to which he is obliged to trust in his walks. He has left the bustle which fatigued him. He looks anxiously in each day's paper among the deaths—and then ponders over the name of an old friend, and tries to persuade himself, that he is younger and stronger, and has a better hold upon life than any of his contemporaries.

Months pass.—He gradually diminishes the circle of his activity. He dislikes to go abroad, where he finds so many new faces, and he grieves to meet his former companions, after a short absence, they seem to have grown so old and infirm. Quiet enjoyments only are relished, a little conversation about old times—a sober game at whist—a religious treatise,—and early bed, form for him the sum total of his pleasure.

Weeks pass.—Infirmity keeps him in his chamber. His walks are limited to the small space between his easy chair and his bed. His swollen limbs are wrapped in flannels. His sight is failing—his ears refuse their duty, and his cup is but half filled, since otherwise, his shaking hands cannot carry it to his shrunk lips, without spilling its contents. His powers are weakened—his faculties are blunted—his strength is lost.

Days pass.—The old man does not leave his bed—his memory is failing—he talks, but cannot be understood—he asks questions, but they relate to the transactions of a former generation—he speaks of occurrences, but the recollection of no one around him can go back to their scenes—he seems to commune with comrades, but when he names them, it is found that the waters of time and oblivion have covered their tombs.

Hours pass.—The taper grows dimmer and dimmer—the machinery moves yet more and more slowly—the sands are fewer as they measure the allotted span. The motion of those about him is unheeded, or becomes a vexation. Each fresh inquiry after his health is a knell. The springs of life can no longer force on its wheels—the "silver cord" is fast untwisting—the pitcher is broken at the fountain—and time "is a burthen." His children are about him, but he heeds them not—his friends are near, but he does not recognize them. The circle is completed. The course is run, and utter weakness brings the damp, which ushers in the night of death.

Minutes pass.—His breathing grows softer and lower—his pulse beats fainter and feebler. Those around him are listening, but cannot tell when they cease. The embers are burnt out—and the flame flashes not before it expires. His "three-score years and ten" are numbered. Human life "is finished."

EARTH'S WEARY ONES.—By Mas. Locke.

Open the grave, the vaulted grave,
For the weary ones of earth—
They are pressing on, and their bosoms heave
For the morn of heavenly birth;
They are pressing on—in the mockery
Of joy and of hope—they long to die;
They are pressing on, in the strength of power,
And the pride of wealth—they wait the hour.
Ye may trace them in the hall of song,
By the lamp's high flaming light.
Where pipe, and labour their notes prolong,
And jewels are sparkling bright,
In the show of beauty, mirth, and pride,
Light down the mazy dance they glide;
By the pallid cheek 'neath the smile they wear,
And the smothered sigh, ye may trace them there!
They are decked in the ruby's ruddy glow,
And wealth of the far down sea;
And the diamond shines but to mock their wo,
And proclaim the spirit free.
But alas, alas for the fond hopes crushed,
For the tones of love in the dark tomb hushed,
For affections changed and vows forgot—
Not gems, nor pearls, can that memory blot.
Raise ye the veil at the festal hour,
From that fair unfurrowed brow;
A bride!—but wo for the bridegroom's power—
The grave ye may open now;
From the glittering robes of royalty,
Peers the broken heart thro' the sunken eye;
And the wreath of fame crowns the weary band—
Mild the honored crowd, they hopeless stand.
Ye may trace them in the house of prayer,
On the lowly bended knee—
With uplifted eye and a brow of care—
The burthened soul to free.
Then open the grave—they are pressing on,
In the beauty of youth, but a visage wan;
In festal halls—'neath the laurel's wave,
They are weary of earth—open the grave.

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TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Philias Davis, patentee of the celebrated wire drilled wheels, will enable him to fit up at short notice any number of cars which may be wanted. The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.
DEAN WALKER. A 30

STEPHENSON,

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RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
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Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

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THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
MIS



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTIE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartie.—Agreeably to your request made some months since, I now offer you my opinion of the instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartie.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.
MIS

The following Requiem, from the pen of *Grenville Mellen*, and Hymn, by *Isaac McLellan, Jr.* were sung at the Lafayette Celebration in Boston.

REQUIEM.

Breathe mournful music round!
In cypress wreaths your melancholy lyres,
And, as ye weep them, yield the quivering wires
To sorrow's gushing sound!
Shadow your brows, and weep!
A nation's voice peals from the booming sea,
Grief's far, faint requiem, o'er the Great and Free,
Laid in his marble sleep!
He's pass'd within the veil;
And over him, in loud and long lament,
A world's woe breaks upon the firmament,
In farewell and in wail.
We bear an empire's tread;
A land, mid shade of banner and of plume,
Fours, from one mighty heart above the tomb,
Its tribute to the dead.
One pulse is echoing there!
The far-voiced clarion and the trumpet still,
And man's crushed spirit to the changeless will.
Bows in rebuke and prayer!
Gather about his pall,
And let the sacred memory of years
That he made glorious, call back your tears,
Or light them as they fall!

HYMN.

His race is run, his battle's o'er,
He leads the armies forth no more,
The blooming gun, the tolling bell
Have paid to him the last farewell!
He vanished like the glorious sun
When his appointed course is run;
Yet long a brilliant track of light
Marks where he melted from the sight.
His name, as passing years shall roll,
Shall brighter shine on glory's scroll.
Old age shall love to tell his fame,
And youth with reverence speak his name.
That name, shall like a beacon star,
From the dim past, cast light afar;
And o'er the future's rolling tide,
The star of Lafayette shall guide.

The two following delightful poems, by Miss Mary Ann Browne, are natural and touching:

MAN'S LOVE.

When woman's eye grows dull,
And her cheek paleth,
When fades the beautiful,
Then man's love faileth;
He sits not beside her chair,
Clasps not her fingers,
Twines not the damp hair,
That o'er her brow lingers.
He comes but a moment in
Though her eye lightens,
Though her cheek, pale and thin,
Feverishly brightens;
He stays but a moment near,
When that flush faileth,
Though true affection's tear
Her soft eyelid shadeth.
He goes from her chamber straight
Into life's jostle,
He meets at the very gate
Business and bustle;
He thinks not of her within,
Silently sighing,
He forgets in that noisy din
That she is dying!
And when her young heart is still,
What though he mourneth,
Soon from his sorrow chill
Wearied he turneth.
Soon o'er her buried head
Memory's light seteth,
And the true-hearted dead,
Thus man forgetteth!

WOMAN'S LOVE.

When man is waxing frail,
And his voice is thin and weak,
And his lips are parched and pale,
And wan and white his cheek;
Oh, then doth woman prove
Her constancy and love!
She sitteth by his chair,
And holds his feeble hand;
She watcheth over there,
His wants to understand;
His yet unspoken will
She hasteth to fulfill.
She leads him, when the moon
Is bright, o'er dale or hill,
And all things, save the time
Of the honey bees are still,
Into the garden bowers,
To sit 'midst herbs and flowers.
And when he goes not there,
To feast on breath and bloom,
She brings the poyr rare
Into his darkened room;
And 'neath his weary head
The pillow smooth doth spread.
Until the hour when death
His lamp of life doth dim,
She never wearieth,
She never leaveth him;
Still near him night and day,
She meets his eye away.
And when his trial's o'er,
And the turf is on his breast,
Deep in her bosom's core
Lie sorrows unexpressed;
Her tears, her sighs, are weak,
Her settled grief to speak.

And though there may arise
Balm for her spirit's pain,
And though her quiet eyes
May sometimes smile again;
Still, still, she must regret,
She never can forget!

RAILROAD AND CANAL MAP.

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Railroad Spikes of every description required, made at the Albany Spike Factory.
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Ship and Boat Spikes made full size under the head, so as not to admit water.
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40 do. 1 3/4 do.	
50 do. 2 do.	
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Axes of 2 1/2, 3, 3 1/2, 4, and 5 inches diameter for Railway Cars and Locomotives of patent iron.

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Railroad Companies may be supplied with Spikes having countersunk heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Tro N. Y. July, 1831.
Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 232 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J231am H. BURDEN.

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The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

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Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* * Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine.

MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Cid. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILROAD IRON, &c.

Sealed proposals will be received until the 15th day of September next, for the immediate delivery thereafter at Suffolk, Va., of 250 tons of Railroad Iron in bars from 14 to 18 feet in length—2 inches wide by half an inch thick—placed with countersunk holes (the of an inch in diameter, 1 foot or 13 inches apart from centre to centre; and for 16 tons of spikes 4 inches long and 1 1/2 of an inch in diameter. Specimens of the latter, and drawings of the rail showing the size and shape of the hole, shape of the rail, and angle of the scarf, will accompany each bid. WALTER Gwynn, Civil Engineer.

Engineer's Office, Portsmouth & R. R. R. Suffolk, Va., August 18. a 30 3t

TOWNSEND & DUFFEE, of Palmyra, N. Y., manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania. Hudson, Columbia county, New York, January 29, 1833.

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new; among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely any thing to desire in the formation or convenience of the Com. ass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

German town, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,

German, and Norrist. Railroad

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, SEPTEMBER 20, 1834.

[VOLUME III.—No. 37.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 20, 1834.

"A QUERY.—What is the reason that the New-York Railroad Journal does not publish an account of the continuous railroad between New-York and Washington? We pause for a reply. A journal devoted to a particular science or art, acts strange to shut its eyes to the leading information in that art. It is like acting the tragedy of Hamlet with the character of Hamlet left out by particular desire."

The above "query" appeared in the Philadelphia Enquirer and Daily Courier, during the absence of the editor of this Journal, and therefore the amiable editor of that paper has longer "paused for a reply" than, under other circumstances, would have been necessary.

Our readers would doubtless generally have made the same "query," if such a railroad could be found, or heard of, in this country, as "the continuous railroad between New-York and Washington," and yet not referred to or spoken of in "a journal devoted to a (that) particular science or art;" and would probably have come to the same wise conclusion, that it "acts strangely to shut its eyes to the leading information in that art." But as there is no such railroad, and as we have, at different times, and frequently, referred particularly to, and published reports and estimates of, the several parts, which, when completed, and connected, will form a "continuous line of railroad between New-York and Washington," we trust our readers, and the editor aforesaid, will excuse us for not publishing an account

of what has never been furnished us, as well as what does not exist—although it may appear "like acting the tragedy of Hamlet," minus "Hamlet,"—"by particular desire."

Seriously, however, we may say, we think, without fear of contradiction, that there are few persons who can justly accuse us of omitting any thing likely to promote the cause to which the Journal is devoted, that has fallen in our way. We have not omitted the New-Jersey, nor the Philadelphia and Trenton, nor the Camden and Amboy, nor the Philadelphia and Columbia, nor the Oxford, nor the Susquehanna, nor the Baltimore and Ohio, nor the Baltimore and Washington, railroads, which, when completed, will, most of them, if we are not mistaken, form parts of the road alluded to. If we have omitted to give any very important information relative to any one, or all of these railroads, we will thank the editor of the Enquirer to point it out to us: give us book, chapter and verse,—and if we do not then publish it, a "query" may well be put. Till then, we trust he will, "by particular desire," attend as closely to his own, as he seems inclined to keep us to our duty.

OSWEGO, UTICA, AND ALBANY SHIP CANAL.—We congratulate the friends of internal improvement in this State, upon the probability of this important work being presented in such a shape to our next Legislature, as must command for it a proper share of attention. Pursuant to a call of a committee of the citizens of Utica for a convention on the 11th of September, to consult on measures for the furtherance of the said object, a numerous and highly respectable meeting was held at Miller's Buildings on that day.

We regret that we did not receive the detailed report of the proceedings of this meeting in time for the paper of this week. They will appear, however, in our next.

We have extracted from the report the subjoined proceedings:

The meeting was organised by the appointment of the following officers—

JAMES G. KING, of New-York, Chairman.
JOHN TOWNSEND, of Albany; A. B. JOHNS-TOWN, of Utica; G. H. M'WHORTER, Oswego; AMOS TRYON, Lewistown—Vice Presidents.

J. E. BLOOMFIELD, Utica; JAMES H. BELL, New-York—Secretaries.

Delegates from numerous towns and counties, interested in the project, were admitted, and took their seats in the convention; after which, the committee appointed for the purpose reported a memorial embracing the views of the convention, both on the "Ship Canal," and its sister project, the "Canal round Niagara Falls;" and after some debate, it was on motion Resolved, That the memorial reported by the committee be adopted, subject to the provision, that so much of the memorial as relates to the 'Canal around the Falls of Niagara' be addressed to Congress; and so much of the same as refers to the Canal between Lake Ontario and the Hudson be addressed to the State Legislature.

Resolutions expressive of the sentiments of the convention were reported by the committee for that purpose, and unanimously carried.

The meeting was addressed in support of the memorial and resolutions by MESSRS. STEWART and MILLER, of Utica; BURCKLE, of Oswego; and BELL, of New-York.

The following gentlemen, residing in Utica, were appointed as a "Central Executive Committee":

HENRY SEYMOUR, J. E. BLOOMFIELD, CHAS. P. KIRKLAND, ALVAN STEWART, C. E. SHERMAN, A. B. JOHNSON, A. MUNSON, N. DEVEREAUX, R. B. MILLER.

Corresponding Committees were also appointed for the several towns and counties, represented in the convention; and, on motion, it was Resolved, That the several towns and counties interested in the proposed improvements, which have not been furnished by this meeting with a corresponding committee, be requested to organize such a committee, and notify the names thereof to the General Executive Committee at Utica.

The meeting was then adjourned sine die.

J. E. BLOOMFIELD,
JAMES H. BELL,
Secretaries.

PROVIDENCE RAILROAD.—The Citizens' Line of coaches between this city and Providence is united with the train of cars on the Providence Railroad, so that fourteen miles of the route, extending from Boston to Canton, are now travelled upon the railroad. We learn that on Saturday last the passengers from New-York, by this line, arrived in this city in three hours thirty-five minutes from the steamboat at Providence, and in thirty and a half minutes from Canton. At the same rate of travelling, the distance from Providence to Boston will be traversed, when the railroad is completed, in an hour and a half.—[Boston Daily Advertiser.]

The Ohio and Chesapeake and Pennsylvania Canals, with a few subsequent Remarks relative to Canals and Railroads in general.

To the Editor of the Railroad Journal:

As an unfavorable impression may arise in regard to the above important improvements, by reading the remarks of "Civis," in the Journal of the 16th of August, I take the liberty of giving some facts, and my views of the canals under consideration.

The Pennsylvania canal and railroad from Philadelphia to Pittsburg, at the head of steamboat navigation on the Ohio river, is about 400 miles. The Chesapeake and Ohio Canal, from Washington city to the same place, is expected to be about 350 miles. These canals must and will form the great outlet to the western trade bordering upon the great rivers of the west. The steamboat navigation to which these canals are connected is not less in extent than twelve thousand miles, and the country exhibits a population of not less than three millions of inhabitants, residing in the States of Louisiana, Mississippi, Missouri, Tennessee, Illinois, Indiana, Kentucky, Ohio, Virginia, and Pennsylvania; and from the great increase now taking place in this population, we may safely estimate the population in 1840 to four millions of inhabitants. Three hundred pounds would be a low calculation to assume as the average available tonnage from each inhabitant annually; but at this calculation, four millions of inhabitants will give an annual tonnage to the canals and other channels of commerce of 600,000 tons. Half of this tonnage must from indubitable circumstances pass through these great canals. Already have goods passed through the Pennsylvania Canal for the different States before enumerated, and circumstances indicate that, during the year of 1835, Pennsylvania will receive one million of dollars in toll from her canals; besides, being rapidly on the increase, will, as a revenue matter, outstrip the New-York canals as much as the relative proportion of population to which these canals give vent.

Already have I made it appear that 300,000 tons would necessarily pass the Pennsylvania and Ohio and Chesapeake Canals, should they be completed by the year 1840. Suppose this tonnage be equally divided betwixt those canals: 150,000 tons will pass through each, and at an average rate of \$8 per ton, for toll, will give a revenue of \$1,200,000 per annum to each, and this independent of that which will be derived from the inhabitants along those lines, which together will equal one million and a half as the revenue to each canal.

I have no doubt but two or three more years of experience on the Pennsylvania Canal will fully justify my calculations; and the Chesapeake and Ohio Canal will no longer linger for the want of funds, but capitalists will anxiously seek an investment in the stock of this company. This canal is estimated to cost about ten millions of dollars, and from the foregoing calculation, will yield, clear of all expenses, about twelve per cent. on the investment.

Thus far I have said nothing as to the relative advantages of canals and railroads. I have no disposition to disparage railroads as a means of communication; on the contrary, I consider them a valuable kind of improvement, highly beneficial in their place, and next to canals as a means of communication for the surplus products of our country, but superior to canals where travelling or speed is the great end to be gained.

I think it highly improper on the part of "Civis," who, it appears, does not understand

the situation and probable effects of some of the canals of which he makes an unwarrantable assertion, that their stock will be unprofitable,—thus to attempt to injure improvements of a highly important cast, for the mere purpose of advancing a favorite system.

Let canals first be made from the Atlantic cities to the great western waters, and then railroads will follow in their train. The State of New-York has already arrived at the time when a railroad nearly parallel with her great canal is necessary in order to insure to her the paramount advantage which nature has placed at her disposal over the lake trade.

The canal, in a comparative sense, is the draft horse, while the railroad is the horse for speed. These in conjunction form every facility for an agricultural, manufacturing, and commercial community, of which they can be possessed as a means of artificial communication. They are or ought to be co-laborers in the great cause of advancing the social intercourse, and extending more widely the blessings to be derived from a free interchange of sentiment. The advocates of canals and railroads should therefore unite their interests; it is no longer problematical as to the relative advantages of the two kinds of improvement.

Sufficient has already been done to satisfy every practical man wherein the great advantage of each improvement consists.

Yours, &c. L—.

August 26, 1834.

Internal Improvements. [From the Savannah Georgian.]

MESSRS. EDITORS.—It is understood that our fellow-citizens of the interior of the State decidedly prefer railroads to canals, and it may be that this preference is founded in good reason. If it be intended to make the communication from Savannah to Macon only, and the nature of the country and the command of water will admit, it would require but little argument however, to show that they were in error, inasmuch as canals are so much better adapted to the carriage of lumber, wood, &c.; but if this communication to Macon be but the beginning of a line of internal improvement, which, in its ramifications, is to be to the State what the veins are to the body, and finally to connect the waters of the Tennessee with those of the Savannah, then it may well be questioned whether other parts of the State admit of canals, and whether, as railroads must then be adopted, it will not be proper to begin with that system which undoubtedly will admit of indefinite extension. To the citizens of Savannah, the choice is of no importance. It is only important to them that this beginning be made with due judgment, and that the communication be speedy, safe, and cheap.

Let, then, the question, whether of railroad or canal, rest. We, of Savannah, will assent to either; and we ask our fellow-citizens not to imbibe prepossessions or prejudices to either until a report be made. The probable course of the route will be up the Ogeechee Valley to some point near the shoals of that river, and thence across the country, through the counties of Washington, Wilkinson, and Twiggs, giving to those counties, as also to the counties of Bulloch, Scriven, Emanuel, Burke, and Jefferson, an immediate access to a seaport market, not only for their cotton, grain, and other produce, but also for their immense forests of lumber, which are now comparatively valueless. From this main stem, branches to connect it with the counties of Baldwin, Hancock, Putnam, Greene, Morgan, and the counties north, may be run at an inconsiderable expense, whilst an extension of the main stem westward will ensure to the wealthy counties of Monroe, Henry, and others, the same advantages of access to the seaboard.

The supposed length of the route from Savannah to Macon is about 200 miles, and the probable cost of the work will be \$1,500,000. The interest on this sum at 8 per cent. will be

\$120,000 per annum, or at the rate of 5 per cent., at which money can be borrowed, will be \$75,000 per annum. The article of Cotton alone, brought from Macon, at a rate of trans- portage very far less than is now paid, will more than pay this interest, and keep the road or canal in repair, and the freight on other articles will, in the course of a very few years, reimburse the capital expended. The freight and expenses on a bale of cotton from Macon to Savannah, by the river, is now more than 1½ cents per lb.; for the shipper has to pay freight, insurance, and interest on the outlay during the tedious voyage, and it not unfrequently happens that damage is sustained to a very considerable extent, which is not paid by the insurer, and is a dead loss to the shipper. The consequence is, that the planter, when he brings his cotton to Macon, must be content to take 7½ cents for it, when it is actually worth on the seaboard 9 cents; or, if he gets more, then the loss falls on the merchant who buys, and who, if imprudent enough to sustain many such losses, is ruined, and, in his fall, affects the community in which he resides, and the adjacent country. But with such a route as is now contemplated, the cost of transporting cotton, including insurance and all charges, could not at most exceed ½ cent per lb., and consequently enhance the value of cotton at Macon; the difference of 1 cent the pound and if the amount of cotton sent from Macon be 100,000 bales per annum, the saving to the country, to the planter, to the citizens of Macon, would be equal to \$300,000 per annum, besides paying to the road such a rate as would amply meet its expenses.

The return-freight and other articles sent down the country would be also an important item of profit to the proprietors of the route, and of saving to the country: and corn, wheat, &c., which now rot in the hands of the producer, would find a ready market, and the seaboard of Georgia, instead of being dependent on North Carolina and Baltimore for their corn, bacon, &c., would derive its supplies from its own fellow-citizens.

Every planter and every citizen is therefore doubly interested in the accomplishment of the work. He who makes 10 bags of cotton per annum will gain every year \$30 in the sale of his cotton, and probably as much more in the purchase of his supplies: for, although some few of the lighter articles of dry goods may not be much lowered in price to him, yet in the articles of coffee, sugar, salt, &c., he will be a gainer exactly in the ratio of the difference of expense in transporting these articles to Macon, and his gain will consequently be 10 per cent. on his sales, and nearly as much more on his purchases.

The spirit of internal improvement is awakened, and a disposition to connect the interior with the seaboard is manifested. It is important that this disposition be so directed as that our State pride and our personal interests be consulted, and every consideration of home, affection, and general interest, must lead our citizens to prefer Savannah as the emporium of its trade, and to induce them to foster our own seaport, rather than that of a sister State. I trust that the subject will attract the attention of our citizens, and that they will not be so engrossed by political abstractions as to neglect that which is of so vital interest.

A GEORGIAN.

RAILROAD TO COLUMBIA.—The Edgefield, S. C., Carolinian of the 30th ult. says, "The engineers who have surveyed the route for the proposed railroad from Columbia to Branchville, have made a report, in which they state the distance between the two places to be 61 miles. The estimated cost, including engines, cars, depositories, and an allowance for all contingencies, is put down at \$553,000. The route is stated to be favorable, except one part, at which it will be necessary to have an inclined plane with stationary power."

RAILROAD INTELLIGENCE.—The following information, addressed to the President and Directors of the Georgia Railroad Company, has been placed in our hands, (says the Athens Southern Whig of the 30th ult.) and will prove interesting to the people of upper Georgia and Alabama. It is from a gentleman belonging to a committee of the Atlantic and Mississippi Railroad Company, appointed to address the people of Tennessee on the subject of the proposed railroad.

"The book of subscription will be opened on the 15th day of August, under the Atlantic and Mississippi Railroad charter, in Memphis and other places, and we are sanguine that stock will be taken liberally. Col. Long, of the engineer department, has arrived, and will, in a short time, commence his labors in making the necessary surveys, &c. A survey had been previously made as far as Bolivar, by Mr. Thompson, with estimates exhibiting the cost not exceeding \$6000 per mile."

We are also informed that there is a good prospect of the Jackson, the Mississippi, and the Atlantic Railroad Companies all uniting and bending their energies to the execution of the Mississippi and Atlantic Railroad.

Columbia Railroad.—The tolls collected on the Philadelphia and Columbia Railroad, from the 3d to the 30th of August, 1834, amounted to eight thousand eight hundred and seventy-three dollars and twenty-five cents. At this rate the tolls in a year would reach one hundred and ten thousand and ninety-one dollars and fifty-five cents; equal to the interest upon two millions two hundred thousand dollars. As it is believed that the whole cost of the road will not exceed three millions of dollars, this result cannot fail to be highly gratifying to all who take an interest in the progress of our public works. It should be remembered that only one track of the road is finished, and that is used but partially, owing to the interruptions consequent upon the prosecution of the work on the second track. It should also be remembered, that the Western trade and the Susquehanna trade have not yet been brought upon the railway; from these facts it must be apparent, that that the completion of this great work, and its use for the ends for which it is designed, will amply compensate the State for the expenditure upon it, and yield a large surplus revenue.—[Harrisburg Reporter.]

[From the Albany Argus.]

SURVEYS AND MAPS OF THE CANALS.—The Canal Board was in session during the whole of last week, and principally occupied in revising and completing the surveys and maps of the several State Canals, which have been made by HOLMES HUTCHINSON, Esq., the engineer employed for the purpose. The map of the Erie Canal makes ten volumes, embracing about fifty sheets (22 by 14 inches) in each volume. That of the Champlain Canal makes two volumes of the same size. The Oswego Canal is in one volume, and the Cayuga and Seneca and Crooked Lake Canals are in one volume. The map of the Chemung Canal, which is not entirely finished, will make one volume. There are in the whole, fifteen volumes, embracing about five hundred and fifty miles of canals and feeders. There are field notes to all the surveys, which make seven volumes for all the canals.

These maps have been compiled from the most minute and careful surveys, and embrace not only the canals and feeders, but all the lands and streams connected therewith, and which have been appropriated to the use of the State. The maps have been approved and authenticated in the manner required by article 1, title 9 of chapter 9 of the first part of the Revised Statutes, and have been filed in the Comptroller's office. Transcripts of these maps are to be made, and filed in the offices of the County Clerks in those counties through which the Canal passes.

The Canal Commissioners have also had a survey made, and maps compiled, of the contemplated improvements of the canal under the act of the last session of the legislature. A new stone aqueduct at Rochester, and a second set of locks from the Hudson river to Syracuse, and a feeder at nine mile creek, are the principal improvements to which the attention of the Commissioners has been directed. The law requires that the damages to individuals shall be appraised before possession is taken of their property, which will occasion some delay in the commencement of the contemplated improvements.

(From the forthcoming number of the Mechanics' Magazine, and Register of Inventions and Improvements.)

On the Application to the Arts of Sir H. Davy's Discovery, resulting from his Electro-Chemical Theory.

To the Editor of the Mechanics' Magazine:

SIR,—It was supposed by Sir Humphry Davy, that instead of affinity being a distinct species of attraction, two substances had a tendency to unite only in consequence of their being in opposite states of electricity. This view of affinity suggested to Sir H. a matter of very great importance—a mode of preventing metals from being acted on by oxygen. The metals are electro-positive, and oxygen electro-negative, and this is the reason, according to Davy, of an affinity existing between them. Now, if by any means the metals can be retained in an electro-negative condition, they cannot suffer oxidation, or, in common language, they cannot rust.

The importance of some mode of completely preventing oxidation must be evident to all, since the evil effects of oxygen on articles composed of metal are daily witnessed. The substance employed in rendering iron or steel electro-negative is zinc. A very small quantity of this metal applied to any article composed of iron or steel, will completely prevent the action of oxygen upon it, whether exposed to air or water. All articles of cutlery whatever, all iron, steel, or copper instruments used by mechanics, (excepting those which are exposed to fire,) all farming utensils—axes, hoes, sickles, scythes, plough-shares, chains, &c. &c. can be effectually prevented from "rusting" by the application of a very small quantity of zinc, soldered to them in any place where it could be the most conveniently done. The expense of the zinc for this purpose is exceedingly trifling. "A piece of zinc," says Dr. Turner, "as large as a pea, or the head of a small round nail, was found fully adequate to preserve 40 or 50 square inches of copper—and this wherever it was placed, whether at the top, bottom, or middle of the sheet of copper, or under whatever form it was used."—[Turner's Chemistry, p. 99. American edition.]

This brilliant discovery of Sir H. Davy's, the result of his *Electro-Chemical Theory*, was first applied to the copper sheathings of ships, which all know are very expensive, and last but a short period, in consequence of their being constantly acted on by oxygen, and the hydro-chloric acid of sea-water. The application of this discovery to the preservation of instruments composed of iron or steel was first suggested by Mr. Pepys; and delicate surgical instruments, which would be rendered useless were their cutting parts in the slightest degree oxidized, are now kept perfectly bright by the application of zinc.

One objection has been made to the application of this principle to the preservation of the copper sheathings of ships, which is, that the copper, when effectually guarded by zinc against corrosion, becomes soon covered with marine plants and animals, which the oxide and submuriate of copper, (formed on the surface of the sheathing previously to the application of the zinc,) completely prevented; and that the copper, being rendered electro-negative by the zinc, attracts substances in the opposite state con-

tained in the sea-water, such as lime and magnesia. But neither the marine plants and animals, nor the lime and magnesia, are capable of injuring the copper; they only form a coating on its surface. When we compare the endurance of these difficulties, admitting that the above objections are well founded, with the short space of time that a copper bottom lasts, and the enormous expense of renewing the copper, they appear as nothing. Besides, it is the opinion of men of science, that by a skillful adjustment of the proportions of copper and zinc, or iron, which can be used instead of zinc on copper, these objections can be completely removed. However weighty these difficulties may be, they are confined solely to the application of zinc or iron to the copper sheathings of ships; they are not made to the application of zinc to metallic instruments.

One more advantage, and perhaps the greatest of all, arising from this discovery of Davy's, is that iron can be used instead of copper on the bottoms of ships, thus vastly reducing the expense of sheathing. The zinc as effectually prevents any chemical action on the iron as on the copper, and hence one is as good for the purpose of sheathing as the other.

The numerous experiments which have been made by men of science since this discovery of Sir H. Davy, have fully established its value and importance, and it now remains for men to apply it to some useful purpose.

I am aware of no use having been made of this valuable discovery except in the preservation of ships' bottoms and surgical instruments; and why, I ask, do not mechanics avail themselves of its advantages? It cannot, I think, be possible for any well informed mechanic to be ignorant of any of the facts above stated. If any one is, it must be his own fault. Books are as "cheap as dirt," and if any mechanic will say he cannot buy a few books on science, and that he has no time to study books if he had them, he is poor indeed, and leads a slave's life. Such a man I sincerely pity. But what shall I say to those who do understand this principle—this discovery of Davy's—who do not make some application of it? Go into the workshop of the different mechanics, and see their tools undergoing constant corrosion. Go to our wharves, and see all the iron work of ships covered with rust—their anchors and chain cables covered with oxide. Go to the printing office, and see the press bed with the oxide of iron—the chases and composing sticks also covered with the same. Look at the steam engine, the most ingenious, useful, and probably the greatest of all inventions, and think whether Sir Humphry Davy's discovery could not be applied to that.

Wherein is the world benefitted by any discovery, if no application be made of it? To what purpose do we rack our brains in acquiring knowledge, if we make no use of it when obtained? People seem afraid to adopt any thing new. Any new invention or discovery, if it be ingenious, they view with delight; but the thought does not seem to occur to them whether it can be applied to any useful purpose; and if any one attempts the application of a new principle, be it what it may, there are thousands ready to laugh at him, as they did at Fulton, in his exertions to show to the world the use and

value of that machine of all machines—the *Steam Engine*.

Ships are constantly building and being coppered, without the least regard to this invaluable discovery; and why is it? Are shipbuilders and shipowners ignorant of the existence of this cheap and effectual preventive against the ravages of the elements, or have they tried it and found it ineffectual? If they have, I am not aware of it.

If any of the correspondents of the Magazine will point out any thing new on this subject, many of whom probably can, I, for one, should be highly gratified.

A.

A Novelty.—The Schooner Sarah Ann, Captain Ayres, 48 hours from Philadelphia, arrived Tuesday afternoon, via the Delaware and Raritan Canal. She has a full cargo of merchandize, consigned to A. & T. F. Cornell, and other merchants in this city.

NEW JERSEY RAIL ROAD.—This Road, as appears by an advertisement, is now open for public use, between Newark and Jersey City. We learn that a large number of passengers are daily passing over it.

[From the Long Island Farmer.]

BROOKLYN AND JAMAICA RAILROAD.—We have great pleasure in being at last authorized to state that the Brooklyn and Jamaica Railroad Company have decided to break ground on the 1st of November next. They have in furtherance of this object, directed their Engineer to advertise for contracts for grading and forming the bed of the road; and have also instructed their Committee to give notice of this fact to the owners of land through which the road is located and with whom arrangements for the purchase of the same have been made. The delay which has occurred in the prosecution of this work arose from the inability of the company to reach the East River, except upon terms deemed by them inadmissible. A proposition however was finally made to the corporation of Brooklyn, in connection with the owners of lots on Atlantic street, to open that street to the width of 100 feet, from Patchen's Dock to Parmentiers', with permission to the Company to lay their rails along the middle of the same, upon condition of their grading, paving or Macadamizing 60 feet in width of the said road. This proposition, combining as it does the interest of the railroad company, the enhanced value of lots on so wide a street, and the noble improvement of that part of the city of Brooklyn, by so spacious an avenue from the water edge to the intersection of the Jamaica and Flatbush road; offered too many substantial inducements, not to find favor with all the parties in interest. It was accordingly adopted and confirmed with great unanimity, and the immediate result is, that the work is to be commenced without delay.

COLUMBIA AND TENNESSEE RAILROAD.—In a late report of a committee of the stockholders of the Columbia and Tennessee Railroad Company, it is proposed that a general Internal Improvement Convention be held at Columbia, on the third Monday in September, inst., to take into consideration the expediency of a united effort to develop the resources of the State. The committee think it expedient to extend the road at least as far as the Cumberland Mountains eastwardly, and afford an opportunity for intersecting by branches from the various counties along the line. Raising the funds appears to present the only serious difficulty: two modes, however, for raising the requisite capital are suggested by the committee, one by inducing the State to subscribe for a part of the stock, and the other by borrowing money either on the individual responsibility of the company or through the agency and immediate responsibility of the State, the company giving a lien on individual property sufficient to secure the debt.

To promote works of public improvement it may frequently be desirable that a State should put forth a proportion of its means to aid in the advancement of such enterprise, and a State may, also, under peculiar

circumstances, be of important service to such work by using its agency in procuring foreign capital to be thus expended; but experience has abundantly proved that individual companies are more efficient when untrammelled by the interference of either the general or State governments. Let them but possess the means, and the work will be done with more energy, and at a great saving of expense.

NEW CHANNEL OF COMMERCE.—Anthracite coal, from the mines of Pennsylvania, now finds its way to this city by the Owego Railroad, Cayuga Lake and the Erie Canal. It is delivered here at \$12 per ton. When more perfect arrangements for its conveyance to the Railroad are completed, we are told it will probably cost us but \$8. The article is becoming one of importance in our market. For blast furnaces it is unrivalled in excellence; and many are introducing it, for family use, into their dwellings. Two hundred tons will probably be marketed here the present season—much of it goes west—part of which will, as heretofore, come to us via Albany.—[Buffalo Whig.]

Remarks on the Rival Claims to the Introduction of Steam Navigation. [From the London Mechanics' Magazine.]

SIR,—It must be evident to every one, that not only England, but the whole of the civilized world, is under immense obligations to the individual who first rendered steam available to the purposes of navigation. Public opinion, however, seems still to vibrate between the conflicting claims to this honor put forward by the late William Symington, Mr. Miller, of Dalswinton, (or rather by his representatives on his behalf,) and Mr. Jas. Taylor. As to those of Fulton* and Bell, they seem, according to common consent, to be wholly untenable.

We will, if you please, begin "wi' the laird" first. Mr. Miller was a man of property, possessed of an active mind, which was constantly requiring excitement. He was, therefore, always ready to enter into any experiments which promised to afford him that mental stimulus congenial to his feelings. He was, consequently, very ready to assist with his patronage young men who possessed inventive genius, or supposed that they were so blessed, and, of course, was very commonly disappointed. As he was easily induced to begin experimentalizing, he was just as apt to quit it without carrying it on to a successful result. For, although not deficient in wealth, he lacked that spirit of perseverance from which alone success can emanate.

Taylor was a tutor in this Mr. Miller's family. He had been on terms of intimacy with William Symington, when at the University of Edinburgh, and had seen a model of an improvement which Symington (though then still a very young man) had just perfected in the steam engine. In consequence, it would seem, of some mention made to Mr. Miller of Symington, (very probably by Taylor,) Mr. Miller, early in 1786, called upon Symington, who was then in the employment of, and residing with, Mr. Gilbert Meason, the manager of the Wanlock-Head Mining Company, and after conversing with him for some time, engaged him to make some experiments, for the purpose of ascertaining the practicability of propelling boats by steam. Miller himself had, previously to this, at-

* We shall shortly have something more to say on this subject. Fulton most certainly had some claims: to what extent we shall examine shortly.—[Ed. Am. M.]

tempted to move boats by means of wheels, set in action by treddles, a plan which he was compelled to abandon from the excessive fatigue it occasioned to the men employed. This scheme, by the way, had not even the charm of novelty to recommend it, for it had been practised by the Romans, who used oxen to work machinery; and also by Savary, who had, like Mr. Miller, exerted human force for that purpose.*

The biographer of Taylor, in "Chambers' Journal," states that he "attended the University of Edinburgh for several years;" that the classes selected by him were anatomy, surgery, and chemistry; and that he "pursued his studies with much assiduity and success, for at the end of his course he was prepared to enter either upon the profession of medicine or divinity"! Now, if the College Album be an authority to be confided in, Taylor matriculated for one season only, and attended the classes above mentioned for one course each. "One swallow," says the adage, "does not make a summer;" but according to Taylor's biographer, one course of lectures fully qualified him to be either a physician or a divine? I make no doubt that he was just as well qualified for the one as the other—that is, not at all. I agree with the writer in "Chambers' Journal," that his genius was excursive, and that to a very considerable extent; but I have yet to learn, that its excursions were ever attended by any beneficial result. He is said to have had a predilection for mineralogy, geology, and mechanics; but if this were true, how comes it that Taylor, being at the University where those subjects were treated upon scientifically, never availed himself of so excellent an opportunity of attending the classes in which they were taught?

The improvement of the steam engine, devised by Mr. Symington, was accomplished in 1785-1786, and it was in the spring of 1786 that Mr. Miller, as already mentioned, engaged him to carry on some experiments upon steam navigation. These were made upon the lake at Dalswinton, Mr. Miller's property, in 1788. It is asserted that Mr. Taylor remained in Edinburgh after Mr. Miller had left, to superintend castings of the parts of the engine intended to be employed in moving the boat. But if this were necessary, why did not Taylor afterwards put the engine together? If he were capable of furnishing the drawings and models by which the various parts were to be constructed, surely there could be no necessity for sending for Mr. Symington from the Lead hills, to put the different pieces properly "in situ." Mr. Miller would have been little less than mad to employ Symington in these experiments, when he had such a brilliant and inventive genius as Taylor residing under his own roof. If (as has been asserted) Taylor was the author of these experiments, where are the drawings and documents to substantiate his claim? Have they ever been seen by any person? Or, indeed, have they ever existed, except in the imagination of his partisans?

There is an account of these experiments

* Mr. Miller seems to have had a predilection or appropriating other persons' inventions to himself; or, if he had not, his friends have endeavored to do so for him, as they would willingly have us to believe that the piece of ordnance, known as the carronade, was the fruit of Mr. Miller's genius, when, in fact, it was invented by Mr. Gascoigne, one of the proprietors and managers of the Carron Iron Works, from which circumstance it derived its name.

to be found in the "Scots Magazine" for 1788, which it has been allowed was drawn up by Taylor himself. He acknowledges, in this statement, that the merit of the expense of trying the experiment was due to Mr. Miller, but that the engine used upon the occasion was the sole invention of Mr. Symington, and throughout the whole account he never introduces his own name, either directly or by implication. The notice alluded to is subjoined.*

In 1789, Taylor is represented as being located at the Carron Iron Works, for the purpose of superintending the castings of an engine of increased size, the cylinders being 18 inches in diameter. But in opposition to this, we have the affidavit of Mr. Stainton, one of the managers of these works, who states that—

"He (Taylor) was never considered capable of superintending the work; that he never furnished a single drawing or model by which the work might be forwarded; but that, on the contrary, Mr. Symington was looked up to as being the person to whom all the necessary inquiries for the completion of the engine were to be addressed; and that, so far from considering Taylor as a principal, he was rather looked upon as a spy, appointed by Miller to watch Symington's conduct, that he did not waste too much of his time upon some experiments he was conducting at the same moment for the Wanlock-Head Company."

The experiments with the new engine succeeded entirely; but when it had arrived at that point, that by a little more exertion it might have been perfected, Mr. Miller's excitement was over. He had been bitten by an agricultural mania, dismantled the steamboat, and left steam navigation to be promoted by other hands.

In 1801 and 1802 Mr. Symington renewed his experiments under the patronage of Lord Dundas, that nobleman having purposely gone down from London to engage him. He continued them until 1803, when he completed a steam tug, which towed two merchant vessels 19½ miles upon the Forth and Clyde canal, against the wind, in the presence of many spectators. Mr. Symington took out a patent in the usual way for the protection of his invention in 1801; and this fact must dispose of the charge of his having practised any concealment or secrecy with regard to the matter.

A letter has been published, from Mr. Symington to Taylor, in which the former promises to make over half the profits of the invention to the latter. This originated, I am told, in a representation made by Taylor, that he was possessed of considerable influence amongst noblemen and members of parliament, through whose intercession a parliamentary grant might be obtained. But even supposing Mr. Symington was not en-

titled to the honor of being the first applicer of steam to the purposes of navigation, Taylor, from his own showing, and from that of his friend, must have still less claim; for he states, that he (Taylor) called upon Mr. Miller, and endeavored to persuade him to secure the right to the invention by a patent. If it was Miller's invention, Taylor's regretting his own incapability of securing the right by patent is an absurdity.

Taylor's real friends cannot be much obliged to Mr. Chambers for his biography, for it certainly exhibits him in any thing but an amiable point of view. We find him, in the first place, acting as a spy upon his intimate friend Symington, and afterwards engaging in a secret correspondence with his patron Mr. Miller's most intimate friends, for the purpose of robbing him of the fruits of his experiments, by taking them away to a foreign country; and this he did after having vainly endeavored to make Miller as dishonest as he wished to be, in taking out a patent to secure to himself the profits of another man's genius.

If Mr. Symington had not expended his private fortune previously to 1815, and which he did in experimentalizing, there would not have been any occasion for this letter, as there would have then been ample legal proof on record of the originality of his invention. I am, sir, yours obediently,

CH.

London, May 28, 1834.

[We have great pleasure in inserting the preceding communication, because, though it contains little that is new on the subject of Mr. Symington's claims, and puts some points less forcibly than has been already done in our pages, (see particularly vol. xix. p. 121,) it is the spontaneous production of a physician who holds a high place in public opinion, and serves to show these claims are gaining ground among those enlightened and reflecting classes of the community with whom the decision of all such matters must ultimately rest. We feel persuaded that the time is now but little distant, when we shall have to congratulate the family of Mr. Symington on the complete and triumphant recognition of his title to be regarded as the first person who practically demonstrated the immense benefits to be derived from the application of steam power to navigation.—Ed. Lond. M. M.]

[From the (Boston) People's Magazine]

TATTOOING.—How few nations there are who do not retain something of the savage custom of mutilating or disfiguring the human face, under the frivolous idea of improving its appearance, either for peace or war! How small the number of individuals, even in a Christian country, who have come fully into the belief—practically—that the "face divine" best answers the purposes of Him who forms it, when it best preserves its originality!

That the American Indians and other savage nations—children in the universal family—that they whose animality has not yet been so far removed by intellectual and moral cultivation as to change the darkened surface to a brighter hue, should paint and patch the face, or hang jewels in their lips or ears, or beads and curls in other positions, is not so much to be wondered at. Nor is it surprising that those who are conscious of criminality in any of its more prominent forms, and yet retain a few straggling remains of conscientiousness,—for

"The man who blushes is not quite a brute,"—

should labor to hide their faces, in the hope of hiding their guilt or their shame. But why a mind and heart conscious of none but the most upright intentions, and guilty of no wrong conduct—we mean to a fellow being merely—should submit to be thus deformed and disgraced, is a question more difficult of solution.

The modes of tattooing differ among the different tribes of North America; but in all they are deemed a preparation for war. In some instances the object is to give them a more hideous appearance as enemies, and that fashion and those forms which best accomplish this leading object, would of course be most likely to find favor. But in others, it is regarded as a mark of mourning; and in others, still, it is designed for neither purpose. The women even, in some instances, have been known to tattoo themselves.

But the practice is by no means confined to the savages of America; it prevails in other countries. It appears to have existed, also, in the ancient world. Moses, in the xix chapter of Leviticus, forbids the practice among the Israelites, which indicates its prevalence among the surrounding nations. It prevailed, according to Herodotus, among the Thracians; and other authors mention it as a common thing among the Scythians, the Assyrians, and even the ancient Britons. But nowhere, perhaps, has it been carried to a higher pitch of perfection than in New Zealand.

A traveller who submitted to this singular and barbarous rite, as practised by the people of New Zealand, thus describes it. He omits to state one thing, however, which is that before the cutting is begun, they trace, with a piece of burnt stick or red earth the intended figure.

"The whole of the natives having seated themselves on the ground in a ring, we were brought into the middle, and being stripped of our clothes, and laid on our backs, we were each of us held down by five or six men, while two others commenced the operation of tattooing us. Having taken a piece of charcoal, and rubbed it upon a stone with a little water until they had produced a thickish liquid, they then dipped into it an instrument made of bone, having a sharp edge like a chisel, and sharpened in the fashion of a garden hoe, and immediately applied it to the skin, striking it twice or thrice with a small piece of wood. This made it cut into the flesh as a knife would have done, and caused a good deal of blood to flow, which they kept wiping off with the side of the hand, in order to see if the impression was sufficiently clear. When it was not, they applied the bone a second time to the same place.—They employed, however, various instruments in the course of the operation; one which they sometimes used being made of a shark's tooth, and another having teeth like a saw. They had them also of different sizes, to suit the different parts of the work.

"While I was undergoing this operation, although the pain was most acute, I never either moved or uttered a sound; but my comrades moaned dreadfully. Although the operators were very quick and dexterous, I was four hours under their hands; and during the operation, the chief's eldest daughter several times wiped the blood from off my face with some dressed flax. After it was over she led me to the river, that I might wash myself, (for it had made me completely blind,) and then conducted me to a great fire. They now returned us all our clothes, with the exception of our shirts, which they kept for themselves, wearing them, as we observed, with the fronts behind.

We were now not only tattooed, but what they called *tabooed*, the meaning of which is, made sacred, or forbidden to touch any provisions of any kind with our hands. This state of things lasted for three days, during which time we were fed by the daughters of the chiefs, with the same victuals, and of the same baskets, as the chiefs themselves, and the persons who had tattooed us. In three days, the swelling which had been produced by the operation had greatly subsided, and I began to recover my sight; but it was six weeks before I was completely well. I had no medical assistance of any kind during my illness; but the Chief's two daughters were very attentive to me."

The New Zealanders appear to possess an art which comes very near the ancient Egyptian art of embalming. We have seen the embalmed head of one of their chiefs, which, except that the brains were removed, was in a state of entire preservation; and the features were less shrunk and flattened than one would have supposed. The face was tattooed, though not in exactly the same style as that of Tupai Cupa. Several of the embalmed heads have, within a few years, been exhibited in this country.

"I heard of an animal called 'Rass' by the Kirgizzies, and 'Kooshgar' by the natives of the low countries; which is described as peculiar to Pamere. It is larger than a cow, and less than a horse; of a white color, with pendent hair under its chin, and crowned with horns of huge dimensions. These are described to be so large that no one man can lift a pair of them; and, when left on the ground, the small foxes of the country bring forth their young inside them. The flesh of the 'Rass' is much prized by the Kirgizzies, who hunt and shoot it with arrows. This animal is said to delight in the coldest climate; and would appear, from its beard, to be of the goat species, or, perhaps, the bison. A common-sized 'Rass' will require two horses to bear its flesh from the field."—[Burnes' Travels.]

* "On October 14 a boat was put in motion by a steam engine, upon Mr. Miller of Dalwinton's piece of water at that place. That gentleman's improvements in naval affairs are well known to the public. For some time past his attention has been turned to the application of the steam engine to the purposes of navigation. He has now accomplished, and evidently shown to the world, the practicability of this by executing it upon a small scale. A vessel 25 feet long and 7 broad was on the above date driven with two wheels by a small engine. It answered Mr. Miller's expectations fully, and afforded great pleasure to the spectators. The success of this experiment is no small accession to the public. Its utility in canals, and all inland navigation, points it out to be of the greatest advantage, not only to this island, but to many other nations of the world. The engine used is Mr. Symington's new patent engine."—[Scots Magazine, Nov. 1788, p. 566.]

AGRICULTURE, &c.

[From the New York Farmer.]

SELECTING SEED.—This is the season for the farmer and gardener to select seed for the fall and spring crops. The fairest and the best seeds should be selected; and to accomplish this, the utmost pains should be taken. For sowing and planting, seeds should be well ripened. Joseph Cooper, Esq., of New-Brunswick, New-Jersey, gives the following directions for corn.

"When the first ears are ripe enough for seed, gather a sufficient quantity for early corn or replanting; and at the time you would wish your corn to be ripe generally, gather a sufficient quantity for planting the next year, having a particular care to take it from stalks which are large at bottom, of a regular taper, not over tall, the ears set low, and containing the greatest number of good sizable ears of the best quality; let it dry speedily; and from the corn gathered as last described, plant your main crop, and if any hills should be missing, replant from that which was first gathered, which will cause the crop to ripen more regularly than is common, which is a great benefit. The above mentioned I have practised many years, and am satisfied it has increased the quantity and improved the quality of my crops beyond what any person would imagine who had not tried the experiment."

APPLICATION OF PLASTER OF PARIS.—As I find many opinions in your publication about the quantity of plaster to be used upon an acre of land, let me say how I have used it. I have applied it every month in the year, varying the application from one to ten bushels per acre. Ten was injurious—one not enough. The best mode of using it is from one to two bushels in September or October, and the same in April or May. The whole amount at either season will not do so well; yet, in either way, a young farmer might be excused if he lost sight of his land marks, and became doubtful of being upon his own old naked farm.—[Farmers' Register.]

The use of gypsum in Connecticut and New-Jersey, near the salt water, is increasing. We fully believe that experience and science will make it a common manure on Long Island.

To the Editor of the Farmers' Register.

EFFECTS OF GYPSUM NEAR SALT WATER.—It has frequently been asserted and generally believed, that plaster of Paris, or gypsum, would not answer as a fertilizer of soils situated on salt water, or within the influence of saline atmosphere. From an experiment made by me this spring, with plaster on clover, I am convinced of its powerful effect as a manure on soil under the influence of salt water.

On the 5th of March last, I had plaster strewed on alternate lands, ten feet wide, leaving the intermediate lands unplastered. When the gypsum was applied, the clover had sprung, some of it three or four inches high. The plaster was directed to be strewed at the rate of a bushel to the acre, but from the appearance of it on the land immediately after, I thought it was less, and not sufficient in quantity to do any good, even if the soil were congenial to it. I have been, however, not only disappointed, but agreeably surprised, by the heavy growth of clover, where the plaster was applied; whereas in the lands not plastered, it was indifferent.

From the deep verdant color on the lands which had been plastered, contrasted with the unplastered part, the ground had the appearance of having been mowed every other land. These effects were only visible where the soil was well taken in clover. In some portions of the ground, it had been exhausted, or eaten

out by other grasses, it having been in clover three years. On the other grasses which the soil had spontaneously thrown up, I saw no effect produced by the gypsum.

A neighbor, who saw my clover, assures me he never saw so great effect produced by plaster in the county of Frederick, where he resided for some years, and where plaster acts as powerfully as in any part of Virginia.

The land which was the subject of this experiment is distant about a mile from the Rappahannock, where the water is salt, and on the first range of hills above the river low grounds. It is a fertile clay, well adapted to wheat and corn, and capable of producing good crops of either. It has no appearance of being naturally calcareous, nor have calcareous manures been applied to it. I observed in some part of the land, where stable manure had many years ago been abundantly applied, and where the clover was very luxuriant, that the difference between the plastered and unplastered lands was slight; though in these spots there was a difference in the color of the clover. This reminded me of the theory of Sir H. Davy, that probably plaster may be supplied to some soils in sufficient quantities, in manures which contain it. I could upon no other principle account for its want of efficacy in these particular places, than by supposing the soil to have been sufficiently supplied with gypsum, chemically combined with stable manure.

May it not be very questionable as to the effect which saline atmosphere has upon gypsum? *Has it any?* It is advantageously used in some parts of England very near the sea, as for instance in Kent; whereas, it has been found of no service in some situations more remote from the coast. If salt air had the effect of neutralising plaster, would it act any where in Kent? We should say not, when we remember it has been said that the spray of the ocean has been carried, in violent storms, fifty miles from the coast.

Though Davy was not a practical agriculturist, yet his opinions in all that belongs to chemistry, directly or indirectly, deserves weight. He says, "the reason why gypsum is not generally efficacious, is probably because most cultivated soils contain it in sufficient quantities." He found gypsum in the soil of Norfolk, Middlesex, and Essex. Lord Dundas informed him, that having tried gypsum without any effect on his estates in Yorkshire, he had the soils examined, when it was found in both of them.

It is not my present purpose to examine into the "cui," or "quò modo" of the efficacy of plaster, but to assert the fact of its effect upon my own land on the Rappahannock.

Should the attention of our landholders in this region of country be called to the use of plaster, and if it be found to act as I am persuaded it will, it may be added to the long list of manures within the reach of almost every farmer in this section of country, such as marl, sea grass, &c. which, if judiciously and perseveringly used, would render agriculture,

* Since the above was written I have accidentally turned to your "Essay on Calcareous Manures," where you say, page 143, "It is well known that gypsum has failed entirely, as a manure, on nearly all the land on which it has been tried in the tide-water district, and we may learn from various publications, that as little general success has been met with along the Atlantic coast as far north as Long Island. To account for this general failure of a manure, some one offered a reason which was received without examination, and which is still considered by many as sufficient, viz. that the influence of salt vapors destroyed the power of gypsum on and near the sea coast." Who this "some one" was, I should like to know; and whether he came to his conclusion by actual experiment or by bold conjecture.

The opinion referred to by our correspondent, certainly was not founded on experiment, and probably had no better support than "bold conjecture." We believe that it will be found stated (and with approbation) by Mr. Livingston, in the appendix to the article *Agriculture*, in the American edition of the *Edinburgh Encyclopedia*; but as we have not that volume at hand, it is possible that we may be mistaken.

with us, one of the most certain and profitable pursuits of life.

R. W. C.

Richmond county, June 17, 1834.

AGRICULTURE IN BAVARIA—ITS IMPROVEMENT BY THE POLICY OF GOVERNMENT.

The following article deserves general consideration:

Bavarian agriculture, previously to the first French revolution, was, according to all accounts, less advanced than that of any other state in Germany, and, indeed, remained stationary for ages. By far the greater part of the land in cultivation was the property of the religious establishments; and the capital, Munich, was, as the German name (Munchin) implies, the city of monks. When, however, the estates of the religious establishments were sold, they were chiefly divided into lots so small, that almost every individual who was head of a family became a purchaser. These purchases were made at very low prices, on long credits; and a very great number of them, perhaps the greater number, were agreed to be paid for by the occupant in a terminable annuity: that is, he paid a fixed rent for a certain number of years, after which the land became his own freehold. The laborers who had thus become proprietors, had, for the most part, previously cultivated the same lands for the religious establishments, and, therefore, the external change was at first hardly apparent. Every estate, however, abounding in timber and stone for building, and a great part of the country being on a basis of lime stone, rock, or limestone gravel, facilities were readily afforded for a laborer to enlarge his cottage, and to add to it the necessary agricultural buildings. Scarcely any outlay was required from him but labor, and, as the produce was entirely for his own benefit and for that of his family, his exertions were extraordinary. By degrees, cottage-dwellings, of a somewhat improved description, and small farm-houses and farmeries, appeared in those parts of the country where the soil was richest; not, however, detached, as in Britain, but chiefly congregated together in small villages. The system of culture did not, at first, improve as a system; but the common operations of the established practice being more carefully performed, better crops were produced. Ultimately, however, the system became improved, in consequence of the operation of the national education that was established when the monasteries were put down, and by the teaching of agriculture and gardening, both by books and examples, in these schools. One of the first consequences was an improved rotation of crops. Almost the whole of the details of agricultural improvement in Bavaria have originated with M. Hazzzi, an agricultural writer, and editor of an agricultural journal in Munich. The activity and patriotic benevolence of this gentleman are beyond all praise. It was chiefly through his exertions that a piece of ground was added to every parochial school in Bavaria, to be cultivated by the scholars in their leisure hours, under the direction of the master. In these schools, Hazzzi's Catechism of Gardening, of Agriculture, of Domestic Economy and Cookery, of Forest Culture, of Orchard Culture, and others, all small 12mo volumes, with wood cuts, sold at about 4d. each, are taught to all the boys, and those of gardening, the management of silk worms, and domestic economy, to the girls. Since these schools have come into action, an entirely new generation of cultivators has arisen, and the consequence is, that agriculture in Bavaria, and especially what may be called cottage agriculture and economy, is, as far as we are able to judge, carried to a higher degree of perfection than it is any where else in the central states of Germany; at all events, we can affirm that we never saw finer crops of drilled Swedish and common turnips, or finer surfaces of young clovers, than we observed along the roadsides in October and November, 1835. The fences, also, were gene-

rally in perfect order, and a degree of neatness appeared about the cottages which is far from common either in France or Germany. These remarks are not the result of observations made, as is frequently the case, from the cabriolet of a public diligence, but from deliberate inspection, and from entering many of the cottages and schools. To enable us to do this, we travelled, every where in Germany, in a private carriage, and never in the dark. We had also, as we have before stated, the advantage, while in Munich, of constant intercourse with M. Hazzi, M. Sckell, and other members of the agricultural society; with the chief engineer, Baader, who had been many years in Scotland; with Baron Eichthal, the proprietor of a large estate, on which he has introduced the Scotch husbandry, and with whom we were acquainted in London; and with his very intelligent tenant, an East Lothian farmer. The result of the whole of the information procured and of the observations made, is, that we think that the inhabitants of Bavaria promise soon to be, if they are not already, among the happiest people in Germany. The climate of the country will prevent its agriculture and gardening from advancing beyond a certain point, but to that point both will very soon be carried.

So desirous is the government of improving not only the agriculture, but even the face of the country, that they have a standing commission, consisting of counsellors, engineers, architects, and the landscape gardener Sckell, solely for the purpose of devising improvements in the direction of public roads, canals, bridges, public buildings, and gardens, national forests, but, above all, for lining the public roads with trees. These trees are, in some places, in the suburbs of towns, chiefly ornamental; in others they are fruit trees, or mulberry trees cultivated for the silk worm, (a catechism on the management of which is also published by M. Hazzi;) and, where nothing more profitable or ornamental will grow, forest trees. An extraordinary degree of attention is paid to the mile-stones, and to the guide-posts, neither of which are wanting on any road. The guide-posts are generally painted black with the letters in white or red, the black contrasting better with the snow, which, in some parts of the country, covers the ground for six months in every year. Some of the mile-stones have a bench of stone, forming a plinth or base around them, as a seat; others, where stone is not so plentiful, have a semi-circular area of turf around them, bounded by a bench of the same material, as a seat, and planted behind with poplars or other trees. The neatness with which these turf benches, and the ditches or other fences, and also the grass margins by the sides of the roads, are kept, far surpasses any thing of the kind which we have ever seen in Britain. With us, if any thing of this kind is met with in the public roads, it is chiefly the result of accident, either in the situation or circumstances of the road; or arises from the appointment of a road surveyor, who happens to have at once some taste, and more than ordinary facilities for displaying it. In Bavaria the whole is the result of design and system, the entire management of the roads being in the hands of the government. The same ought certainly to be the case in this country; for, otherwise, it is utterly impossible to adopt one general system of improvement.—[Weekly Dispatch.]

HOGS—MACKAY BREED.—In commencing the business of a stock-breeding establishment, it was determined to spare neither pains nor expense, within the bounds of reason and sound discretion, to make the establishment as complete as could be done with the limited means at our command. It is a decided aphorism in the breeding department, that different kinds of stock, and animals of the same kind, but possessing different qualities, forming varieties, are best adapted to different locations, and different views of farmers.

It therefore becomes necessary, in order to

answer all the purposes intended by such an establishment as we are desirous of rearing up, to possess all the best and most approved varieties of the several breeds, with which the superior art of breeding has lately enriched Europe and our own country.

In the prosecution of this desirable end, we have added to our stock of improved breeds of hogs another superb variety, called the *Mackay breed*. The history of these fine animals is given us by the gentleman from whom they were purchased. He says, "I purchased the hogs of Capt. John Mackay, of Boston—they are what is called the *Mackay breed*. The competition for the premium on swine, at the Brighton and Concord shows, has been of late years chiefly between this breed and the Bedfords. Capt. Mackay himself has taken on his breed over \$200 at the shows in the last six years.

"When Capt. M. followed the sea, he made it a rule to purchase pigs, when he saw those of peculiar good quality, in whatever part of the world they might be, and brought them home to his farm in Weston, near Boston. After he left the sea, he became engaged in rural pursuits, and resolved to see what he could do by crossing his various races of swine, which he had collected on his farm. By perseverance, directed by good judgment, he at length obtained what he calls a *distinct breed*, to which the public have affixed his name; and which, for aptitude to fatten at any age, large size, &c. are perhaps unrivalled. Capt. Mackay has now quit breeding swine, having sold out his stock.

"The specific characteristics of this breed are, head short and small; chest very broad; back tolerably broad, rather falling below, than rising above a straight line; gammons large; legs very short and tolerably small; constitutions not so hardy as the Bedford, but dispositions more easy and peaceable."

MANUFACTURING CIDER.—The scarcity of apples makes it unnecessary for us to say much on the subject the present season; still it is very important to have cider of the very best quality. The following, from the Transactions of the Essex County Agricultural Society, of Massachusetts, contains the important directions.

The cider exhibited by Mr. Kimball was of a high order of excellence. It was clear, sprightly, of good color, and of excellent flavor. Mr. Kimball furnished the committee with a particular statement of the manner of making and preserving the cider. By this statement it appears the cider was made about the 20th November, 1832, with eight or nine other barrels, all of which were much alike, and that it is the pure juice of the apple, without any other mixture or ingredient whatever. The fruit was well assorted, and consisted principally of the green sweeting, the baldwin and the pippin apples, and was ground the night before pressing. Particular care was taken in straining the cider, that the straw should be clean and closely packed. The cider remained out of the cellar three or four days after it was made, the weather not being very cold. It was put into new strong casks, and but little air admitted during the winter. It was drawn off the first of April, and put into the same casks after they had been cleansed with water, and a brimstone match. All the cider was sold, with the exception of two barrels, in June and July. The barrel presented for premium was wrapped in woollen blankets by the middle of June. About the middle of August Mr. Kimball sold the barrel of cider not wrapped in blankets, and at this time there was no perceptible difference between

the two barrels, except that the one wrapped in blankets was colder than the other. The cellar of Mr. Kimball is of a dry sandy nature, and by the first of July generally gets warm, but he is not sure that cider changes any sooner in such a cellar. Mr. Kimball remarks, that although there may be a difference in cellars in regard to keeping cider, yet his own experience has taught him that the grand essentials in making good cider are good fruit well assorted and in a proper state of ripeness, with clean sweet casks, and proper attention to the admission of air.

MARL IN MARYLAND.—Under the head of "Good News for the Lower Counties," the Editor of the Baltimore Farmer says,

Dr. Ducatel visited our office a few days ago, on his return from his geological survey of the Eastern Shore and Lower Counties of Maryland. He informs us that he has discovered marl in great abundance on the banks of rivers in Calvert and Charles counties, and on the Eastern Shore. If this discovery is turned to its proper use by the farmers, who have it in their neighborhood, it will be of much more value to the country than the gold mines of Georgia and other states, where that mineral has been found, will ever be. If this marl should turn out to be as beneficial to the soil as that with which we have been acquainted for the last fifteen years in the state of New-Jersey, it will, if properly applied, quadruple the value of their land in five years.

There is great variety in the quality of marl; some abounds with undecomposed shell, so as to require burning, and will be little different in its effects from the hydrate of lime; marl of other kinds is composed of disintegrated shells, which have been decomposed by some acid supplied by the earth, and where this acid is the sulphurous, the marl is essentially the same as plaster of paris.

We have known an experiment with the Jersey marl on potatoes—A piece of ground was selected for the purpose; one portion was planted without manure, another with the usual quantity of stable manure, and a third with marl—It is many years ago, and the quantity yielded is not now recollected, but the size of the potatoes in the different experiments is quite fresh in our recollection. Those without manure were little larger than hickory nuts; those with the manure were tolerably fair potatoes, about the usual size; those produced by the marl were very large, and one being weighed reached the weight of 1 lb. 4 oz.

The best way decidedly of using this marl is as a top-dressing on clover, and then turning in the sward while the grass roots are still full of sap.

We have known land that would produce nothing but the poorest pasture, after a dressing with ten cart loads of marl to the acre, produce the following season one and an half tons of hay.

Dr. Ducatel has promised us specimens of the different kinds of marl he has discovered, and we have taken measures to obtain some specimens of the Jersey marl beds, that we may by comparison determine their similarity.

CATTLE.—Stalled oxen, as they grow fat, being naturally very hot, can scarcely be kept too cool, provided they are dry. Lean cattle can scarcely be kept too warm.—[Lisle.]

SOAP MAKING.—This is a process in which many of our good house-wives experience much trouble and vexation. This arises from their not being sufficiently acquainted with the simple and compound substances which they employ.

When a solution of potash or ley is deprived of carbonic acid, or rendered caustic, it readily combines with animal fat, and forms the compound called soft soap. When both the ingredients are in proper condition, there is no difficulty in making soap.

As soap for the use of farmers' families is more commonly prepared by leaching the ashes, which have been made during winter, we will give such short directions as will enable all house-keepers to make a good article with little trouble.

A barrel with one head is most commonly made use of as a leach; into this, when placed at a suitable height on a board, should be put one peck of fresh burnt slacked lime, and the barrel filled with ashes. Water should be put upon the top, and allowed to filter through until the most of the potash contained in them has been separated. The object in putting the lime at the bottom of the cask, is, that the ley may pass through it, and deprive it of any carbonic acid it may contain, and which would prevent it from combining with the grease and forming soap. When potash is saturated with carbonic acid, it forms pearl-ash or sal-æteratus, which will not combine with grease; but as lime has a stronger affinity for the carbonic acid than the potash has, it will retain it when leached through it, and allow the potash or ley to run off in its caustic state.

Another cause of failures in soap making is the quantity of salt that is often mixed with the grease; this should be carefully separated by boiling it in a kettle with a quantity of water, by which means the salt will unite with the water, and leave the grease in a proper condition for mixing with the ley. When there is care to free the ley from acid, and the grease from salt, fine soap may be made at the rate of a barrel to every fifteen or twenty pounds of grease.

The strength of the ley, to combine readily, should be such as to float a new-laid hen's egg; and all that runs after it is of that strength, should either be reserved and put upon the next leach full of ashes, or boiled down until it acquires the specific gravity required.

In order to have soap as mild as possible, there should be as much grease added as the ley will dissolve, in which case the soap will be smooth and salve like, and sooner be convenient for washing than when it is hard or liver like, which last is made by adding about an equal quantity of water to well made soap, and is what the soap-makers call sophisticating it.

Those who would make hard or bar soap for family use, can do it by appropriating a suitable portion of clean made soft soap, into which, while boiling, they should add by degrees common salt, until it undergoes a change or curdles; after which they should allow it to cool, when the hard soap will be upon the top; this may be taken off, and the bottom cleaned from those impurities which will be found adhering to it; cut it into bars for drying, or it may be put into the kettle again with a very little water, and again heated and allowed to cool as before, when it will have become more uniform.

THE WEATHER.—From the valuable table kept by Mr. McAllister, Optician, we have ascertained the following facts in relation to the heat in this city for the last ten years, during the months of June, July, and August. It may hereafter serve as a good table of reference.

The same thermometer, placed in the same situation, and in the shade, has been used during the whole period of time.

The day selected in each month has been that on which the thermometer stood highest at noon, at which hour the record was made.

1824	June 7th	97
	July 2d	95½
	August 9th	90
1825	June 21st	100
	July 22d	100
	August 15th	94½
1826	June 3d	94½
	July 13th	95½
	August 2d	90½
1827	June 20th	90
	July 3d	96½
	August 6th	99
1828	June 28th	96½
	July 24 & 25 each	95½
	August 1st	96
1829	June 20th	92½
	July 23d	96½
	August 14th	92½
1830	June 16th	93
	July 27th	97
	August 16th	94
1831	June 3d	96
	July 23d	96½
	August 17th	93½
1832	June 25 & 26 each	91½
	July 7th	93
	August 7th	93½
1833	June 15th	90
	July 22d	94
	August 14th	89
1834	June 7th	91½
	June 10th	96
	July 8th	98
	July 9th	98½
	July 16th	98
	July 24th	99
	July 26th	97½
	August 5th	95½

Average Heat of each month for ten years.

	June.	July.	August.
1824	81.3	86.2	79.8
1825	84.6	88.7	81.7
1826	82.5	85.4	82.7
1827	80.2	86.3	84.5
1828	87.0	87.1	85.8
1829	80.1	84.1	83.3
1830	80.3	87.9	83.0
1831	85.6	86.9	85.4
1832	80.3	84.9	82.7
1833	77.0	83.7	81.1
1834	81.4	89.5	

On Thursday, the 8th of July, between one and two o'clock, the thermometer rose to 100½. On Tuesday, August 5, at half-past one o'clock, it stood 100½ degrees, being the warmest day this season.—[Phil. Herald.]

NEW IMPROVEMENT IN WASHING MACHINES.—One would suppose that Yankee ingenuity had become well nigh exhausted upon washing machines: but we have lately examined a new invention, or rather a modification of an old system, by Mr. James Pullen, of China. His plan is upon the common fluted washboard, but his flutings are made of sheets of copper, zinc, tin—or they may be made of glass, earthen, or similar durable and smooth substances. These sheets or substances are fastened to boards, and used as such boards are commonly used. Now where's the improvement?—1st, In durability. 2d, In its smoothness. And 3d, Ease in performing the operation of rubbing.

A common washboard does not last long—it soon gets rough, of course wears out the clothes and makes harder work; they get warped and split, are then patched up with shingle nails, which get rusty, and make a rickety, weak concern; the women scold, and the poor husband has to march off and buy a new one. The metallic rubber will last a long life time, if a little care be taken in drying it after using; for when worn a little on one side it may be turned and worn on the opposite side, and in the contrary direction.

We like the simplicity of the concern. Our washing machines have been too complicated. The inventors seem to have considered it necessary to show their skill in combining the greatest number of mechanical modifications in one piece; and the greater the array of cog-wheels, cranks and rollers, the more ingenious has the machine been considered, and the more likely to do its duty without hands. Disappointment has of course followed. This improvement is simple, and promises no more than it can perform. It does not promise to indulge idleness, and to do away the labor of washing; but to lighten and facilitate that labor, and render it a pleasure, rather than a dreaded task. Mr. Pullen has left one of them at our office for the inspection of those who wish to examine it.—[Maine Farmer.]

NORCROSS' DIVING APPARATUS.—Mr. L. Norcross, of Dixfield, gave us, last week, an interesting exhibition of his apparatus, which enables one to go under water and remain as long as he pleases, in search of any articles at the bottom; and then come up neither wet nor drowned. This is effected by means of a dress of cloth saturated with India rubber, which is put over the body, covering all parts. A large helmet of lead is put over the head, which rests upon the shoulders, and is made tight with the dress. Glass is put in front of the helmet to see through, and two tubes affixed to the top, through which the air circulates. These tubes are of India rubber cloth or hose, and must of course be long enough to reach from the bottom above the water. To one of them is attached a forcing pump through which air is propelled by some one at the surface; the other lets the air escape, so that there is a constant circulation of fresh air. Mr. Norcross has adopted a peculiarly simple mode of obviating the great pressure of the water in preventing this circulation. A small portion of tube for the escape or return of the air is made of leather, and the pressure of the water of course flattens or shuts it together, and thus keeps the air in until the forcing pump throws in sufficient to overcome this pressure, when it passes out. This part then acts as a valve. The person therefore is enclosed in an atmosphere, and can breathe, though covered over by the "vasty deep," nearly as well as in the atmosphere. We are aware that many plans have been devised for descending into the water for the purpose of carrying on operations below the surface, but we think this plan an improvement.

Mr. Norcross also invented the process of preparing the India rubber which he puts on: this may or may not be the same preparation which has heretofore been used; but as those who have used it keep it a secret, credit is not the less due to him for discovering the mode used. As he has spent much time and money in bringing his invention into practical use, and been subject to much trouble for want of suitable assistance, we hope that he will ultimately be well rewarded for his ingenuity.—[Maine Farmer.]

Launch.—At Centreville, Barnstable, 9th instant, a fine schooner of 88 tons was launched, called the "Banner," intended for the Albany and Boston trade, commanded by Capt. Edward Lewis, Jr. She was built by Mr. Jona. Kelly, and is the fourteenth vessel launched from his yard within a few years.

THE INDIAN WAR.

To the Editors of the National Intelligencer.

As every thing from the Dragoons and the Far West is peculiarly interesting at this moment, I have taken the liberty to send some remarks, based on a letter I received yesterday from a gentleman at Fort Smith, Arkansas, in whose statements every reliance may be placed. The letter is dated the 8th ultimo, and states that a gentleman had reached Fort Smith, from Towson, the day before he wrote, who had been employed as a citizen-physician to accompany the Dragoons, and that he had been compelled to return on account of ill health.

Gen. Leavenworth was following on to overtake Col. Dodge, when he was taken sick, and died in the "Cross Timbers." He was brought back, and buried at Capt. Bean's Camp, on Red River, about five miles above the False Washita.

Sickness had spread, and was spreading to an alarming degree, amongst the Dragoons—more than fifty had been taken sick of a day, and also many of the officers. The disease is the bilious remittent fever of the country.

Col. Dodge had left all his sick at Capt. Bean's camp, and pushed on with about one half of his command; and had not been heard from since the day after he marched.

The letter further states, that the Pawnees are most constantly in the vicinity of Bean's camp. One night the horses became frightened, and 150 were lost, there not being men sufficient to pursue them; in fact barely enough to nurse the sick.

I feel very anxious for the company. I have had some little experience in the hardships of the wilderness of that country; but with all our hardships and sufferings we enjoyed fine health.

We may calculate very fairly, that the same cause inducing sickness in those first attacked will still continue, and extend to those under Colonel Dodge's command; and every step he advances West will only increase his difficulties. It is impossible to keep their horses staked up, as the only dependence for a scanty support is found in the prairies; and frequently grass is very scarce where Buffaloes are, or have recently been. I have seen extensive prairies looking like eaten out pasture grounds.

The Pawnees will not dare to attack, even fifty well appointed men in fair conflict. They play a surer game than that. The finest horsemen in the world, and mounted on their hardy steeds, the genuine descendants of the famous Andalusian race, they hover on their flanks; drive the game from your front; cut off any stragglers in your rear; and by some of their numerous, and adroit manœuvres, alarm your horses at night, and scatter them over the prairies; as was the case of Capt. Bean's camp.

The "Cross Timbers" above alluded to, is a belt of timber, of irregular width, varying between ten and twenty miles; stretching North and South, between the Arkansas and Red River. Fort Townson is nearly South of Fort Gibson; and taking a Westerly course from that line, about one hundred miles will carry you to the Cross Timbers. From my ex-growth of Cotton-wood, lining the margin of the streams.

At Fort Gibson there is also much sickness. Dr. perience, the name is rather fanciful. In pursuing the West course as above, the country is variegated with a succession of timber land and prairie—the former gradually lessening in quantity, and diminishing in size, until it dwindles to the stunted oak bush not more than one or two feet high but generally loaded with mast in the season. However, as you approach the great Western Prairie, the timber increases a little in size; and in many places it becomes so thick and impervious, as to render it very difficult to get through on horseback. After that, the great Western prairie stretches to the Rocky Mountains; and no timber is to be seen except a thin Welsh, who was ordered up from Fort Coffee to see Dr. Wright, who was very ill, was attacked himself, and fell a victim to the diseases of that country.—His loss is greatly regretted, as he was admired as a Physician, and beloved as a man. There is but one Surgeon at Fort Gibson to discharge the laborious duties of that post.

The troops at Fort Coffee are remarkably healthy. H.

Sept. 9th, 1834.

[From the National Intelligencer.]

IN MEMORY OF GEN. LEAVENWORTH.—At a Meeting of the Officers of the 3d Infantry, stationed at Fort Jessup, La., on the 11th day of August, 1834, Major William G. Belknap was called to the Chair, and Lieutenant and Adjutant G. Wright appointed Secretary.

The Chairman having stated the object of the meeting, to be for the purpose of expressing publicly a mark of respect for the memory of the late Colonel and Brevet Brigadier General Henry Leavenworth, of the 3d Regiment of United States Infantry, who died on the 21st of July, 1834, at the "Cross Timbers," 120 miles West of Fort Towson, while commanding the Southwestern Frontier, and conducting an expedition against the Pawnee Indians,

On motion, it was Resolved, That Captain A. Lewis, Captain T. J. Harrison, Captain Benjamin Walker, Lieut. W. R. Montgomery, and Lieut. E. B. Babbitt, constitute the Committee to prepare resolutions expressive of the feelings of the meeting, on this melancholy occasion.

The Committee then presented the following resolutions:

Resolved, That we deeply deplore the death of our much lamented and highly respected Commander, Brevet Brigadier General Henry Leavenworth, whose brave and gallant conduct on the field of battle won for him the notice and high approbation of his Government; and that, by his death, the service of our country has lost a gallant and accomplished officer, his Regiment an efficient and able Commander; his family its protector, a tender husband, a kind and affectionate father; and his officers, a most sincere and esteemed friend.

Resolved, That the Commanding officer Brevet Major Belknap, be requested to address to the afflicted family of the deceased, a communication, expressive of the high esteem entertained by the officers at this post for the character of their late Colonel, and that they sympathize most sincerely with his family on this distressing affliction.

Resolved, That the officers of the Regiment, entertaining a grateful sense of the kindness and friendship manifested for them by their late Commander, and feeling themselves the liveliest interest in whatever shall concern the future happiness, welfare, and prosperity of his orphan daughter and widow, would most affectionately tender them their friendship and protection.

Resolved, That the officers of the Regiment now stationed at Fort Towson be requested to co-operate with us in removing the remains of the deceased to Delhi, in the State of New York, for interment, and that a Monument, with suitable inscription, be there erected to his memory.

Resolved, That the officers at this post, in testimony of their profound respect and esteem, for the character of the deceased, and regret for his loss, will wear the usual badge of mourning on the left arm, and hilts of the sword, for sixty days.

Resolved, That a copy of the above proceedings and resolutions accompany the letter of the Commanding Officer to the family of the deceased, and that a copy of them be likewise furnished for publication to the Editors of the Military and Naval Magazine, National Intelligencer, New York Courier and Enquirer, Little Rock Gazette, and Missouri Republican, after having been signed by all the officers of the 3d Infantry at this post.

W. G. Belknap, Major and Chairman,
A. Lewis, Captain, 3d Infantry,
T. J. Harrison, Captain, 3d Infantry,
B. Walker, Captain, 3d Infantry,
C. Wheeler, 1st Lieut. 3d Infantry,
J. W. Cotton, 1st Lieut. 3d Infantry,
E. B. Birdsall, 1st Lieut. 3d Infantry,
J. Bonnell, 1st Lieut. 3d Infantry,
W. R. Montgomery, 1st Lieut. 3d Infantry,
E. B. Babbitt, 1st Lieut. 3d Infantry,
N. C. Macrae, 2d Lieut. 3d Infantry,
T. Cuts, 2d Lieut. 3d Infantry,
A. G. Blanchard, 2d Lieut. 3d Infantry,
H. Swartwout, 2d Lieut. 3d Infantry.
G. WRIGHT, Adjutant 3d Infantry and Secretary.

[From the National Gazette.]

A GREAT QUEEN, OR KING BUG-A-BUG.—Through the kindness of Dr. M'Murtrie, we have had an opportunity of examining one of the most singular animals that ever issued from the plastic hand of Nature, a queen of *Termes*, or *White Ant*, which, with other rarities, such as the skeleton of the great African Orang, the *Chimpanzé*, an entirely new genus of the Naiades, (a description and plate of which, we understand, will be found in the next number of the Journal of the Academy of Natural Sciences, now in press,) a Snail with its egg, both of most gigantic dimensions for a snail, &c. have lately been sent to that gentleman from South Africa. According to the Doctor, although Termites are found in Europe, Africa, Asia, and America, it is only in the tropical portions of the old world that they are to be

found in their "glory." There, their ravages are truly frightful. The communities they form are literally innumerable, and they consist of several sorts of individuals. The *laborers*, or the *larvæ*, which are soft and white, do all the work and all the damage, and the *soldiers*, about half an inch long and of a brown color, do nothing but fight or attend to the defence of the colony, and mount guard over all the laborers. Having passed through the usual metamorphosis of an Ant, the Termites, male and female, take wing together, but soon come to the ground, where the females are seized by the laborers, forcibly conducted to their habitation, and there immured in a cell which is then built up as not to allow the possibility of egress. There the attendants of this now royal personage carefully supply all her wants, and gradually enlarge the dimensions of her (clay) cell, to accommodate it to the increasing size of her abdomen. Three hundred thousand eggs are deposited by each of these queens in a few days, being removed as they are produced by numerous attendants (the larvæ) to the adjoining nurseries or cells, where they are piled up and carefully attended to till hatched. The enormous development of the abdomen in this insect may be imagined from the following dimensions of the individual now in the possession of Dr. M'Murtrie. Length of head and thorax, four eighths of an inch; breadth of ditto one eighth; abdomen, four inches and a half long, one inch thick, and upwards of one inch broad. The specimen by being preserved in diluted alcohol has retained all its freshness, and is perfect even to the antennæ.—A memorandum accompanying this great Queen states that the Africans style her the "*King Bug-a-Bug*." The dwellings of these Termites are of clay, somewhat conical, are elevated from ten to thirteen feet above ground, and at a little distance resemble a village of Hottentots.

Short Sermon.—The following pithy sermon, from a pithy text, has been published in England, and has met with a very extensive circulation in that country.

"Be sober, grave, temperate"—Titus ii. 2.

I. There are three companions with whom you should always keep on good terms:

- 1st. Your Wife.
- 2d. Your Stomach.
- 3d. Your Conscience.

II. If you wish to enjoy peace, long life, and happiness, preserve them by Temperance: Intemperance produces,

- 1st. Domestic Misery.
- 2d. Premature Death.
- 3d. Infidelity.

To make these three points clear, I refer you,

- 1st. To the Newgate Callendar, the Old Bailey Chronicle, and the Police Reports.
- 2d. To the hospitals, lunatic asylums, and work-houses, and
- 3d. To the past experience of what you have seen, read, and suffered, in mind, body, and estate.

READER DECIDE!

Which will you choose?—Temperance, with happiness and long life, or Intemperance, with misery and premature death?

When the Earl of Ripon's seat of Knockton Hall, in England, was lately destroyed by fire, a chest marked "To be saved first in case of fire," was rescued, although the furniture, pictures and library were destroyed.

Some imagined it contained title deeds, others gold and silver, but upon its being opened, it was found to contain the play things of a deceased favorite and only child. This is a trait that honors human nature, and we cannot conceive a sweeter tribute than this, to the memory of a beloved child.—[Albany Daily Adv.]

Napoleon said to his uncle, Cardinal Fesch, "Go and select the place which you are to occupy hereafter in the Pantheon." "No," replied the cardinal, "you would not have me placed in the antichamber of hell."—[Simeon's Letters.]

STEAM CARRIAGES.—It is said that the experiment made by the Dutch to test the usefulness of steam carriages on common roads, has been completely successful. The roads of Holland are well calculated for this purpose. They are level, and during the reign of Louis Bonaparte they were greatly improved, the principal highways having been paved with hard burnt tiles placed edgewise, thus making perhaps the best highway in the universe.

NEW-YORK AMERICAN.

SEPTEMBER 13—19, 1834.

LITERARY NOTICES.

WORKS OF MRS. SHERWOOD. Vol. IV. Uniform Edition. New York: HARPER & BROTHERS.—This volume embodies various tales heretofore published; among them the *Indian Pilgrim*, originally designed by the author for circulation among the Hindoos themselves, when she was resident in Calcutta; the *Broken Hyacinth*; the *Little Woodman*, &c. &c. The mechanical execution of the work is perfectly sustained.

THE PRINCIPLES OF ENGLISH GRAMMAR, &c. &c. By the REV. PETER BULLIONS, Professor of Languages in the Albany Academy. Albany: O. STEELE.—The plan of Murray's Grammar is followed in this new one; the aim of the author being, by judicious retrenching and condensing, and by bringing the whole up to the state of present improvements, to put in the hands of youth a less prolix and bulky grammar than that on which it is modelled. Another aim of the compiler is so to arrange the rules and principles of general grammar, as that they may apply to, or be in perfect harmony with, the grammars of the dead languages. He is preparing a suite of grammars, Greek, Latin and English, all, as far as general principles are concerned, upon the same plan and arrangement; and this will undoubtedly simplify the study of all three.

Upon such cursory examination as we have found time to give this work, it seems to us well done.

REPERTORIO GENERAL DE CONOCIMIENTOS UTILES, Tom. 1, No. 1. Nueva York. Juan de la Granja.—In this polyglot city, it is only wonderful that a Spanish periodical has not before been established. We hail this one, however, even now—and think well of the selections, and composition of its articles—in the hope always, that it will find readers in the islands, and former dominions of Spain on the continent. In this sense, the dialogue between two Republicans, which treats of questions, that, as Sir James Mackintosh said to *Augusta de Stael*, "are here taken for granted," may be deemed apposite and instructive among peoples, who, as yet, have no practice of liberty. On the other hand, the statistical notes, and information respecting the United Mexican States, is of interest to us here.

If the number now issued shall succeed in attracting a sufficient support, this periodical will be continued, and appear semi-monthly. We hope it will succeed.

LAFAYETTE, a poem, by THOS. POWER. Boston, Russell & Odiorne.—Either the variety, the brilliancy and the mutations in Lafayette's career, so far exceed the ordinary range of imagination as to leave no scope for poetry—or the Poet who is to sing them has not yet risen—for sooth to say, we have, as yet, read little poetry worthy of the theme, and we cannot make an exception in favor of Mr. Power's inspiration.

THE JUVENILE MISCELLANY, Vol. 1, No. 1. Boston.—This is a resumption of a little monthly publication for children, originally undertaken by Mrs. Childs, and abandoned for want of sufficient encouragement. It recommences with spirit, and is to furnish little stories in French as well as English, with occasional poetry. We copy a neat little piece:

THE SUMMER SHOWER.

Here comes the summer shower!

The earth is dry;
And withered seems each little flower,
And dim its eye.

But see! the threatening cloud
Comes slowly on,
Along the sky the heavy vapors crowd—
The light is gone!

Hark to the rising breeze!
Its whispering sound
Louder and louder rushes through the trees
And o'er the ground!

See how the lightning flings

Its wreaths of fire—
How far the storm clouds, like an eagle's wings,
To Heaven aspire!
Now the deep thunder rolls;
And sweeps the blast!
Hush'd be our voices—silent as our souls—
Till all be past.
How pours the rapid rain!
A grateful sight—
Earth, and her darling flowers look up again
With new delight!

P. B.

THE AMERICAN LIBRARY; No. 1. Edited by SAMUEL L. KNAPP. New York: Charles Lohman & Co. The idea of this publication strikes us very favorably. A weekly quarto magazine of some fifteen or sixteen pages, handsomely printed, and to contain—price sixpence—authentic American history. The cheapness, the frequent period of publication, and the mass of useful and instructive knowledge which, at the end of the year, the 52 numbers will embody, and above all, the subjects—all American—should recommend this new enterprise of Mr. Knapp to general encouragement.

THE AMERICAN TURF REGISTER for September. Baltimore: J. S. Skinner.

THE UNITED STATES MILITARY AND NAVAL MAGAZINE for September. Washington: B. Romans.

THE WESTERN MONTHLY MAGAZINE for September. Cincinnati: Taylor & Tracy.

There is a detailed notice of Ariel and her wonderful performances in this number of the Turf Register; and an account current of the Turf warfare—competition would have been a better word—between the North and the South, that will interest sporting men.

The United States Military and Naval Magazine is not brilliant, though there is much that is useful in this number. The "Rambling Notes" are hasty, and therefore unjust, particularly in the remarks about Don Pedro, which are too much like mere boarding house gossip.

The paper on Universal Education, by President Young, of Danville College, Kentucky, is the redeeming article of the Western Monthly.

REPUBLICATION OF THE LONDON, EDINBURGH, FOREIGN AND WESTMINSTER REVIEWS, by THEODORA FOSTER, N. Y.—At the price of \$8 per annum we are here presented with an opportunity of possessing four European Reviews: the cost of which, if imported, would be \$32. This No.—1—comprises the Westminster Review for January last. The size of the pamphlet is large 8vo. printed in double columns, and in good type. We extract from this, part of a curious paper on Jew's Harps.

ART V.—1. A Sketch of the Life of C. Eulenstein, the celebrated Performer on the Jew's Harp.—London; Welsh. Small 8vo pp. 69. With a Portrait. 1833.

2. The Giulianiad, or Guitarist's Magazine. Nos. IV., V. and VI.—London: Sherwood. 1833.

Let no man despise the day of small things. There may be more mystery in a Jew's Harp than a hand organ, notwithstanding their relative dimensions.—Think of a man's playing concertos on the engine which Skinner in his *Etymologicon Linguae Anglicae* calls "Cytharæ Judæorum," and says that neither the creaking of hinges, nor the mewing of cats, can be more dissonant and harsh; on the instrument which the Germans call *Maultrommel*, but of which the vernacular name is *Brummeisen*—'buzzing iron.' Nevertheless

"The performance of Mr. Eulenstein on the Jew's Harp is not only a great curiosity in the musical world, but is, in itself, eminently beautiful. By means of a series of instruments, properly tuned and adjusted, he commands a scale of four octaves and two or three notes,—has a perfect mastery over all the diatonic and chromatic intervals, and modulates with the most graceful facility and the nicest accuracy into every variety of key. By dint of incessant practice, he has overcome a difficulty which at first seemed insuperable: he has acquired a power of stopping the vibration the instant the spring is struck, and yet leaving it free for the next note, so that he can perform the most rapid staccato passages with astonishing brilliancy and precision. But his greatest triumph is the tone which he elicits from his humble and hitherto contemptible instrument. We

have all heard its dissonant twang, when touched by the rude finger of the schoolboy, and even ears unmusical have turned away in aversion from its monotonous grumbling; but in Eulenstein's hands, the tongue of iron speaks with most soft and silvery voice, and pours forth its sweet and tender notes with such delicacy and taste, that at the close of some pathetic melody, the ear drinks in the dying sound with breathless attention, and continues to listen after the enchanter has ceased. A great variety of effect is also produced; a firm, though gentle, note reminds us of the violin,—in that clear harmonic sound a tiny bell is heard—and, when dead silence is preserved, (which ought always to be the case,) and all is quiet without and within, fairy strains creep about the room in undulating harmony, now nearer, now more distant, as if a moving chorus of airy little beings, in their tenderest mood, were delighting themselves in song.

"The scene changes, and the trumpet sounds—the reader miles incredibly—the trumpet! a Jew's Harp! nevertheless, gentle reader, the tone, though a miniature likeness, does resemble that of the trumpet, and at the head of Lilliputians would lead them most inspiringly to the onslaught. These various results are effected by the performer playing sometimes only on one, but generally on two, and occasionally, on four instruments at a time: sixteen lie before him, and he takes them up, and puts them down in turn with the greatest ease, and without the slightest interruption to the melody."

"There is nothing peculiar in their construction; some attention may perhaps be paid to the elasticity of the spring, and they are brought into accurate tune by loading the extremity of the tongue with a little sealing-wax; but in other respects they are precisely the "Cytharæ Judæorum of which Skinner speaks with such unmixed abhorrence."

"The reader who has any curiosity in such matters, may now be disposed to inquire how Mr. Eulenstein came to make choice of so unpromising an instrument; and as the circumstances under which he was driven to this are somewhat singular, as no little energy and decision of character are displayed, it is believed, that a brief memoir of his life will prove acceptable to all those who take an interest in the cultivation and development of talent under opposing difficulties and occasional deep distress."

Charles Eulenstein was born in the year 1802, at Heilbrunn, in the kingdom of Wurtemberg. His history is the ancient round of genius, poverty, struggle, pertinacity, and success. His first musical energies were displayed, in insisting on having his father's viola to play on, when he was between four and five years old; and because his father refused, he made a fiddle for himself. His mother, who was poor, disliked supplying him with strings; and so the boy contrived, by pretending he had no appetite till the middle of the day, to get his penny loaf transmuted into a penny before he went to school, and then turned six breakfasts into a fiddle-string. And after all he did not succeed at that time in teaching himself to play; in consequence, as is suggested, of his hand being too small. A well-timed grandfather got him leave to be taught the flute; and he arrived at the dignity of being a chorus singer in the church. The violin also was continued; and at the age of twelve, having far surpassed all his companions, he was considered a very good performer.

His mother, however, insisted that he should be put to business; and believing that music was in books, and that to bind books would be to have them, to a book-binder he went. His master soon complained that he was busy with the inside of books and not the out; and he was translated to a shop of hardware. Here he might have been happy; but his mistress hated music. Besides his violin, too, somebody had given him a French horn; a perilous piece of hardware for the youthful dealer. The horn was speedily forbidden; and the violin, a guitar, and a tiny flageolet, were all successively discovered and put under the ban. But his destinies were not accomplished; the Jew's harp had not yet appeared upon the scene. As a hardware man, he sold Jew's harps; it was his limited service to sell them for a penny each, to the schoolboys of the town. Like the starving man that first tried oysters, he seized upon the chance, and commenced his experiments.

"In a few weeks, to use his own words, he discovered that there were sounds residing in the Jew's harp, which he had never heard before. He was encouraged to proceed; and one day having heard a gentleman, who came into the shop, perform in a superior manner on two harps at once, he was so delighted, that he resolved to devote his whole atten-

tion to this humble little instrument. For four years he practised incessantly at all opportunities. The greater part of every night was consumed in this occupation; and so fearful was he of being detected by his duenna in such an enormous sin, that he actually hid himself under the bed-clothes, lest the soft and liquid note should reach and offend her ear. One night he fell asleep, with the Jew's harp in his mouth; and was awakened by a scratch in the face from the point of the spring. To remedy the inconvenience in future, he covered it with a little sealing-wax. This, he found, altered the pitch; and, with a quickness of apprehension not a little wonderful in a mere boy, he instantly saw the advantage which might be taken of this circumstance.—By means of loading the end of the tongue, more or less heavily, he tuned a series of harps with the greatest nicety; and was thus enabled, as before mentioned, not only to command a very extensive scale, but to modulate, with surprising truth and accuracy, into every variety of key. He now labored with redoubled diligence. At the end of two years, his clear and delicious tone was brought to perfection. He had acquired the remarkable power of executing staccato passages with extreme rapidity:—his shake was close, distinct, and beautifully in tune; and all the turns, slides, arpeggios, and various other ornaments and graces, (of which he was the first to discover that the instrument was capable,) were under his command. In short, he was not to be hidden forever under a counterpane. He now began to indulge in dreams of advancement, by displaying to the world his entirely new accomplishment. He collected a few musical friends into a dark room, gave them a specimen of his skill, and required them to name the instrument. They were in perfect raptures; talked about fairies and angels, and manifested the greatest impatience to see the cause of all this novel harmony. Lights were brought; and sixteen penny Jew's harps lay on the table.

One year was expended in curing himself of making faces. He then ran away from the rest of the hardware, with his Jew's Harp in his pocket; and his mother having withdrawn her fruitless opposition, he set off with her blessing and twenty shillings.—He arrived at Heidelberg, but could not muster courage to commence operations, and so walked on to the next town. Here no inn-keeper would let him have a room. In the next town, a room might have been procured; but a magistrate who had not notion of 'buzzing-irons,' refused him permission to perform. It seems there are fools on the bench in Germany. With similar success he toiled through Frankfurt, Hesse Cassel and Hanover; and walked six hundred miles without effecting in any degree the object of his tour. He sat under a tree for rest, and practised; and spent many a night in the open air. How the pound held out, is a marvel unexplained; there must be humanities in Germany; a pilgrim may remember, but does not talk of. At last he arrived at Luneberg, where he had an uncle of many callings,—'having a large business in the way of letting public rooms,' and being moreover 'the proprietor of a small theatre,' a dealer in 'confectionary,' and in 'wine.' His uncle received him kindly, and made him useful in his manifold employments. It was not till the end of three years, that he obtained permission to give a concert in his uncle's theatre. It was attended with tolerable success; and having saved a little money during his sojourn, he once more set forth, and with precisely the same ill luck as before, walked all the way back to Heilbroun. Once more in his native town, he bought new pantaloons,—for so the florid language of his biographer seems interpretable,—and advertised a concert. But his 'friends' set themselves to raise an outcry, declared he was mad and a vagabond to boot, and tried to force him to return to hardware. To add to his misfortunes, he stitched his last four pounds into a girdle, and left it on a tree when he went into the water to bathe; but whether water-king or kelpie coveted it, was never known, for it was never heard of more. He concealed his loss from his mother, and set out again with a few shillings in his pocket. His success was small; he was driven from the more considerable towns, and with great difficulty obtained enough to support life, by performing occasionally before a few persons in less frequented places. He persevered for some months, and gradually fell into deep distress. His clothes, small and great, as usual, wore out; and many a mile he walked without shoes, that he might have wherein to appear before his audiences. His rents (the hole he had, as Mr. Hood would say) grew every day more perplexing and unmanageable; and with the fear of nakedness before his eyes, he was

compelled to turn his steps towards Stuttgart. He found a master,—in what employment is not said, but he had been used to many,—who advanced him a little money with which to sacrifice to the graces. He was engaged to attend private parties; his fame began to spread; and one day,—the change seems too brilliant for even a German story,—he received an order to attend the Queen of Wurtemberg. His presentation of himself was characteristic of a man who had just been living in sheep-skins and goat-skins, or garments of less excellent endurance.

'When I received the summons, instead of delighting me, it made me tremble very much, for I had never been in the presence of a queen before; and I was afraid that my extreme awkwardness and timidity would prevent me from playing well. When I entered a long room, in which the Queen was, her Majesty was sitting quite at the other end; but, instead of walking on till I came sufficiently near, I instantly began to bow; and, all the way I went, I kept making a great many bows towards her Majesty, none of which she saw.' The Queen spoke to me repeatedly; but I do not know what was said, I was so frightened. All I remember is, that she was kind in her manner, pleased with my performance, and that a letter of recommendation was offered to me, in case I should go to London. I was never happier in my life, than when I returned home at night to my own room.'—p. 33.

After this visit, his circumstances, as may be supposed, improved.

It may be remembered by many of our readers that in noticing some time ago, in our Weekly Review, the then recently published work of Mr. Schoolcraft, on the discovery of the Sources of the Mississippi, occasion was taken, on the strength of his own statements and those of Lieut. Allen in his Report to the War Department, to censure Mr. Schoolcraft for what seemed an unnecessary and unjustifiable abandonment of Mr. Allen and his command. Mr. S. thus replies, through the Detroit Journal, to this charge:

[From the Detroit Journal of 5th August.]

MICHELINACKINAC, AUGUST 19th, 1834.

Sir: It is not without reluctance that I am induced to call the attention of your readers a few moments to a notice of my narrative of the ascent to the source of the Mississippi in 1832, which is given in the New York American of the 19th of July. Satisfied that the public should settle its measures of literary approval or disapproval in its own way, I should deem it unbecoming to offer any thing, in the nature of dissent, or extenuation, were it not to shield myself from the imputation of having injured a member of the party.

I am charged in the article referred to, with lapses of duty in regard to Lt. Allen, who accompanied me in command of the escort, and whose skill and assiduity were alone relied on, for topographical observations, delineations and maps. And I am, in consequence, visited with rebuke and reprobation. The circumstance of this officer's falling behind the party, a few days, on the home route through the St. Croix, is imputed to no other cause than an intention on my part to desert him, and leave him to pursue his way, without adequate means; and all this, as the writer asserts, while travelling 'through an enemy's country, and liable to be cut off at every moment.'

To those who are acquainted with the geographical features of the country, it will not be necessary to say a word about its being an enemy's country.—It is occupied exclusively by the Chippewas, who were quite friendly, received us every where with cordiality, and freely gave us every aid in their power. It is true, Mr. Allen encamped at lower points in the valley for several of the last days of our ascent of the river, but he was as safe as I was, and neither he nor myself felt any apprehension from Indian hostility. Our parting was, in its nature, accidental, and arose from the difference of the duties which devolved upon us. We had frequently been separated at other points of the route, where there was more cause for apprehension. I supposed he would come up, during the delays caused by official transactions with the several bands, and had I found any reason for apprehension among them, I should immediately have stopped and awaited his arrival, or gone back with him to St. Peters. But there was neither danger, nor thought of danger, from Indian hostility, although it was known that the Sauk war had broken out, in a skirmish between a party of militia under Major Stillman and some Indians in the northern skirts of Illinois. But the country was so

far south of us, and the disturbances seemed of so local a character, that it was only conceived of, as something occurring at a distance. And whatever precautions might have been deemed necessary, had we determined to descend south to Prairie du Chien, none were required in going eastward into the territories of a friendly nation. Not only were the Chippewas friendly, but they were, and are, separated from the territories of the Sauks and Foxes by a large part of the Sioux nation. The hostile Indians never came nearer than about 500 miles. But there was still a wider space between us, at the time of our entering the St. Croix. The Black Hawk and his adherents were then in the area between the Rock river and Wisconsin, and when this chieftain reached the banks of the Mississippi, in his flight westward on the 7th of August, it was at a point more than two hundred miles below the mouth of the St. Croix. At that time, the last canoes of the expedition, in command of Mr. Allen, had left the St. Croix altogether, and were, on their third day's march, descending the Brulé, and within a short distance of the banks of Lake Superior.

It is unnecessary to dwell on this subject. Had there been any apprehension of danger from an Indian foe, when at St. Peters, it would have evinced gross temerity to have proceeded on the journey without a competent escort. And if a request to this effect had been made to Capt. Jouett, the commanding officer at Fort Snelling, there is no doubt he would have promptly furnished it. As a proof that there was no apprehension on his part, it may be mentioned that he, at the time of our visit, kept a canoe, with a subaltern and a few men, plying between the fort and Lake Pepin, to intercept the illicit introduction of ardent spirits into the Indian country. My impression is, that Lieut. Allen left one, out of two kegs of ball-cartridge at the fort.—The inference is obvious, that he entertained no apprehensions, of the nature suggested. There were no fire-arms in my party, except a couple of shot-guns.

I have remarked that the separation from Mr. Allen was unpremeditated. It arose from circumstances which could not be calculated or foreseen, such as the points at which the Indians could be met in council, how long a time would be necessary to assemble them, &c. After getting above the falls of the St. Croix, I waited a number of hours for the ascent of the military at the place called the Two Rocks. I then proceeded up the river several leagues and encamped, and waited here the next day till evening. Some conversation then took place in the party as to our vicinity to Snake river, when it was considered better to proceed a few miles further that evening, to insure our arrival there the next morning. We supposed Mr. Allen would certainly come up, during the council, and the delay caused by vaccinating the Indians. I immediately, however, despatched three Indians to aid him up, and to serve as guides, for his canoes, to the head of the river. There was no purpose of abandonment or the withdrawal of any aid whatever. There was, however, a strong purpose, formed by the double motives of friendship and duty, to make every arrangement to facilitate his passage through the country, and to aid him in the execution of his duties, as I had always done at previous stages of the journey. The Indians of that quarter, being within my agency, were personally known to me, and confided in. Most of them had received their medals and flags from my hands, and all had motives of interest (if nothing beyond it) to yield a compliance with my requests. I had every reason, therefore, to believe that they would faithfully give Mr. Allen and his party the aid I wished. To put his mind at ease as to the route, I directed a map to be forwarded to him from the Forks by the hands of an Indian, which might guide him safely to the spot of debarkation at the head of the river. New guides were provided for his canoes on the Brulé, and provisions deposited at several points to meet any extra demands, which the exigencies of the route might have produced. At Yellow River, at the junction of the Namakagon, and at the Fish Dam on the main fork of the St. Croix, these objects were distinctly attended to, and the Indians prepared for his arrival, and furtherance on the voyage. And again on the second day's descent of the Brulé, and at the mouth of that river where Mongez and his party faithfully remained to await him with his boat, and at Lapoint where Dr. Houghton, the surgeon, was left to accompany his party down the lake. It was not forgotten that Mr. Allen had no interpreter on the St. Croix, but as he spoke the French language, and Canadians resided in the capacity of trading clerks at the principal villages, it was thought that he would be able

through their instrumentality and some knowledge of the Indians existing in his party, to get along very well. The only point where doubt arose as to the route, was at the mouth of Ox creek, near the source of the river, and the question was which of the branches should be taken. A reference to the manuscript map, might easily have decided this, as the left hand fork terminated in lake St. Croix, the actual source and point of landing. Had Ox creek been followed up, his progress would have been arrested in a very short distance by logs and obstructions peculiar to it. The whole length is not over half a day's march, but it is not navigable far. Not more than twelve hours detention could have resulted, at any rate, and such a delay was fraught with no serious consequences.

I will now direct a moment's attention to the organization of the party. This expedition was undertaken by me, not for the purpose of vaccinating the Indians, but of tracing the Mississippi to its source. This object was connected with an effort to restore peace among the Chippewas and Sioux, and to induce them to adhere to the terms of the general treaty of peace and limits concluded with the various tribes, under the auspices of General Clark and Gov. Cass at Prairie du Chien in 1825.—The summer of 1831 had been devoted to these objects among the bands south of St. Anthony's falls, and it was determined to go north of that point the next year, as far as we could get means to carry an exploring party. A project for this purpose was revived late in the fall, but contingent altogether upon the legislation of Congress. In addition to the ordinary appropriations of the year, applicable under the several heads of expenditure in the Indian Department, an act was passed granting a specific sum to arrest the prevalence of the small pox among the Western Indians, a small part of which was assigned to the projected expedition. A surgeon and physician was also engaged who was also competent to take observations in botany and geology.—Mr. Allen received the command of the military escort, but at so late a time that no instruments were provided for astronomical observations. There was no sextant or quadrant to be had in the country, and whatever was done to enable him to indicate and preserve facts important in the civil or military geography of the country, was the result of personal arrangements between that gentleman and myself. How well he has acquitted himself of the task, is only known to those who have examined his combined map, of which the sketch published at Washington, with his report, furnishes but an imperfect conception. All the delineations, and the octavo maps in my narrative, were furnished by him, except the first, which was copied from his delineations by Dr. Houghton.

Two or three remarks may be added respecting the time applicable to this expedition. Having received instructions to effect definite objects, with a definite sum of money, the first question to be arranged was a pecuniary one. It was requisite to employ men, and order every other expense with strict reference to this result. It was therefore a question of time, as well as money. And after accomplishing all that the government actually required, the following out the Mississippi to its source, was left very much to opportunity and personal inclination. Much depended upon diligent travelling, and the state of the waters after reaching a comparatively high northern latitude. And not an hour was therefore consumed in useless delay. We were in motion, during the greater part of the time, seventeen to eighteen hours out of the twenty-four, and we averaged 40 miles per day, during the whole time out, including all stops and portages and days of counselling, and of rest—which amounted to about two-sevenths of the time. We travelled slower on the St. Croix than any other part of the route, owing to the depressed state of its channel.

The area of the former explorations under Gov. Cass was passed over with rapidity. On getting to Cass Lake, the waters were found in a good state for going higher. But the soldiers in command of Mr. Allen could be pushed no farther. It was no time to stand upon points. I procured each gentleman of the party a hunting canoe and two men, and setting out early, reached the source the third day. The accomplishment of this end, was to me, the attainment of the great object. Our return was very rapid. We were back at Cass lake in two days. This was the principal theatre of geographical discovery. All who were with me, were actively and meritoriously engaged in the objects constituting their departments of labor and observation.

To avoid retracing our route down the Mississippi,

we went over an Indian trail, from Cass to Leech lake. Finding it was practicable from that point to follow a series of portages and lakes, to Crow wing river—an unexplored main branch of the upper Mississippi—we adopted that route, and safely descended that stream to its mouth, which we reached on the 21st July. At this point my narrative closes. About 250 miles below, the Mississippi has its greatest falls, (St. Anthony's) eight or nine miles south of which is the Post of St. Peters. Here the men all enjoyed about two days rest, and the main objects of the expedition here terminated. The only object of interest now was the home route through the St. Croix, for which the requisite arrangements were made. Lieut. Allen re-supplied his command, discarded all that could be considered superfluous from his baggage, and took an additional soldier. I promised to supply him with provisions on lake Superior (which I punctually did) that he might be relieved from its transportation. He requested no further aid, nor did he indicate that he expected me to provide him gum, (an article in daily use on the voyage) or any other article essential in the management of canoes. Indeed, in my opinion, (and I think also in his) he started from Fort Snelling under better auspices than I recollect to have observed at other points. His men had now been accustomed to paddling canoes, crossing portages, and the peculiar labor of ascending and descending rapids, during the season. We had passed through the only portions of the route, where danger from Indian hostilities could have been at all apprehended, namely, the line of country between Leech lake and the mouth of Crow Wing river, and perhaps, the trip to the source, and also, the place of crossing the Sioux boundary. We were about to pass through a section of the Chippewa country, of a character decidedly friendly, and there were no associations connected with the accomplishment of the route, but those of an exhilarating character. It was thought, by traders, that we could accomplish the route in seven days. The party were in reality nine. Lieut. Allen required thirteen, owing to the bad quality of one of his canoes, and the impediments which he has described. It is to be observed that we did not uniformly encamp together, during any stage of the route, except at those points of it connecting important positions, where the Indians were to be met. It was deemed sufficient to be present at those points, and at all others, to keep as much as possible within supporting distance. His absence, therefore, at the first two or three encampments on the St. Croix was not unusual. And I attributed it to a desire to execute a perfect delineation of the river, as he had previously remarked to me the difficulty he found in making observations either very early or very late, on account of the obscurity at those hours. The falls and rapids were not as formidable in number and velocity as those of the St. Louis, which he had previously mastered, and I had every reason to consider the Indian guides, which I had despatched from the first point where their services could be obtained, as competent and faithful as I had found them at other points. I have since learned that their defection was caused by the amount of labor the soldiers expected them to perform, and to some difficulties respecting the quantity of provisions they consumed. Mr. Allen was the disbursing officer of his command; he provided his own supplies, (sometimes by request through me,) and made his own arrangements as to encampment, mode of travelling, &c. If any of these arrangements were, therefore, defective, I hope they are not justly chargeable to me. And if I have failed at any point, to afford any and every aid, which my official relation to the party, rendered due to my integral part or member of it, it has been wholly unintentional, and is the result of wants or wishes which were unknown to me.

In the observations which I have made respecting the services and merits of Lieut. Allen, as an adjunct in my recent tour, I have not been unmindful of the tone of his remarks in his journal. But as these remarks, first seen by me in his printed journal (and the first indication to me, of his dissatisfaction,) may have been considered by him necessarily explanatory of the cause of his delay, and as I regarded them rather as the record of first impressions, in moments of excitement under the difficulties and hardships he was obliged to encounter, than as intended to be seriously accusatory, I do not deem it proper to make them the subject of comment.

I should have been pleased if, in the relation of friendship in which we lived, and travelled and parted, he had thought proper to apprise me of the existence of feelings which the journal indicates.

On the subject of the literary criticism in the American, I have not a word to say. I am too sensible of

deficiencies in these particulars, to doubt that many defects must present themselves to the reader. And I can with candor say, that the reflection and experience of later years, has impressed me with a renewed sense of the indulgence extended towards me by men of cultivated and exalted minds.

In these remarks, names, dates and places have been introduced as necessary to precision. No person is designed to be injudiciously referred to. Justice is meant to be rendered to each of the members of the party, who are endeared to me by many associations, and I should feel mortified, if on a review of what has been written, it is found to have been withheld, in aught, from Mr. Allen, who performed an arduous and meritorious service. So far as localities are specified, their introduction is intended for those at a distance, who must often judge of things of this nature, in the hurry of perusing a newspaper notice. But of this class of readers, it will not be deemed harsh to remark, that they are often compelled (in the imperfect state of north-western geography) to rely on the dicta of such notices, the writers of which are apt in the truth of general and prominent conceptions, to annihilate whole areas of country, and bring together people and places the most widely separated. Respectfully.

HENRY R. SCHOOLCRAFT.

SUMMARY.

[From the Montreal Herald of Sept. 8.]

INTELLIGENCE FROM CAPTAIN BACK.—Mr. Duncan Finlayson, partner of the Hudson's Bay Company, arrived at Lachine on Saturday, the 6th instant, in a bark canoe, navigated by ten voyageurs of that concern. He left Fort Vancouver on the Columbia River, North West coast of America, on the 20th March last, passed over land to York Factory, the Company's principal depot in Hudson Bay, which depot he departed from on the 24th July. Two other canoes, manned by sixteen additional voyageurs, are daily expected at Lachine, and the remaining voyageurs and passengers from the interior this season, will be down in the course of the next month, (October).—Apart from the Company's usual despatches and letters from their servants in the interior, together with those from Red River Colony, Mr. Finlayson has brought a packet from Capt. Back, addressed to the Colonial Office London. We are happy to state that letters have been received from that gentleman, dated Fort Reliance, east end of Great Slave Lake, up to the 4th May last, when he was preparing to be off to prosecute the ulterior objects of the expedition. The packet from London intimating Capt. Ross and party's safe return, which was forwarded from Montreal last November, reached Capt. Back on the 25th April.

[From the Baltimore American of Sept. 9.]

The editorial connection of S. F. WILSON, Esq., with this office having terminated yesterday, we have the pleasure to announce to our readers that we have engaged the valuable and efficient aid of GEORGE H. CALVERT, Esq., in that department of the American.

SAVANNAH, SEPT. 6th.—Loss of the Packet Ship

Statira.—The packet ship Statira, Captain Bartling, from New York to this port, with a valuable cargo of merchandize, took a pilot on Wednesday evening, arrived off Tybee at about 10 o'clock, where she came to anchor between two and three miles east of the light. At 3 o'clock yesterday morning, it blowing a gale from the N. E., she parted her cables and went ashore on the South Breakers, and bilged, having 5 feet water in her hold. Captain B., passengers, and part of the crew, arrived in town last evening for assistance. Hopes are entertained that most of the cargo will be saved in a damaged state.

[From the Raleigh Register, Sept. 9.]

TREMENDOUS FRESH.—We have just been visited by the most destructive Fresh that ever occurred in this section of country. Much rain had fallen previous to Thursday last, but on that night it rained in torrents, without intermission, in consequence of which, the water courses rose to an unprecedented height. There is scarcely a mill or a bridge standing within the distance we have heard from, and the injury done to the crop and stock, is immense. The long drouth had previously burnt up the highlands, and our main dependence for bread was upon the low lands. This hope is now blasted, and we fear that we shall have pinching times next Summer.

For several days, travelling was out of the question. Stages could neither go nor come, though the drivers made various attempts to force their way.

We fear that the flood has been general, and anxiously await intelligence from those sections watered by large streams.

[From the National Intelligencer.]

FROM THE FAR WEST.—We mentioned in our paper of Saturday last, that the report of a battle between the Dragoons in the West and the Indians seemed as likely to turn out false as true. The mail of yesterday brought us the Arkansas Gazette of August 26th, (in which journal the report was published,) from which we are glad to learn that the story was false from beginning to end. We expressed a hope, also, when we heard of the death of Gen. LEAVENWORTH and the sickness of several officers and many privates of the Dragoons, that the detachment marching westward would forthwith return. It gives us pleasure to state, now, that they did return, as we hoped they would, and arrived at Fort Gibson on the 15th of August. The following are the only particulars concerning their return which have reached us:—

[From the Arkansas Gazette, Aug. 26.]

RETURN OF THE DRAGOONS.—By a gentleman direct from Fort Gibson, we are happy to learn that the detachment of U. S. Dragoons, under Colonel Dodge, returned to that post on the 15th inst. from their expedition into the country of the Pawnee, Camanche, and other Indians, inhabiting the vast expanse of territory, several hundred miles south and west of our frontier, without the occurrence of any unpleasant collision with the various tribes with whom they opened an intercourse. They have brought in about twenty Indians, comprising delegations from the Pawnee, Camanche, Waco, and one or two other tribes, with all of whom, we understand, treaties of amity have been concluded by Col. Dodge. Some of these delegations have come in with the intention of proceeding to Washington city. Col. Dodge, we understand, procured the release of a little boy, about 10 years of age, son of the late Gabriel N. Martin, of Miller county, who was carried off by the Indians some months ago, at the same time that his father was murdered by them. A negro man belonging to Mr. Martin, who was captured at the same time, has also been restored.

We regret to learn, says the Montreal Gazette, by private intelligence from Toronto, that the Hon. William Dummer Powell, formerly Chief Justice of Upper Canada, died suddenly in that city on Saturday last.

The Memoirs of Mrs. Hannah More, about to appear, will, it is stated, contain letters by Mrs. Montagu, Sir William Pepys, Lord Orford, Dr. Langhorne, Mr. Garrick, Mrs. Bowdler, Bishop Porteus, Archbishop Magee, and other eminent public characters.

Mr. Audubon.—A letter, says the Boston Daily, from this gentleman, dated London, states, that five subscribers for his great work have recently presented themselves, in that city, and one in Germany. One of the former subscribers, Lord Kingsborough, has subscribed for a second copy.—The Grand Duke of Tuscany is also a subscriber, at the instance of Marquis Charles Torrigiani, of Florence, who visited the United States last year, and is well remembered by many of our citizens, as an intelligent and accomplished traveller. It will be remembered, that the cost of Mr. Audubon's work is of necessity very large, and it is gratifying to learn, that the subscription to it is advancing in Europe.

Mr. Lander.—Mr. Moore, a medical gentleman, and one of the companions of poor Lander when he was so treacherously attacked and murdered, has returned to this country. His account of the fatal transaction only confirms our former statements.—There were very great numbers of the natives, and they appeared to belong to several countries; whether slaves engaged on the side of their masters, or free agents, it is impossible to say. It was evident that the assault had been fully preconcerted. The assailants were provided with fire-arms; and after the first onset, five hundred of them, in about thirty canoes, pursued and fired upon their victims. One white man, a Swede, who had shrunk to the bottom of the boat from the beginning, was killed by nearly the last shot, which entered his head and came out near his mouth.

Lieutenant Allen.—One of the gallant companions of Lander on the expedition, and who left the Niger previous to this sad occurrence, has, we understand, been sedulously employed since his return home, on a chart of the river, so far as it was surveyed on their first ascent. This work, under the authority of the Admiralty, will establish many geographical certainties of much importance. We have heard also, that this able officer has made a number of accurate sketches of scenery, and which we trust will somehow be produced to gratify the public interest.

Middlebury College.—The annual commencement of this Institution was held on the 20th ult. Graduates 25. The degree of D. D. was conferred on Rev. Henry Olin, President of Randolph Macon College, Virginia, and of LL. D. on Hon. Charles K. Williams, of Rutland, Chief Judge of the Supreme Court of Vermont. The new Freshman Class already consists of 16 members. A building committee has been appointed with instructions to proceed with all convenient despatch in the erection of new college buildings.—[Brattleborough Messenger.]

The Disaster on board the steam boat Lady of the Lake, at Quebec, has been thoroughly investigated by a coroner's inquest. It appears that, at the time of the accident, the engineer was intoxicated; and that the boiler had become weak from corrosion. It also appears, that the six persons who lost their lives by the explosion, were William Ronaldson, aged 29, his wife Ellen, and two children; Thos. Moffat, aged 4 months; Grace Pervis, a servant of Mr. R., aged 20 years. Mr. R. and his family recently arrived from Leith, Scotland, and have relations in this country, and was possessed of considerable wealth. It was supposed their two surviving children would not recover. They were all asleep in the cabin, which they had locked at the time of the accident. The captain and engineer are both censured for negligence of duty.

FIRE AT WORCESTER.—The Woonsocket Falls Patriot states that the large dwelling house in Worcester near the Exchange Coffee House, occupied by Messrs. Andrew March and G. P. Rice, was destroyed by fire last Friday night, together with a bakery attached to it. The store, occupied by Messrs. Davis & Farnsworth, and Timothy Keith was saved, though in some degree injured. A barn in the rear of this store was consumed. The house of Mr. Pool, in School street, also sustained some damage.

THE UNKNOWN WRECK.—The following account from the New Brunswick papers, serves to confirm that the wreck alluded to was the Spanish brig Montanez, Capt. Pardini, which sailed from Havana in November last, for St. Johns, N. F. where she has never arrived. She had on board seven thousand Spanish dollars, and was formerly the brig Centurion, of this port.

[From the St. John Times, of Aug. 8.]

WRECK AT BACCALIEU.—On Saturday morning last, Wm. Stirling, Esq. a magistrate, James Bayly, Esq. sub-collector of his majesty's customs, John Stark, Esq. coroner, and Messrs. John and William Stirling, left this place in the pleasure boat of the first named gentleman, for Baccalieu, in order, if possible, to glean some further and more authentic particulars relative to the wreck discovered at that place, (no certain information at the time having been made known,) and which has caused so much anxiety in the public mind. We are authorized by these gentlemen in stating, that they arrived at the spot, on the N. W. end of the island of Baccalieu, at 1 o'clock, when the boat was anchored, and six of the party landed and remained on shore for several hours in prosecuting their researches; the wreck was found wedged in, in a deep cavern of the rock, and the remains of four mangled bodies were seen among it, but without great labor and expense they could not be got out: indeed they were found to be in a state of great decomposition. The gentlemen descended the cavern with lanterns at considerable personal risk. One leg was found near the mouth of the cavern with a boot upon it, which latter Dr. Stirling cut off. The leg was evidently that of a young man, and the boot is what is denominated a Wellington boot; the stocking found upon the leg was assuredly of the British manufacture—it was a fine white cotton stocking, with two red stripes round the top of it, and marked with a large C. in black ink.

Among the wreck was also found some Manila rope, and a cocoa nut in a perfect state, the husk being removed. Copper was seen upon several pieces of the wreck: she was oak built, copper-fastened, and copper-bottomed, many of the copper bolts being visible; a sample of the rope and an oak stanchion, having a great curve in the lower part, were brought to this town—the canvas was sewed with a flat seam; part of a red striped fine gingham shirt was found. There was also seen the remains of a chocolate colored jacket, part of a woman's bombazet dress, and a part of a hemp cable, nearly new,

of about nine or ten inches; several pigs of iron ballast had been taken up by fishermen, three of which were found by these gentlemen at Grates' Cove, measuring 2 feet 4 inches by five and a half inches. It is a most extraordinary circumstance that the cables were not bent to the anchors; it is therefore presumed that the vessel had not made the land—she was found to have three anchors besides a kedge. Three of the crew had been buried decently at Grates Cove some time ago, attended to the grave by the inhabitants.

The party afterwards proceeded to Grates' Cove, where two of the anchors which had been picked up from the wreck were lying—one anchor only was marked on the crown of it with the figure 855, which it was concluded was the number and not the weight; this was the best bower and appeared to be about ten cwt.; they were both iron-stocked. From the best information that could be obtained at Grates' Cove, there cannot be a doubt but 1500*l.* and upwards in Spanish dollars had been picked up in two kegs by ten persons belonging to that place, and divided among them. From all the circumstances it would appear that she must have been a Spanish vessel of about 160 tons.

We have obtained this intelligence and published the same at the particular request of several of our readers.—[Conception Bay Mercury, Aug. 1.]

[From the Long Island Farmer.]

BEWARE.—Miss Martineau, the distinguished political economist; is about visiting our country from England, as also the noted traveller Prince Puckler Muskau, from Germany. Both are close observers of manners, and will undoubtedly print a book when they go home. We take the liberty of advising our good countrymen, in showing them the usual civilities, to keep clear of tobacco, quick eating, and self-praise.

FOREIGN INTELLIGENCE.

ONE DAY LATER FROM FRANCE.—We received last night by the ship Yazoo, Capt. Packard, Havre papers to the 2d August, with the Paris dates to the 1st of that month.

The Chamber of Deputies, on the 2d day of its session, had transacted no business of importance. Some difficulty had occurred in relation to the occupancy of the Chair, which of right belonged to the oldest member, but he being a Carlist, had declined attending on the first day of the session—when the King delivered his address, and in consequence another was chosen to take his place. On the second day he presented himself and claimed the chair, which was refused him.

LATER FROM SPAIN.—By the ship Washington Irving, from Cadiz, Madrid accounts to the 6th ult. have been received. They impart little news of moment. The Cortes were deliberating on the answer to be made to the Queen's address.

At Gibraltar, Alicant, and elsewhere in Spain, the Cholera was prevailing still, but less destructively.

MADRID, Aug. 5.—From the latest information it appears that the General-in-Chief of the army of the North (Rodil), had his head quarters on the 29th ult. at San Vincent de Arana; the neighboring towns being occupied by the troops which he took with him, under command of Generals Lorenzo, Auza, and Espartero. On the following day he was to march with these forces against the enemy, commanded by Zumalacarragui, who were not far distant, in the vallies of Goni and in Amescua.

According to intelligence received at Vittoria, Gen. Figuera was in pursuit of some bands of insurgent Alaveses.

LISBON, JULY 30.—On the 27th instant, their Majesties arrived in this city from Oporto. His Imperial Majesty the Duke of Braganza, on the day he left that city, issued a proclamation, stating that although not entirely recovered from his illness, he had not been willing any longer to delay his visit to that capital, accompanied by the Queen in order to congratulate the people, in person, on the honorable termination of the civil war. He adds—

"I could have wished to remain more than ten days among you; but the near approach of the day on which the Cortes is to be opened, renders it absolutely necessary that I should be at Lisbon for some time previous. Next year, if my health should permit, I depend upon going with the Queen, by land, to visit the provinces of the North, and on that occasion to have the pleasure of passing several days in this heroic city.

"Oporto, July 27, 1834.

D. PEDRO, Duke of Braganza."

SPAIN.—We copy from the Journal of Commerce the Speech of the Queen Regent of Spain, on opening the Cortes, and other intelligence of some interest from Spain.

Speech of the Queen of Spain at the opening of the Cortes, July 24, 1834.

Through the kindness of a friend, we are enabled to lay before our readers this important document, which has not before been published in the United States. The fact of the opening of the Cortes on the 24th July, was known in Paris and London by a telegraphic communication, prior to the sailing of the 1st of August packets; but the Speech from the Throne had not been received.

Translated for the Journal of Commerce.]

Madrid, July 24.—From the accompanying Gazette Extraordinary, and the Speech from the Throne inserted in it, you will perceive that the birth-day of Her Majesty the Queen Regent was solemnized, according to previous arrangements, by the opening of the General Cortes of the Realm, attended by Her Majesty in person, amid the enthusiastic acclamations of the faithful population of Madrid, and the general joy of all good Spaniards who witnessed this grand and imposing act, to the celebration of which the anxious care of Her Majesty has been directed, ever since she was pleased to decree the Estatuto Real. Her Majesty has brought it to its consummation, by presenting herself before the Peers and Deputies of the Realm, surrounded by the loyal inhabitants of this Court, without suffering her mind to be influenced by the sad anticipation of danger to which her precious life might be exposed in consequence of the sickness which afflicted the capital. Her Majesty will shortly return to the royal residence at San Ildefonso.

On this day, so memorable in the annals of the Spanish nation, all has been joy, satisfaction and rejoicing. The same will be the case in all the towns of the Monarchy, as the cheering news is spread of the opening of the General Cortes of the Realm under so favorable auspices.

Speech.

Illustrious Peers and Deputies of the Realm:

On finding myself this day in the midst of you, the first impulse of my heart, after taking the oath prescribed by the fundamental laws of the Monarchy, as Queen Regent, is to manifest to you the sentiments that animate me, and the gratitude which I render to Divine Providence for having granted my desires.

Closely to unite the Throne of my illustrious daughter with the rights of the nation, by giving to both as a common basis the ancient institutions of these realms, which are so distinguished for prosperity and glory,—such is the noble object which I have proposed myself, and of which there cannot be a more public testimony than that of seeing you assembled within these walls.

But notwithstanding the satisfaction which I feel on this account, it is grievous that this august act is celebrated in the midst of the calamity which afflicts various Provinces of the Monarchy, and which has extended its ravages to this capital. Still more painful is it, if possible, that during the terror caused by the sudden appearance of this plague, which in other countries has likewise given rise to lamentable disturbances, crimes have been committed of a nature so uncongenial to the noble and heroic character of the Spanish people, that they cannot be called to mind without the deepest indignation. The laws will punish these flagrant outrages; yet could I believe your co-operation necessary to prevent their repetition under any pretext, I would confidently claim it: for it is a matter which respects the defence of the very basis of society,—the maintenance of public order, and the protection of the lives and property of individuals.

It also causes me pain, that the first important subject which is to be presented for your deliberation, should be the course pursued by an ill-advised Prince, who even during the life of the King, his brother, began to give tokens of his ambitious designs, and who, since the death of my august husband, has attempted by means of civil war, to snatch the sceptre from its legitimate heir.

Immemorial custom and the ancient fundamental laws of the Monarchy, the practice observed in similar cases, impartiality, justice, everything imposed upon me the duty of submitting to you a subject of such momentous interest. But even were I able to waive so sacred an obligation, as guardian of the rights of my illustrious daughter,—I could not and ought not to forget, that the present tranquillity and future destiny of these realms depends perhaps upon

the decision you make. It will be worthy of you; and the nation awaits it calmly.

Not content with promoting rebellion by operating within the kingdom to which he belonged, that Prince fanned the flame of civil war from a neighboring State, and even attempted to enter with an armed force from that frontier. Under these circumstances, the duty of self-defence dictated those energetic measures which were demanded alike by justice, policy, and the honor of the nation. The Spanish troops entered Portugal, not to infringe the independence of a foreign State, but to defend our own rights; and in the course of a few days, the contest was brought to a termination, and the two Princes who disturbed by their presence the tranquillity of the Peninsula, found themselves banished from its territory: a fresh illustration and warning, which points to the issue of every such mad attempt.

Simultaneously with the termination of the Portuguese question, a solemn Treaty was ratified in London, which had for its object a result most important not only to the tranquillity of the two kingdoms, but to the peace of Europe. In this point of view, I have great pleasure in manifesting the friendly disposition of which repeated proofs have been given me by my august Allies, the King of the French and the King of the United Kingdom of Great Britain and Ireland; as well as the good understanding which happily exists between the government of Her Most Faithful Majesty Donna Maria II., and that of my illustrious Daughter;—the ties which unite the two kingdoms being so intimate and strong, that each, it may truly be said, is engaged in its own cause, while laboring for the common defence.

Various other Powers besides those above mentioned, have explicitly renewed their political relations with the Spanish government, since the accession of my august Daughter to the Throne; and on my own part, I have recognized some new States, both because I believed it conformable to the rules of a sound policy, and also to prevent interruption and injury to the commerce of the natives of these realms.

It were to be wished that all governments had in like manner reciprocated the benevolent disposition of the Spanish Cabinet; but although none of them have manifested an intention or desire to interfere with our domestic affairs, some have neglected hitherto to acknowledge my august Daughter as Queen of Spain. The laws of the Monarchy have raised her to the throne; the manifest will of the nation sustains her; reason and time will cause due homage to be rendered to the conservative principle of legitimacy.

The aspect presented by the interior situation of the kingdom, is far from being so flattering as your patriotism would desire; but notwithstanding the obstacles which have arisen from a state of insurrection in some Provinces, a want of harmony in others, the exhausted condition of the Treasury, and the pestilence which is prevailing in a great part of the kingdom, it has been found practicable to mitigate unavoidable evils in so critical a situation, and at the same time to introduce salutary reforms—to bring about an early re-assembling of the Cortes—to conquer in all directions the bands of rebels—to increase the strength of the army—to add new glory to our arms in a neighboring kingdom—and in effecting these great results, the decision and enthusiasm of the nation have rendered it unnecessary to require heavy sacrifices from the people.

The fidelity of the army, its constancy and courage, which have entitled it to my special regard, lay a claim upon your co-operation and counsel in aiding me to perfect this important arm of the State, by consulting the welfare of the brave defenders of the throne and the country, so far as the present state of the nation and other demands upon the Treasury permit.

To this end a statement will be laid before you, showing the various obligations which the government has to meet, the resources which it is able to command, and the extraordinary means of credit to which it will have to resort for this once, both on account of former losses and defalcations, and by reason of existing circumstances, as well as to avoid increasing the burdens of the people. But as frequent resorts to extraordinary loans are injurious, and would eventually be impossible, the greatest regularity in the administration of the finances, a prudent and rigid economy, publicity, and the intervention of the Cortes in the estimate of expenses and the imposition of public taxes, (contribuciones,) would ere long have the desired effect of making the resources of the nation correspond with its necessities. This hope is the more to be relied on, as it will further be encouraged by the arrangement of the entire foreign debt in a manner consistent with our actual resources, sup-

ported by the frankness and good faith which are the rule of my government, and also by the improved condition of our domestic debt, and its progressive extinction, aided by such funds as it is found, after careful examination, can be spared for that purpose.

My Secretaries of Despatch will likewise make you acquainted with the practical reforms which have been introduced in various branches of the administration. The division of territory, the separation and distinction between the administrative and judicial departments, the suppression of the old Councils, the new Audiences created for the benefit of certain Provinces, the removal of many obstructions to the development of the public wealth, the relief of the people from sundry onerous exactions, and other improvements which are in progress, will show you my ardent wishes, while they hold out to the nation the most flattering prospects. Nevertheless, your intelligence and wisdom will readily perceive that it is impossible to remedy in a few days the evils which have been accumulating for ages, and that oftentimes the very effort to accomplish at once what ought to be the work of time, has prevented a happy result, and put at hazard the destiny of nations.

The Estatuto Real has laid the foundation; to you it belongs, illustrious Peers and Deputies of the realm, to see that the work goes on with that regularity and concert which are pledges of stability and firmness.

As it respects myself, you will at all times find me favorable to whatever can promote the welfare and prosperity of Spain. In the few days that I have exercised, *ad interim*, the supreme power, agreeably to the will of my august husband, I have shown what were my intentions and desires, viz., to bury in forgetfulness the vestiges of past evils, to engraft upon the present state of things such reforms as are practicable, and to prepare the way for other improvements in time to come. Whatever obstacles I may encounter in this difficult undertaking, I hope, with the favor of Heaven to overcome them, sustained by your efforts, and relying upon the support of the nation. To regard its felicity and glory as my own, I have only to remember that I am the mother of Isabella II. and the grand daughter of Charles III.

The President of the Chamber of Peers is the celebrated Duke of Bailen, better known as General Castanos. He received his title in consequence of the splendid victory which he gained at Bailen in 1808 over 30,000 French troops commanded by Gen. Dupont, all of whom were either killed or taken prisoners. He is between 80 and 90 years of age!

On the evening of the 24th, the city of Madrid was brilliantly illuminated, as a token of rejoicing for the memorable events of that day.

The proceedings of the Cortes on the 25th were altogether preliminary.

Another Conspiracy discovered at Madrid.

On the nights of July 23d and 24th, a number of persons were arrested, among whom were his Ex. the Duke of Saragossa, Gen. Llanos, Alexander O'Donnel, Jose Garcia Villarta, Juan Van Halen, Romero Alpuente, Calvo de Rozas, Olavarria and Avilana. It is stated also that an attempt was made to arrest Sr. Palarca, but he was not to be found at his dwelling. These arrests were in consequence of the discovery of a conspiracy, "the object of which," says a Madrid handbill of the 24th, "was the most atrocious which can be imagined." Some particulars of this affair are contained in the following extract of a Royal Order, dated Madrid, July 24th:

"For some time past, the government of her Majesty has watched the movements of certain individuals, who being always dissatisfied with those systems which can give force to the laws and tranquillity to the people, were resolved to keep society in a perpetual state of convulsion. These men, uniting hypocrisy to perfidy, assumed as a mask for their machinations a false regard for the august object which forms the hope and joy of good Spaniards, while the true design of their disguised projects was to overturn the government of her Majesty and the Estatuto Real—thus subverting the plans of the enemies of the country, who desire to see it powerless, divided and despised. For the greater confusion of the conspirators, her Majesty chose to defer surprising them until the evening before the day in which they designed to give the signal of revolution in the Sanctuary of the laws, which her Majesty opened today, amid the rejoicing and acclamations of the friends of true liberty. Some of the persons, when arrested yesterday, had about them evidences of their projects, which were delivered to the Judges for examination, in order that without delay condign punishment may be inflicted upon the villains and their accomplices." * * *

THE CIVIL ENGINEER AND MACHINIST.
PRACTICAL TREATISES OF CIVIL ENGINEERING, ENGINEERING BUILDING, MACHINERY, MILL WORK, ENGINE WORK, IRON FOUNDRY, &c. &c. Designed for the use of Engineers, Iron Masters, Manufacturers, and Operating Mechanics. By Charles John Blunt and R. Macdonald Stephenson, Civil Engineers, Architects, &c. &c. Consisting of examples worked through their entire detail of fundamental principle, organization, and process of execution; and being in every case the known great works of British and Foreign Engineering complete at length. Exemplifying the practical application of the Laws of Statics, Dynamics, Hydraulics, Hydrostatics, Pneumatics, and General Mechanics; accompanied by full reports, specifications, estimates, and journals of progress; and illustrated by the formulae, calculations, tables, &c. in use by the first authorities. The working plans and general views of these important subjects are laid down in original drawings of great practical accuracy and careful execution, and occupying upwards of five hundred folio and imperial folio plates. In divisions, containing from ten to fourteen plates, in a portfolio. Price one guinea. Division I. is received. For sale, and subscriptions are solicited, by
WM. A. COLMAN, No. 122 Broadway, English Publication Warehouse.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.
The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of seeds, and none will be sold at this establishment, excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,
347 N. Market st. (opposite Post Office).
Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:

NEW YORK FARMER and American Gardener's Magazine.
MECHANIC'S MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly either or all of which may be seen and obtained by those who wish them; by calling at 347 North Market street, Albany.

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phileas Davis, patentee of the celebrated wire drilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.
DEAN WALKER. a 30

RAILWAY IRON.

Ninety-five tons of 1 inch by 1 inch, length 14 ft 6 in
200 do. 1 1/2 do. do. feet counter sunk
40 do. 1 1/2 do. do. holes, end cut
800 do. 2 do. do. an angle of 45 de
800 do. 2 1/2 do. do. crees with spli
soon expected.) cing plates, nails
to suit.

330 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, 5, 6, and 7 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.
d71meowr

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y.
sept. 13-1y

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.
For further information on this subject see No 49, page 772, Vol. 2, of Railroad Journal.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lanesburgh, in the county of Westchester, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty six nails, and about forty four nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lanesburgh.—August 15, 1833. A29t RM&F

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by
E. & G. W. BLUNT, 154 Water street, J31 6t corner of Maidenlane.

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.
WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.
The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested:—

Baltimore, 1832.
In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.
Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.
E. H. GILL, Civil Engineer.

Germantown, February, 1833.
For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germantown, and Norristown Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J25 1f

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscriber at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
m16



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.
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[FOR THE NEW YORK AMERICAN.]

INDIAN SKETCHES.—NO. IV.

Departure from the Grand Pawnees.

The morning at length arrived upon which we were to take our leave of the Grand Pawnees, and shape our course to the village of the Pawnee Republican, which is situated upon the Loup fork of the Platte River, about twenty miles distant from our present abode.

The couriers who had been appointed to carry the tidings of our approach to the nation, had left the village the night before. We were now drawn out in the area in front of the lodge, awaiting the movements of the soldiers who were scattered around, some driving in, and others searching for, the horses, on the small islands of the Platte.

The Chief of the Pawnee Republican Village, after lingering with us until the last moment, had started forward across the river, and now in the dim distance we could perceive his flake-white horse skimming like a bird over the crests of the hills, or disappearing in their deep undulating hollows, and then again flashing for an instant on the eye as he flew over the brow of some more distant ridge. He was pushing forward to reach his village and marshal his warriors.

In about half an hour, the soldiers having returned from different quarters, driving in front of them the horses, now commenced saddling in preparation for our departure.

In the meantime, those of the Indians who had promised horses on the first day of our meeting, now brought them up. A young Indian first came forward, and led up a bright, jet black mare—after him followed another, holding in his hand a long Buffalo tug, or halter, which restrained the wild motions of a two year old colt; his color was a snowy white, here and there broken with spots of brown. He had been caught wild from the prairies but a few weeks before. He was a slave, but he had never been mounted; his back had never bent to a burden; they led him up in his own native wildness—his tail stood out—his ears were pricked up—his eyes starting—his nostrils expanded—and every hair of his long mane seemed almost erect with an undefinable feeling of terror. At one moment he dashed swiftly around at the full stretch of the long tug which secured him—then pausing and shaking his long mane over his head, he fixed the gaze of his almost bursting eyes upon his captor. Then raising his head, and casting a long, lingering, and almost despairing, gaze upon the hills of the prairie, which till then had been his home, he made a desperate leap forward, dragging to the ground the Indian who held the end of his halter, but others rushed to his assistance and held him in. The crowd then attempted to close around him, but he reared upon his hind legs and kept them at bay with the rapid and powerful blows of his fore feet.

At length a young Indian who was standing near, threw off his robe: he crept cautiously towards the animal from behind, and then with a sudden leap he bounded upon his back, and seized the tug which was secured in his mouth. Before this, the efforts of the animal had been violent; but when he felt the burden upon his back, when he felt the curbing hand of his rider, he sent up a shrill and almost frantic scream; his form bounded in the air like that of the active wild cat; he reared, he plunged, but in vain, his rider was a master hand, and retained his seat as unmoved as if he had constituted part of the animal itself; he curbed him in, he lashed him with his heavy whip until he crouched like a dog upon the prairie; his spirit was crushed; and the last spark of freedom was extinguished. Shortly after, one of the hunters came up and tied a pack upon his back; he made no resistance, and they led him off with the rest to finish his days in drudgery and toil.

In the meantime the other Indians had led up their horses. It was evident that many of them had been urged to the commission of these acts of liberality by the excitement of the moment alone, and were now fulfilling them as matters of conscience, not of inclination; and their horses were valuable in proportion: one was lame, another blind; one led up a horse with large patches of skin galled from his back, and the ears of another were cropped close to his head. In fine, it was evident that they had selected the very worst of all their animals for the fulfilment of their promises; and four *stud* was a collection of the maimed, the halt, and the blind. One after another they had led up their horses, until one Indian alone lagged behind. The Chief inquired for him, and was told that he had gone out to search for his animal: ten minutes elapsed; and at last there

was a movement in the crowd, and a sly-looking old white headed Indian made his way through them, holding in his hand the end of a long buffalo tug; the other was secured to his horse;—such a horse! he was blind of both eyes; his tail had been cut off short to his rump; his ribs stood out in bold relief; and the very joints of his legs creaked, as he walked stiffly after his leader. As for his age there was no mode of telling it, as his teeth had long since dropped out from sheer antiquity; but it must have been incalculable.

There was a smothered giggling among the women, and a downright squall of laughter among the children, as the steed stalked forward towards its future owner. The old Indian moved towards Mr. E., and without raising his head, he placed the end of the halter in the hand of one of the soldiers.—There was a deal of mischief in his look, and I could hear a smothered chuckle rattling beneath the folds of his robe, as he drew it up over his face, and disappeared among the crowd.

When he had left, the party mounted and started at a rapid pace for the banks of the river. The heavy lumbering wagons followed more slowly after us, and a train of about half the village brought up the rear.

Upon reaching the banks we found that a party of about twenty Otoe Indians, who had accompanied us, were already on their way through the river. Some were wading up to their arm-pits in water; others, who had missed the ford, were seen floating down the stream, bolding their blankets high over their heads to keep them from the water, and struggling across the rushing current which was sweeping them far down the river. Others, mounted on horses which they had trafficked for with the Pawnees, were dashing and spluttering through the shallow parts of the river, or clinging to the manes of their steeds, as they ploughed their way through the deep parts of the muddy current.

The river at this place was nearly two miles broad, here and there interspersed with small islands. At some places the depth was but a few inches, at others it must have been from ten to twenty feet, ever varying. At one moment you were in water scarce reaching the fetlocks of your horse—the next step sent him floundering up to the holsters in some deep hole in the bottom.

After reaching the banks of the river, a short consultation was held; the heavy baggage wagons were then sent forward, with two Indians to guide them over the ford. After them followed two light deer-born wagons; one was driven by an old soldier who kept steadily in the wake of the teams. Two mules, who had acquired quite a character for obstinacy, drew the other. They were driven by a half-French half-devil boy, who was seated upon the dash board of the wagon, swearing in broken English, sometimes at the animals, and at others, at the slow pace of the oxen which dragged the wagons in front.—For some time he followed steadily in their train; but at length his patience became exhausted, and he determined to drive forward at all hazards. He plied his whip upon the flanks of the mules. At the first application they stopped short—at the second they kicked up, but at the third they commenced moving forward—for they had learnt by long experience, that patience and perseverance of their driver in the application of his lash, was sufficient to overcome even their own almost inexhaustible fund of obstinacy and ill-nature. Half a dozen steps brought the water up to the bottom of the wagon. The mules doubted, but the driver whipped on. Another half a dozen steps and the water gushed over the sides into the wagon—still the lash was busy. The next moment the beasts were swimming with only the tips of their noses and ears visible above the surface—the wagon had disappeared beneath the water, and the head of the driver, shaded by a broad-brimmed hat, went skimming along the surface, pouring out a steady stream of French and English oaths, jumbled into one common mass. Occasionally an arm was flourished above the water, inflicting a little chastisement upon the nose and ears of the animals, which caused them to dip under the water with a prodigious increase of snorting, but not much acceleration of their speed,—but at length the deep water was passed, and after drifting about a hundred yards down the river, the wagon gradually rose above the surface, and travelled slowly up the opposite bank.

The rest of the party then commenced their march in Indian file across the river, keeping in a line with a tall Indian, who led the way across the ford. Most of the party followed the guide; but the horses of some of us grew restive, and missing the ford, we drifted a short distance down the stream. Here we reached a small island, and scrambling up

its bank, we galloped across to the opposite side. Here we found the young wife of the Totan, Chief of the Otoe Indians, standing in the edge of the water. She was about twenty, tall and finely formed; add her face, next to that of the wife of the Kioway Indian, was the most beautiful of any of the Indian females we had ever met with. Her hair was parted across her forehead, and hung down upon her shoulders; a small jacket of blue cloth was fastened around her shoulders and breast, and a mantle of the same was wrapped around her body. They had been presented to her by the Commissioner but a few days before. She was standing upon a small sand bar, and the water was gurgling around her feet; a short distance in front of her the deep channel was rushing with a powerful current. She looked at the water and then at her dress with an expression of almost childish sorrow. To swim the river would ruin them; the Indians had all reached the opposite bank, and were waiting for the rest to come up, so that there was no assistance to be expected from them.

Just then the hunters dashed by her into the deep channel: they did not even notice her; they were used to such sights. I was the last of the party, and she knew it; for though we could not speak the same language, there was an imploring expression in her large dark eye as she fixed it upon me, that told every thing. Still I hesitated: I thought of pushing on; there was a powerful struggle between selfishness and a desire to assist her; she saw it, and speaking a few words in her own silvery tongue, she at the same time pointed to her new dress.

There was something so sorrowful in the tone and gesture, that I could not resist it. I took my rifle in my left hand, and reaching out my right, she seized it; she placed her foot upon mine, and with a sudden bound she was upon the back of my horse, stooping behind me with her arms around my neck. The horse upon which we were mounted had so long been accustomed to have his own way in every thing, that he grew very indignant at this new imposition, no doubt looking upon it as an infringement upon his prerogative—but a heavy lunge of the spurs subdued his wrath, and he bounded forward into the rushing river. He was a powerful beast, and took to the water like a sea fowl; the river rushed and roared around us with an almost dizzying velocity, and we could feel the strong nervous quivering of his limbs as he bore up against its violent impetus. But occasionally as he went snorting along, he cast back spiteful glances at his riders; I expected mischief, and it came to pass. We felt his hoofs touch the bottom—three leaps—he was up the bank—his heels flew in the air—the arms of the squaw were jerked violently from my neck, and I saw her form describing a somersault through the air; she landed upon her feet, and received no injury. The Indians raised a shout of laughter, and the relieved horse now being satisfied, commenced his journey towards the Republican village.

To *****

Go, false one! quaff the sparkling wine,
Let blushing morn still find thee
To lips more lovely pressing thine,—
Onths were not made to bind thee!
Thy brow with gaudiest wreaths adorn;
But ere the revel closes,
Beware of many a lurking thorn
Amidst the withered roses.
Go—mock these burning tears that fall
For fond devotion slighted;—
Exult, if memory recall
Thy vow so falsely plighted:
Away—to others pledge that vow
To me thus idly spoken;
The heart so lightly valued now
Thou'lt prize perchance—when broken.

RAILROAD AND CANAL MAP.

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Published at 35 Wall street, N. Y., by
D. K. MINOR & J. E. CHALLIS.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without aplice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New York,
January 29, 1853.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT NO. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, SEPTEMBER 27, 1834.

[VOLUME III.—No. 38.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 27, 1834.

To the Editor of the Railroad Journal.

SIR,—As a director of a railroad company, intending to commence operations in the ensuing year, my attention, in common with that of those associated with me, has naturally been directed towards the public works that have already been constructed in this country.

But while, through the medium of their yearly reports, an opportunity has been afforded of becoming acquainted with the forms and cost of the different modes of construction that have been adopted, there is no data by which to judge either of their durability or the comparative facility by which transportation is effected on them.

We have sensibly felt the want of information on these two latter points, and as the different treatises on the subject of railroads contain but little on which to form any opinion, there is no resource left to us to obtain the knowledge we desire, but an appeal, through the columns of your valuable paper, to the engineers or agents who may be connected with works of a similar character. We do this in the sincere hopes that those who are possessed of the facts that may serve to throw any light on the subject, may feel the inclination to communicate them. Believe me, truly yours,

We have cheerfully inserted the above letter in our (would that it were) "valuable Journal," with our equally sincere hopes that some one of our readers may comply with the request.

Since the establishment of our paper, it has

been our constant aim to collect and disseminate every information connected with the subject of railroads. But while, alas! we have duly communicated to our readers the facts, as we learn them, of a company having organized and commenced their work, we have seldom had it in our power to furnish any thing of the details connected with their succeeding operations. That this has not been our fault, we can conscientiously assert. Seldom does a week pass by without some, as we intend to be, stirring appeal to our readers for communications. To be sure, their lack of zeal has been productive of this one advantage to us, that oft, when scarcely knowing how to eke out a scanty paper, the "printer's devil" has cried out "copy," we have taken up our oft-recorded "appeal," and after slightly altering it, for its substance must ever be the same, handed it over to him, to supply the vacancy we would fain have otherwise filled. Surely, the "note," "scrap," and "common-place books," of our different engineers, are an ample store-house, from which, if they felt so disposed, they could draw an abundant supply of valuable matter connected with the different works they have had in charge. If each one would contribute a portion even of the information that he thus collected, it might be the means of circulating a mass of facts productive of mutual advantage.

Sincerely do we believe that, if this information could be thus disseminated, many projects of internal improvement, in which the interests of our people are materially concerned, from an accurate knowledge of the cost, and advantages of those already constructed, receive that impetus which, urging them to an early completion, would prove to be an additional source of honor and profit to the members of that profession to which we address the above remarks.

COLUMBIA AND TENNESSEE RAILROAD.—It is with pleasure we state that Col. S. H. Long, of the United States Corps of Engineers, arrived at this place on the 25th inst., on his return to Memphis. Col. Long has been engaged for nearly three weeks in the arduous and fatiguing duty of making out an experimental survey of the country from Memphis across Cumberland mountain, for the location of an extensive railroad to unite the waters of the Mississippi with

the Atlantic, by the broad waters of Chesapeake bay. From gentlemen who conversed with him, during his short stay here, we have learned that the profile of the country is most favorable for the undertaking, and that the altitude and inequalities of the Cumberland mountain are much less than was calculated on; in fact, that he has found a route over the mountain, where it does not exceed an elevation of more than 500 feet, and otherwise forms no serious obstacle. We anxiously look for the report of this scientific engineer.—[Columbia Observer.]

COL. LONG'S SURVEY.—The following paragraph, from the Jackson Truth-teller, is at once encouraging to the friends of the railroad, and indicative of that laudable spirit of co-operation which we are pleased to see manifested in different portions of the State, and which is alone calculated to give rapid and successful progression to the great public enterprise in which our people are so wisely embarking.

"The country from Jackson to the river was pronounced by him to possess facilities and advantages for the construction of the road, unrivalled by any portion of the United States. The difficulty of passing over the Buffalo Ridge will be much less than was at first anticipated. So far, then, nothing, except the will of an enterprising people, is wanting to accomplish this great work. Middle Tennessee will offer no natural obstructions but what may be easily removed; and if—as Col. Long confidently believes there can—a passage can be found through the Cumberland mountains, the way will be open, and a most favorable time offered, for the accomplishment of a work of internal improvement, the most magnificent in the Union, and one, too, which will advance Tennessee to the very climax of wealth, prosperity, and happiness."—[Ibid.]

GREAT CASTINGS.—The Screw Dock Company, in New-York, has just imported a pair of hydraulic presses, to be used in raising ships of a large class. The castings for these presses are enormous. The cylinders weigh sixteen tons each, and measure about seventeen feet in length, and nearly three feet in diameter. The original cost was £15 or \$50 a ton; the freight in the packet ship George Washington, £150 sterling, or \$700; the duty \$800; and the expense of landing them from the ship \$200. The gross cost is but about five cents a pound. We presume that so large castings as these have never before been seen in this country. The founder in England stated that it had occupied forty men two days to remove them from one side of his shop to the other.—[Journal of Commerce.]

We cheerfully give place to-day to the following letter, and shall continue, from time to time, the extracts from the pamphlet, that accompanied it, for the consideration of our numerous readers. Although, as Mr. Mills observes, it is somewhat opposed to the doctrines generally advocated in our columns, our paper of to-day will certainly give evidence to him, at any rate, that those doctrines are not exclusively advocated. Whatever may be our individual opinion as to the comparative merits of the substitute he proposes, for our railroads and canals, we have never for a moment pretended to set up our opinion in opposition to, and neglect of, that of others. Our paper is intended to be a "neutral ground," on which opinions may be interchanged without fear of being controlled by any thing like a censorship on the part of the editor.

New-York, Sept. 7, 1834.

To the Editor of the American Railroad Journal:

SIR,—Though the subject of the enclosed pamphlet may seem to oppose the object of your valuable Journal, yet as you have in view the public interest, and the forwarding the great subject of internal improvements, you may perhaps examine and give an abstract view of the contents of the pamphlet.

Our citizens have laid out so much capital and labor in the construction of turnpike roads, that it is important they should be rendered more useful and profitable, by which the public interest will be promoted, and the spirit of monopoly counteracted. The improvement of our turnpike roads, with a view to the operation of steam carriages upon them, would open a new era in our country, and give an increased impetus to internal improvement, as the expenses of making such a road would be within the means of every part of our populous country to effect, and we may imagine the amount of business which our citizens would derive from such a state of things.

Very respectfully, Sir, yours,

ROBERT MILLS.

Substitute for Railroads and Canals, embracing a New Plan of Roadway, combining, with the Operation of Steam Carriages, great Economy in carrying into effect a System of Internal Improvement. By ROBERT MILLS, Engineer and Architect.

TO THE PUBLIC.

The following papers are now in a course of publication in the newspapers of this city; but, from the press of Congressional matter, some time may elapse before the series can be completed; and as many works of internal improvement have been projected, to be early carried into execution, the writer deems it best to present them in this collected form, that the whole subject may be examined at one view.

The success which has attended the introduction of steam carriages on the common road in England, promises for these vehicles, working upon an improved roadway, a complete victory over the same motive power operating on railroads and canals, simply on the ground of economy; as the main point of consideration with those who embark capital in works of this nature is, What plan will yield the best interest to the capital invested?

Every investigation on the subject of steam carriages running on common roads goes to prove their practical utility; and that it only requires an improved state of roadway for their operation, to secure their general introduction, in preference to every other plan of transportation; nay, some of the advocates of steam carriages, working on even common roads, have gone so far as to assert, on reviewing their efficiency and economy, that in comparison, "railroads, excepting in very peculiar situations, are behind the age; and that those who embark capital in constructing them, will

be great losers." Though the writer does not entertain this idea, yet his impression is, that a more profitable investment of capital may be made, in adopting the proposed improvement of the common road, and putting steam carriages to work on the same, than in constructing either railways or canals.

Washington City, May, 1834.

NO. I.

The great expense of constructing railroads and canals, and the limited speed which, with safety, is admissible upon them, make it a desideratum to devise the means by which both of these obstacles may be overcome, and especially the first, which must eventually retard the spirit of internal improvement in every part of the world.

The immense benefit which has been realized by the introduction of steam for horse power, and the capacity of locomotive carriages to overcome obstacles of ascent and descent on common roads, which are not attainable on railroads or canals, promise for these vehicles a victory, on the ground of economy, working under favorable circumstances of roadway, far exceeding what has been achieved on railroads or canals.

Before entering upon a description of the plan of the proposed substitute for railroads and canals, let us examine into the practical results from the introduction of steam carriages upon common roads, which will enable us better to appreciate the value of the substitute proposed.

According to a report of a Select Committee of the House of Commons of Great Britain, (which Committee entered into a very minute and critical examination of the evidence given before them, on every point connected with the operation of steam carriages on common roads, and their utility for public purposes,) the following was the result of their conviction. We give it in the language of the report.

"The inquiries made have led the Committee to believe that the substitution of inanimate for animal power, in draught, on common roads, is one of the most important improvements in the means of internal communication ever introduced. Its practicability they consider to have been fully established; its general adoption will take place more or less rapidly, in proportion as the attention of scientific men shall be drawn, by public encouragement, to further improvement."

Washington, January 1, 1834.

NO. II.

The very first extensive trial of steam coaches, as agents in draught on common roads, was made five years ago, by Mr. Gurney, who travelled from London to Bath, and back, in his steam carriage; and, though part of the machinery was broken at the onset, yet he performed eighty-four miles in ten hours, including stoppages.

When Mr. Gurney gave in his evidence before the Committee, in 1831, he stated there were twenty to forty other steam coaches building by different persons, all of which have been occasioned by his decided journey of two hundred miles in 1829.

Mr. Farey, a practical and scientific engineer, stated to the Committee, that he had no doubt whatever, but that a steady perseverance in the trials made will lead to the general adoption of steam carriages, and was satisfied that their speed might be eight or ten miles per hour.

Mr. Gurney stated that he kept up steadily the rate of 12 miles per hour,—that the extreme rate at which he had run was between 20 and 30 miles per hour.*

Mr. Hancock reckoned that with his carriage

* A very curious fact was mentioned by Mr. Gurney, with reference to an accident which happened, namely, "that the carriage, when upset by Sir Charles Dance, was, at that time, going at eighteen miles an hour, but no injury happened, either to the machinery or the persons upon it; still I am of opinion, says Mr. G., that this speed might be maintained, with perfect safety, by little experience in practical management."

he could keep up a speed of ten miles per hour without injury to the machine; and Mr. Ogle stated that his experimental carriage went from London to Southampton, in some places, at the velocity of from thirty-two to thirty-five miles per hour—and further, they ascended a hill, rising one in six, at sixteen and a half miles per hour, and four miles of the London road at the rate of twenty-four and a half miles per hour, with a load of people. Also, that his engine was capable of carrying three tons' weight in addition to its own.

Mr. Russell's Steam Carriages.

[From the Edinburgh Observer.]

Through the medium of a letter received from Glasgow, we are happy to record the great and increasing success of these carriages. Our friend writes, that having recommenced their regular business-career on Wednesday morning, they ran throughout the day with the utmost punctuality. The rate of speed may be judged of from the following statement sent us: 1st carriage, No. 4, 30 minutes; 2d, No. 4, 34 do.; 3d, No. 3, 45 do.; 4th, No. 3, 46 do.; 5th, No. 1, 25 do.; 6th, No. 1, 25 do. The distance here taken is from Tradeston, Glasgow, to the Tontine Inn, Paisley; for although the carriages start from George's square, they are of course not put to their speed until they have got clear of the crowded streets; but as this distance is at least seven miles, the rate attained by the last mentioned vehicle, which we understand is the one containing the most recent improvements, is not much less than 17 miles per hour. Another circumstance, we are glad to hear, was that so highly have the public in that quarter already begun to appreciate this new mode of conveyance, that the carriages were overloaded with passengers the whole day. We observe, however, that the trustees of the Glasgow and Paisley road are by no means favorable to the undertaking, and have been for this week past busying themselves in laying down immense heaps of stones on all the ascents and best portions of the road, for the apparent purpose of obstructing the progress of the carriages, though hitherto without effect. This conduct, as might have been expected, is meeting with the general indignation of the people in that quarter.

[From the Glasgow Courier of July 1.]

We have much pleasure in noticing the last two days' most successful performance of the Glasgow and Paisley steam carriages. On Wednesday the carriages performed six trips, running every hour from ten till three o'clock, and yesterday an equal number. The carriages were crowded with passengers, and so great was the anxiety to obtain seats, that although there is accommodation for twenty-six, it was found impossible to prevent upwards of thirty persons from taking seats upon them. The average velocity of the carriage is twelve miles an hour, and the only impediment to a high rate lies in the extraordinary state of the road, which should at this moment be in the best possible condition, but has just been deeply bedded with broken stones, laid on in large masses, for the purpose of injuring the carriages. This is a line of illiberal policy, which it is hoped the trustees will not persevere in, as it cannot possibly in any way affect the success of the carriages, which will assuredly be carried through with advantage, while the road is thereby rendered unfit for the purposes of general traffic, at a

great expense to a public trust. At the sixth trip upon Wednesday last, and as the steam carriage was coming up to the new metal, it was found that enormous heaps of stone had just been laid down; and the tremendous power requisite to bear through it smashed one of the wheels, and detained the carriage till it was replaced.

[From the Glasgow Herald.]

On the evening of Friday last, a highly interesting experiment was made upon the Paisley road for the purpose of ascertaining the comparative merits of two of the company's carriages upon different constructions. A little after six o'clock the carriages left George's square, with a full supply of fuel and water adequate for eight miles. The carriages proceeded together through the crowded streets, as rapidly as safety would admit, and along the Paisley road to a point a little beyond the two-mile house, where they turned and started together. After keeping exactly together for about a quarter of a mile, the carriage on the improved construction began to show a manifest superiority, and rapidly distanced the other; and on arriving at the Gorbals, Glasgow, had gained half a mile, having done the whole distance in seven and a half minutes, while the latter required ten minutes. The same carriage had, on the previous Wednesday, done the distance from the Tontine at Paisley to the Gorbals of Glasgow, being seven miles, in thirty-three minutes, including stoppages.

[From the Glasgow Courier of July 4.]

On Wednesday the steam carriages commenced running every hour, with passengers and luggage; and they have since been plying with the most triumphant success. The carriages start from George's square a little before the hour, and proceeding down Queen street, take up passengers at the foot of it, and starting from the head of Maxwell street they pass through Tradeston, where they again take up passengers. This generally occupies about twelve or fifteen minutes; and the seven miles to Paisley are then done in thirty or thirty-five minutes. A few minutes are thus left to take in a supply of water and fuel, with the complement of passengers, at Paisley; and at the succeeding hour the same carriage again returns to Glasgow.

We also noticed in our publication of Tuesday the kindness with which the road trustees, at the Glasgow end, has accommodated Mr. Russell's carriages at their own expense (or that of the public), with a sufficient quantity of new metal, to try their powers; but we have since discovered that this kindly disposition has been carried a little too far, and that having found the carriages more than competent to the task of ploughing through the stratum of broken stones, previously laid down, they employed a large number of men on the following day, to lay down another stratum of equal thickness on the top of the former, rendering the road scarcely passable to any heavy load. Finding this expedient also ineffectual, we learnt yesterday that horses and carts and a number of men had been engaged during the whole of the night in laying down loads of broken stones, to such a depth that they were obliged to cut away the bottom of the toll-gate in order to allow it to close over the mass.

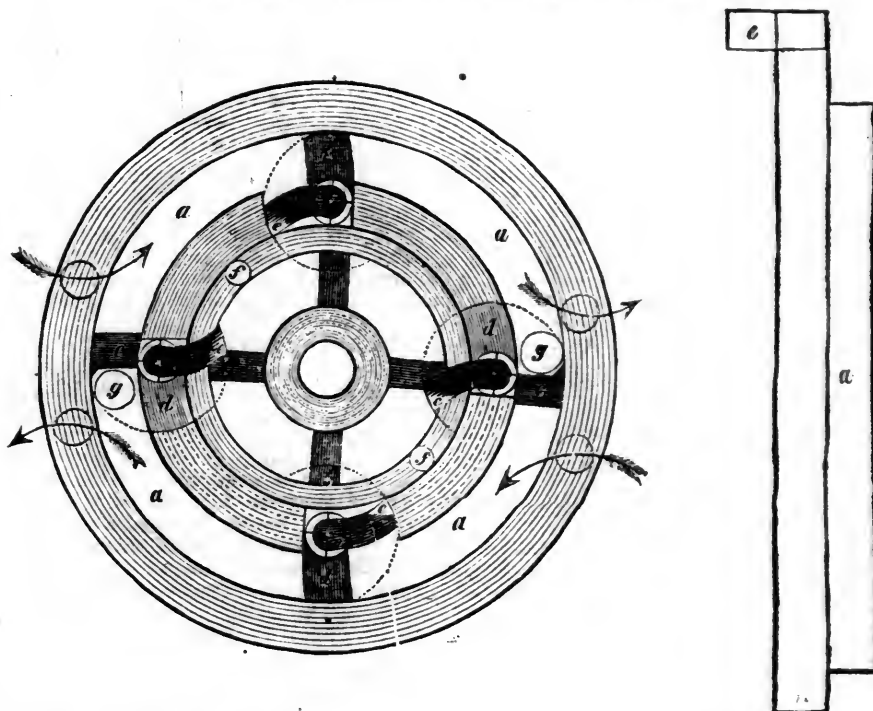
The difficulties surmounted in bringing these vehicles to the perfection here indica-

ted, and the qualifications of the inventor, are what scientific persons alone can duly appreciate; and we certainly cannot furnish our readers with a more striking estimate of both than by quoting the following observations from a very able paper on "the relation between a machine and its model," by Mr. Edward Sang, teacher of mathematics in Edinburgh, and which we find in the Mechanics' Magazine for January last:

"At the surface of Jupiter, a steamboat of 20 horses power would be unable to move—at the surface of our earth, one of perhaps 1000 horses power might perform pretty well; but at the surface of the moon, they might be made of perhaps 20,000 horses power—supposing the pressures of the atmospheres in the three cases to be alike. On Jupiter, a steam carriage would be an absolute chimera; on the earth, it is

barely possible; but on the moon, nothing would be more usual. An intensity of gravitation, slightly greater than that which the earth exerts, would altogether preclude the hope of obtaining a locomotive engine. As it is, on flat railroads they perform well; as the road becomes inclined, they become less practicable; and on common roads, nothing but the most consummate skill in the selection and in the use of the material, as well as in the contrivance of the parts, can ever be successful in their construction. Security demands strength, strength requires weight, weight increases the friction, friction calls for additional power, and power can be procured only by an increase of weight. To reconcile these conflicting claims is not the task for a beginner in mechanical contrivance, but for one well versed alike in the theory and in the practice of the arts."

NON-RECIPROCATING ROTARY ENGINE.



To the Editor of the Mechanics' Magazine:

SIR,—Be it known, that I, Ami Clark, of Berlin, in the county of Hartford, and State of Connecticut, have invented a steam engine, and that the following is a description thereof. *a a a a* is a circular cavity, formed principally by two concentric cylinders, of which the parallelogram *a*, fig. 2, is a sectional view; *c c* are standing blocks in the cavity, secured to the inner surface of the outer cylinder. Fig. 2, a side view of one of the four valves, marked *d d d d*, in fig. 1, which are secured to the outer surface of the inner cylinder, and form, when closed by the rollers *g g*, a part of the outer surface of the inner cylinder, as shown at the standing blocks, for the purpose of passing them with facility; *e e e e e*, figs. 1 and 2, the spanners, or keys, which, by coming in contact with the rollers, *f f*, will turn the valves, radiating from the centre, to receive the pressure which will propel them from the standing blocks, and cause them to run their circuit. Two of the valves are acted upon while two are passing the blocks, and thus twice the surface measure of a sec-

tion of the cavity is acted upon continually while steam is applied.

As the steam is admitted on opposite sides at the same time, it will be seen that the pressure, however great, will not generate friction. This engine gives no motion but circular; the advantage in this respect over the reciprocating I need not mention. It is obvious to every mechanic, that in continually changing or reversing the motion of heavy bodies there is great loss of power. It will be necessary to have two valves to one block, that the pressure may not generate friction; the more standing blocks and valves there are, the less the weight of the engine in proportion to the power. The circular cavity ought to be small in diameter, and the cylinders which form it can be made with sufficient length to acquire the surface measure requisite. The blocks may be secured to the outer surface of the inner cylinder, and the valves to the inner surface of the outer cylinder, if preferred, which will cause the outer cylinder to revolve.

AMI CLARK.

[From the Utica Observer.]

SHIP AND STEAMBOAT NAVIGATION.

We have much pleasure in reporting of the Convention held on the 11th instant in this city, to take into consideration the truly grand internal improvement, of making a SHIP CANAL round the Niagara Falls, and from Oswego to the Hudson, that a large number of delegates from various sections on the route met at the City Hall, when the meeting was organized by calling C. J. Burckle to the chair, and appointing Joseph E. Bloomfield, Secretary, *pro tem*. On motion it was Resolved, that a committee of seven be appointed to select officers for the meeting, draft resolutions and prepare a memorial to the legislature. Adjourned to 3 P. M. when the committee reported the name of James G. King, (of the chamber of commerce New-York,) President; John Townsend, of Albany, A. B. Johnson, of Utica, G. A. McWhorter, of Oswego, and Amos S. Fryon, of Lewiston, Vice Presidents; James E. Bloomfield, of Utica, and James H. Bell, of New-York, Secretaries.

The meeting was addressed by Messrs. Burckle, Stewart, Gen. Smith, (of Oswego,) J. H. Bell, and J. E. Bloomfield, presenting the great importance of immediate action on this subject, asking the general government to commence, as a national work, a Ship Canal for the eight miles required round the Niagara Falls, and that our State should execute the work of an enlarged canal for Steamboats thence from Oswego to Utica, and from there to the Hudson, calculated on the largest scale proportioned to the supply of water.

J. E. Bloomfield read a memorial containing much valuable information, which was adopted with several spirited resolutions. A central State corresponding committee, consisting of Henry Seymour, J. E. Bloomfield, A. B. Johnson, C. P. Kirkland, Alvan Stewart, A. Munson, E. B. Sherman, R. B. Miller, and N. Devereux, were appointed to receive and answer communications, with full power to take steps to advance the project. In New York a corresponding committee, consisting of James G. King, Isaac Hone, John L. Graham, Abraham Varick, F. C. Cutting and James H. Bell, was appointed. In Albany, Erasmus Corning, C. E. Dudley, and L. Benedict.—Schenectady, John I. Degraff, Alonzo C. Paige, I. Riggs. Oswego, C. J. Burckle, G. A. McWhorter and Henry Fitzburgh; with other committees on the route and adjacent counties.

We have great pleasure in presenting to our readers the above detailed account of the Canal Convention at Utica, as well as the following spirited resolutions, passed unanimously.

Resolved, That experience teaches us that the Erie Canal must, at some future period, (which period is near at hand,) become inadequate to transport all the products that will be furnished even by our own State, without reference to other sections of country that will naturally desire a market in the city of New-York; and that an enlightened forecast should induce our Legislature to adopt the proposed improvement, before it shall become indispensable, as the State will gain by this anticipation a new and enlarged commerce, that will otherwise be driven to seek a foreign market.

Resolved, That the great efforts of the Canadian government, to improve the navigation of the St. Lawrence, and, by means of the Welland canal, to furnish an uninterrupted ship navigation from the great lakes to the Ocean, and the equally great efforts of some of our sister states to divert from New-York the carrying trade and products of the west, admonish us to lose no time in counteracting these formidable, but noble rivalries.

Resolved, That a counteraction can be effectually accomplished by providing a navigable communication from the great western lakes to the Hudson, for vessels of a construction adapted to the navigation of the lakes.

Resolved, That this great improvement can be accomplished by constructing slack water and canal navigation from Lake Ontario, through and along the Oswego river, the Oneida Lake, Wood Creek, and the Mohawk, to the Hudson.

Resolved, That the natural facilities for the undertaking are so great, that it may be completed at an almost trifling expense in comparison with the great objects in view.

Resolved, That in the construction of this great improvement, vessels from Lake Erie may reach a market some weeks earlier in the spring, than through the Erie canal; and by means of the magnitude of such vessels, the expense of freight will at all times be less than by canal boats. These two advantages over the present mode of transportation will essentially counteract the difficulties that will otherwise induce shipments to Montreal, Quebec, and other markets—especially as the railroad from Utica may, if the state shall please, be used to complete the intercourse with the Hudson at seasons of the year when the Erie canal shall be closed.

Resolved, That in connexion with these improvements, the above navigation for lake vessels may, with but little additional expense, be extended to the Salt Springs at Salina, to Ithaca, at the south-western extremity of Cayuga Lake, and to Seneca Lake.

Resolved, That a memorial be presented to the next legislature on the subject of these resolutions, praying that an examination and survey be made of the proposed improvement, to embrace its practicability, importance, and probable cost.

Resolved, That the Central Executive Committee appointed at this meeting give efficacy to the foregoing resolutions by corresponding with New-York, Albany, Oswego, Geneva, and other places peculiarly interested, and pursue vigorously all other measures which they shall deem serviceable to the great enterprise contemplated by this meeting.

Resolved, That the several towns and counties interested in the proposed improvements, which have not been furnished by this meeting with a corresponding committee, be requested to organize such a committee, and notify the names thereof to the General Executive Committee at Utica.

The meeting was then adjourned sine die.

J. E. BLOOMFIELD,
JAMES H. BELL,
Secretaries.

Utica, September 11, 1834.

SANDY AND BEAVER CANAL.—There is now a fair prospect that this canal will soon be commenced. Nearly \$200,000 of the stock has now been subscribed, and the charter is a very favorable one to the company: it will be perceived by an advertisement in this paper that our Pittsburg friends have taken up the project.—[Steubenville Herald.]

Miami Canal.—The locks, eleven in number, which connect the main canal with the Ohio River, are now completed.

SAFETY OF LEAD PIPES PROTECTED BY TIN.—Extract of a letter from Mr. G. Chilton, dated New-York, June 23, 1834.

Dear Sir,—Observing, in a late number, a notice of Ewbank's patent tinned lead pipes, and having had many applications for information concerning the danger attending the use of metal pipes for conveying water, beer, cider, &c., I have been induced to subject the pipes of Ewbank to a few trials, for the purpose of ascertaining whether, from the occasional contact of acids, any deleterious solution of lead would attend their ordinary use. It is well known, that the common beer pump, with a leaden pipe, has frequently given to the liquor a dangerous impregnation, especially after remaining stagnant for a time, and the beer in a sour state. The substitution of block tin would remove the apprehension of danger, but its greater price offers a strong temptation to the use of lead. It appears to me that the lead tube lined with tin will answer the ends of cheapness, safety, and durability. I would therefore invite your attention to the following

experiments, which, if you think them of any importance to the public, you may insert in your Journal.

Experiments.—Various portions of lead tube, coated, some with pure tin, and others with different alloys of tin and lead, were bent into the form of a semi-circle, and filled with vinegar of different degrees of strength. After standing, some a month, and others six weeks, with occasional disturbance, the clear solutions were tested, first with sulphate of soda, and afterwards with bi-hydro-sulphuret of ammonia. The application of the first of these tests, namely sal. soda, produced no alteration in any of the solutions, from which it must be inferred that they contained no lead.

The application of the second test produced, as was anticipated, a brown precipitate of sulphuret of tin. In the same manner, two fresh pieces of tube were filled with a strong solution of common salt, which remained in contact for some time. The solutions, when assayed with the same tests, showed that nothing but a little tin was dissolved.

It appears that in all these cases, which I regard as galvanic effects, the tin was the most oxidable metal, although, when not under the influence of polar arrangement and in the open air, lead appears to oxidate sooner than tin. It is scarcely necessary to remind you that results similar to these were obtained thirty years ago by the celebrated Professor Proust, at Madrid, who undertook for the Spanish government an extensive series of experiments on the different alloys of lead and tin, with the express view of determining whether the popular prejudices against the coating of copper vessels with an alloy of tin and lead, which is the common practice, was ill or well founded. Nothing can be more satisfactory than the conclusions he drew from his labors, namely, that as, in all his numerous experiments, neither lead nor copper were dissolved, there is little reason to fear the solution of lead from the tinning of our kitchen utensils. I may just mention here, that I am in the habit of cleaning out my soda fountain every spring with dilute muriatic acid, which uniformly dissolves the oxide of tin without touching the copper, which I am persuaded will remain as securely as the sheathing copper in Sir Humphry Davy's great experiment, and for the same reason.—[American Journal of Science and Arts.]

Mechanics—The Actions and Postures of Animals, and particularly of Man, illustrate beautifully the observations with respect to the centre of gravity.

A body, we have seen, is tottering in proportion as it has great altitude and narrow base—but it is the noble prerogative of man to be able to support his towering figure with great firmness, on a very narrow base, and under constant change of attitude. This faculty is acquired slowly because of the difficulty. A child does well who walks at the end of ten or twelve months; while the young of quadrupeds, which have a broad supporting base, are able to stand and even to move about almost immediately.

The supporting base of a man is the space occupied by and included between the feet. The advantage of turning out the toes is, that without taking much from the length of the base, it adds considerably to the breadth.

If there be much art in walking on two

perfect feet, there is still more in walking on two slender legs, with rounded extremities; which, however, we often see done, by mutilated soldiers and sailors.

All the ladies of the empire of China have to acquire nearly the same talent as these victims of war; for barbarous custom has crippled them, by confining their feet for life in the shoes which fitted them in infancy.

But surpassing in difficulty any of these instances is the practice, which is general among the inhabitants of the sandy plains called the *Landes*, in the south-west of France, of walking on stilts. The *Landes* afford tolerable pasture for sheep; but during one portion of the year they are half covered with water, and during the remainder they are still very unfit walking-ground, by reason of their deep loose sand and thick furze. The natives meet the inconveniences of all seasons by doubling the length of their natural legs, through the addition to them of the stilts mentioned, which they call *des echasses*. Mounted on these, which are wooden poles, put on and off as regularly as the other parts of dress, they appear to strangers a new and extraordinary race of long-legged beings, marching readily over the loose sand, or through the water, with steps of eight or ten feet in length, and with speed equalling that of a trotting horse: their moderate journeys being of thirty or forty miles in a day. While watching their flocks, they fix themselves in convenient stations, by means of a long staff supporting them behind, and with their rough sheep-skin cloaks and caps, which cover them above, like thatched roofs, they appear like little watch-towers, or singular lofty tripods, scattered over the face of the country.

Still beyond the art of walking on stilts is that which some persons attain of walking and dancing on a single rope or wire; or even of keeping the centre of gravity above the base, while standing on the moveable support of a galloping horse. A rope-dancer usually carries a long pole in his hand, to balance him: it is loaded at each end, and when he inclines, he throws it a little towards the side required, that the reaction may restore his body to perpendicularity.

Much art of the same sort is shown in the attitudes and evolutions of the skater; in the amusements of supporting a stick upright on the end of the finger; and in many other feats of a like kind.

Attitudes generally depend on the necessity of keeping the centre of gravity of the body over the base under variety of circumstances, as in—the straight or upright port of a man who carries a load on his head—the leaning forward of one who carries it on his back—the hanging backwards of one who bears it between his arms—the leaning to one side of him who is carrying a weight on the other side—the habitual carriage of very fat people, whose head and shoulders are thrown back, giving a certain air of self-satisfaction,—an air which belongs also to the state of pregnancy, and even to that of the dropsical patient, although producing in it so sad an incongruity.

When a man walks or runs, he inclines forward, that the centre of gravity may overhang the base; and he must then be constantly advancing his feet to prevent his falling. He makes his body incline just enough to produce the velocity which he desires.

A man, in pulling horizontally at a load, is merely causing his body to overhang its base, so that its tendency to fall may become a force or power applicable to the work.

When a man rises from a chair, he is seen first bending the body forward, so as to bring the centre of gravity over the feet or base, and then he lifts the body up. If he lift too soon, that is, before the body be sufficiently advanced, he falls back again.

A man standing with his heels close to a perpendicular wall, cannot, without himself falling forward, bend sufficiently to pick up any object that lies before him on the ground; because the wall prevents him from throwing part of his body backward, to counter-balance the head and arms, that must project forward. A man, little versed in such matters, agreed to give ten guineas for permission to try to possess himself of a purse of twenty, thus laid before him: he of course lost his money.

When a man walks at a moderate rate, his centre of gravity comes alternately over the right and over the left foot. This is the reason why the body advances in a waving line, and why persons walking arm in arm shake each other, unless they make the movements of their feet to correspond, as soldiers do in marching.

Sea sickness is a subject closely related to the present. Man requiring, as now explained, so strictly to maintain his perpendicularity, that is, to keep the centre of gravity always over the supporting part of his body, ascertains the required position in various ways, but chiefly by the observed perpendicularity, or other known position of things about him. Vertigo and sickness are the consequences of depriving him of his standards of comparison or of disturbing them.

Hence, on shipboard, where the lines of the masts, windows, furniture, &c. are constantly changing, sickness, vertigo, and other affections of the same class, are common to persons unaccustomed to ships. Many persons experience similar effects in carriages, and in swings; or on looking from a lofty precipice, where known objects being distant, and viewed under a new aspect, are not so readily recognized; also in walking on a wall or roof; in looking directly up to a roof, or to the stars in the zenith, because then all standards disappear; on entering a round room, where there are no perpendicular lines of light and shade, as when the walls and roof are covered with a paper which has no regular arrangement of spot; on turning round as in waltzing, or if placed on a wheel; because the eye is not then allowed to rest long enough on any standard, &c.

People when in the dark, and therefore blind people always, use standards belonging to the sense of touch; and it is because, on board of ships, the standards both of sight and of touch are lost, that the effect on persons is so very remarkable.

But sea sickness also partly depends on the irregular pressure of the bowels among themselves and against the containing parts, when the influence of their inertia and weight varies with the rising and falling of the ship.

From the nature of sea sickness, as discovered in these facts, it is seen why persons unaccustomed to the motion of a ship often find relief by keeping their eyes directed to the fixed shore, where it is visible; or by lying down on their backs and shutting their

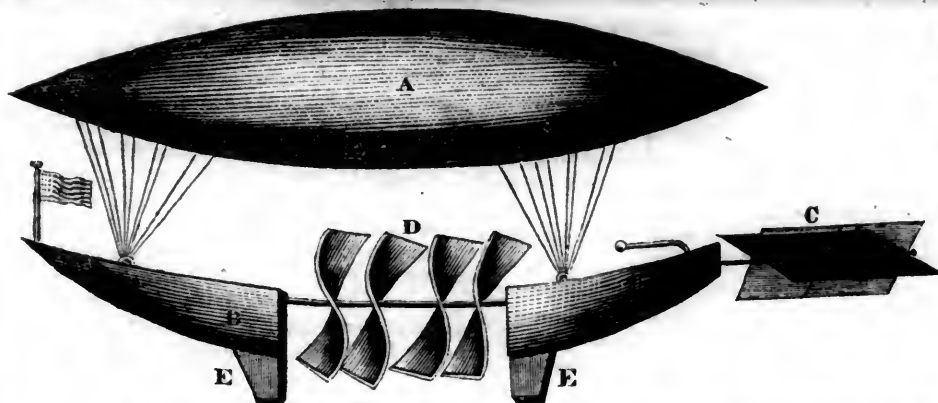
eyes; or by taking such a dose of exhilarating drink as shall diminish their sensibility to all objects of external sense.

As no condition or form of matter escapes from the great laws of nature, we find the attitudes and general condition of vegetable, as well as of animal bodies, characterized by the necessity of having the centre of gravity supported over the base. Thus, with what admiration do we contemplate the pine and other trees in the forests of nature, springing up to heaven as perpendicularly as if the plummet had been at work to direct them; and on the brows of precipitous hills no less than in the level plains! On a smaller scale, we see the grasses and corn-stalks of our cultivated fields illustrating the same truth. And whenever, in tree or shrub, accident or peculiar nature causes a deviation from the laws of perpendicularity, additional strength and support are provided.—[Dr. Arnott.]

FLIES.—It is well known that flies will deposit their eggs on any surface which affords a suitable nidus for them. I remember a gentleman's son who suffered severely from the larvæ (maggots) of a fly, which proceeded from eggs that had been laid in the ear; but the most extraordinary case of this sort which has come to my knowledge occurred in a negro man at Kellitt's estate, in Jamaica. He was a tradesman, and a very intelligent fellow. When I first saw him, his nose and his cheeks were very much swollen, rendering his face hideous; and he suffered much severe pain, I immediately suspected the cause, and soon succeeded in making the residence of the maggots so uncomfortable to them, by application of turpentine and olive oil, with green tobacco juice, up the nostrils, that they came away gradually; but it occupied at least a fortnight before the whole were removed, so deeply lodged were they in the usual passages. I desired a man to keep a tally of the numbers of his tormentors; and he did so, I have no doubt, faithfully; after which he handed it to me, and it is still in my possession. It contains 23 crosses (X) for ten each, and V for five, amounting to 235 larvæ of, I believe, the bluebottle fly. Almost all of them were full grown, and forming, perhaps, such a brood of maggots as never proceeded from any man's head before. Flies abound upon sugar estates; and, when we recollect how often negroes go to sleep in the open air, the wonder is that similar incidents do not occur more frequently.—[Magazine of Natural History.]

How to make a bowl of Punch.—On the 26th Oct. 1694, a bowl of punch was made at the Right Hon. Edward Russel's house, when he was Captain General and Commander-in-Chief of his Majesty's forces in the Mediterranean.

It was made in a fountain in the garden, in the middle of four walks, all covered over head with lemon and orange trees; and in every walk was a table, the whole length of it covered with cold collations, &c. In the said fountain were the following ingredients, viz: four hogsheads of brandy, eight hogsheads of water, twenty-five thousand lemons, twenty gallons of lime juice, thirteen hundred weight of fine Lisbon sugar, five pounds of grated nutmegs, three hundred toasted biscuits, and lastly a pipe of dry mountain malaga. Over the fountain was a large canopy to keep off the rain, and there was built on purpose a little boat, wherein was a boy, belonging to the fleet, who rowed round the fountain and filled the cups of the company, and in all probability more than six thousand men drank thereof.



Aeronautic Steam Car.

To the Editor of the *Mechanics' Magazine*:

SIR,—Herewith I send you a proposed plan for an Aeronautic Steam Car, which, if you deem worthy of your attention, you may record in your Register of Inventions and Improvements. Of the expediency of the project, your readers and yourself must be the judges. For my own part I should not have thrust it upon your attention had I the slightest thought of its inexpediency. I am of the opinion that, if properly constructed, it will succeed beyond a doubt in calm weather. Of the effect that would be produced, should Æolus unpack his chariot during one of its aerial flights, I am unable to speak; but I presume the tempest-tossed voyager would be able to conduct his frail bark with as much skill certainly as our modern aeronauts, who are limited in their operations to a discharge of gas and ballast. The plan herein proposed occurred to me some years since, but I have not availed myself of the advantages that arise from an actual experiment, because of the expense which must necessarily be incurred in the construction of such a machine.

The sketch represents a side view of the car. A is a balloon; B, the car attached thereto; C, a helm to govern its course; D, spiral vanes; E, supports for the car when at rest. Let two balloons, of the form represented in the drawing, be made of silk, prepared in the usual manner, both of the same size. A silk netting is thrown over each one, but is collected into a few cords at a short distance from each extremity of the balloon. The balloons being placed horizontally and parallel with each other, a car is suspended a few feet below, in the manner represented in the sketch, being attached at four points. The car may be made of any desirable form, of some material combining in an eminent degree strength and lightness. A light frame of wicker-work covered with oiled silk might answer the purpose. The car contains,

1. A simple apparatus for generating hydrogen gas, suitably connected with the balloons by pipes. Valves are also provided for the intromission and eduction of the gas at the disposal of the aeronaut. If it is required to ascend, a greater quantity of gas is introduced, the balloons being constructed so as to admit of it. A contrary process causes a descent. The usual way of effecting a rise by throwing out ballast is therefore wholly avoided, and the car is not encumbered by unnecessary baggage.

2. A small steam engine of the simplest construction, with gearing to move the silken vanes or wings, of a spiral form, which are placed on both sides of the car. The boiler

may be heated by the combustion of water in combination with bituminous or oleaginous substances, on the principle of "Mortrey's American Water-Burner."

3. A helm of silk stretched on rods placed in the stern, to govern the motions of the whole. This may be made after the manner represented in the drawing, where two fans are joined together at right angles with each other, (its action on the air will readily be perceived,) or by two distinct fans, placed so as to act vertically or laterally.

4. A barometer, thermometer, compass, and the whole et cetera necessary for an aerial voyage.

Let us now suppose the balloons to be inflated, and the whole with one person buoyant in the air, the balloons being of sufficient capacity to sustain the whole. Gas is now introduced till it rises. When a sufficient height is attained let the silken vanes be caused to revolve with rapidity. A rapid progressive motion is the result. Should any of your readers think differently, or should they discover any difficulty, theoretical or practical, they will please make it known through your columns, that I may avail myself of the same medium (with your permission) to correct, acknowledge, or explain, as the case may be, as I hold myself in readiness to answer all queries respecting the above, if possible; and I am equally ready to confess my error, if it shall be clearly shown. Its practicability rests upon the truth of two points: 1. Can balloons be constructed of sufficient buoyancy to support a car containing the above described apparatus? 2. If supported, will a progressive motion be caused by the action of the spiral vanes on the air? When we reflect that balloons have been made capable of raising four persons, and that the apparatus cannot exceed the weight of two persons, the truth of the first of these propositions becomes sufficiently apparent. That the air is a sufficient abutment to cause progressive motion, if acted upon properly, is exemplified in the flight of birds, where muscular action is exerted to acquire and maintain a height, as well as to move forwards. The words of poetry as quoted in your last will be strictly verified:

"Soon shall thy arm, unconquered steam! afar
Drag the slow barge, or drive the rapid car;
Or, on wide moving wings, expanded, bear
The flying chariots through the fields of air."

In conclusion, Mr. Editor, I would beg you to overlook the many errors that must occur in this article. "I am no orator, as Brutus is," and am equally unskilled in "chaining winged thoughts to the parchment." At some future time I purpose to furnish you with drawings of a newly invented Portable Horse Power which I possess. I have other objects in view besides a desire

to contribute to the advancement of mechanic arts. I consider that yours is indeed a "Register of Inventions and Improvements," and, therefore, a person unable to avail himself of the usual protection by patent may in a great measure secure to himself the credit, at least, of his invention by publication. The world may then judge of the originality of a project, and a fair copy be present for the accommodation of those who would avail themselves of the advantages of re-invention.

Respectfully, yours,

B. G. N.

Dexter, Mich. Ter., August, 1834.

Apparatus for extracting Caloric by Compression for heating Rooms.

To the Editor of the *Mechanics' Magazine*:

SIR,—It appears to me most probable that some plan has heretofore been adopted, or proposed, for extracting caloric by compression for heating rooms, &c. I can only say that I have no knowledge of any instance of the kind, nor have I made any experiments on the subject, except on a very small scale, which however have been very satisfactory. I intend, soon as convenient, to construct an apparatus of the following description:

A cylinder six feet long and six inches in diameter, with a permanent partition or cylinder-head in the middle, dividing the interior into two equal parts. In each part of the cylinder is a piston with packing and piston rod, with cross-head and guides, as is usual in steam engines. The two cross-heads are connected with each other by two rods, which extend from the two ends of one cross-head to those of the other, and of such a length that when one piston approaches the centre-head, the other recedes to the opposite end of the cylinder. On one side of the cylinder, and near the centre-head, is a branch, and within the branch a puppet valve, which admits the induction of air, but prevents its escape. On the other side, opposite the first, is a second branch and valve, which permits the air to escape from the first section of the cylinder, but prevents its return. These valves are drawn to their respective seats by spiral springs. Near the second branch, but communicating with the other section of the cylinder, is a third branch, with a cock-valve. From the head of this valve a crank or lever projects horizontally about three inches towards the cylinder. To the end of this lever is attached, by a revit or moveable joint, a rod, which extends to the end of the cylinder, having a hook or catch near the end, which takes to the second cross-head, whenever the second piston is brought forward to the centre-head; and is thereby, when the piston recedes, carried about three inches, thus opening the valve, and is then detached from the cross-head by means of an inclined projection on the lower side of the rod coming in contact with a pin, which for this purpose projects from the end of the cylinder, and the valve is then instantly closed by a spring. Opposite the third branch is a fourth, with cock-valve, lever, and rod; this rod also extends to the end of the cylinder, and the end being bent backward comes within; so that when the second piston approaches the end of the cylinder, it comes in contact with the bent end of the rod, moves it two or three inches, and thus opens the valve: the rod is again brought back to its first position; thus closing the valve by the approach of the cross-head,

To the first branch is attached a pipe, which conducts air to the first section of the cylinder from without: to the second is attached a pipe, which receives the compressed air from the cylinder. This pipe communicates with another, being connected by a flanch or other joint, and having a valve near the joint, which admits the compressed air to the second pipe, but prevents its return. In the same manner the second pipe communicates with a third, and that with a fourth, the order thus extending through any number of pipes, of any convenient dimensions, and any variety of positions, with joints and valves. These are called heating pipes, the last of which communicates with the second section of the cylinder by the third branch. Another pipe is attached to the fourth branch, which conducts the liberated air out of the room.

These pistons are put in motion by wind, water, or other power, the third valve being kept closed, and the fourth being kept open, (which may be done by raising the two rods connected with these valves a little out of their usual positions,) till the air within the heating pipes becomes compressed equal to about twelve atmospheres, when the two rods, being returned to their places, are put in operation. By this arrangement it will be understood that the pistons, being connected, and the expansive force of a portion of the compressed air being applied to the piston, it contributes much, if not most, of the power required for compressing it. Note—In the foregoing description, the cylinder is supposed to be fixed in a horizontal position, but may be either horizontal or vertical, as may be most convenient.

I have not yet had opportunity of ascertaining by experiment what quantity of heat may be thus obtained; but I think I may safely calculate, that about three-fourths of the caloric contained in the air thus compressed will be evolved during its progress through the heating pipes; and that the atmosphere contains at least one hundred degrees of caloric when at the temperature of zero: therefore, if the piston makes one hundred vibrations per minute, and compresses at each one cubic foot of air, it follows that the temperature of the air contained in a room ten feet square may be raised seventy-five degrees in ten minutes; or twenty-four rooms may be kept comfortably warm in the coldest weather. The liberated air must not be permitted to escape within the room, as it will be intensely cold, and might be employed to advantage in the preparation of ices, or in cooling apartments in warm weather.

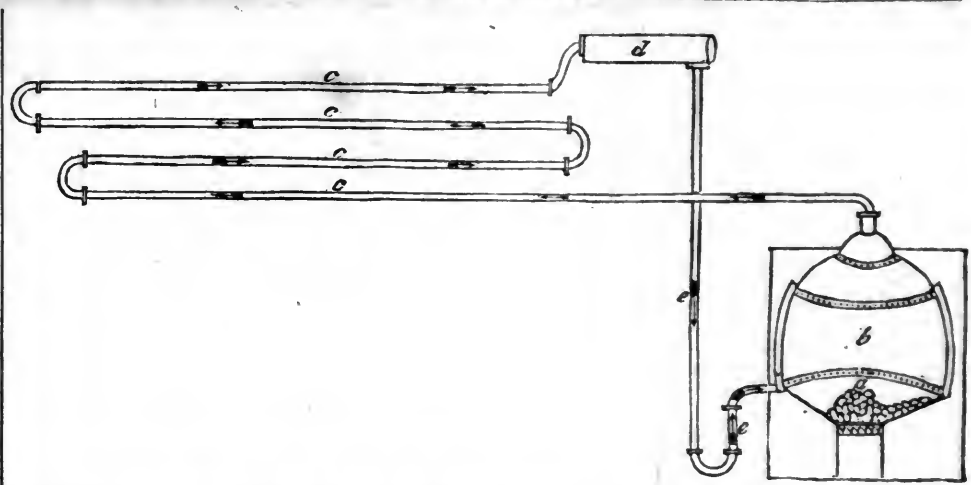
Yours, very respectfully,
RUFUS PORTER.

Billerica, Mass., Aug. 16, 1834.

Notice of a Hot-Water Apparatus, invented by
Mr. John Darkin, Engineer, Norwich.

Having observed a paragraph respecting this apparatus in a Norwich newspaper, we wrote to Mr. Darkin, who, with commendable liberality and promptitude, sent us the annexed letter and sketch. The system adopted appears to be similar to that of Mr. Perkins, but at a temperature not exceeding that of boiling water.

"In reply to your inquiry, I cannot tell whether my hot water apparatus differs from all others in use or not, never having seen a single design of the kind until after I had



constructed my own; and since that time I have only read the accounts of those which are described in the Gardener's Magazine. I have derived much amusement from these, from observing that other attempts have been attended with similar difficulties to those which I had to encounter, before I could get this apparatus to act to my wishes. I have great pleasure in sending you a description of it, in order that you may judge of its merits; and if you think it likely to afford additional hints, and to be deserving of a place in either the Gardener's Magazine, or in the Architectural Magazine, it is very much at your service.

"The apparatus consists of a furnace, a boiler, cast-iron tubes of any diameter, an expansion tube, &c. as shown in the accompanying sketch. The tubes may be connected with the boiler, in any way which circumstances require, and carried in any direction, so that they do not descend below the level of the bottom of the boiler. It being understood that a given number of superficial feet of tube will throw off a certain quantity of cubic feet of hot air per minute, it can easily be ascertained by the admeasurement of the house, and the quantity of glass in it, what quantity of tubing is required for it.

"I need not enlarge upon the efficiency and economy of my own plan of warming, as you will be a competent judge of its qualities by my description of it. It certainly has a decided superiority, in every respect, over the common mode of heating by fires, and particularly in retaining the required temperature with a small consumption of fuel, and very trifling attention. Boiling water is much to be preferred to steam heat. My own green-house, in which the apparatus is constructed, loses but a few degrees of heat by allowing the fire to go out for six or eight hours in the night. A short time is sufficient to make the water boil again, when it expands and displaces the cold water in the tubes, which are immediately supplied with hot water from the boiler, the cold water returning through the expansion tube down the returning tube, whence it is heated and again projected forward; thus keeping up a continued circulation of hot water through the tubes for a considerable time, even after the fire has been allowed to die out.

"This apparatus can be applied with the best effect to horticultural and public-buildings of every description, mansions, offices, warehouses, drying rooms, &c. &c.; and, as the tubes have no connection with the fire, not a particle of burned air is commu-

nicated by them to the room in which they act."—[London's Magazine.]

AGRICULTURE, &c.

WHEAT.—Extract of a letter from Maine to the Secretary of the H. F. & H. Agricultural Society:

"My winter wheat is sown between the 1st and 7th of September, (but in the Connecticut Valley may be sown as late as the middle of September.) With the wheat I sow 1½ bushels of oats to the acre—the oats will be a protection to the wheat during the winter and a manure in the spring—sometimes I sow one to two hds. lime to the acre, and one bushel of plaster of Paris the spring following.

"Last year I made the experiment in my garden of sowing some winter wheat in the spring and cutting it frequently until 1st September, my usual time of sowing wheat; it has succeeded so well that I intend next spring to sow an acre with winter wheat and feed with calves, say 3 yearlings, or animals that will not tread too hard or feed too close until September.

"The advantage looked for is that it will stand the winter better, and be fit to reap earlier than if sown in autumn.

"Have you any of the Black Sea wheat? The heads are large and will be fit to reap some days earlier than our common wheat, and out of the way of rust. Can send you ½ bushel. Have you any of the Skinless Oats? If not, can send you one bushel."—[Hampshire Gazette.]

PITTING TURNIPS.—As the turnip harvest is approaching, we take the liberty of suggesting to those who cultivate the Swedes, our method of pitting them for winter. These pits are limited to two feet in width, and of an indefinite length, and are dug in a dry situation, seldom more than two feet deep. When the pit or hole is filled with roots as high as the surface of the ground, the turnips are laid by hand, the tops out, and sloping to the centre, until they terminate in a ridge which is generally about two feet above the ground. The whole are then covered with straw and then with earth. The important point follows: The crown of the ridge is then pierced with an iron bar at intervals of a yard, and the earth passed out, so as to leave an entire aperture into the turnips, and into each of these apertures a wisp of twisted straw is loosely inserted. The roots will heat, and unless the rarefied air is permitted to escape, the turnips are apt to rot. The openings permit its escape, without danger of the frost doing injury. With this precaution we have not lost one bushel in a thousand. The same course would

no doubt be beneficial in preserving the *Man-gel Wurtzel*.

LARGE CROPS OF RYE.—The Editor of the *New-England Farmer*, after collecting much testimony in favor of early sowing, concludes with the following:

Ephraim Wood, Esq. of Camden, Me. sowed 5 bushels and 3 pecks of rye in September, 1822, on about 5 acres of ground newly cleared of the wood, which produced 240 bushels—over 40 bushels to the bushel sown, and about 48 to the acre. Its being sown early and in good ground occasioned a large number of shoots to spring from one root. In the year 1827, according to the *Hampshire Gazette*, Linus and Dorus Graves, of Hadley, Mass. had 40 acres of rye in one field, which was so stout and thick that the reaping of one fourth of an acre was considered a day's work. It was estimated that the average product would be about 35 bushels to the acre. The *Newburyport Herald* stated that Capt. John Sanborn, of East-Kingston, Rockingham county, N. H. raised, in 1830, 357 bushels of winter rye from 7 bushels sown, on 9½ acres of ground; being 51 bushels to the bushel sown, and about 37½ bushels per acre. Mr. Richard Adams, jr. received a premium of \$20 from the Massachusetts Agricultural Society, for having raised, in 1830, 38 bushels and 3 pecks of rye from an acre. Mr. Adams Knight, of Newbury, Mass. received a premium of \$20 from the Massachusetts Agricultural Society for having raised, in 1832, 45½ bushels of rye on an acre of ground. This rye was sown in August. Mr. Gideon Foster, of Charlestown, Mass. obtained, in 1832, 38 bushels and 2 quarts of winter rye to the acre. Mr. Tristram Little, of Newbury, Mass. raised, in 1832, 45 bushels and 20 quarts to the acre. Mr. N. Smith, of Roxbury, Mass. raised, in 1833, 72½ bushels of rye on 1 acre and 264 rods. Mr. John Keely, of Haverhill, Mass. in 1832, raised from 1 acre and 13 rods, 46 bushels and 3 pecks. Mr. Richard Jaques, of Newbury, Mass. in 1833, raised 35½ bushels on an acre.

DRY YEAST.—The usual method of making good yeast, with strong hop water and flour, is in the first place followed. When this is thoroughly fermented, it is mixed with Indian meal until thick enough to roll out and cut into cakes. It is then exposed to the sun, and while drying undergoes a fermentation in the cakes. When perfectly dried, it is kept for use in a bag, hung up in a dry place. It ferments dough extremely well. A small piece, say 1½ inches square, is sufficient for six pounds of flour. Yeast thus prepared is good for two or three months, but gradually loses its virtue; the fermentation becoming tame as it grows old, and of course less favorable to the quantity of the bread. But there is no trouble in renewing it at any time from the dry cakes. I have myself tried the experiment with entire success, and renewed my yeast from cakes six months old. A method of making dry yeast very similar to this, has been practised by some distillers, and is also in use in different parts of New-England, and called Turnpike yeast. W.—[*New-England Farmer*.]

THE FOREST PRUNER'S GOLDEN RULES.—No branches to be cut off which do not inter-

fere with the leader; no wound, thus or otherwise made, to be larger than an inch in diameter; and no pruning in autumn.—[*Gardener's Magazine*.]

(From the forthcoming number of the *Mechanics' Magazine*, and *Register of Inventions and Improvements*.)

STATE PRISON LABOR.

In "AMERICA," the asylum of the oppressed of all countries, the nation that has dared to declare itself "free and independent" of the whole world, where equal rights are advocated, and those who gain an honest livelihood by their industry are as much respected as the man of the greatest wealth, it is a most extraordinary fact, that the system of our criminal jurisprudence has been for many years, and *still is*, calculated, to make many an honest and well-meaning mechanic feel shame and disgust in consequence of the society with which he has been unconsciously brought into competition and association—associated with felons! with men who have committed some of the greatest outrages on society, and who have been nominally *punished*, but who, in fact, derive more advantage to *themselves* from that nominal punishment, than they ever gained before in the same space of time. They are taught trades of various descriptions, they are well fed,—and many cases are known where the criminal has entered the prison in a weak and debilitated state, and left it, in consequence of the excellent medical aid there afforded, in good health, and apparently possessing a robust constitution, only to mingle with our mechanics; and many instances could be stated where they have been placed in a situation to be the guide and overseer of the apprentices, and even of the children of mechanics.

It is high time that such a state of things should cease to exist, and a system adopted which shall protect honest industry from a competition with the labor of felons, whether carried on for the benefit of the State, or individual contractors; and we feel confident that it is only necessary for the mechanics, in every section of the Union, to second the exertions of the Utica Convention, and it will be done, and that speedily. We have official documents that will make it clear that the present system of *punishment* has not that salutary effect upon those who have been convicted which many have supposed; and can state several instances where men have been inmates of the same or other prisons, three, four, and five times; this we shall do in this, our present number of the *Mechanics' Magazine*, a work which, although only known comparatively to a few, has been patronized far beyond any work of a similar nature ever issued from the press in this country, and which will ever be found advocating the interests of the *working men*, and its columns always open for their communications on any subject (*except politics*). We shall be gratified to be made the medium of communication between mechanics in different parts of the Union, and pledge them that we are devoted to their best interests; and shall do all that men with our limited means can do, to disseminate such information as will elevate the character, and improve the condition, of the mechanics of the United States; and to one measure especially do we stand pledged—never to abandon the cause *until we see the present odious State Prison Monopoly* done away, and the

mechanics admitted to a full participation, in proportion to their numbers and intelligence, of the duties, stations, honors, and emoluments, of the country.

It has been well remarked by the eloquent and learned BURKE, that "no government ought to own that it exists for the purpose of checking the prosperity of its people, or that *there is such a principle involved in its policy*." That such a principle does exist in this and other States, by allowing convicts to be employed in the various branches of mechanic arts, will, we think, be readily admitted—a system calculated in every way to deteriorate and oppress the most numerous and useful of our citizens, the artisans—to injure the industrious tradesman—to promote and encourage immorality—and to throw the great mass of our trade into the hands of large capitalists, who have the means of employing an unlimited number of hands, and are thus enabled to undersell the fair industrious man who is toiling only for a living.

"We the people" profess to govern ourselves, by deputing those to be our representatives who we believe will act in accordance with our wishes on subjects of vital importance to the community, and therefore it has been chiefly owing to our supineness on this question, that this odious system has not long since been abolished. The recent proceedings at the Utica Convention, inserted in this number, at page 133, will show that the great mass of the working-men, and the friends of working-men, are aroused on the subject. They have suffered by its continuance, in a pecuniary view, which, together with the disgraceful associations into which they have unknowingly been introduced, by working with discharged criminals, has determined them to use all lawful means to put an end to a practice which is a disgrace to our country. If the practice of teaching the convicts some means of obtaining useful employment had the desired effect of reforming them, there might be some excuse for the continuance of such a practice; but we know the contrary is the case. In a conversation, a few days since, with the Hon. Richard Riker, the Recorder of New-York, before whom many of these men have been tried, he stated that not more than two out of every hundred that had been tried before him, and imprisoned, had returned to honest pursuits; and on referring to Mr. Humphrey's report, made to the Legislature in March, 1834, we find he has stated to the Committee that fact. We cannot do better than insert his letter—it is as follows:

"New-York, 27th March, 1834.

"GENTLEMEN—It is not in my power to reply to your several questions at as early a period as you could have wished. A press of official duties prevents it. I answer a part of them.

"To your first question, to wit: 'What portion of offenders sentenced to the penitentiary or to the state prison, as far as your experience enables you to say, reform?'

"Answer.—I regret to say, very few. My opinion is, as far as my experience enables me to give an opinion, that there are not more than *two out of an hundred* of well attested instances of durable reform.

"To your second question, to wit: 'What portion of offenders sentenced to the penitentiary or to the state prison, are again tried for a second offence?'

J. K.

NEW-YORK AMERICAN.

SEPTEMBER 30—26, 1834.

LITERARY NOTICES.

NECESSITY OF POPULAR EDUCATION AS A NATIONAL OBJECT, &c. &c. By JAMES SIMPSON. 1 vol. New York: LEAVITT, LORD & Co.—With all that we hear and have heard about the march of mind, it is certain that the march of popular education has not been progressive; and although most liberal sums are annually applied—in the Northern and Eastern portion of our Republic especially—to this object, it is yet in need of great amelioration.

The political impulse of the age renders this more and more imperative. Every where, privileges and castes are giving way before the assertion of the equal right of all to participate in the duties and powers of government, and it is only through education and early and general training and culture, that this wholesome impulse can be prevented from leading to misrule and anarchy.

The work now before us is a republication. It is written and is adapted to the meridian of England, but it discusses with much ability and force, questions common to all countries, as to the necessity and the best means of educating the whole people; and as such, it may be read with great advantage here. We have not room to-day for various extracts we have marked, in which some sound and valuable suggestions are made: but feeling as we do the deepest conviction, that, even among us, the result of common school education falls far short of what, with the same means, might be accomplished, we shall find occasion to recur to this volume.

We will not here take leave of the subject of popular education, without adding, that a volume under the title of "The District School," will be published here in the course of a week or two, from the general circulation of which, having read a portion of it in MS. we anticipate much benefit to the cause. It discusses, in a familiar style, the wants, and the actual fruits, of our common school system, and suggests alterations and improvements, of, in our judgment, the greatest importance. As soon as it is published, we shall take care to bring it more immediately under the notice of our readers.

THE ORAL SYSTEM OF TEACHING LIVING LANGUAGES, ILLUSTRATED BY A PRACTICAL COURSE OF LESSONS IN THE FRENCH, THROUGH THE MEDIUM OF THE ENGLISH. By JEAN MANESCA; 2 vols, 8vo. New York: E. B. CLAYTON.

The title of this book almost explains its object; which is, discarding grammars, systems, and arbitrary rules, to habituate the ear and the attention of the learner to the language he desires to acquire, by hearing its terms repeated again and again from the lips of the master, after writing them down under his direction, with the English synonym in a corresponding column. The plan adopted by M. Manesca is the result of twenty years experience as a teacher; and every year added to his conviction,—and he is manifestly a man of a philosophical and reflective mind,—that in this way only can living languages be advantageously taught. As a proof of the value put by the most competent judges upon this book of M. Manesca, and as superseding any commendation on our part, we may mention, that the head of a distinguished school in this city, himself a well-instructed and intelligent Frenchman, after examining "The Oral System" so far as published,—for as yet we have only one volume,—has adopted it in his school.

We know, too, that M. Manesca has been eminently successful in imparting instruction according to his plan, and thus have practical evidence of its excellence.

AN ORATION PRONOUNCED AT NEW HAVEN BY RE-

QUEST OF THE COMMON COUNCIL, AUG. 19, 1834, IN COMMEMORATION OF THE LIFE AND SERVICES OF GEN. LAFAYETTE, by Jas. A. Hillhouse; New Haven, H. Howe & Co.—The tone, manner, sentiments, and information, displayed in this address, are worthy of an American who deeply feels the obligations of his country to Lafayette in her hour of need, and who justly considers it part of an American's duty to vindicate from European calumny, a name against which in the long and turbulent annals of successive bloody revolutions, no crime nor inconsistency can be, with truth, recorded. We are grateful for such a manly, elaborate, and eloquent testimonial to the life and services of Lafayette—and hope it may be extensively circulated.

It will not be forgotten that Scott, in his life of Napoleon, imputes want of vigilance to Lafayette on the occasion of the assault by the Parisian mob on the palace of Versailles. On that head, Mr. Hillhouse thus speaks:

His most essential service, however, to his fellow citizens of that day, was the preservation of order in the capital. The Assembly, finding requisite some military counterpoise to the royal troops, chose him, with the King's approbation, commander of the civic guard. He was soon afterwards made Commander of the Parisian division of the *National Guard*, a force (some what like a militia) regularly instituted and armed throughout the kingdom pursuant to his advice. The old white, joined to blue and red, the colours of the city, were adopted as their symbol.—Addressing the Assembly on the subject of this new establishment, he uttered these remarkable words.—"Gentlemen, I bring you a cockade which shall make the tour of the world; and an institution, at once civic and military, which shall change the system of European tactics, and reduce all absolute governments to the alternative of being beaten if they do not adopt it, or of being overthrown if they do."

Idolized by this national military composed chiefly of respectable and substantial citizens zealous to repress licentiousness, he was for two years the absolute master of Paris. His influence alone made her streets safe at noonday, and secured each returning night from the perpetration of frightful tragedies. During this period of frightful fermentation when all the ancient institutions of the monarchy, crown, mitre, and coronet, rooted prejudices, and revered customs, were cast into the crucible of the Assembly to undergo a transformation into forms of theoretic beauty: Lafayette succeeded in preserving the domestic sanctuary from violence, and more than once snatched his unhappy sovereign, and the ill-starred queen from impending butchery.

That indescribable crusade from Paris to Versailles, composed of beings

"Abominable, unutterable, and worse
Than fables yet have feigned."

has occasioned a writer, not often censurable, to soil the candor of his own pure page by leaving there a surmise to the prejudice of one whose whole life refutes it, and whose interposition on this critical occasion unquestionably preserved the Queen. Sir Walter Scott had no right to hint at disloyalty, or even negligence, on the part of Lafayette, after the unwearied exertions, and the known facts of that day. The interior posts of the palace were not in his charge. To the Swiss and the body guard, they were exclusively entrusted; and through a private passage in charge of, and overlooked by the latter, the assassins entered. Lafayette solicited of the King for himself and his National Guard, the protection of the interior posts also; but the exterior only were assigned him. This is expressly stated by the daughter of Necker, who was on the spot—in the palace—participated in the terrors of the night—knew all the movements, communications, and instructions of Lafayette, and would naturally remember them while memory continued to perform her office. "It is therefore absurd," says Madame de Staël, "to censure M. Lafayette for an event so unlikely to happen. No sooner was he apprised of it than he rushed forward to the assistance of those who were threatened, with an ardor which was acknowledged at the moment—before calumny had prepared her poison."—But, however generous, or impartial, (and Sir Walter Scott is both), a British Tory writer is, perhaps, as incapable of a hearty sentiment towards Lafayette, as of complacency in the laurels of Decatur.

The King in compliance with the demands of the mob gave orders for the immediate removal of the

court to Paris. But Lafayette apprehensive of danger to the Queen from the armed and infuriated rabble who were yet howling every blasphemous and obscene execration under the windows of the palace, proposed to her to appear with him on the balcony. With calm dignity she presented herself.—Not being able to make himself heard, he conceived, says Sarrans, the happy idea of kissing the hand of Marie Antoinette. *Vive la Reine!—Vive La Fayette!* resounded from the multitude. He then led out, and embraced one of the Body Guard, whom he had just saved from assassination. *Vive les Gardes de Corps!* echoed from the mouths of those consistent reformers. On his return to the royal closet; Madame Adelaide the aunt of Louis, embraced him, and called him the saviour of the King and his family. To the time of their deaths the King, Queen, and Madame Elizabeth, publicly acknowledged that to Lafayette they were indebted, on this memorable occasion, for their lives.—These are the statements, of an intimate friend and aid-de-camp of General Lafayette, who collected the facts from his own lips, and his written memoranda. By an American audience, therefore, they will be esteemed of some validity.

This testimony is conclusive.

COMPLETE WORKS OF SIR WALTER SCOTT. Parts XXXV & VI. New York, CONNER & COOK.—This cheap and excellent series is carried on as rapidly to the close, as the arrival of the copy from England will permit. The two numbers now issued comprize a large portion of the poetry of Scott—the *border Minstrelsy*, the *Lay*, the *Lady of the Lake*, &c.

REVIEW OF PROFESSOR PALFREY'S SERMON on "the Claims of Harvard College upon its Sons."—This truly eloquent and scholarlike paper appeared originally in "The Christian Examiner" for this month, but is now republished in a separate form. There is no graduate of Old Harvard who will not feel his heart moved by the appeal and memories of this pamphlet.

It is, however, less in reference to this single College than to the general cause of collegiate education in the country, that we make the following long and sensible extract.

We suppose we should not be excused, if, having in another aspect brought the College thus largely to the view of our readers, we should shrink from advertent to notorious circumstances of its recent position before the public. We would gladly be excused from this reference, if we might. In the existing posture of things, we have perhaps a different view of its expediency, in the abstract, from those irresponsible and uninformed persons, who have not scrupled to discuss very delicate questions touching the feelings of parents, the prospects of sons, and the honor of a most venerable and meritorious institution.* We shall not follow them in that discussion. The case of the government is not yet before the public. Very probably it will be, before

* The wantonness of the periodical press has perhaps rarely been more strikingly manifested, than in the course of this business. We have taken no pains to remember the instances, but one happens to be before us. One of the Boston prints, late in June, or early in July, had announced that "all the Senior class of Harvard College, who acknowledged having approved of the circular, had been dismissed, and that there would be no Commencement." Not a word of this was true. The Faculty were holding meetings; but, as was fit under such circumstances, they kept their own counsel, to that degree that their own neighbors could not form so much as a probable conjecture, how things were going on. When their decision, some two or three weeks after, became known, it proved to be a dismissal, not of the whole class, but a small portion of it. And that there will be no Commencement, is an assertion that could not be safely made, as late as the time when we are writing, towards the middle of August.

Now fair men very often make mistakes; and they have a very simple way of procedure when they discover that they have done so. They say that they had been misinformed, adding, or not adding, an expression of their regret for any mischief which may have been so occasioned. But what said this editor, when better information speedily reached him? Referring to his previous insertion, he said, "We were rightly informed in part only. Up to this morning, sentence had not been pronounced, but it was expected momentarily."

long, by means of a report to the Overseers, or otherwise; and then, if occasion be, we, perchance, shall be found as ready as others to enter into its merits. What we care to say here, and what is here to our purpose to say, is, that we have no belief that any thing has occurred, which ought, or will, withdraw public confidence from the institution. A pretty strong proof to the contrary is already furnished, by the fact, that, at the end of the last term, in which the discontents occurred, so great a number of students was offered for admission into the Freshman class, that, if a like proportion as in past years should be kept up at the examination in Commencement week—and we know no reason why this should not be expected—a larger class will be formed than has ever entered.

We are not, then, going to discuss the character of the police laws of the College, or of their administration in any instance. They who conduct the latter are known, and the former are on record, and are always on the trial of experience. Both are subject to a control,—by a large foreign body, that of the Board of Overseers,—which the wisdom of the Commonwealth has judged to be sufficient; and when the College authority, in the several departments, has entertained an important question, the public does not commonly have to wait long, to be acquainted, in detail, with facts and reasons. But it is to our point to express the confident opinion, that any possible disadvantage, greater or less, to which the College may seem exposed, by occurrences like those of recent date, is not to be often or long incurred through their repetition. We believe it impossible that the evil, whatever it be of such combined resistance to authority, should be permanent, because of our persuasion that it stands upon bases altogether insufficient to sustain it. We are satisfied that its grounds only need to be looked at with that careful attention, which interesting consequences like those lately witnessed will secure for them, to melt away beneath the view. And, apart from this, we know the young gentlemen to be such good reasoners, that the strength or frailty of principles, on which they may have acted, will not eventually remain concealed from their perception.

One of the grounds, on which combined resistance to authority in such an institution appears to proceed, is a vague idea, that, in the relation implied in its laws, the governors constitute one party, and the students for the time being, the other; so that, if there be supposed fault to find in such laws or their execution, the latter, being the sole party in interest, are the party to find it, and to insist, if need be, on a remedy. Now the students for the time being are not the other part in that relation, but a very small portion of it; a portion so small, as to be, numerically,—almost insignificant, we would say, if the word did not seem to imply disrespect, a thing which, above all others, we mean to be careful to avoid.—No doubt they are situated, in some respects, as to have advantages, other things being equal, for an exact acquaintance with the operation of the laws, and peculiarly to feel the present pressure, if the laws work ill. But they do not make up the party, for whose improvement and satisfaction the laws are ordained and administered; no, nor are they so much as the legal, nor so much as the rightful, nor so much as the apparent representatives of that party. The laws are made for the benefit of all the *educable* youth of the country, alike of those who may come, as of those who have come under them,—a number, of which that of the resident students at any given time is but a fraction; and they are made for the good and use of others yet, of the friends of those youth, and of the literary community at large, and of the body politic. It is not then for A, B, and C, whose names this year are on the College catalogue, to understand a supposed mal-administration as a summons to themselves to put lance in rest.—They "take too much upon them," those "sons of Levi." Before they can modestly assume that championship, they must get authority from the youth of the country, with names beginning with all the letters of the alphabet; and this done, they must get authority from the many others, who have a stake in the issue as well as they, and who, when they should be consulted, might or might not, be found to hold different views, and decline their interposition.

What then is a person, so situated, to do, when he feels himself aggrieved, and they, with whom lies the discretion, will not right him? Is he to submit to be oppressed? There is not a question easier to be answered. He is not to submit to oppression. He is to go away, out of oppression's reach. He has his own discretion in this matter, and one amply sufficient for his own protection. The College does not want to keep him to oppress, after a

difference of opinion unhappily arises, if he is not inclined to stay. Unless he be chargeable with one of the higher offences, excluding him, by academic courtesy, from reception elsewhere,—a case which stands on its own grounds, and is very different from what we are now supposing,—the arm of College authority cannot touch him, an hour after he wills that it shall cease to do so. There is his remedy.—If there be mal-administration, it follows not at all that the coercive correction is for him. He is concerned for it, true, and so are very many others. He, like others, under the obligations and with the advantages of the place which he fills, may use his influence and information to have it corrected in a legal way. But that correction is no more entrusted, either in law or in common sense, to him and his two hundred and fifty associates, than to any other two hundred and fifty citizens of the Commonwealth, between the ages of sixteen and twenty. When effected, it is to be through the action of a body, which the constitution and laws recognize as the true representatives of the whole party actually concerned, the representatives of the interest of students in Cambridge and out of it, and of their friends, and of the friends of the College, of learning, and of good order.

Another impression, which seems to be implied in recent college movements, is, that the relation of classmate, or college-mate, imposes an obligation to make common cause; so that a man is concerned in honor to bring himself into trouble, by illegal measures, when legal do not avail, either to obtain redress for his associate who has in his judgment suffered wrong, or, failing of this, to express his indignation at the injustice. We speak under correction, when we say, that we suppose this to be, at Cambridge, a modern refinement. In old times, as far as we remember, general movements were occasioned by some sense of general grievance. So it was in the great commotion of 1768. So it was in that of 1807. Nor can we, though it may, we grant, be through defect of memory or knowledge,—recall an instance, earlier than within a score of years; in which resentment of supposed individual hardship led to a considerable combination in illegal acts. But, new or old, this principle of action, we have no idea is going to stand for ever, inasmuch as it stands on no tolerable grounds. If I take my seat in a stage-coach with a stranger, I presently perceive that we have one point of sympathy together, in the journey on which both are bound. If I have common benevolence, I intend that his journey shall be a pleasant one, as far as depends on me; and little civilities begin forthwith to pass between us. If he prove to be an intelligent and well-disposed person, I am of course pleased with the opportunity of such a familiar and unceremonious enjoyment of his society. And after we have parted, should we ever meet again, I shall be gratified in recalling with him the agreeable circumstances of our accidental interview, and renewing the satisfactory communications which had occurred. If I have had such a companion in a long voyage, all relations of this description will have been multiplied, and all interest heightened that grows out of them. But, certainly, I cannot think of giving to every person with whom I may have chanced to whirl in an omnibus, or to pace a quarter-deck, such a control over my agency and standing, that his honor is to be my honor; his quarrel, my quarrel; his discredit or loss, a thing that he must be relieved from, or else share it with me. If he gets into trouble, I shall wish him, and do what I can to bring him, out of it. So much is due to charity. If I think he suffers wrong, I shall remonstrate and otherwise interest myself with the wrongdoer for his indemnification, in such a manner as my relation to the latter may make fit. So much is due to justice. If the case seems to me flagrant, I shall be willing to put myself to much expense and inconvenience to have him righted. But it can hardly be so flagrant, that I shall find it my duty to acknowledge claims (on the ground of any accidental fellowship, independent of the claims of humanity), which shall involve disappointment and distress to other friends, to whom I am attached in obligations of the earliest date and of the closest intimacy; and it absolutely cannot be so flagrant, that I shall be willing to disregard such obligations as the latter, when the disregard of them can be attained with no benefit to him whom I would serve. Certainly I shall not, because a man is my fellow-traveller, allow that he has a right to expect me to take counsel in his behalf, on all occasions, of my feelings, which may be hasty, and of my first judgment, which may be dull. If he looks to me for good offices on the common grounds of justice and generosity, as they bear on the relations between man and man; these I under-

stand, and there is no danger of their creating interference with any of my duties; but if on the ground of a particular relation, then there are other relations, which I ought to consider much more; relations, which will righteously call upon me, as soon as there is conflict, or danger of conflict, to give them practical precedence.

Now a college, as far as the question before us is concerned, is a public conveyance, carrying its burden four years from childhood into life. Nor is it only, nor mainly, the length of the opportunity afforded by it, to those whom it conveys, to mature a mutual interest, which causes it to give a peculiar relish to the feeling thus inspired. The intercourse, for which it affords occasion, is connected with common occupation in engaging studies, and with the rapid, and happy, and intense experience of youth. The college journey, in a word, is a journey towards fairy-land, over a region attractive enough to deserve to lie in such a line of way; a journey made by a party in high spirits, of quick perceptions, full of wit, unoccupied hearts, of like age, and with many other points of sympathy. And no wonder, that the travellers should find it pleasant, and from the very beginning feel very kindly towards one another. But after all that can be said on that side, still we cannot get so far as to say on the other, that a man is to feel himself bound, for better or worse, for richer for poorer, for well-behaved or roughish, to whosoever, unseen by him till then, has happened to vault or blunder into college on the same Mideummer day with himself. We cannot find so much as a goodly seeming pedestal of moon-shine to uphold the fancy, that an obligation created by that accident,—an accident, it may well be, and often is, which neither the parties particularly rejoices in,—is to supercede obligations which devoted years of a mother's love have been establishing, and anxious years of a father's sturdy toil. We submit, that that notion will not stand the looking at. It trembles and sways under a beam of light, like a balanced needle in an exhausted receiver. It is soon gone to be in the limbo of "things lost on earth." At all events, it will not do for our "climate and manners." It is quite too sublimated; too exquisite; too German, we would say, but that national reflections are illiberal; at least, too German after the manner of Professor Pottinger's daughter in Canning's play in the Antijacobin, who accosts another fair traveller, whom she encounters in the common room of an inn, with the proposal; "A sudden thought strikes me; let us swear eternal friendship."—And then to go on, and in this summary offensive and defensive alliance, do battle, as soon as the uncertain trumpet sounds, at the hazard of much that is interesting to one's hopes, and important in the view of one's good sense,—why, this does seem to us a most incoherent century-composition of excessive amenity and exaggerated manliness. It is Captain Mac Turk grouped with Damon and Pythias. Rather, it is the bravery of that worthy, engrafted on the devotion of Araminta Vavasour, and her gentle boarding-school friend:

We walked hand in hand to the road, love,
We looked arm in arm to the sky;
And I said, when a foreign postillion
Shall hurry me off to the Po,
Don't forget your Medora Trevilian, &c.

We do not mean to leave any body at liberty here to misapprehend us. We are not of those, if any such there be, who think lightly of the interest of the relation of classmate at college. Perchance we know about its interest, as well as younger men. Perchance we have had, in our day, as much of the good of that relation as others and have as much reason as others to know the worth of permanent friendships, there formed and nurtured. But we hope we never saw the time, when we looked upon it as the great dispensing relation of life; if we ever did, that time is so distant, though we are not octogenarians, as to have quite faded from our memory. And in these few words we have not designedly said one, to wound the feelings of any, who have been implicated in recent transactions. Quite a different sentiment from any which would dictate this, is excited in every observer of tolerable rectitude of mind and heart. Those youth are our sons, or sons of our kindred, neighbors, and friends. They are born of the community's best bone, and flesh of its dearest flesh. We love every man and boy of them. We could not spare so much as one from the good public service, which we hope they are destined to render. We would trust them to-morrow with anything, in which uprightness of mind and heart was alone concerned; and with many things which called for clear judgment, provided the case was one, in which the college idiopathy, we have been commenting on, was out of the way. There is sense and excellence among them, which ensures that their errors, if they

err, shall be viewed much more "in sorrow than in anger." We do not expect Alcibiades to have Socrates' gray hairs, though as often as he harms himself, he makes us wish that he had, for his protection, more of the philosophy he is studying. Indeed, they must be much more than commonly wise men, if, at twice their present age, they never make great mistakes. And they must be very much more than commonly good ones, if their mistakes have never a worse source, than an ill-defined and exaggerated feeling of honor. And they must be very much more than commonly fortunate ones, if they are always told of their mistakes as good-naturedly, as we have desired to comment on what we account such now.

LIFE OF MRS. SIDDONS. By THOS. CAMPBELL. 1 vol. New York: HARPER & BROTHERS.—Siddons and Campbell—Lady Macbeth—and the Poet of Hohenlinden—of the Pleasures of Hope—of Wyoming—is there not in this association enough to attract all readers? and when thus attracted, they will abundantly have their reward; for the volume in which these names are united is rich in interest and instruction. The criticisms by Campbell—the letters and journal of Mrs. Siddons—the anecdotes—the familiar history and stage adventures—here brought together, make up a delightful book. No one, moreover, can rise from the perusal of it, without as much respect for the character, as admiration of the abilities and eminent professional skill, of Mrs. Siddons.

The last No. of the *American Quarterly Review*, *Tales from the Garden of Kosciuszko*, *Stewart's Sketches of Society in England and Ireland*, *The Doomed*, *The Token*, and other new publications shall receive early attention.

New Works.—Messrs. Key & Biddle will next week publish, Beckford's celebrated work on Italy, Spain and Portugal. Mr. Beckford, as a gentleman of taste, stands pre-eminent in England, and his work, which has resulted from a combination of the most favorable circumstances, is justly esteemed a *chef d'œuvre* of its kind.

The same publishers have in press, a volume of poems by Mrs. Sigourney, a lady who has always instructed while she pleased.

LIBERIA.—We publish to day an extract from the journal of one of our navy officers, which presents a most gratifying view of the condition of that Colony.

MONROVIA.

Extract from the Journal of an Officer of the United States Navy.

DECEMBER 11, 1833.

The town of Monrovia is on the south side of the Junk or Mesurado River, and contains about 1000 inhabitants. The bank upon which the town is built is so high, that they have the full benefit of the land and sea breezes—a very important consideration in this hot climate. There are several good stone wharves upon the river, and large well filled store-houses. Immediately upon landing we were met by a party of well dressed gentlemen, of various hues, from coal black to bright yellow, by whom we were conducted to the house of Mr. McGill, the present Vice-Agent for the Colonization Society. Here we met most of the dignitaries of the Colony, Judge Johnson, Col. Barbour, Mr. Warner, Mr. Lewis, and others. After partaking of refreshments that were liberally provided, we visited the houses of the different gentlemen, and were treated with universal politeness. Our arrival appears to have given rise to general rejoicing. We found among the colonists many intelligent and respectable men, who answered all our questions politely and satisfactorily. Our intercourse was somewhat constrained at first: we felt rather awkward, and there was some diffidence on the part of the colored gentry; but in a short time, all this was thrown aside, and we conversed and associated with the utmost freedom. My name attracted the attention of Judge Johnson, who was originally from New Jersey, where the name is common. Although I could not claim the honor of a previous acquaintance with the Judge, we soon became intimate; and with another of the party, I received an invitation to dine with him. The rest of the officers were distributed among the other gentlemen. I found the house of the Judge a comforta-

ble, well furnished two story frame one, and the dinner such as you would get at the house of any of our most opulent farmers. Besides ourselves, the company consisted of the Judge and his two sons, a captain and lieutenant of artillery. Judge Johnson is a native of Trenton, New Jersey, about fifty years old, and if I may judge from the color of his skin, not a drop of white blood lurks in his veins: a man of good sound sense, not much assisted by education, the inconvenience of which he feels sensibly; and that his sons may not labor under the same disadvantage, every possible attention has been paid to the cultivation of their minds. They were so young when they left the United States, that they have but little recollection of their relative standing with the whites, and of consequence, are in a great measure divested of that awkwardness still observable among the older men, and those who have emigrated more recently. We were much pleased with the conversation of these gentlemen. They gave us a deal of information relative to the colony, of the many difficulties they had encountered, and of its present state and prospects. There was one remark made by the Judge, so replete with good sense, that it deserves to be remembered. Speaking of the United States, he said, that when there, his greatest ambition was to secure the reputation of a good servant, in which he believed he had succeeded; and had he remained there, his life might have been dragged out comfortably enough; but he was induced to leave purely on account of his sons. They were now, he was proud to say, young men of the first consideration in the colony; and in the United States he would have been deemed fortunate in procuring them good situations as house-waiters or coachmen. The Judge does not confine himself to the bench; he sometimes officiates in the pulpit, and displayed great skill and courage at the head of the colonial troops, in some of their wars with the natives. The reputation he there earned has given him the name of the Washington of West Africa.

There are several shades of society here, but no distinct intermediate grades: all are divided into two, the good and the worthless. This last class are by no means numerous. Nine-tenths of those who fall victims to the fever are the lazy and dissipated; and those whom I found discontented and willing to return to their former state of bondage, were invariably among this class of people.

After visiting two-thirds of the houses in Monrovia, rich and poor, we embarked for the ship just before sunset.

DECEMBER 12.—In my remarks of yesterday, I was ungallant enough to say nothing of the ladies—(fair sex would be a palpable misnomer;) and however disagreeable I may find the duty, yet I am compelled to say, that the manners of the softer sex did not excite my admiration in an unbounded degree: the cook and chambermaid turned lady, was too evident. However, there were some exceptions. It is a fact, attributable perhaps to the irregular habits of the men, that in the sickly seasons, the mortality prevails to a much greater extent among them than the women. In consequence, it is supposed, at the present time, the proportion of men to women is as one to three. This superabundance of women is the cause of great inconvenience to the men, and discontent among themselves.

There is a considerable trade carried on here—ivory, cam wood, and gold dust, are obtained from the natives, in exchange for rum, tobacco, trinkets, &c. Many of the colonists are engaged in this traffic. Some have made fortunes: this has been so tempting a bait, that too many have embarked in the business; much time and money have been lost that would have been better employed in cultivating the soil. Although a luxuriant soil, its productions fall far short of being sufficient for the consumption of the colony. Recently, some fine farms have been opened, and they are beginning to turn their attention to them. One of the principal merchants, Mr. Daily, a mulatto, and his chief clerk, Mr. Hicks, an ebony-colored gentleman, breakfasted with us. No one, however censorious, could have discovered anything in the deportment of these men, that showed a want of good-breeding.

Mr. Minor, the colonial printer, dined with us. He is a little black gentleman, intelligent, but rather diffident. It was evident he felt a little abashed, seated by one of our lieutenants, who had known him when a slave in Virginia. Several of the officers have met with acquaintances, and have taken pains to convince them that circumstances of this kind have no weight with us. We have had a good many visitors to-day, who have been treated with marked attention. Indeed, it is due them, if it were merely in return for their civility to us,

DECEMBER 13.—We supplied the colony with some powder and shot, a boat, and other necessities.

DECEMBER 14.—The ship was under way before daybreak, and by 8 o'clock we had lost sight of the coast of Africa, all well pleased with our visit to Liberia. J. F. S.

CHILDHOOD

He must be incorrigibly unamiable, who is not a little improved by becoming a father. Some there are, however, who know not how to appreciate the blessings with which Providence has filled their quiver; who receive with coldness a son's greeting or a daughter's kiss; who have principle enough properly to feed, and clothe, and educate their children, to labor for their support and provision; but possess not the affection which turns duty into delight; who are surrounded with blossoms, but know not the art of extracting their exquisite sweets.—How different is the effect of true parental love, where nature, duty, habit, and feeling, combine to constitute an affection the purest, the deepest and the strongest, the most enduring, the least exacting of any of which the human heart is capable!

The selfish bachelor may shudder when he thinks of the consequences of a family; he may picture to himself littered rooms and injured furniture, imagine the noise and confusion, the expense and cares, from which he is luckily free; hug himself in his solitude, and pity his unfortunate neighbor, who has half a dozen squalling children to torment and impoverish him.

The unfortunate neighbor, however, returns the compliment with interest, sighs over the loneliness of the wealthy bachelor, and can never see, without feelings of regret, rooms where no stray plaything tells of the occasional presence of a child, gardens where no tiny footmark reminds him of his treasures at home. He has listened to his heart, and learned from it a precious secret; he knows how to convert noise into harmony, expense into self-gratification, and trouble into amusement; and he reaps enough to repay years of toil and care.—He listens eagerly on his threshold for the boisterous greeting he is sure to receive, feels refreshed by the mere pattering sound of the darlings' feet, as they hurry to receive his kiss, and cures, by a noisy game at romps, the weariness and headache which he gained in his intercourse with men.

But it is not only to their parents and near connexions that children are interesting and delightful; they are general favorites, and their caresses are slighted by none but the strange, the affected, or the morose. I have, indeed, heard a fine lady declare that she preferred a puppy or a kitten to a child; and I wondered she had not sense enough to conceal her want of womanly feeling; and I know another fair simpleton, who considers it beneath her to notice those from whom no intellectual improvement can be derived, forgetting that we have hearts to cultivate as well as heads. But these are extraordinary exceptions to general rules, as uncommon and disgusting as a beard on a lady's chin, or a pipe in her mouth.

Even men may condescend to sport with children without fear of contempt; and for those who like to shelter themselves under authority, and cannot venture to be wise and happy their own way, we have plenty of splendid examples, ancient and modern, living and dead, to adduce, which may sanction a love for these pigmy playthings. Statesmen have romped with them, orators told them stories, conquerors submitted to their blows, judges, divines, and philosophers, listened to their prattle, and joined in their sports.

Notwithstanding the infinite pains taken to spoil nature's lovely works, there is a principle of resistance, which allows of only partial success; and numbers of sweet children exist, to delight and soothe, and divert us, when we are weary or fretted by grown-up people, and to justify all that has been said or written of the charms of childhood. Perhaps only women, their natural nurses and faithful protectresses, can thoroughly appreciate the attractions of the first few months of human existence.—The recumbent position, the fragile limbs, the lethargic tastes, and ungrateful indifference to notice, of a very young infant, render it uninteresting to most gentlemen, except its father; and he is generally afraid to touch it, for fear of breaking its neck. But even in this state, mothers, grandmothers, aunts, and nurses, assure you that strong indications of sense and genius may be discerned in the little animal; and I have known a clatter of surprise and joy excited through a whole family, and matter afforded for twenty long letters and innumerable animated conversations, by some marvellous

demonstration of intellect in a creature in long clothes, who could not hold its head straight.

But as soon as the baby has acquired firmness and liveliness; as soon as it smiles at a familiar face, and stares at a strange one; as soon as it employs its hands and eyes in constant expeditions of discovery, and crawls and leaps from the excess of animal contentment—it becomes an object of undefinable and powerful interest to which all the sympathies of our nature attach us—an object at once of curiosity and tenderness, interesting as it is in its helplessness and innocence.

Who has not occasionally, when fondling an infant, felt oppressed by the weight of mystery which hangs over its fate? Perhaps we hold in our arms, an angel, kept but for a few months from the heaven in which it is to spend the rest of an immortal existence; perhaps we see the germ of all that is hideous and hateful in our nature. Thus looked and thus sported, thus calmly slumbered and sweetly smiled, the monsters of our race in their days of infancy. Where are the marks to distinguish a Nero from a Trajan, an Abel from a Cain? But it is not in this spirit that it is either wise or happy to contemplate anything. Better is it—when we behold the energy and animation of young children, their warm affections, their ready, unsuspecting confidence, their wild, unwearied glee, their mirth so easily excited, their love so easily won—to enjoy unrestrained the pleasantness of life's morning; that morning so bright and joyous, and to teach us that nature intended us to be happy, and usually gains her end till we are old enough to discover how we may defeat it.

Little girls are my favorites. Boys, though sufficiently interesting and amusing, are apt to be infected, as soon as they assume the manly garb, with a little of that masculine violence and obstinacy, which, when they grow up, they will call spirit and firmness; and they lose, earlier in life, that docility, tenderness, and ignorance of evil, which are their sisters' peculiar charms. In all the range of visible creation, there is no object to me so attractive and delightful as a lovely, intelligent, gentle little girl of eight or nine years old. This is the point at which may be witnessed the greatest improvement of intellect compatible with that lily-like purity of mind, to which taint is incomprehensible, danger unsuspected, and which wants not only the vocabulary, but the idea of sin. Even the heat and purity of women would shrink from displaying her heart to our gaze, while lovely childhood allows us to read its very thought and fancy.

Children may teach us one blessed, one enviable art—the art of being easily happy. Kind nature has given them that useful power of accommodation to circumstances, which compensates for so many external disadvantages; and it is only by injudicious management that it is lost. Give him but a moderate portion of food and kindness, and the peasant's child is happier than the duke's; free from artificial wants, unassisted by indulgence, all nature ministers to his pleasures; he can carve out felicity from a bit of hazel twig, or can fish for it successfully in a puddle.

He who feels thus, cannot contemplate, unmoved, the joys and sports of childhood; and he gazes, perhaps, on the care-free brow and rapture-beaming countenance, with the melancholy and awe which the lovely victims of consumption inspire, when, unconscious of danger, they talk cheerfully of the future. He feels that he is in possession of a mysterious secret, of which happy children have no suspicion. He knows what the life is, on which they are about to enter; and he is sure that, whether it smiles or frowns upon them, its brightest glances will be cold and dull, compared with those under which they are now basking.

SUMMARY.

For the *Ladies*, an importation is expected by the ship *Washington*, from Canton, which will have the charm of novelty, at least—a *Chinese lady, with little feet*! It is even so—Yankee enterprize never lags behind any demand, and as little feet are all the rage—though not within the reach of a ll—just now it has occurred to one of our Eastern brethren, to show how little, feet really can be. The lady will have a Chinese attendant with her, and receive company in a parlor furnished à la *Chinoise*. She will need, we are sure, a spacious apartment.

A bear was killed last week in the village of Bel. lefonte, Pa. which he visited, by the inhabitants, who turned out, armed and equipped with their tools of trade, without recourse to fire arms.

The race boat *Whitehall*, owing to delays in passing the locks on the Delaware and Raritan Canal, did not reach Philadelphia till 8 o'clock on the evening of the day it left here.

U. S. ship *Natchez*, Rio Janeiro, Aug. 7.

I have nothing new to communicate, except the arrival of the bark *Madagascar*, yesterday, from Boston, with a cargo of ice, which being the first that has ever been seen here, excites great curiosity.—The *Brandywine* sails shortly for the Pacific. The *Natchez* and *Ontario* are here, and the *Erie* and *Enterprise* expected.—[*Gazette*.]

Vessel Sold.—The brig *Talmadge*, 140 tons burthen, built of the best materials, but one year old, a fast sailer, and well found in sails and rigging, with two chain cables, &c. was sold at Boston on Wednesday for the small sum of \$2550 cash.—[*Gazette*.]

Mr. George Jackson, sheriff of Opelousas, Louisiana, recently committed suicide, in a temporary fit of derangement. He was a gentleman much respected for his virtues, and beloved for his social and manly qualifications.

A DILEMMA.—The Missouri Legislature is liberal in granting divorces. At a late session 36 were lumped in a single bill; and many of the parties divorced have since contracted new marriages. Meanwhile the legality of thus granting divorces having been brought before the Supreme Court of the State, that tribunal has decided against the act under which proceedings were instituted, as "unconstitutional, and therefore null and void."

What, under this decision, will be the position of the parties who have contracted other marriages? We give the notice of the decision from the *Salt River Journal*:

Important Decision.—In the case of the State of Missouri, for the use of David Gentry and wife, against Jacob Fry and others, the Hon. M. McGirk delivered the opinion of the Court. The case was this: Gentry and his wife were divorced by an act of the last Legislature, in the same act in which thirty-six other persons were also divorced. Gentry sued Fry as the Guardian of his wife, after the passage of the act, and Fry plead the act in bar of Gentry's right to recover. The question involved was the constitutionality of that act. The opinion of the Court, declaring the act unconstitutional and void, was delivered at great length. After the opinion had been read, the counsel for the defendants, being dissatisfied with the opinion, prayed for a rehearing of the cause; which the Court, from the great importance to the public of the question involved in the decision, granted, and set the cause for argument at the next April term of the Court.

From this intimation of the Court, of the light in which they now view this question, would it not be well for the Legislature to refrain at their next session from passing acts of this character, until the question shall have been judicially determined? If these acts shall finally be held to be unconstitutional, the effect of the number of such acts passed by the Legislature of this State, must be disadvantageously felt in the community.

Last Saturday's Gloucester *Telegraph* states, that while some workmen were engaged in digging a cellar for a house about to be erected near Mr. Hough's rope walk, they discovered an Indian, in a sitting posture, facing the east, and surrounded with clam shells.

Explosion.—The Powder Mills, situate at the west end of Fifth street, near Mill Creek, exploded yesterday morning, for the third time. We understand there was one man killed, and another wounded. Is it not high time that these Mills be removed farther from the city, to a more retired place.—[*Cincinnati Gazette*.]

[From the *Mobile Register* of 4th inst.]

STEAMBOAT EXPLOSION.—Painful Occurrence.—We have just learned that the boiler of the steamboat *Tom*, while stopping at Blakeley on Monday evening last for the exchange of the mail at that place, burst, by which accident three persons lost their lives. Fears were entertained that others who have not been found are also dead, and that one or two who are badly injured, will not recover. The boat we understand was broke about midships, and almost instantly sank in about 35 or 40 feet water. Some of

the mails on board it is feared are lost, though it is said one bag was picked up, afloat. The persons dead are, James C. Cook, first engineer, a carpenter by the name of Wilson, and a fireman belonging to Mr. William Kitchen. A passenger, an elderly gentleman, wearing his hair in a cue, name unknown, is also supposed to be among the killed.

Since writing the above we have learned from the captain of the boat, that the elderly person who was supposed to be among the missing, is safe, and that all of the mails have been recovered—all of which we hope may turn out true.

Earthquake.—A slight shock of an earthquake was felt at Savannah, between 12 and 1 o'clock on the 13th instant. For some days previous, the weather had been unusually cool for this season of the year.

Most destructive Fire at Sorel.—On Sunday afternoon, about one o'clock, a fire broke out in the house of Mr. George Dorge, Sorel, situated next to one of the steamboat wharves, and ere the progress of the flames could be arrested, twelve houses and the market building, it appears, were destroyed by fire, and another house pulled down to interpose a barrier to the violence of the conflagration.

GREAT FIRE AT UTICA.

From the *Oneida Democrat*, Thursday 8 o'clock A. M.

At about 1 o'clock this morning a fire broke out in the rear of a house owned by Mr. Dupree, on the west side of Catharine street, which was surrounded by wooden buildings, and before it could be got under had burned to the ground 21 buildings, and unroofed two more. The furniture and property, in nearly all, was saved. We can form no estimate of the loss which can be relied on, but think it cannot exceed \$10,000 principally in buildings. As near as we can now learn, the buildings burned are as follows:

- 2 Brick dwellings on Catherine street.
- 2 Wooden buildings on Catherine street.
- 4 Wood dwellings in rear of the above.
- 4 Wood dwellings on Catherine street, east from the corner of Franklin street.
- 3 Wood dwellings on Franklin street.
- 1 Barn on Franklin street.
- 1 Wood building in rear.
- 2 Brick buildings on Genesee street, owned and occupied by William Clark, Esq. as the Oneida Temperance House; in one of which, adjoining the Temperance House, the Post Office was kept.
- 2 Wood dwellings on Catherine street, west of Franklin; unroofed. Here the fire was extinguished in that quarter, saving the Theatre, which stands next.
- 3 Wood dwellings next west of the Theatre were nearly torn down, to stop its progress when it should arrive there. But the exertions of the Firemen rendered the precaution unnecessary. By the promptness of the Post Master, Mr. A. G. Dauby, aided by several citizens, ALL THE PROPERTY OF THE POST OFFICE WAS SAVED. At half past 4, by the most strenuous exertions, the fire was mastered.
- P. S. Nine o'clock. At half past 8 o'clock the engines were again called out, by the rising of the fire in the Post Office building, and are still at work, but no further progress of the fire is anticipated.

Prolific.—Mr. Robert Mitchell of Bovina, in this county, has raised the present season, three calves from one cow. It is seldom that an instance of this kind occurs, particularly where the calves all live and do well, as in this case.—[*Delhi Gaz.*]

We know not where more appropriately than at Bovina such an occurrence could take place.

CHARLESTON, (S. C.) Sept. 18.—**Singular Occurrence.**—A large Alligator, about 7 feet long, was shot in the dock at Fitzsimons' wharf, yesterday afternoon, by a Captain of a vessel. The whole charge was lodged in the head of the monster, and he died immediately.

Peaches.—Beat this who can.—Jeremiah Dauchy, of this city, presented us this morning with a peach, the product of his own garden, which for weight and dimensions surpasses any fruit of this description we have ever seen; its circumference is 9 1/2 inches, and the weight 8 ounces.—[*Troy Whig*.]

FOREIGN INTELLIGENCE.

LATER FROM EUROPE.—By the ship *Mohawk*, from Havre, Paris dates of the 9th and London of the 5th ult. are received. On the 5th, in the House of Lords, Lord Londonderry made his promised motion on the

foreign relations of England, finding fault with every thing. Lord Melbourne treated the speech of the noble Lord as one so light and negligent in manner and matter, as to render reply needless, and answers to his various desultory questions improper.

The accounts from the north of Spain are later a little than those received yesterday by the way of Cadiz, and represent the case of the Pretender as almost hopeless. His escape by sea will be prevented by the French and English vessels of war cruising for that purpose off the coast of Spain, and Gen. Harispe is stationed on the line of the French frontier to receive him, if he should seek refuge in France.

The papers speak of the readiness both of France and England to interpose if required *à main armée*, in restoring tranquillity to Spain. It is even said that France has been called upon by the Queen Regent for co-operation.

LATE FROM EUROPE.—Many ships from Europe arrived last week. The latest dates however, to the 16th, ult: from London, are by the Champlain, packet ship, which sailed from Liverpool on the 17th ult.

Parliament was prorogued on the 15th. The two Houses appear to have been thoroughly pitted against each other for some days previous to the prorogation.

In the House of Lords, Aug. 11th, after an animated debate, the Irish tithes bill was *refused a second reading*, by a vote of 189 to 122. Majority against the second reading, and of consequence against Ministers, 67.

The Poor Laws Amendment Bill passed the House of Commons on the 8th, after some amendments.

The King gave his royal assent to the Church Temporalities (Ireland) Bill, the Court of Chancery (Ireland) Bill, the Registration of Voters (Scotland) Bill, the South Australian Colonization Bill, the Sale of Beer Bill, and to several other bills.

Accounts from Napoli to July 8, state that Maina had submitted, and that Greece was just returning to complete tranquillity.

The news from Spain is decidedly favorable to the Queen.

The Cholera had broken out at Gottenburg.—Thirty persons died in one of the suburbs in the course of a few days, and seven or eight in the city. The same disease was quite prevalent in Dublin.

Don Miguel was at Genoa on the 29th of July, and was said to be watching with intense interest the movements in Spain. The Gazette de France contains what purports to be a formal protest of his Majesty against the renunciation of the crown of Portugal. The Paris correspondent of the London Courier says it is *not* believed to be authentic; not that any doubt is entertained of the bad faith of that personage, but that his £12,000 a year would be put in jeopardy by any little hallucination of this description, which would be particularly inconvenient for a gentleman of his convivial and expensive habits.

King's Speech.—Prorogation of Parliament.

His Majesty went to the House of Lords this day (August 15) and prorogued the Parliament in the following speech:

"My Lords and Gentlemen—The numerous and important questions which have in the present, as in the two preceding years, been submitted to your consideration, have imposed upon you the necessity of extraordinary exertions; and it is with a deep sense of the care and labor which you have bestowed upon the public business, that I at length close this protracted session, and release you from your attendance.

"I continue to receive from all foreign powers assurances of their friendly disposition.

"The negotiations on account of which the Conferences in London upon the affairs of the Low Countries were suspended, have not yet been brought to a close; and I have still to lament a continued postponement of a final settlement between Holland and Belgium.

"On the other hand I have derived the most sin-

cere and lively satisfaction from the termination of the civil war which had so long distracted the kingdom of Portugal; and I rejoice to think that the treaty which the state of affairs in Spain and Portugal induced me to conclude with the King of the French, the Queen Regent of Spain and the Regent of Portugal, and which has been already laid before you, contributed materially to produce this happy result.

"Events have since occurred in Spain to disappoint for a time, the hopes of tranquillity in that country, which the pacification of Portugal had inspired.

"To these events, so important to Great Britain, I shall give my most serious attention, in concert with France and the other powers who are parties to the treaty of 22d April; and the good understanding which prevails between me and my Allies, encourages me to expect that our united endeavors will be attended with success.

"The peace of Turkey remains undisturbed, and I trust that no event will happen in that quarter to interrupt the tranquillity of Europe.

"I have not failed to observe with approbation, that you have directed your attention to those domestic questions which more immediately affect the general welfare of the community, and I have had much satisfaction in sanctioning your wise and benevolent intentions by giving my assent to the act for the amendment and better administration of the laws relating to the poor in England and Wales. It will be my duty to provide that the authority necessarily invested in Commissioners nominated by the Crown, be exercised with temperance and caution; and I entertain a confident expectation that its prudent and judicious application, as well as the discreet enforcement of the other provisions of the act, will, by degrees, remedy the evils which at present prevail; and whilst they elevate the character, will increase the comforts and improve the condition of my people.

"The amendment of the law is one of your first and most important duties, and I rejoice to perceive that it has occupied so much of your attention. The establishment of a Central Court for the trial of offences in the metropolis and its neighborhood, will, I trust, improve the administration of justice within the populous sphere of its jurisdiction, and afford a useful example to every other part of the kingdom.

"To the important subjects of our jurisprudence and of our municipal corporations, your attention will naturally be directed early in the next session. You may always rest assured of my disposition to co-operate with you in such useful reformations.

"Gentlemen of the House of Commons,

"I thank you for the readiness with which you have granted the supplies. The estimates laid before you are somewhat lower than those of former years, although they included several extraordinary charges, which will not again occur. The same course of economy will still be steadily pursued. The continued increase of the revenue, notwithstanding the repeal of so many taxes, affords the surest proof that the resources of the country are unimpaired, and justifies the expectation that a perseverance in judicious and well considered measures will still further promote the industry and augment the wealth of my people.

"My Lords and Gentlemen,

"It gives me great gratification to believe, that in returning to your several counties, you will find a prevalence of general tranquillity and of active industry amongst all classes of society. I humbly hope that Divine Providence will vouchsafe a continuance and increase of these blessings, and, in any circumstances that may arise, I shall rely with confidence upon your zeal and fidelity. And I rest satisfied that you will inculcate and encourage that obedience to the laws and that observance of the duties of religion and morality, which are the only secure foundations of the power and happiness of Empires."

The Lord Chancellor then declared the Parliament prorogued to the 25th of September next.

Religious Controversy: Lieutenant Burnes and the Missionary, Wolff, at Cabool.—Dost Mahomed Khan turned to Mr. Wolff for an explanation of his history; and, as he was aware of the gentleman's vocations, he had assembled among the party several Mahomedan doctors, who were prepared to dispute on matters of religion. Since I stood as Mr. Wolff's interpreter, I might proceed to make mention of the various arguments which were adduced on either side; but I do not anticipate what the reverend gentleman will, no doubt, give to the world. As is usual on such subjects, the one party failed to convince the other; and, but for the admirable tact of the chief himself, the consequence might have been

disagreeable. The Mahomedans seemed to think that they had gained the day, and even referred it for my decision; but I excused myself from the difficult task, on the ground of being no moollah (priest).—As these reverend doctors, however, appeared to found their creed upon reason, I thought the opportunity too favorable to let them escape, if the argument I intended to use did not boast of being original. I asked them to state their time of prayers; and, among others, they named before sunrise, and after sunset. "Such are the hours," said I, "rigidly enjoined by the Koran?" "Yes," replied the priest; "and every one is an infidel who neglects them."—These premises being given, I begged the doctor to inform me how these prayers could be performed in the Arctic circle, where the sun neither rose nor set for five or six months in the year. The divine had not before heard the argument: he stammered out various confused sentences; and at last asserted that prayers were not required in those countries, where it was sufficient to repeat the "Caluma," or creed of the Mahomedans. I immediately required the divine to name the chapter of the Koran on which he founded his doctrine, since I did not remember to have seen it in the book. He could not, for the Koran does not contain it. A sharp dispute now arose among the Afghans; nor was the subject renewed, but changed to more intelligible matters."

[From the Baltimore American.]

The well known misery of Madame de Stael in her exile from Paris and France is finely pictured in the following extract of a letter written by her to Talleyrand: This letter, dated Vienna April 3d, 1808, is given in the *Courier des Etats Unis* as one hitherto unpublished.

"You wrote to me thirteen years ago from America: if I remain here one year longer I shall die: I can say the same of a residence in a foreign country: I sink under it: but the time for pity has passed; necessity has taken its place. See, however, if you cannot serve my children. I believe you can; and if you can, you will. I have no means of overcoming the prejudices of the Emperor against me. If he does not think that six years of exile and six years more in age, are a century in respect of thought; if he does not think that I am another person, or at least that the half of my life is extinguished, and that the quiet of my native country would seem to me the Elysian fields, I have no means of proving it to him; but you who probably recollect me still; could you not say to him what kind of a person I must be at present; what kind of person gratitude towards him would make me, in short all that you know as well as I do?

Adieu: Shall I then not have one more talk with you before the valley of Josaphat? I have a design to go to America: I must have a country for my children. I will ask in New York where you lodged. There are moments when, in spite of my deep disgust with life, I am tolerably agreeable: then I reflect that I have learnt this language with you: but with whom to speak it? Adieu. Are you happy? With a mind so superior—do you not go sometimes to the bottom of every thing—that is to say, as far as pain? For myself, I wish to divert my mind, but I cannot. What grieves me beyond all else, is, not to be able to give to my children, neither their country, nor the inheritance of my father. If you give me relief for all this, I will join this present moment to our last meeting and annihilate the interval. Adieu, once more: It is only thus I can conclude with you."

The inheritance referred to was two millions of francs of his private fortune left in the French treasury by Mr. Necker; which was restored to Madame de Stael at the Restoration.

TO—

The sun is in the west,
The stars are on the sea,
Each kindly hand I've pressed,
And now—farewell to thee!
Our cup of parting done,
'Tis the darkest I can sip,
And I've pledged thee every one,
With my heart and with my lip;
But I came to thee the last
That in sadness we might throw
One look upon the past
Together—ere I go.
I met thee in my spring,
When my heart was like the fly
That on its airy wing
Sports the live-long summer by;
I loved thee with the love
Of a wild and burning boy,
Thy being was in love
With my grief and with my joy:
Thou wert to me a star
In the silence of the night,
A thing to see from far,
With a fear—and a delight.

The hour of joy is gone—
When man and man depart,
The deep wrong hand alone
May tell the anguish'd heart;
No tear may stain the eye,
And their parting look must be
Like the stillness of the sky.
Ere the storm has swept the sea:
But when we say farewell
To her we love the best,
One bitter tear may swell,
Nor shame the stoutest breast.
I would not that my name
Should ever meet thine ear;
I have smiles for men's acclaim,
For their censures not a fear:
Nor would I, when thy home
Looks joyously and bright,
That the thought of me should come
To sadden thy delight:
I would dwell a thing apart,
For thy spirit to decay,—
A brightness on thy heart,
A shadow on thine eye.
When the wine cup circles round,
I will quaff it with the rest,
But thy name will never sound
At the revel or the feast;
But with him who shares my heart,
When the banquet hall is lone,
In one deep cup ere we part,
We will pledge thee, lovely one!
Thy name I'll murmur then
With a prayer, if heaven allow,
To embrace thee once again
As close as I do now.
Beloved one—farewell!
And though no hope be given,
Thy name shall be a spell,
To turn my thoughts to heaven;
And thy memory to me,
What the dew is to the rose,
It shall come as gratefully,
In the hour of my repose;
It shall be—what it has been—
A lamp within a tomb—
To burn—tho' all unseen,
To light—though but a gloom.
When the shade is on thy dwelling,
And the murmur in thine ear,
When the breeze is round thee swelling,
And the landscape dark and drear;
When no lover is beside thee
To flatter and to smile,
When there be none to guide thee,
And many to beguile,
When wither'd is the token,
And all unliak'd the chain,—
With a faith unward'd—unbroken,
I may kneel to thee again.

MECHANICS' MAGAZINE.

THE third Volume is now ready. It consists of 384 pages of letter press, and is illustrated by nearly 150 engravings on wood, spiritedly executed, and a full length portrait of LA FAYETTE, on copper, as a frontispiece.

The following are a few only of the numerous notices taken of the Magazine, by gentlemen connected with the press in different sections of the country:—

A rapid glance at its contents discovers that it contains the same judicious preparation of materials that has hitherto distinguished the publication. There are a number of articles, essentially valuable from the solid information embodied in them, and others, again, that will recommend themselves at once to the less severe reader, who always looks for some entertainment to be mingled with instruction.—[N. York American.]

The theoretical and practical Mechanic will find a mine of useful information in these pages.—[Mercantile & Advocate, N. Y.]

This periodical really deserves credit for the ability and attention with which it keeps pace with the mechanical improvements of the age. It is, we say, edited by Mr. Knight, late of the London Mechanics' Magazine, a work which did more to elevate the state of knowledge among the working classes, than any other in England.—[Commercial Advertiser.]

It is stored with representations and descriptions of improvements in machinery, and of newly invented articles, together with information valuable to every class of citizens.—[U. S. Gazette, Philad.]

It contains information on almost every subject connected with mechanics, and a register of inventions and improvements.—[Montreal Gazette.]

It is a work well worthy the attention of every mechanic and one which affords to genius a chance of exhibiting talents.—[New Orleans Merc. Adv.]

This is a publication of practical value and of deserved popularity.—[Albany Argus.]

The work needs only to become known to insure it a very extensive circulation. It certainly cannot fail to be highly interesting and useful to the numerous class of persons for whom it is particularly designed.—[Paterson Intelligencer.]

Every mechanic who wishes to keep pace with the improvement of the age—to avail himself of the aid which science is constantly bringing to art, should subscribe for the Mechanics' Magazine.—[Washington Spy.]

We wish we could persuade our young operatives—upon whose intelligence and virtue so much depends—to subvert the substantial fare which this work affords, for the trash which many of them are too eager to devour.—[N. J. Journal.]

Having perused the first volume of your journal with much satisfaction, and I trust some profit, I deem it my duty as an old mechanic, to tender you my acknowledgments.

In my opinion, it ought to be owned by every mechanic, artificer and manufacturer of our country; and especially by beginners, and made the study of all their leisure hours.—[Benj'n Russell, one of the oldest mechanics in Boston.]

The Mechanics' Magazine and Register of Improvements is published by the Proprietors, D. K. MITCHELL and J. E. CHALLIS, at No. 35 Wall street, New York: in weekly sheets of 16 pages, at 6 cents; in monthly parts of 64 pages, at 33 cents; in volumes of 384 pages, in cloth boards, at \$1.75—or at \$3 per annum, in advance.—JOHN KNIGHT, (formerly Proprietor of the London Mechanics' Magazine,) Editor.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No 49, page 772, Vol. 2, of Railroad Journal.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lanesburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lanesburgh.—August 15, 1833. A29 RM&F

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane. J31 6t

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principle of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833. Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germantown, and Norrist. Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad No. 264 Elizabeth street, near Bleecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J35 17

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m24

CHRISTOPHER GORE.—The following notice of the life and character of the late Mr. Gore, is from a note to the Inaugural Discourse of Mr. Greenleaf, just published.

The Honorable Christopher Gore, son of a highly respectable mechanic, was born in Boston in the year 1758, and received his primary education in the public schools of that town. He was graduated at Harvard University, with great honor, in 1776; and soon after commenced the study of law in the office of the late Judge Lowell, in whose family he resided during the whole period of his professional studies, and whose entire confidence and friendship he always enjoyed. He entered upon the practice of law in his native town, depending on himself as the artificer of his own fortune; and by his strict attention to business, diligent study, and faithful discharge of every trust, and by his manly eloquence, and gentlemanly bearing, he soon rose in the public esteem to an eminence seldom attained at so early an age. Before he arrived at the age of thirty he was sent, with Hancock and Samuel Adams, to the Convention of Massachusetts, assembled to consider the National Constitution. In 1789 he was appointed by President Washington to the responsible office of United States Attorney for the District of Massachusetts. In the critical period of our history which ensued, when the whole country was deeply agitated by the shock which the French revolution gave to all civilized communities, and our citizens, impelled by blind yet ardent attachment, were committing the most alarming breaches of professed neutrality, the duties of this office were of the most embarrassing and laborious nature; but delicate and difficult as they were, he met and discharged them with a degree of firmness, prudence, and decision, which few could equal, and none surpass. The intrepidity and talent which distinguished his conduct in this office, probably led to his appointment in 1796, with the late William Pinkney and Col. Trumbull, as one of the Commissioners under Jay's treaty, to settle the claims of our citizens for British spoliation on our commerce. It is to his powerful and convincing argument and exertions, in favor of that class of claims which was founded on captures made under the rule of 1756, that our citizens are indebted for their allowance, to the amount of many hundreds of thousands of dollars. He remained in England eight years, during part of which time he had charge of the diplomatic relations between the United States and that country, which had been confided to him by our minister, Rufus King, on his own return home in 1803, and which he sustained with great ability and honor.

In 1804, on his return to Boston, he resumed the practice of law, which he followed with his customary zeal, activity, and success, occasionally being a conspicuous member of the legislature, till 1809, when he was elected Governor of the Commonwealth. To this call of the people he most reluctantly yielded obedience, surrendering his private feelings, his professional prospects and emoluments, and his love of lettered retirement and repose. But having become convinced of the duty of making the sacrifice, he formed the resolution, which he firmly maintained, of giving himself wholly to the faithful discharge of the office, and of being the chief magistrate of the Commonwealth, and not the head of a party. In 1814 he was appointed a member of the Senate of the United States, in which office he closed his political career. Of various religious, literary, and benevolent societies in his State and country he was an active and useful member. He was for some years a most efficient and vigilant Fellow of Harvard College, to which he Institution his attachment was ardent, and its proofs substantial. His name is inscribed high among the most munificent of the benefactors of his *Alma Mater*. During his life, he gave his ample law library to the Law Department of this University; and by his will, after the provision made for his lady, and certain legacies, among which were two thousand dollars to the Massachusetts Historical Society, and one thousand to the American Academy of Arts and Sciences, of both which he was a member, he devised all the residue of his estate, not devised to his lady, and remaining after her decease, "to the President and Fellows of Harvard College and their successors, to and for the use of the University in Cambridge, and for the Promotion of Virtue, Science, and Literature, in said University." The property thus accruing, since the decease of Mrs. Gore, is valued at \$91,868; which, however, is still subject to the payment of legacies, estimated at the present value of ten thousand dollars; and to some annuities. He died March 1, 1827, at the age of sixty-nine; leaving to his country, beyond his pecuniary benefactions, the legacy of his character and his example.

RAILROAD AND CANAL MAP.
THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.
Published at 35 Wall street, N. Y., by
D. K. MINOR & J. E. CHALLIS.

CHOICE WINES, &c.
THE subscriber offers for sale, a large assortment of Wines consisting of
MADIRA—In pipes, hhds. and quarter casks, of different qualities and brands, part received direct, and part via East Indies. superior old L. P. in hhds. quarter casks, and half quarts.
Also—in cases of 1, 2 and 3 dozen each, old and choice.
SWEET WINE—Pale and brown, in wood and glass, of different qualities, from 14s to 36s part of it imported by order.
PORT WINE—In hhds. and quarter casks. Also, in cases of 1 and 2 dozen each.
ROCK WINE—A large assortment, of various brands, qualities and vintages, in cases and hampers, some very old.
FRENCH WINES—Sparkling Champagne, of all the favorite brands, quarts and pints, with and without wax on the corks. Also, Pink Champagne.
Sauterne, Vin de Grave, and Burgundy.
Bordeaux Claret, Lafitte, Chateau Margaux, Leoville, St. Estephe.
Low priced, in boxes and casks.
Muscadet, in boxes and small casks. Old Malaga Sherry, a fine light wine, in casks of 18 and 30 gallons each. Marselles Madeira, in quarter casks and Indian barrels. Canary, Malmsey, and Teneriffe, &c. &c.
BOTTLES—Wine, Porter and Claret, in hampers, one gross each. Demijohns.
HIBBERT'S PORTER—London Porter, Brown Stout, and Pale Ale, in casks of 7 dozen quarts, and 8 do. pints.
SCOTCH ALE—Younger & Co's Pale Ale, qts. and pints, &c. &c.
SALLAD OIL—Bordeaux and Marselles, in boxes and baskets. Olives, Capers and Anchovies.
FRUIT—Bunch and Muscatel Raisins, Almonds, E. I. Preserves and Canton Ginger.
COFFEE, &c.—Old Java and Manilla, Souchong Tea, Refine White Sugars, &c.
Part of the above are entitled to debenture, and will be sold in lots to suit purchasers. Orders received, and forwarded as directed.
ROBERT GRACIE,
20 Broad street.

UTICA AND SCHENECTADY RAILROAD COMPANY.
PROPOSALS will be received until the last Monday of October next, at 12 o'clock at noon—
For grading about sixty-five miles of the Utica and Schenectady Railroad, between the Sand Ridge on Sanders' Flats in Schenectady, and the western boundary line of the town of Herkimer;
For the masonry within those limits, embracing the culverts, and the abutments and piers of the respective bridges; and
For the wooden superstructure of bridges across the Cayadutta Creek at Caughnawaga, the Garoga Creek at Palatine Church, the East Canada Creek at Manheim, the Gulph at Little Falls, and the West Canada Creek at Herkimer.
The line will be divided into sections of about one mile each, and prepared for examination, and maps, profiles and plans deposited for inspection with W. C. Young, the chief engineer, at Schenectady, ten days previous to the time above mentioned.
Blank forms of proposals will be furnished at an early day at the company's offices at Schenectady, Palatine, Little Falls and Utica.
The names of persons to whom contracts are awarded (who will not be permitted to sub-contract the same) will be made known at Schenectady on the 29th day of October, when it will be required that the grading proceed without delay, wherever, and soon as titles to the lands are acquired by the company; that the culverts and small bridges be completed by the first of August next; that the residue of the masonry and the large bridges be finished by the 1st of October thereafter; and that the grading be completed during the year 1835. Contractors to furnish security for the faithful performance of their contracts.
The use of ardent spirits to be prohibited in constructing the road.
Proposals, post paid, to be endorsed "Proposals," and containing the names of the persons offered as securities, to be addressed to the undersigned at Schenectady, or deposited at the company's office at that place. September 4, 1834.
G. M. DAVISON, Commissioner
s-17 1027 Utica and Schenectady Railroad Company.

TOWNSEND & DUFFEE, of Palmyra, *Machinery* of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervie, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New York; }
January 29, 1833.

PATENT RAILROAD, SHIP AND BOAT SPIKES.
The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nailst from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.
Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.
All orders directed to the Agent, Troy, N. Y., will be punctually attended to.
Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 223 Water street, New York; A. M. Jones, Philadelphia; T. Janvier, Baltimore; Degrand & Smith, Boston.
HENRY BURDEN, Agent.

Tro N. Y. July, 1831.

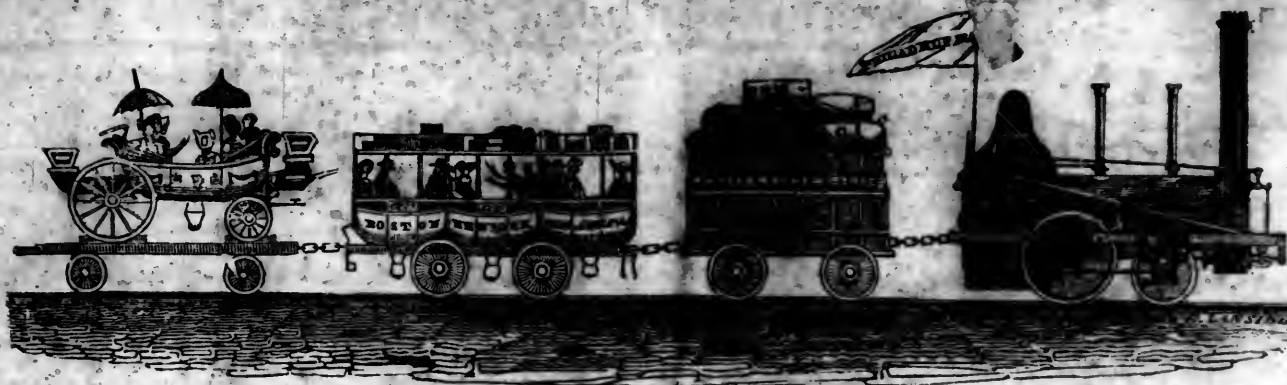
THE CIVIL ENGINEER AND MACHINIST.
PRACTICAL TREATISES OF CIVIL ENGINEERING, ENGINEER BUILDING, MACHINERY, MILL WORK, ENGINE WORK, IRON FOUNDRY, &c. &c. Designed for the use of Engineers, Iron Masters, Manufacturers, and Operative Mechanics. By Charles John Blunt and R. Macdonald Stephenson, Civil Engineers, Architects, &c. &c. Consisting of examples worked through their entire detail of fundamental principle, organization, and process of execution; and being in every case the known great works of British and Foreign Engineering complete at length. Exemplifying the practical application of the Laws of Statics, Dynamics, Hydraulics, Hydrostatics, Pneumatics, and General Mechanics; accompanied by full reports, specifications, estimates, and journal of progress; and illustrated by the formulae, calculations, tables, &c. in use by the first authorities. The working plans and general views of these important subjects are laid down in original drawings of great practical accuracy and careful execution, and occupying upwards of five hundred folio and imperial folio plates. In divisions, containing from ten to fourteen plates, in a portfolio. Price one guinea. Division 1. is received. For sale, and subscriptions are solicited, by
WM. A. COLMAN, No. 122 Broadway, English Publication Warehouse.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.
The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.
The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.
It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.
Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.
W. THORBURN,
347 N. Market st. (opposite Post Office).
Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.
* Mr. Thorburn is also Agent for the following publications, to wit:—
NEW YORK FARMER and American Gardener's Magazine.
MECHANICS' MAGAZINE and Register of Inventions & Improvements.
AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the
NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

TO RAILROAD COMPANIES.
The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.
The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.
Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.
DEAN WALKER. a 30

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.
Railroad Spikes of every description required, made at the Albany Spike Factory.
Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.
Ship and Boat Spikes made full size under the head, so as not to admit water.
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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, OCTOBER 4, 1834.

[VOLUME III.—No. 39.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 4, 1834.

We continue to-day our extracts from the pamphlet of Mr. Robert Mills, on his proposed substitute for railroads and canals ; and would invite the attention of our readers to an investigation of the facts and arguments he adduces in support of his proposition. It is a subject, in our opinion, well worthy of discussion, and one upon which communications, both pro and con, will ever find a place in our columns. Our own opinion is, that the "substitute" is, in fact, no substitute ; and that the capacity of locomotive carriages for the transportation of freight on the common roads of our country, is so limited in its nature, as will ever prevent their successful competition with the various works of internal improvement already constructed. Justice to our opponent, we are aware, calls upon us to support that opinion by facts. That this is in our power to do, we feel confident enough to assert, and unless some more able advocate than ourselves will enter the lists on behalf of that opinion, we shall take some opportunity before the completion of his pamphlet of replying to the contrary.

We have received by the packet Napoleon a communication from a friend relative to the proposed railway from Amsterdam to Cologne. Aiming, as we do, to make our Journal a medium of transmission for information on all

projects of internal improvement, whether in our country or abroad, we have extracted the following general facts in relation to the above important undertaking :

This work having received the sanction of the King of the Netherlands, and the King of Prussia, will be immediately commenced under the superintendence of Lieutenant Colonel Bake. The total estimate for the construction of the road, purchase of property, and locomotive engines, warehouses, &c., is estimated at 12,000,000 florins, or about 5,000,000 of dollars. This road is intended to facilitate the intercourse between the great continental emporium, the port of Amsterdam, and the important town of Cologne ; from which latter city there exists a good steamboat navigation up the Rhine to Basle. The passage between Amsterdam and Cologne is expected to be performed by the trains of passenger cars in from 10 to 11 hours. The annual trade at present between the two places is 165,000 tons of merchandise, 300,000 tons of coal, and 22,000 passengers,—the transportation of the whole of which, the directors think, may safely be depended upon as being diverted to the railway.

According to the report read at the half-yearly meeting of the Liverpool and Manchester Railway Company, held at Liverpool on Wednesday, it appeared that the increase of the number of passengers, in the half-year ending 30th June, was 29,255, and of merchandise 7727 tons, conveyed to and from Manchester. The amount of receipts for passengers was 50,770*l.* 6*s.* 11*d.* ; for merchandise, 44,014*l.* 5*s.* 4*d.* ; total receipts, 94,784*l.* 12*s.* 3*d.* ; total amount of expenses, 60,092*l.* 15*s.* 11*d.* ; net profit, 36,691*l.* 16*s.* 4*d.* ; added to this was 1332*l.* 2*s.* 2*d.*, the surplus profit of the half-year ending 30th June, 1833, making 36,023*l.* 18*s.* 6*d.*, from which sum the committee were enabled to recommend a dividend of 4*l.* 10*s.* per share.

TIDES.—It is intended to make a series of tidal observations round the coast of Great Britain and Ireland, on the same days, for 16 days together, from June 7th to June 22d next. The object is, to ascertain by how much the time of high and low water at each place is before or after those times at the neighboring places ; and also to determine, wherever it can be done conveniently, the comparative rise and fall of the tides at the different intervals between the morning and evening tides, or any other differences which regularly affect their height. For this purpose the exact time of high and low water, especially of the former, and the height

above or below some fixed mark, are to be observed every day and night during the above mentioned period. The observations thus made, and the results of the comparison of these with others, will be published along with the names of the officers by whom they have been superintended.—[From instructions issued by the Admiralty.]

GEOLOGICAL SURVEYS.—The Geological Society of Pennsylvania has employed Mr. S. Clenison to visit and report on the gold region recently discovered in York county, in that State. This gentleman has recently returned from Paris, where he has served a long and faithful apprenticeship in the school of mines. The Legislature of Tennessee has recently appointed Dr. G. Troost to make a similar survey of the State. Professor Hitchcock has completed his geological survey of the State of Massachusetts. Professor DuRoi is appointed by the Legislature of Maryland to make a geological and topographical survey of that State. Mr. G. W. Featherstonhaugh is engaged under the authority of the United States in a geological and mineralogical investigation of the territory of the Arkansas : his report is expected to be made to Congress in February next. These various and simultaneous appointments evince a determination to develop the mineral resources of the country in good earnest.—[New-York Enquirer.]

We are gratified to learn, says the Baltimore American, that the Chesapeake and Ohio Canal Company have effected the loan of two hundred thousand dollars from the United States Bank, in reference to which a meeting was held in that city last week. This sum will enable the Canal Company to complete their works to a point eight miles above Williamsport, during the present season, and will put out of jeopardy two costly dams across the Potomac, which would probably have been swept away by the next winter torrents, if they had been left in an unfinished state.

BOSTON AND PROVIDENCE RAILROAD.—We are desired to state that all passengers hence in the Rhode Island steam boats, who prefer this route, will hereafter on their arrival at Providence be conveyed by the Tremont line of Stage Coaches to Canton at the reduced fare of two dollars, and at that place take the Railroad Cars to Boston, 18 miles distant.

The value of real and personal estate in the city and county of New-York, by the estimate of this year's assessment, amounts to one hundred and eighty-eight millions of dollars !!!

Tuscumbia, Courtland, and Decatur Railroad.

Tuscumbia, Ala., August 19, 1834.

To the Editor of the American Railroad Journal:

Sir,—In your list of railroads, contained in your Journal of 26th ult., (No. 29,) I note several material errors, in the description of the Tuscumbia, Courtland, and Decatur Railroad, and have therefore concluded to furnish you the following short history and description of the said work, from its beginning.

The first charter for a railway, obtained in the state of Alabama, was granted in January, 1830, for the incorporation of the Tuscumbia Railroad Company, with a capital of \$20,000. The object of this road was to connect the town of Tuscumbia with the Tennessee river; the distance being a fraction over two miles. The stock was immediately subscribed, and the company organized; but, in consequence of difficulties in obtaining the right of way along the route, nothing was done towards the execution of the work till in June, 1831, at which time it was commenced, and was completed about the 1st day of June, 1832. A good portion of the line is curved, and some of the curves are on radii of 400 feet. The maximum inclination in the grade is 20 feet per mile. The construction is of cedar sleepers laid transversely of the road, 5 feet from centre to centre. Oak string pieces, 5 by 7 inches; capped with an iron rail, 2 inches by $\frac{1}{2}$ an inch; width of track, 4 feet 9 $\frac{1}{2}$ inches, between the inner edges of the iron rails. One truss bridge 274 feet long, 36 feet high, (over a ravine,) and several embankments of 15 feet in height, had to be built. This cost of the road is something under \$5,000 per mile.

The charter for the Tuscumbia, Courtland, and Decatur Railroad, was obtained in January, 1832, with a capital of \$1,000,000. A sufficiency of stock was immediately subscribed, and the company organized. The surveys were commenced in February, (same year,) and, in May, a portion of the line was put under contract, and the work of graduation commenced since which time; the work has been steadily progressing; and, on the 4th of July, 1834, the road was completed into the town of Courtland, a distance of 23 $\frac{1}{2}$ miles from Tuscumbia. The balance of the line, between Courtland and Decatur, (a distance of 19 $\frac{1}{2}$ miles,) is now rapidly progressing, and will be entirely completed in the month of October next. The whole length of the Tuscumbia, Courtland, and Decatur Railroad is 43 $\frac{1}{2}$ miles; of which distance 36 $\frac{5}{8}$ miles is straight line, and 6 $\frac{5}{8}$ is curved line. There is but one curve, on a radius of less than 1512 feet, which is 1380 feet. The profile is undulating, under a maximum grade of 25 feet to the mile.

The construction is in all respects the same as the Tuscumbia Railroad, excepting that the sleepers on this are only 4 feet apart from centre to centre, and that about one-third of the distance is, and will be, lined with cedar, (instead of oak,) string pieces. The cost of this road will average a little under \$1,000 per mile. The whole length of the railroad, between its termini, upon the Tennessee river, (inclusive of the Tuscumbia section,) will be 45 $\frac{20}{100}$ miles; single track, with turn-outs and side-lines about every two miles. And by an amendment obtained to their charter, the company is authorised to extend their road, both eastwardly and westwardly, to the state line, so soon as the said road shall have been completed to Decatur.

The motive power used has been horses, up to about 1st June last, when the company received a locomotive engine made by E. Bury, of Liverpool. The engine weighs about 4 $\frac{1}{2}$ tons, works cylinders 8 inches diameter, with a stroke of 16 inches. Her performance is such as has determined the Board of Directors to dispense with horses altogether, so soon as a

sufficient number of engines for their business can be procured. With a light load this engine has at divers times attained a velocity of 40 miles an hour. Pine and ash wood has been used as fuel; but so soon as the road is finished to Decatur, it is contemplated coal will be used exclusively, as that can be obtained cheap, and is entirely safe from sparks.

The principal object with the projectors of this work, at its beginning, was to obviate the great difficulties and obstructions presented to commerce by the Muscle shoals in the Tennessee river. The feasibility and utility of continuing it westward to Memphis was also much spoken of; but within about one year, the project of the great "Atlantic and Mississippi Railroad" has excited an entire new interest, to wit, that of this road becoming a link in the great chain of railway communication from Charleston, South Carolina, to Memphis, Tennessee.

A charter has been obtained, by a company, in January, 1834, authorising the construction of a railroad from the town of Moulton, to intersect the Tuscumbia, Courtland, and Decatur railroad, at or about Courtland, with a capital of \$100,000. The town of Moulton is situated about 15 miles due south from Courtland. The stock was taken, and the surveys are now in progress. A company was also incorporated in January last, with a capital of \$75,000, to construct a railroad from Athens, (situated about 15 miles north of Decatur,) to the Tennessee river. The stock was subscribed, and some surveys made, but the results and final determination of the company are not known to me. A charter was granted in January last to a company styled the "Alabama and Tennessee Railroad Company," with a capital of \$300,000. This road is to be constructed between Florence, Ala., and Pulaski, Tennessee, a distance of about 60 miles. The stock is taken and some surveys have been made, but the work not yet commenced. The citizens of Elkton, in Tennessee, are very anxious to connect themselves with the Tuscumbia, Courtland, and Decatur Railroad, by way of Athens, Alabama. Elkton is situated about 20 miles north of Athens. The ground is generally favorable for a railroad. Charters for this object will, without doubt, be obtained from the legislatures of Alabama and Tennessee, at their next session.

I am very respectfully your obedient servant,
DAVID DESHLER,
Chief Engineer Tuscumbia, Courtland,
and Decatur Railroad.

Substitute for Railroads and Canals, embracing a New Plan of Roadway, combining, with the Operation of Steam Carriages, great Economy in carrying into effect a System of Internal Improvement. By ROBERT MILLS, Engineer and Architect.

(Continued from page 594.)

NO. III.

In confirmation of the evidence given before the committee, on the operation of locomotive engines on common roads, Mr. Summers stated, "that they have travelled in Mr. Hancock's carriage at the rate of fifteen miles per hour, with nineteen persons on the carriage, up a hill rising one in twelve; that he has continued, for four and a half hours, to travel at the rate of thirty miles per hour; and that he has found no difficulty of travelling over the worst and most lilly roads."

Mr. James Stone stated, "that thirty-six persons have been carried on one steam carriage, and that the engine drew five times its own weight, nearly, at the rate of from five to six miles per hour, partly up an inclination."

These several witnesses estimated the probable saving of expense to the public, by the substitution of steam power for that of horses, at from one-half to two-thirds; and Mr. Farey gave it as his opinion, "that steam coaches will, very soon after their first establishment, be run for one-third of the cost of the present

stage coaches; and that this saving would increase in the ratio of the increased speed."

Nor are the advantages of steam power confined to the greater velocity obtained, or to its greater cheapness, than horse draught. In the latter, danger is increased in as large a proportion as expense, by greater speed. In steam power, on the contrary, "there is no danger of being run away with, and that of being overturned is greatly diminished. It is difficult to control four such horses as can draw a heavy carriage ten miles per hour, in case they are frightened, or choose to run away; and, for quick travelling, they must be kept in that state of courage that they are always inclined for running away, particularly down hills and at sharp turns in the road. In steam power there is little corresponding danger, being perfectly controllable, and capable of exerting its power in reverse, in going down hills.

Every witness examined gave the fullest and most satisfactory evidence of the perfect control which the conductor has over the movement of the carriage. With the slightest exertion it can be stopped, or turned, under circumstances where horses would be totally unmanageable.

NO. IV.

Steam has been applied, as a power in draught, in two ways: in the one, both passengers and engines are placed on the same carriage; in the other, the engine carriage is merely used to draw the carriage in which the load is conveyed. In either case, from the judicious construction of boilers, which has been adopted, the probable danger from explosion has been rendered infinitely small. Mr. Farey stated, that "the danger of exploding is less than the danger attendant on the use of horses in draught; that the danger in these boilers is less than those employed on the railway, although there, even, the instances of explosion have been very rare."

The boilers in these steam carriages expose a considerable surface to the fire, and steam is generated with the greatest rapidity. From their peculiar form, the requisite supply of steam depends on its continued and rapid formation; no large and dangerous quantity can at any time be collected. Should the safety valve be stopped, and the supply of steam be kept up, in greater abundance than the engines require, explosion may take place, but the danger would be comparatively trifling, from the small quantity of steam which could act on any one portion of the boilers. The committee mention an engine invented by Mr. Trevithick, which, should it in practice be found to answer his expectation, will remove entirely all danger from explosion. All cause of annoyance, from these engines, has been done away with: the use of coke has destroyed the issue of smoke, and the waste steam is made to discharge into the fire, or is applied to aid the draught, and more rapid combustion of the fuel. In Mr. Trevithick's engine it will be returned into the boiler.

NO. V.

The Committee went into an examination of the comparative injury which these steam coaches would do to the roads, and were satisfied that the deterioration of the road will be much less by a steam carriage than by a coach and horses. One important fact was proved, that roads receive greater injury from the horses' feet, than the wheels of the carriage drawn. The roads in England have, at present, to sustain waggons, weighing, at times, with their horses, nearly ten tons. Steam carriages, including engine, fuel, water, and other attendants, need not exceed three tons. The last carriages built by Mr. Gurney were stated to weigh not more than thirty-five cwt., with the same power attached to a carriage weighing four tons. Mr. G. was at this time (1831) building a carriage to weigh but about five hundred pounds, which he expected to do the work of one horse, and carry two or three people. The weight of an ordinary stage coach is between eighteen and twenty-four

cwt., which carries about eighteen passengers. The weight of the propelling steam carriage is about the weight of the four horses. The weight of the carriage drawn would be precisely that of a carriage drawn by horses.

At the ordinary rate of travelling, the average pressure on the boiler of Mr. Gurney's engine, per square inch, was about seventy pounds; and he proved the tubes of his boiler to eight hundred, and thought they would bear two thousand pounds.*

The perfect command in guiding these carriages and the stopping of them, are singular. In case of emergency, says Mr. G., we might instantly throw the steam on the reverse side of the pistons, and stop within a few yards: it would be possible, he observes, to stop the carriage within six or seven yards, going at the rate of eight miles per hour.

The facility of turning these carriages is also remarkable; they have been turned in a circle of ten feet, the inner diameter.

NO. VI.

The degree of safety to which the boilers of these steam carriages is brought does away all idea of danger from explosion. To one of the questions of the committee, referring to this subject, Mr. Hancock makes the following answer: "I was travelling about nine miles an hour, at the time the boiler was the twenty-fourth part of an inch thick; I was working then at one hundred pounds on the square inch, with thirteen persons on the present vehicle that I have now in use; and all of a sudden the carriage stopped, and for what reason I was at a loss to know. I got from my stage seat, and went to the engineer, to ask him what was the reason he had stopped the steam? He told me he had not stopped the carriage, and he immediately applied his hand to the gauge cocks. I found there was neither steam nor water in the boiler. I immediately knew that the boiler was burst: the passengers said that they did not know it, as they heard no noise; and I told them that I did not mean they should know it. I said I would show them that it was so; and I took the boiler from the carriage and unscrewed it, and there were four large holes that I could put my hand into. This occurred from the chambers being too thin, and they drove all the water out of the boiler, and yet there was no injury to any person; there was not one person that heard any report; there was no steam, and there were no symptoms in any way that the machine itself had burst."

Mr. Ogle, in describing his carriage, observes: "No accident from explosion can take place. We have had whole families of ladies day after day, out with us in all directions, and who have the most perfect confidence."

The machinery of all these carriages is suspended on springs. The engines work, therefore, as smoothly as if they were fixed on the firmest foundation. Indeed it is stated in this evidence, that "the vibration or jar is much less in these vehicles on common roads than on a railway."

NO. VII.

With a few more remarks upon the operation of steam carriages on common roads, we will proceed to explain the plan of way which it is proposed to substitute for that of railways and canals.

The capacity of steam carriages to ascend hills of considerable inclination is a very important point of usefulness of these vehicles. To inquiries made by the committee on this subject, we find the following answers returned: Mr. Gurney remarks, "It was at first a

* Mr. Hancock has worked his boiler under a pressure of four hundred pounds on a square inch; his average is from sixty to one hundred. Mr. H. mentioned an instance of the little noise which was made in working his engine. He watched near an hour in London for a friend of his, during which time the machinery was at work; and though there were hundreds of people walking round it, they appeared not to know it was working; there was no noise at all in the machinery, "and you could not," so says Mr. H., "unless you had gone to the back, known that it was working."

very prevalent opinion, that the bite or friction of the power on the ground was not sufficient to propel the carriage along a common road, especially up hill; it was thought that the wheel would turn round and the carriage not proceed—but his carriage went up Highgate hill and to Edgeware, also to Stanmore, and against all those hills the wheels never turned; and the bite of one of the hind wheels was sufficient for all common purposes,—the carriage ran to Barnet, and went up all the hills to that place with one wheel only attached to the axle, and was run for 18 months experimentally, in the neighborhood of London.

From these trials, showing that one wheel was sufficient to propel the carriage, and the carriage being at the same time reduced two-thirds in weight, it was thought desirable to draw another carriage, instead of to carry on the same. This carriage went to Bath, and over all the hills between Cranford bridge and Bath, and returned, with only one wheel attached to the axle, and ran from Melksham to Cranford bridge, a distance of 84 miles, in ten hours, including stoppages.

Mr. Hancock repeatedly tried his carriage up hill on an inclination, and never found any difficulty, except once, when the frost was on the ground, when he attempted to run up the Pentonville hill with one wheel only, and he did it, but with some difficulty towards the top. "If I had propelled by the two wheels," says Mr. H., "there would have been none." Mr. H. further remarked, "I think there are no hills to be found upon which horses travel, but what a coach would propel itself up."

Mr. Trevithick testified, "There is no ascent that any common carriages go over, where the steam carriage will not go down the hill with one wheel chained; no road in the neighborhood of London that they would not run down with one wheel chained. If you are drawing up hill with two or four wheels driven by an engine, by their all turning round, they are as likely to go up hill. One wheel ought to put it up hill. It will go up a hill of double that ascent without slipping."

TUNNEL UNDER THE OHIO.—A writer in the Cincinnati Journal recommends the construction of a railroad under the Ohio river, opposite that city. The following is an outline of the plan:

The railway is to consist of two semi-ellipses, one above and the other underneath. The height of the upper arch to be 10 feet, and the lower 3 feet, and 24 feet in width inside, making the ellipse 13 feet high and 24 feet wide in the clear. The arch to be composed of cut stone masonry two feet thick. This arch is to be buried in the ground just sufficient to protect it from the action of the river. A floor composed of timbers laid lengthwise, on the bottom of the arch, and covered with planks, forms the carriage-ways and side-walks. The carriage-ways to be each 8 feet wide, and the side-walks each 4 feet wide. The side-walks are a little raised above the carriage-ways. The stones composing the arch are to be cut so as to form segments of the ellipses, and laid in hydraulic cement, and made as near water-tight as practicable. Notwithstanding all the care that may be taken in the construction, yet with a pressure, in time of high water, of 4375 pounds upon each square foot of the arch, the water will percolate through in such quantities as to require an engine to keep the road dry. It will of course be necessary to light the interior when opened for travel.

Between high and low water marks, there is a difference at this place of about 63 feet, and allowing the top of the arch to be 7 feet

below low water in the bed of the river, and placing the bottom of the arch at each end, at high water mark, will make the total descent 83 feet. It is thought that one foot ascent in twelve feet horizontal distance is the greatest inclination the road will admit; consequently, the length of the inclined arch, from high water mark to the bed of the river, will be about 1000 feet; and allowing also that the bed of the river at low water is about 1000 feet wide, will make the total length of the road 3000 feet.

The only difficult point in executing the work will be in excavating the earth and rock below low water. It is quite practicable, however, in a dry season, at comparatively small expense, to enclose a space with a frame of timber and plank, made water-tight by placing bags of earth around the outside, and pump out the water with an engine placed upon a flat boat, until the excavation is completed and the arch formed within the space enclosed. Then by moving the same coffer-dam its length farther along, another space can be enclosed, and the work completed in the same manner, and repeated until the bed of the river is crossed. This part of the work will depend upon so many contingencies that no accurate estimate can be made of the expense attending it. The masonry of the arch and the flooring can be estimated with tolerable accuracy. The stone for the work can be obtained one hundred miles up the river, where extensive quarries are already opened. The cost of the masonry will be as follows:

Quarrying the stone per perch of 16½ cubic feet	...\$1 00
Delivering do. do.	do. 2 50
Cutting the same with three faces, do.	do. 2 25
Mortar of water, lime, and sand, do.	do. 50
Laying the stone, including centering, do.	do. 75

Cost per perch,.....	\$7 00
Every 10 feet in length of the arch will contain 78 perches of masonry, which, at \$7 per perch, will be.....	\$546 00
Every 10 feet in length of the floor will contain 100 feet of timber, at 12½ cents per foot, \$12 50	
—220 feet of plank at 31 cents, \$7 70.....	20 20
Total cost of 10 feet of the road-way.....	\$566 20

Which being multiplied by 300, for the length, will give \$169,860 for the total cost of the arch and flooring. If to the above we add the probable cost of pumping the water and excavating the earth and rock for the road-way, and of covering the arch over again 3 feet deep, it will make the total expense not less than \$210,000. To which should be added \$20,000 for superintendence and expenses of the affairs of the company, &c. There can be no doubt that the stock in such an undertaking will yield a handsome profit.

It will be observed that a road-way, constructed upon the above plan, leaves the river entirely unobstructed; that the arch is completely out of the reach of injury from the river; that it is permanent, solid, and will last for ever; and that it involves but a trifling expense to keep it in order for constant use.

DISCOVERY OF SILVER ORE IN THE OURAL MOUNTAINS.—The Oural chain has been for several years well known to Europe for its rich gold and platina ores. A discovery has now been made of rich silver ore in two places. The first is seventy wersts from the foundry of Nischneitagsilsk, near to the confluence of the little River Graesnoy with the Tagil, where gold also occurs; the other is twenty-two wersts from the foundry of Nischneitagsilsk, on the little River Ulka.

[FOR THE NEW-YORK AMERICAN.]

The opinion is now generally prevalent, that some change must be made in the employment of the inmates of our State Prisons, to relieve the mechanical classes from the effect of their competition, and this opinion will doubtless be confirmed by the report of the committee to the next Legislature. The question will then arise—in what way can the change be best effected?

In reflecting upon the subject, the following plan has occurred to me, and I offer it as a suggestion. Good roads are among the most important public conveniences, diffusing their benefits universally, and they are also one of best investments of public wealth. Their construction will interfere with none of the general avocations of society, but on the contrary, will directly or indirectly promote the interest of all pursuits. Can the labor of the convicts be applied to this object? I think it can, without inconvenience or difficulty, and at the same time the present prisons be useful auxiliaries to the plan, which I will concisely describe.

The convicts to be divided into companies of ten, twenty, or thirty, or as many as one individual can manage, each company to be provided with a strong moveable prison, composed of apartments, say four by seven feet, equal to the number of the company, for security at night, with moveable accommodations for cooking, &c. &c. all of which is entirely practicable. A corps of engineers for the survey and direction of the construction of roads on a great and permanent scale to be established, who shall direct the operations. When a continuous line of road is decided upon, these companies to be placed upon it at proper distances, and employed upon it till it is finished in the best manner possible. When this is completed, they move to another, until the whole State is traversed by good roads, if we are so unhappy as to have convicts to construct them.

If the Prison at Sing-Sing could be made as it was, there is not the least difficulty, by the adoption of a similar system of management, of applying the same labor to the object proposed.

The operations to commence on the 1st of April, and be continued until the 1st of December—eight months: the convicts then to return to their respective prisons, and spend the winter in the acquisition of knowledge, and in the duties of religion, with the exception of such labor only as would be useful to their winter establishments, and in preparation for their summer campaign at road-making, rendering it a season of rest and moral improvement, to which they might look forward during their months of toil, with hope and pleasure, and which, by being continuous, would be more efficient, as constant application to any given subject, is more efficient than the same efforts if desultory.

These are mere hints, to induce reflection in those to whom is intrusted the direction of these important matters, and I feel satisfied they are practicable, and deserving of at least a trial, the best mode of testing any project of improvement.

HANCOCK.

[From the Lexington Gazette, of 20th inst.]

THE DRAGOONS.

The Camanches—Kioways—and Wacos.

FORT GIBSON, AUG. 19th, 1834.

My Dear Sir: It is with great pleasure that I embrace the earliest opportunity of giving you a few of the particulars of the dangerous, honorable and successful campaign from which we have just returned; but am sorry to have to relate to you the melancholy intelligence of the death of Gen. H. Leavenworth, who died like a man in the service of his country, on the 20th ultimo, at his own encampment about 80 miles in our rear on the very day we reached the Pawnee Pick village, three days after we had left that of the Camanches. He had with him provisions for Col. Dodge's command, one or two companies of infantry, and one field piece.

On our arrival at a new post which had been established by order of Gen. Leavenworth, near the confluence of the False Washita with the Red River, at which we expected to have found a sufficient supply of provision to enable the whole regiment to march in pursuit of the Pawnees and Camanches, we learned that the Pawnee Picks had lately visited that

neighborhood and murdered a Judge Martin, of Arkansas, and his servant, whose bodies had been found, and carried off his son, a lad of seven years of age. Here Gen. Leavenworth issued an order to Col. Dodge, to select 250 of his most efficient men and horses, and take with him 10 day's rations to last 20 days, about which time he promised to meet us with a further supply; and most faithfully would he have performed his promise had he not been called upon to pay the great debt of nature. His complaint was a raging fever, and it is said that he was so sensible of his approaching dissolution that he made arrangements about his funeral and settled the affairs of his estate before his death. His body is, I understand, still near the Cross Timbers, from which it cannot be removed till a change of weather.

We hud with us two young squaws, one of which was a Kioway, and the other was a Pawnee Pick, whom Gen. Leavenworth had purchased from the Osages, by whom they had been taken prisoners, the former about one year ago, the latter about five years ago, and whom we expected to make interpreters to their respective tribes. Not long after our departure from our camp Washita, we were so fortunate as to encounter a considerable party of Camanches, who, after much manœuvring, were induced to come up to us, and as neither of our captive girls could speak their language, we were at some loss; but one of them understood Spanish, and through him and one of the Delawares who understood the same language, Col. Dodge was able to soothe the whole party, and procure among them a pilot to their village, which we found rich in horses, with which the plains were literally covered, but in most defenceless condition, as the warriors were mostly absent upon a buffalo hunt. This village contained 340 lodges made by stretching buffalo skins upon light poles in bell fashion, which are moved by tying them to the saddles of their horses, wherever it suits the convenience of the tribe. The Camanches do not cultivate the earth, but procure their corn, beans, pumpkins and melons from their neighbors, the Pawnee Picks, so called on account of their picking themselves with powder or some blue substance on their arms and breasts—but who call themselves *Tawash*—for which they pay their jerked buffalo meat. The Camanche children are less in the way of their Amazonian mothers, who arm themselves with bows and arrows, and ride and dress after the same fashion of the warriors. In infancy they are tied to a board and handled with great roughness—at three years old they manage a horse themselves, and at four or five engage in driving about five thousand horses. They were when we reached their village, located east of a cluster of towering Rocky Mountains, of prodigious height and grandeur which are supposed by some of our most intelligent officers to be spurs of the great Rocky Mountains. Col. Dodge laid two days at this village with the expectation of meeting their principal chiefs, for whom a messenger had been despatched; but as we were now scarce of provisions and greatly incumbered with sick, a pilot was procured, and we commenced our march for the village of the Pawnee Picks. On the evening of the first day that we left the Camanche village, we made a fortification where we left our sick, with a detachment to defend them, and with our reduced force marched upwards of two days to the Pawnee Pick or Towash village, over and through the passes of those mountains:—upon our march we reached a lofty cleft which overlooked a valley of considerable extent, where our Kioway girl raised herself in her saddle, and addressed the Osages in the most animated manner. She told them that she was in her own country—that she had often rode, hunted and played in the valley beneath us, and pointing to the north-west, observed, that her village lay in that direction, and that one day's travel would enable us to sleep at it; but when our guide, a Pawnee Mahawk and a dull fellow bore off to the south-west, her countenance fell.

This fellow took us a serpentine route and greatly out of our way, but I have no doubt of his honesty; but went through the passes of the mountains where he had been in the habit of travelling. As we approached the village of the Pawnee Picks, they met us with considerable display and evident distrust, and when we arrived, the old chief implored Col. Dodge not to fire on the village.

Here a negro fellow who had run away from this neighborhood and taken up by the Camanches, confirmed the information which we had previously received from that tribe, of there being a white boy who could speak English at the village of the Pawnee Picks. On the second day after our arrival, Col. Dodge, with all the officers under his command, with the exception of myself, who as officer of the day,

remained in command of our encampment, and Lt. Northrop, who was officer of the guard, repaired to the Council House in the village for the purpose of holding a Council with this tribe.

The accidental firing of a pistol in the hands of one of the Cherokee Indians, who accompanied us on this campaign, created great confusion at this Council, and was near having a serious termination. The warriors fled precipitately from the Council House to their lodges for their arms, and the women and children to the rocky mountains, under which their village is built, for safety; but the brave Col. Dodge, with his usual firmness and good management, soon restored peace and order. After assuring them of his disposition to be at peace with them, he told them what he had heard about the white boy, and informed them that he would say nothing more in Council until that boy was produced. Confusion marked the countenances of the Chiefs, but as there was no alternative, the boy was sent for and given up to Col. Dodge in exchange for the Pawnee Pick girl. This little naked urchin, whom we have still with us, and who proved to be the son of Judge Martin, who was killed near Fort Washington, was delighted and astonished at hearing his own language spoken, and asked emphatically if these were all white people around him; and when asked by Col. Dodge his name, he answered without hesitation, "Mathe Wright Martin;" he told the Colonel that his father was still alive—that he saw the Indians shoot him in the back with their arrows, but that he run off and left them, and that they had drawn their gigs (spears) upon him, but that his life had been saved by the warriors with whom he then lived. On the next day after this Council the Chiefs of the Camanches, Kioways and Wacos, arrived at our encampment, with whom a Council was appointed to be held on the day following. This Council was held in our encampment, and was attended by near three thousand warriors. So great was the concourse that I could scarcely see beyond the limits of my own company, who stood by their arms in readiness to act at a moment's warning; and I know it will be gratifying to your feelings to hear that this band of brave Kentuckians would have done their duty if fighting had become necessary. But the excellent management of Col. Dodge upon this occasion superseded the necessity and terminated the affair honorably to himself and to his command, as well as advantageous to his country. The gratitude of the Kioways was unbounded when Col. Dodge gave up to her nation our Kioway prisoner. Her uncle, who was a chief, made a most animated address to his people on the occasion; he told them that the man who had travelled so far to restore to them their lost daughter must be a very great and a very good man; and that he longed to embrace him with the arms of friendship and love. Twenty men of the different tribes, most of whom are great men among their nations, are now with us. They are astonished and delighted at all they see and hear, and are much gratified at the presents we have given them. Col. Dodge is, I believe, anxious to send them to the Hermitage to see General Jackson, but the Indians themselves would rather return home at present to display the presents they have already received, and visit us upon another occasion with more of their people. Although there has been no blood shed upon this campaign, I look upon its termination as adding in a high degree to the military fame of Col. Dodge, who displayed a degree of perseverance in marching us without food in an enemy's country to their very villages, and obtaining from them a supply of provisions to last us to the buffalo country; forming with them treaties of peace and friendship, and obtaining from them one of our people, whom they had in bondage, and supporting that part of his regiment which was under his immediate command without any provisions from Government for near sixty days, and that too in an enemy's country, upon their own resources and her hunters.

In addition to all this, he has visited tribes of Indians who have never before been overtaken by any armed force whatever, although often pursued, and has brought their principal men with him to observe a civilized society, and explored a country within our own limits possessing a great many advantages, which has not been laid down on our maps, and about which very little has been hitherto known; and all this has been done with less than two hundred and fifty troops. If ever I felt like a soldier, it was when I saw this band undismayed as it was, surrounded by such a prodigious armed force as that which surrounded it on the day Col. Dodge held the council with the Kioways, Camanches, and the Wacos. The stream upon which the village is situated is a large branch of Red River, the water of which is as salt

as the sea, and the cliff near its banks contains mountains of salt rock which can be used without any preparation whatever.

Excuse this hasty and imperfect scrawl, and believe me to be with great respect yours truly,
To Col. R. M. Johnson.

[From the Courier and Enquirer.]

POLICE EXAMINATION OF MATTHIAS.—The examination of this pretended prophet took place yesterday, and concluded in a short time. He strenuously denied the truth of Mr. Folger's allegations, that the money he obtained from that gentleman was got under false pretences, or that he was ever actuated in his conduct towards him by unjustifiable motives. He stated that he was born in the town of Cambridge, Washington Co., in this State, that he is 42 years old, and that his real name is Matthias. On being asked where his residence was, and what was his occupation, he replied:

I am a traveller, and my legal residence is Zion Hill, Westchester county; I am a Jewish teacher and priest of the Most High, saying and doing all that I do, under oath by virtue of my having subscribed to all the covenants that God hath made with man from the beginning up to this time. I am chief high-priest of the Jews of the order of Melchisedeck, being the last chosen of the 12 Apostles, and the first in the resurrection which is at the end of 2,300 years after the building of Jerusalem by Cyrus, and 1260 years from the birth of Mahomet, which terminated in 1830, that being the summit of the power of the false prophet; I am now denouncing judgment on the Gentiles, and that judgment is to be executed in this age. All the blood from Zacharias till the death of the last witness, is required of this generation. That before this generation passeth away, this judgment shall be executed and declared. The hour of God's judgment is come!

Upon being asked whether he ever attempted to impress the mind of Folger with the truth of what he had just stated?—he answered:

In my general character as preacher, I endeavored to impress all men with the import of what I have here stated, but not more so in relation to Mr. Folger than any other person.

He was then asked whether he had ever told Folger that he possessed the power of life and death, the remission of sin, and the salvation of the soul, and that if he, Folger, believed in him he would be saved, and if not, that he would be damned? to which he responded:—In my character of preacher I say, that my person is as a trumpet, for the spirit of truth to speak by; and that this spirit the trumpet declares, that every person must believe in the said spirit of truth, and practice obedience thereto, as did Jesus of Nazareth; and that this obedience will secure eternal life. My general declaration was, that if they believed in the spirit of truth, they would be saved; if not, eternal damnation awaited them; and that the spirit of truth, which actuates them, must be directed from themselves and by themselves. To the question whether he had ever received money or property from Folger, and if so, what amount of money or description of property, he answered: In my general character of preacher, I declare to all men, that I will not accept any thing from them as of their property; but if they have any property in their possession which they believe to be God's property, then they are at liberty to give to me whatever they please of that property, and this is the only way in which I receive donations from any person whatever.

On being questioned if he recollected having received from Folger, or any of his family, sums of money in gold, and if so, to what amount, and in what description of coin, he replied:—"Mr. Folger and Mr. Pierson repeatedly declared to me, that they believed I was the Father, and fully qualified to establish God's kingdom upon earth, and in conjunction with them I erected the establishment on Zion-Hill, for which purpose they furnished money from time to time. As the Father, I had control over the funds, and in the progress of the establishment various moneyed transactions took place between us, in which we mutually accommodated each other. Mr. Folger on several occasions furnished me with sums of money in exchange for bank notes of his own. I have no particular recollection of the five twenty dollar bills mentioned in Folger's affidavit, and believe it to be a mistake of his. I once received bank notes from him to the amount of \$2700, and at various times other sums, which I cannot remember. The general fund for the establishment of Mount Zion, and for the house No. 8 Third street, wherein Mr. Folger resides, amounted to ten thousand dollars, including a mortgage on that house to secure to Mrs. Folger

about five thousand dollars, her separate estate.—This sum is exclusive of about a thousand dollars, expended in furnishing those two establishments, the bills for which Mr. Folger has in his possession. After Mount Zion had been established, and after the transfer of the property to me as the Father, some difficulty arose and a bill in chancery was filed against me, and I was required to give security for ten thousand dollars; but, to avoid further trouble, I re-conveyed the property. The house and lot in Third street were to have been conveyed to me in the same manner, and Mr. Pierson had actually given orders for the conveyance to be made out, but he died before it could be executed. I have nothing further to say at present. Whereupon the magistrate committed him for trial.

See page 62

Since the above was in type, we have received the following caution:

TO THE PUBLIC.

I had intended, by the advice of several judicious friends, not to have noticed any of the statements of the impostor Matthias, or the wild rumors growing out of the delusion I have been under in reference to him; but as the statements made by him in his examination before the Police yesterday, as published in the morning papers, are calculated to injure me seriously, I think it best to deny those statements, the object of them with Matthias being, no doubt, to crush me if possible. I have no objection that Matthias, or any one else, should state the whole truth in reference to any transaction of mine, but that which is untrue, I must protest against, and when necessary, meet and refute.

Matthias stated in his examination yesterday, that on one occasion he received from me \$2,700: this is true, as far as it goes—but the whole truth is this—that early in the present year I sold a property, for which the party paid me about three o'clock—too late to be deposited in the Bank that afternoon. I was going to Hartford that afternoon in the steamboat, and fear I forgot to take it in my pocket, I left it in his charge for safe keeping until my return, which was in about forty-eight hours; so that he did in fact receive \$2,700 from me, and kept it until I returned, when I received it again from him.

The statement about a mortgage of \$5,000 either on my place at Sing Sing, or any other property to secure that sum to that estate of Mrs. Folger, is totally untrue. No such mortgage was ever given.

As it regards Mr. Pierson having directed that a deed of Third street property should be given, it is entirely new to me—and he is not living to state what he did say to Matthias. I know nothing about it, but I do not think he ever directed it, for the simple reason that when he is said to have done it, I was largely in advance to him in joint speculations, and he knew that I felt no disposition to be any more so. All I ask of my friends is to be cautious in receiving the statements of this delusive creature, and leave me to manage all my concerns with him. To all who are interested, I can exhibit a perfectly clear statement of my concerns, and satisfy them that I have and shall act uprightly with all men.

BENJAMIN H. FOLGER.

Such papers as published the police report, will oblige me by publishing this.

Married, lately, by the Right Rev. Bishop Lusk, at the English Embassy, and subsequently by the Abbé Le Cointre (under a dispensation from the Archbishop of Paris,) Prince Louis Stanislas Roiska de la Trémoille, to Augusta, the eldest daughter of the Hon. Col. Alexander Murray, (of Frimley, near Bagshot, England,) and grand-daughter of John, late Earl of Dunmore. The bride is descended in a direct line from that Countess of Derby, whose defence of Latham Castle rendered her so conspicuous during the time of the Commonwealth, which Countess was the daughter of Claude, Duke de la Trémoille, and the Princess Brabantia, the youngest daughter of William, of Nassau; whose eldest daughter had married Frederick the Fourth, Elector Palatine, the grand-daughter of whom intermarried with Ernest-Augustus, Elector of Hanover; from whom the present Reigning Family in England are descended; consequently the bride and bridegroom stand in the same degree of consanguinity with the illustrious House of Orange, as does his Britannic Majesty, William the Fourth. The bride's aunt, (the Lady Virginia Murray,) together with her father, and her younger sister, Virginia, were present at the ceremony.

[From the London Christian Observer.]

THE MORAL OF FLOWERS.

THE WILD WALL-FLOWER.

What various turns of chance and fate

This mouldering pile has known!

What wide magnificence and state

Within its halls were shown,

When crowds of knights and ladies gay

In weeds of peace kept holiday!

These walls, where now with softening grace

The ivy-wreath is flung,

With trophies once of war and chace

Were thick and proudly hung;

But helmet, spear, and horn, are gone

To augment the dust we tread upon.

Full oft this cell in weary thrall

Hath lonely captive held;

And these proud towers the whizzing ball

Like granite rock repelled;

But, ah! they fall and crumble now,

Beneath a stronger, mightier foe:

Time, Time, his withering hand hath laid

On battlement, and tower,

And where rich banners were displayed

Now only waves a flower.

List, and 'twill fitting comment read

On revel gay and martial deed.

Mute is the warden's challenge, mute

The warrior's hasty tread;

And tuneless is the lady's lute,

For she is with the dead;

And but a flower now mourns the doom

Of prostrate strength and faded bloom.

Read, stranger, in this ruin's fate,

An emblem true of life;

Conflicting passions—love and hate,—

Joy, sorrow, fear, and strife—

Combine, alas! in one dark plan

To storm the citadel of man.

And should they fail, a foe is near

Who ne'er defeat hath known,—

Time ever follows in the rear:

He wills—the work is done;

For where's the beauty, strength, or pride,

Hath e'er his withering touch defied?

Wear'st thou to-day the wreath of fame?

Oh heed it, heed it not;

A few brief years, thy place and name

May be alike forgot,

And but a lowly floweret wave

Upon thy unremembered grave.

Here ends the semblance. Never more

This ruined pile shall rise,

But man a seraph blest shall soar,

When what is mortal dies,

If while earth's changing path he trod,

His heart and hopes were fixed on God.

THE PRIMROSE.

Fairest of all that's fair

In nature's works, are ye, ye wilding flowers,

When thus at Spring's first beck ye blithely rear

Your shining heads to herald her bright hours.

But that your bloom is brief,

And here and there, on some slight stem a thorn,

Half hid perchance, beneath a shrivelled leaf,

Tells unto what and destiny ye are born.

I could have thought the doom

Which gave to ruin earth, to storms the sky,

And man, God's last best work, unto the tomb,

Your primal beauty had unharmed passed by.

But are ye loved the less,

Than for our sakes these earth-born traits ye wear?

Oh, no! the very blight that mars your grace,

And speaks your frailty, makes ye but more dear.

Nor this your only claim

On man's regard; meekly from glade and bower

Ye warn and counsel him, as 'twere your aim

To win him back to Paradise once more.

Yes, each of ye in turn

Paints some pure moral to the human race:

One bending 'neath the storm, to those who mourn

Lessons of meek endurance may impart.

Others that breathe at eve

Sweet incense, urge to watchfulness and prayer.

And with united voice all bid us leave

The morrow to our common Father's care.

And thou, so fair and pale,

That lovest midst grass and shadowing leaves to hide

Thy modest charms, sweet Primrose,—thou I hail,

Reprover meek of vanity and pride.

Alas that pride, which wrought

Man's woe in Paradise, should haunt him still;

No hated inmate, but with every thought

Twined, closely twined, and prompting aye to ill.

Oh, when within my breast

Such thoughts are stirring, do thou gently chide,

And timely whisper from thy leafy nest—

"Shall man be proud, to sin and death allied?"

THE PASSION FLOWER.

Oh, ne'er with cold and careless glance gaze I on thee, sweet

flower;

Nor careless pluck thee, as I'm wont thy sisters of the bower;

No; fancy gifts thee with a spell unknown to all beside,

Which checks the hand thy beauty woo, and quells the glance

of pride.

Each flower some fairy legend owns, to joy or sorrow dear,

Or simply beautiful, just such as wins gay childhood's ear;

But both to aged and to young, from cot to lordly hall, thrall.

Then, thou hast that to tell shouldst hold each human heart in

Each flower some chosen emblem is: one is for beauty's bloom

Another friendship claims; a third sheds fragrance o'er the

tomb;

But linked with holy memories, to penitence how dear!

Thy shrine is aye the broken heart—thy dew, contrition's tear.

Would I such shrine could offer thee, and on thy pale leaves shed

Those sadly sorrowing tears which fall but when the heart has

bled!

But ah! like sealed font, that heart withholds the tribute due,

Though lesser sorrows find it still to gentle pity true.

Yet dear I hold thy sacred lore, and oft with curious eye

Do trace the mystic characters which in thy bosom lie;

'Types of those fearful instruments of agony and scorn,—

The cross which bore the Lord of life—the nail, the twisted

thorn.

And now of many a cultured flower, and many a wilding spray,

I've sung, but thou the fittest seem'st to grace my closing lay;

Then come, and round my simple harp thy wreaths symbolic

fling,

Lest meaner theme again should wake its consecrated string.

Animal Mechanics, or Proofs of Design in the Animal Frame. Part II., showing the Application of the Living Forces. [From the Library of Useful Knowledge.]

(Continued from page 567.)

CHAPTER II.

ON THE ILLUSTRATIONS FROM MECHANICS.

—The illustrations from Mechanics may be carried too far. Peculiar properties of life in the body. They differ in quality. They have an adjustment to each other more admirable than the mechanical connection.

We are the more desirous of entering upon this subject, that we may prevent the reader from founding a false conclusion upon the very mode in which we have hitherto proceeded, that of showing design in every part of the animal structure by taking our illustrations from the mechanism of the body.

When we have admired the connections of the several parts, or organs, thus made manifest by comparison with machinery, we may go too far, and say that the material structure and mechanical relation are to be found in still greater minuteness and perfection in the finer textures of the body—proceed to call this organization, and erroneously conclude that, out of organization, comes life. The very term organization misleads, yet it implies something constructed in which one part co-operates with another, but nothing more. Taking the body as a whole, there are undoubtedly instances of such co-operation, but it is in vain to seek the explanation of life from this, since life exists in simple and uniform substances, where there is neither construction nor relation.

Now, although there are mechanical construction and relation, as we have seen in bones, muscles, and tendons, the phenomena of the body result from a dependence established among the living properties, not the mechanical. The highest medical authorities have seen reason to conclude, that life is an endowment not resulting from organization or construction, but, on the contrary, producing it; in other words, that the living principle attracts the new matter, arranges it, and, in order to its continuance and perfection, alters it, and effects a continual revolution in it. For there is nothing more curious than the uninterrupted and rapid change of the material of the animal body, from the first pulse of life to the last breath that is drawn, of which we shall give abundant proofs before we close this inquiry.

In first approaching the subject we are blinded by familiar occurrences, and cannot comprehend all the links by which the visible phenomena of the living body are produced. Probably most of our readers believe motion to be a necessary consequence of life, and the very proof of its presence. The peasant stirs up an animal with his staff, and if it does not move he is satisfied that it is dead; and such is the experience of mankind. We do not reflect that many different qualities of the living powers must be exercised before sensibility is shown in its visible sign, the motion of the creature. It is not necessary that the parts shall lock into each other like the cogs of wheels; the connections established are of a different kind altogether. Each part possesses a property of life entirely distinct from the other, and this property of life may exist in the individual part (for a time at least) without that co-operation of the whole which is necessary for the motions of the animal.

This quality of life is, in one respect, like gravitation in matter; that is, when the mass is broken into parts, each division has its proportion of the endowment, and so the separated parts of a living creature possess life. But here the resemblance ceases: gravitation is the same quality in every part, and uniform in its effects, whilst the life is exhibited by qualities differing in every part of the animal body. Did these parts possess qualities exactly similar, they would remain at rest, and, though combined, they would not influence each other. It is the different powers brought into combination that produce the motion of the whole animal.

If a man fall into the water, and is dragged out motionless, and has ceased to breathe, each part of his body may still possess its property of life. Although the combinations have been destroyed, he may be revived by exciting action in some part of his system. Life still remains in his brain, and nerves, and heart, and arteries, and in the muscles, which should enable him to breathe; but the mutual influence, the bond of their united operations, is broken. We may take the analogy of a machine, and say that the wheels are stopped; but this is, in fact, a very different thing; it is the operation of the living influence that is stopped, for we repeat that nature, (by which, of course, is always to be understood the Author of Nature,) has combined the organs not mechanically, but by properties of life.

Artificial respiration draws after it the action of the heart, because the sensibility of the heart is made respondent to the lungs. Pulsation of the heart, excited by the motion of the lungs, is followed by the action of the arteries; these organs, in operation, drive the blood through the frame, and, by the circulation, the susceptibility of each part to impression, which had been weakened, is restored. Action and re-action are re-established; but these actions are not like those of a machine, they are living properties; sensibility in one part, contractility in another; and after a variety of these internal sensibilities have been for some time in operation, the man gives outward token of recovery.

So a person recovering from fainting, after sobbing and irregular breathing, has the respiration renewed; in succession other parts recover their sensibility, and resume their places in the circle of relations; the skin is capable of being stimulated, and the limbs are capable of motion; the eyelids are opened; by and by the nerve of the eye is sensible to light, and the nerve of the ear to sound; and finally, the faculties of the mind are roused, and its control over the body re-established. The whole separate endowments of life in the different parts resume their offices; the last in the train; only the property of the muscle to contract is alone observed by the uninformed, and voluntary motion is the token of entire restoration.

We can imagine a half-learned person to act very foolishly in the attempt to restore the apparently drowned. He has been told that *weldraw* in vital air, and breathe out what is unfit to support life; he imagines that it can be of no use to distend the lungs of the drowning person with his own breath, and precious time is lost. Whereas, the mere distension of the chest, that is, of the lungs, followed by the compression of the chest, and again by the distension, and so on alternately, is the *play of the lungs*, which by

sympathy draws the heart into action, and in succession all the vital organs. This is not what chemistry teaches: chemistry shows us that the vital air influences the blood; and it is true that the blood, being refreshed or impregnated with the vital air, renews the properties of life. But this effect on the blood could never take place unless there were some previous consent or sympathy, putting the organs into operation. We repeat, that the consent of organs is not the effect of mechanical adaptation, or of chemical action, but of relation established among the vital properties.

If a man be struck by lightning, he has not merely the vital operation of respiration stopped, as in the case of the drowning man, in whom every organ continues to possess its property of life; he is not like a man struck on the head, where one vital organ is so disturbed that the circle of vital actions is broken; in this instance the electric fire passes through every fibre and every organ—all the qualities of life, whether residing in the brain, nerve, or muscle, are instantaneously destroyed, and the moment of death is the commencement of dissolution.

Mr. John Hunter illustrated this somewhat familiarly. If you bruise the head of an eel, its body writhes; but if it be taken by the tail, and struck on the flag-stone, so that every part of its body receives the shock, then all the parts are killed, and it remains motionless. When an animal is killed by that violence which injures one important organ, the property of life remains for a certain time in every part; those parts have no correspondence, and there is no outward token of life; but the vital principle is still capable of exhibiting one of its most important properties—it arrests the operation of those chemical affinities which belong to dead matter.

Thus the reader perceives, that, although he be led on to comprehend the design or intention manifested in the structure of the body by mechanical instances or comparisons, it is when we contemplate the influence of the living principle, that we have a higher conviction of the Omnipotence, which has formed every creature, and every part of each creature, with that appropriate endowment or life which suits it to act its part in the general system.

We must learn to distinguish between the death of the animal, and the death of the parts of the animal—between apparent death and dissolution, or the separation of that quality which distinguishes living matter.

Viewing the subject generally, as Mr. Hunter said, there are not two kinds of matter, but two conditions of matter. It is at one moment forming beautiful combinations, as in the flower, through the principle of life, and, at another, it is cast away as noxious, undergoing changes by decomposition, from chemical processes solely. The want of combination in the whole animal body exhibits apparent death. The loss of life in all the parts of an animal body is absolutely death, and the material becomes subjected to the influence of the chemical affinities, instead of being urged into motion by life.

The jackstone produces motion in one part of a machine; that, varied by mechanical influence, is communicated to a second; from the teeth of one wheel it is communicated to the corresponding leaves of the pinions, and from the pinions to the fuseses. But what a base notion it is to suppose that

the mere property of weight in the jackstone is like the influence of life!

The weight is the power, in the language of mechanicians; but it does not reside in the parts of a machine, nor does it exhibit different qualifications in these parts. Separate them, and they are nothing. On the contrary, no one part of an animal body is in this matter dependent on another for its property of life. The property is inherent in the part itself, and the wonderful thing is that each property in the several organs corresponds with the others so as to form a circle of vital operations. There is no transmission of power, in all this, from part to part—no train of connection to be traced as from the jackstone, or the spring, along the parts of the machine. There is therefore, in truth, no resemblance between machinery and the influences in operation in a living body. What is to be admired in a living body is not merely the adaptation of bones, muscles, and tendons, forming a mechanical apparatus, but rather the different qualities which life bestows upon different parts; these qualities put the parts into relation, each according to its place in the circle of the economy; and among innumerable properties of life in the individual parts, produce that perfect co-operation as if one principle only actuated the whole.

When a person moves under the direction of the will, nothing can be more simple to our understanding, because we do not attempt to trace the links, far less to estimate the powers in the several parts influenced during this familiar action. But if there be the slightest diminution of sensibility of one nerve, so that it shall not transmit sensation, or if there be any disturbance which retards in the least degree the transmission of the will along another appropriate nerve—if the muscle be numbened, or have lost its irritability—if the action of the blood vessels has been either diminished or increased beyond their ordinary course, either in the organs of sense, the brain, or nerves,—we are appalled by the consequences. The impressions of things are not felt; the senses are unexercised; the limbs remain inactive; one half or the whole, of the body is a load, as if there were a living being in a dead body—a body whose parts refuse their office—appearing dead, though they are not so. The correspondence of their living qualities has alone been disturbed; the movement which results from the whole is stopped, and there is apparent death.

What confusion then must be engendered in the minds of those who would confound the phenomena of life, as presented in the entire frame-work of the body, with those separate qualities of life, which, residing in the several parts, must enter into combination for the motion of the whole!

The next step of this unphilosophical manner of treating the subject is to make the organization the source of the living property,—as if any combination of organs could produce life,—as if those organs could have motion without the distinct endowments of life in their separate parts,—as if they co-operated mechanically, and not from the correspondence among their living properties. Those who thus reason mean to say, that parts are made so finely as to move of themselves, one part propelling another, and the motion of the whole producing life. It is quite clear, that this confusion of ideas arises from contemplating the phenomena of

the perfect animal, in which all intermediate influences are confounded. On the other hand we present this proposition.

The several *simple* substances of a living body have each an endowment of life bestowed upon them. Let us take the obvious qualities, of sensibility—the power of transmission—and the power of motion; each of which is appropriate to a particular substance. When these qualities are put in relation, impressions may produce motion, and thus there are three distinct properties of life brought into operation. Where is the organization or construction here? Without those living endowments, these parts would be inoperative, in whatever juxtaposition placed. The mechanical construction of the body is one thing,—and we are able to admire it, because it can be illustrated by comparison with our own contrivances; the combination of living properties is another and an entirely different thing.

We here reach the limit of philosophical inquiry. Hitherto all has been flattering to the pride of the creature, but we must now humbly acknowledge the inscrutable ways of the Creator; and ceasing to trace the origin of life more than we do that of gravitation, we should be occupied in observing its laws, not in exploring its source.

We shall take an instance to illustrate the difference betwixt the mechanical connection of parts and their relations through the living properties; and it will, at the same time, show how curiously the living properties and the mechanical properties are made to correspond with each other.

A stream of water is converted into a mechanical power: it fills a cistern, which is attached to a lever; the cistern descends by the weight of water; by its descent a valve is pushed open; the water escapes, and the cistern ascends, and remains so till the stream flowing into it again depresses it. Thus the regularity of the supply of water gives regularity of motion to the machine. Compare this with the heart.

Fig. 23.



We may describe the heart as consisting of two cavities, the one called the *Auricle*, and the other the *Ventricle*. The sinus A, (fig. 23,) receives the blood returning by the veins; and gradually filling, like a cistern, it becomes so distended that its muscular power is excited; it contracts, and delivers the blood with a sudden impetus into the second cavity, or the ventricle B, which, in its turn, excited by the distension, contracts, and propels the blood into the artery C. Here the action of the heart is accounted for, by its mechanical distension with the blood; and the regularity of its motions necessarily correspond with the regu-

larity of the supply. The distension produces action, and the propulsion of the blood from the cavity allows a momentary state of rest, until another volume of the blood excites another pulse.

But we have now to observe, that when this irritability or muscular power was bestowed upon the heart, it was directed by a law entirely different from the irritability as possessed by other muscles. A property of alternate activity and rest was given to it, quite unlike the contractility of other parts; and accordingly, when the heart is empty, when there is no distension of blood at all, the two cavities will continue their alternate action. Nay, if the heart be taken from the animal recently dead, it will continue to act in regular successive pulses, first the one cavity, and then the other, and so on successively for a long time, until the life be quite exhausted. The two cavities will thus continue in alternate action, as if they were employed in the office of propelling the blood, when there is no blood contained within them. It is superfluous to observe that no such thing could happen in the case of the cistern and lever, were the stream of water to cease running.

Thus we distinguish two things quite different: a mechanical or hydraulic provision, by which these little cisterns, the auricle and ventricle, shall be regularly supplied, and alternately filled and emptied—and the property of contraction in the heart, not a mere property of contraction from irritation, as in the other muscles, but a property far more admirable, since the irritability or power of contraction of the part is ordered with a reference to its office—that it shall contract and relax in regular and rapid succession, and continue its office unweariedly through a long life. The living property of the heart exhibits a variety adapted to its office, and a correspondence still more admirable than the mechanical relation. We are thus particular in distinguishing the mechanical adaptation of parts from the co-operation of the vital influences residing in the several parts; for there are many who will take the illustration from mechanics, and stop their inquiry there, and who entertain a confused notion of the dependence of the life of the body on its mechanism.

Another mistake which some philosophical inquirers entertain, is to fancy that the principle of life is of a galvanic nature. There is, indeed, an unwillingness in men to acknowledge that their powers of reason are exhausted, and that they have arrived at an ultimate stage; they would fain set up some contrivance to hide the humiliating truth. Whatever notions have prevailed in the schools at different epochs, of heat, electricity, or galvanism, we find an attempt to explain the phenomena of life by an application of the powers with which they have been successful in their physical inquiries. Experiments without reason are equally delusive with hypotheses; those who will not give themselves the labor of thought, desire to witness striking phenomena; wonder-struck, they believe that they are engaged in experimental investigation, when their state of mind is little better than idle amazement. A calf's head is made to yawn, or a man cut down from the gallows to move, like a figure of cards pulled with strings; the jaws move, and the eyes roll, and this is done by conveying the galvanic shock to the nerves; here it is supposed that nothing

less than the principle of life itself can work such wonders, and that galvanism is this principle.

Putting aside the circumstance already stated, of life exhibiting totally different phenomena in union with different parts, is there any point of resemblance between galvanism and life? Does tying the nerve stop the influence of galvanism as it does the influence of life? Does galvanism course along a cord when it is surrounded by matter in contact with it of the same nature? can life pass out of one body into another, like heat, or electricity, or galvanism? Can they be contained by a thin membrane? Does life pass equally through all the parts of a moist animal body as one uniform influence, like galvanism?

In no circumstance is there a resemblance, and the whole phenomena resulting from galvanism transmitted through an animal apparently dead, are fairly to be attributed to its being a high stimulus conveyed through the moist animal body, and exciting the powers which remain insulated in the several parts; and in exciting those forces, far from renewing them, it exhausts them altogether.

The uses made of galvanism, in the explanation of the living phenomena, should make sensible men very cautious how they carry the legitimate inductions of chemical science into another department. They will not submit to call the irritability or contractility of a muscle an endowment of life, but seek to explain it by organization. They employ the microscope; they find the ultimate fibre to be some thousandth part of an inch in breadth; they see plicæ or folds; they imagine them to be cells into which the fibres are divided; they furnish these cells with two different gases, and explode them by some galvanic influence of the nerves; and the explosion, by dilating the cells in one direction, causes the contraction in another. This is the theory of muscular action at the period of the discovery of the gases; and some such idle hypothesis, supposed applicable to the laws of life, accompanies every considerable improvement in chemistry.

In the most modern and the most popular French work on Physiology, by M. Richerand, he says, "What appears to me by much the most ingenious opinion, and which carries with it the greatest probability, is that which supposes the contraction of the muscle to depend on the combination of hydrogen, carbon, and azote, and other combustible substances which exist in the fleshy fibre, with the oxygen conveyed to them through the arteries." But he adds, "as if he had perfected the theory," "it is also necessary to suppose, that a nervous fluid is directed through the muscle to determine the decomposition, as the electric spark forms water out of two gases."

Such is the chemical theory of muscular motion; it betrays an entire misunderstanding of the phenomena of muscular motion, and of the beautiful provision in every muscle for its appropriate office. The muscles, which are subservient to the organs of sense, differ in their operations altogether from the voluntary muscles of the limbs. The hollow muscles, as they are termed, those which carry down the food, and which carry round the blood in circulation, vary in their time and manner of acting according to their offices; but what conception can he have of such adjustment of powers, who is entertain-

ing himself with a theory that supposes a sudden explosion to take place in the fibres of the muscle at their time of action? Inductive reasoning, which has carried men to the highest acquirements in physical science, is here laid aside; conjectures totally inconsistent with the phenomena of life are employed in its stead, and the useful philosopher becomes a very indifferent physiologist.

FOREIGN INTELLIGENCE.

LATEST FROM EUROPE.—The *Napoleon* packet of 24th, from Liverpool, arrived yesterday. The London dates are to the 23d. There is little of interest by this packet. The Spanish question remains, to all appearance, *in statu quo*, though, in such a case, the fact that no enthusiasm is displayed, and no progress made, in the cause of the Pretender, is certainly indicative of his ultimate defeat.

In France the Chamber of Deputies had been prorogued till December, without, we are sorry to say, having made any provision to carry into effect the treaty of indemnity with the United States. Considering the decisive majority which the King's government has in the Chamber, the urgency of the claim, and the circumstance of the rejection by the late Chamber of the requisite appropriation for the indemnity, we cannot but think, that although the Chamber was not convened for the despatch of general business, this subject should have been submitted to it by the King's Ministers. This does not appear to have been done. As the Chamber will not meet again before the new year, it seems too probable, at the next session of Congress, beginning on 1st December, and terminating on 4th March, that as no satisfactory information can be given them respecting the state of this question, they may feel bound to resort to some retaliatory measures of a commercial nature.

In England the proroguing of Parliament has induced a pause in political discussions.

The Cholera has re-appeared in Dublin with great virulence.

From Portugal there is nothing of interest.

The Bordeaux papers of the 18th inst. contain little that is interesting from Spain, the accounts relating principally to the movement of the adverse parties at a period anterior to the intelligence received by telegraph. The following are the only paragraphs worth extracting:—The war continues to be marked by deplorable ferocity, not to speak of the fusillades of the people by order of Zumalacarreui. This chief, for the purpose of punishing the little town of Valcarlos, for its refusal to aid his party, has ordered the authorities to pay him the sum of 24,000*fr.*, or four muskets for each male inhabitant. Determine I not to comply with either of these conditions, and dreading that the town should be set on fire, as had been threatened, they have adopted the plan of transporting all their valuable property to the frontier, even to the doors and windows of their houses. After having taken this precaution, the Alcade wrote to the chief of the rebels, that he might come, adding, that he would not only be received by musket-balls, but that the convent of Roncesvaux would be burnt in retaliation. Within these few days Zumalacarreui has caused three of his officers to be shot for having attempted to seduce his soldiers in favour of Rodil. It is said that the young men of Roncal are well disposed to the Queen, and offer to enter into her service. To complete the measures of surveillance, the object of which is to prevent the supply of arms or ammunition to the Spanish Carlists, although English and French cruisers are established on the coast of Biscay, orders have been given for the march of two companies of the 44th to La Teate and to Royan.

[From the *Journal des Debats* of Thursday, 23d.]

CONSTANTINOPLE, JULY 28.—The insurrection in Syria assumes a very serious character. Ibrahim Pacha will find it difficult to maintain himself in that province; almost the entire of the population, but particularly the inhabitants of Mount Lebanon, have joined in the revolt. Ibrahim is concentrating his forces with a view to put an end to it at one blow,

but he has to contend with a warlike people, from whom he will meet with a much more formidable resistance than that opposed to him by the Turks in Anatolia. The Porte, though well informed, remains inactive, and appears determined to await the result. Ibrahim has applied to his father for immediate relief; the latter has consequently embarked several regiments for Syria, which he intends to repair in person. This intelligence has produced here a very great sensation—the whole of the suburb of Pera is in movement, and couriers are despatched in every direction.

The occupation of Syria is a vital question for Mehemet Ali; if he loses that province he will have to relinquish all his future plans of aggrandizement, and, perhaps, forfeit his independence. It must, nevertheless, be confessed that he disposes of powerful means to maintain himself in that possession. But let him be successful or not, he must abandon the system he has heretofore followed, and cease to treat his new subjects like slaves. It is said that those events have been brought about by European intrigues. The Ministers of England and France are alive to them, and follow them with interest: they sent off couriers this evening.

The Sultan has recovered a certain degree of confidence, and the intrigues afloat in the Divan for the purpose of detaching him from Russia have now less chance of success than ever. The Sultan often repeats his favorite saying—"I know what I now have, but I know not what I should have were I to listen to those who wish to make me fall out with Russia. I prefer a certainty to an uncertainty; I found a friend in Nicholas, and am not aware of what benefit I should derive from the friendship of those who offer me theirs."

Letters from Constantinople state that the British fleet on the 20th July was cruising off the Dardanelles, and that the plague was raging with great violence at Constantinople.

MR. O'CONNELL AND AMERICA.—On the 1st ult., a great public dinner was given in London in honor of the abolition of Negro Slavery. The Earl of Mulgrave, late Governor of Jamaica, was in the Chair, and among the numerous company were many members of Parliament. Several speeches were made, from the newspaper notice of which, we copy the following:

"Mr. O'Connell was loudly applauded. He congratulated the meeting in eloquent terms on the glorious event they were met to celebrate, and the pledge given them by a liberal and enlightened Administration that the good work should be perfected. Yesterday slavery was a fact; to-day a memory.—(cheers.) He certainly had not been one of those who approved of the twenty millions grant (hear!); but his objection arose from no feeling of stinginess, but from a feeling that man was not an "article" to be bought with money; but he was glad the act had been done, the price was nothing compared with the principle (cheers.) The Honorable and Learned Gentleman took occasion to exclaim against the Americans for keeping up the system of slavery; it was mere hypocrisy for them to boast of liberty and the rights of men, while they kept their fellow men as slaves (cheers.) He again congratulated the meeting on the glorious revolution which had this day turned 800,000 slaves into men. He concluded by proposing as a toast—"The total extinction of slavery all over the world."

[From the *London Times*.]

The funeral of the poet Coleridge took place on Saturday, in the most private manner. Several of his admirers and literary friends wished to attend, but his immediate connections, aware of the opinions of the deceased against ostentation and display of any kind, declined the offer. The following notice of this remarkable writer appears in the *Athenæum* of Saturday:—"We have to record the departure of another mighty spirit from among us—the quenching in the darkness of the grave of another of the few bright stars which yet remained to us. We have it not in our power to offer any detailed biographical notice of Mr. Coleridge. That he was born at Bristol, educated at Christ's Hospital, studied at Jesus College, Cambridge, and accompanied the late Sir A. Ball to Malta as secretary, are facts which are already public. His tour to Germany (accomplished through the liberality of the Messrs. Wedgwood), his residence at Nether Stowey and at the Lakes, his marriage, and the birth of his children—his labor in the *Friend*, the *Watchman*, and the *Morning Post*—his residence during the latter years of his life at Highgate—are things so well known to the greater num-

ber of our readers, that they call for no particular mention on this occasion. His life was one of precarious fortunes, the consequence of those singularities of character, temperament, and habits, which grew out of his original and peculiar genius. Those who have read his *Biographia Literaria* will not forget his account of his journey to solicit subscriptions for his *Watchman*, nor his extraordinary harangue against periodical literature in the house of one for whose patronage he was then soliciting. It was a type of the man—a sure token that in the hard business of life—its strivings, and its amassings, he could not be successful. Another anecdote of him, no less characteristic, may not be so generally known. We have reason to believe, that during the early part of his life he enlisted as a common soldier in the Dragoons; of course he did not remain long in the service. Perhaps his then democratical principles made his officers willing to get rid of him—perhaps (which is a fact) because he could not be taught to ride."

The balloon which was to start on Sunday from the Champ de Mars for London, to set down no less than 17 passengers in Hyde-park, after an aerial voyage of three or four hours, met with an accident which prevented its ascension, to the great disappointment of several thousand persons, who had collected to the spot to witness its departure; but more especially of the seventeen passengers, who had been spoken and paid for places to perform the voyage.

The balloon burst soon after it had begun to fill; but it is said that its constructors will lose no time in preparing a new one, upon the most improved principle, in which they hope to effect their original purpose of landing a cargo of passengers in the very centre of four Hyde-park. We confess we are somewhat incredulous.

THE LIFE AND CORRESPONDENCE OF HANNAH MORE, which it is said the Harpers have in press, cannot fail to be one of the most attractive books of the day. Her talents, the beauty of her character, and her intercourse in earlier life, about 1780, with the most distinguished society of London, literary and political, furnish rare and precious materials.

With Garrick and his wife she was most intimate, he was indeed one of her kindest, most cherished, and most valuable friends—and her grief at his death was proportionably great and sincere. His splendid funeral in Westminster Abbey, and the effect of it, are thus described by her:—

"We were no sooner recovered from the fresh burst of grief, than I cast my eyes, the first thing, on Handel's monument, and read the scroll in his hand, 'I know that my Redeemer liveth.' Just at three the great doors burst open with a noise that shook the roof; the organ struck up, and the whole choir in strains only less solemn than the 'archangel's trumpet,' began Handel's fine anthem. The whole choir advanced to the grave in hoods and surplices, singing all the way: then Sheridan, as chief mourner; then the body, (alas! whose body?) with ten noblemen and gentlemen pall-bearers; then the rest of the friends and mourners; hardly a dry eye,—the very players, bred to the trade of counterfeiting, shed genuine tears. As soon as the body was let down, the bishop began the service, which he read in a low but solemn and devout manner. Such an awful stillness reigned that every word was audible. How I felt it! Judge if my heart did not assent to the wish that the soul of our dear brother now departed was in peace. And this is all of Garrick! Yet a very little while and he shall say to the worm, thou art my brother; and to corruption, thou art my mother and my sister.' So passes away the fashion of this world. And the very night he was buried the playhouses were as full, and the Pantheon was as crowded, as if no such thing had happened: nay, the very mourners of the day partook of the revelries of the night;—the same night too!"

In another place she says, "I can truly bear this testimony to his (Garrick's) memory, that I never witnessed in any family more decorum, propriety, and regularity, than in his; where I never saw a card nor even met (except in one instance) a person of his own profession at his table."

The delight she derived from the performances of this great actor, may be judged by the following notice of his *Hamlet*:

In every part he filled the whole soul of the specta-

tor, and transcended the most finished idea of the poet. The requisites for *Hamlet* are not only various, but opposed. In him they are all united, and as it were concentrated. One thing I must particularly remark, that, whether in the simulation of madness, in the sinkings of despair, in the familiarity of friendship, in the whirlwind of passion, or in the melttings of tenderness, he never once forgot he was a prince; and in every variety of situation and transition of feeling, you discovered the highest polish of fine breeding and courtly manners. *Hamlet* experiences the conflict of many passions and affections, but filial love ever takes the lead; that is the great point from which he sets out, and to which he returns; the others are all contingent and subordinate to it, and are cherished or renounced, as they promote or obstruct the operation of this leading principle. Had you seen with what exquisite art and skill Garrick maintained the subserviency of the less to the greater interests, you would agree with me, of what importance to the perfection of acting, is that consummate good sense which always pervades every part of his performances. To the most eloquent expression of the eye, to the hand-writing of the passions on his features, to a sensibility which tears to pieces the hearts of his auditors, to powers so unparalleled, he adds a judgment of the most exquisite accuracy, the fruit of long experience and close observation, by which he preserves every gradation and transition of the passions, keeping all under the control of a just dependence and natural consistency. So naturally, indeed, do the ideas of the poet seem to mix with his own, that he seemed himself to be engaged in a succession of affecting situations, not giving utterance to a speech, but to the expression of his feelings, delivered in the most affecting tones of voice, and with gestures that belong only to nature. It was a fiction as delightful as fancy, and as touching as truth. A few nights before I saw him in "Abel Druggier;" and had I not seen him in both, I should have thought it as possible for Milton to have written "*Hudibras*," and Butler "*Paradise Lost*," as for one man to have played "*Hamlet*" and "*Druggier*" with such excellence.

Of Sir Joshua Reynolds she thus speaks:

I wish you could see a picture Sir Joshua has just finished, of the prophet Samuel, on his being called. 'The gaze of young astonishment' was never so beautifully expressed. Sir Joshua tells me that he is exceedingly mortified when he shows this picture to some of the great—they ask him who Samuel was? I told him he must get somebody to make an Oratorio of Samuel, and then it would not be vulgar to confess they knew something of him. He said he was glad to find that I was intimately acquainted with that devoted prophet. He has also done a St. John that bids fair for immortality. I tell him that I hope the poets and painters will at last bring the Bible into fashion, and that people will get to like it from taste, though they are insensible to its spirit, and afraid of its doctrines. I love this great genius for not being ashamed to take his subjects from the most unfashionable of all books. Keeping bad company leads to all other bad things. I have got the headache to-day, by raking out so late with that gay libertine Johnson. Do you know—I did not—that he wrote a quarter of the *Adventurer*? I made him tell me all that he wrote in the 'Fugitive pieces.'

Of Johnson and Monboddo, the moralist and the metaphysician, we have these two glimpses.—Speaking of Johnson, she writes:

"You would have enjoyed seeing him take me by the hand in the middle of dinner and repeat, with no small enthusiasm, many passages from the *Fair Penitent*, &c. I urged him to take a little wine; he replied, 'I can't drink a little, child, therefore I never touch it. Abstinence is as easy to me as temperance would be difficult.' He was very good-humored and gay. One of the company happened to say a word about poetry. 'Hush, hush,' said he, 'it is dangerous to say a word of poetry before her; it is talking of the art of war before Hannibal.' He continued his jokes, and lamented that I had not married Chatterton, that posterity might have seen a propagation of poets. The metaphysical and philological Lord Monboddo breakfasted with us yesterday: he is such an extravagant adorer of the ancients, that he scarcely allows the English language to be capable of any excellence, still less the French—he has a hearty contempt for that people and their language; he said we moderns are entirely degenerated. I asked in what? 'In every thing,' was his answer. Men are not so tall as they were, women are not so handsome as they were; nobody can now write a long period; every thing dwindles. I ventured to

say, that though long periods were fine in oratory and declamation, yet that such was not the language of passion. He insisted that it was. I defended my opinion by many passages from Shakespeare, among others, those broken bursts of passion in *Constance*, 'Gone to be married!' 'Gone to swear a truce!' 'False blood with false blood joined!' Again, 'My name is Constance: I am Geoffrey's wife—young Arthur is my son, and he is slain?' We then resumed our old quarrel about the slave trade: he loves slavery upon principle. I asked him how he could vindicate such an enormity? He owned it was because Plutarch justified it. Among much just thinking and some taste, especially in his valuable third volume on the *Origin and Progress of Language*, he entertains some opinions so absurd that they would be hardly credible, if he did not deliver them himself, both in writing and conversation, with a gravity which shows that he is in earnest; but which makes the hearer feel that to be grave exceeds all power of face. He is so wedded to system that, as Lord Barington said to me the other day, rather than sacrifice his favorite opinion that men were born with tails, he would be contented to wear one himself.

A more affecting incident of fidelity unto death, than that related by her in the following letter, we have never met with. Yet the hero was a negro and a slave!

"Hamton, 1782.

"The other morning, the captain of one of Commodore Johnson's Dutch prizes breakfasted at Sir Charles Middleton's, and related the following little anecdote. One day he went out of his own ship to dine on board another; while he was there a storm arose, which in a short time made an entire wreck of his own ship to which it was impossible for him to return. He had left on board two little boys, one four, the other five years old, under the care of a poor black servant. The people struggled to get out of the sinking ship into a large boat; and the poor black took his two little children, tied them into a bag, and put in a little pot of sweetmeats for them, slung them across his shoulder, and put them into the boat: the boat by this time was quite full; the black was stepping into it himself, but was told by the master there was no room for him, that either he or the children must perish, for the weight of both would sink the boat. The exalted heroic negro did not hesitate a moment. Very well, said he, give my duty to my master, and tell him I beg pardon for all my faults. And then—guess the rest—plunged to the bottom, never to rise again till the sea shall give up her dead. I told it the other day to Lord Monboddo, who fairly burst into tears. The greatest lady in this land wants me to make an elegy of it; but it is above poetry.

We conclude with some touches at the times that are full of spirit:

"Did I tell you that the Bishop of Chester's Sermons were out of print in eight days? I hope the age is not so bad as we took it to be; and yet it cannot be very good neither, when the strawberries at Lady Stormont's breakfast last Saturday morning cost one hundred and fifty pounds."

"As I do not go to Ranelagh, nor the play, nor the opera, nor sup at Charles Fox's, nor play at Brooke's, nor bet at Newmarket, I have not seen that worthy branch of the house of Bourbon, the duke de Chartres. I never heard of such a low, vulgar, vicious fellow. His character is—

Polltron sur mer,
Escroc sur terre,
Et vaut rien partout."

"I have been in town some days, but had not time to write before, because, as the Duchess of Gordon told the queen, 'tis nothing but fruz, fruz all day, and rap, rap all neet."

"—, 1785.

"Talking of politics the other night, Soame Jenyns said it sounded mighty pretty in an essay to talk of the governor of a free people; but when put into English, it only signified the governor of a people who would not be governed, which was the definition of the king of England."

"Boswell tells me he is printing *anecdotes* of Johnson, not his *life*; but, as he has the vanity to call it, his *pyramid*. I besought his tenderness for our virtuous and most revered departed friend, and begged he would mitigate some of his asperities. He said, roughly, 'He would not cut off his claws, nor make a tiger a cat, to please any body.' It will, I doubt not, be a very amusing book, but I hope not an indiscreet one; he has great enthusiasm, and some fire."

NEW-YORK AMERICAN.

SEPTEMBER 27—OCTOBER 3, 1834.

LITERARY NOTICES.

SKETCHES OF SOCIETY IN GREAT BRITAIN AND IRELAND; by CHARLES S. STEWART, author of a Visit to the South Seas, &c. &c., 2 vols. Philadelphia, CAREY LEA & BLANCHARD.—The author of these Sketches is a Chaplain in the United States Navy, whose "Visit to the South Seas" made him favorably known to the reading public,—especially to the more religious portion of it. The volumes now before us are of slighter character; and sooth to say, might have been unpublished, and the world not have missed them. They are composed of letters lightly and pleasantly written from day to day; which, though interesting enough to friends and associates, are hardly of the dignity or value, or novelty, to invite public attention: they are, too, in our eyes, liable to a greater objection, that of blazoning forth at full length the names of all the kind families, and all the members, male and female thereof, who entertained the writer. This we consider a positive breach of the laws of hospitality, and not at all the less a breach because Mr. Stewart only finds occasion to speak well of all. If praise may be awarded, so may censure: besides, it is positively disagreeable to private families to have their interior and domestic privacy exposed to all eyes.

As a specimen of the style of the work, we annex two sketches of eminent individuals, as they were seen at the Queen's drawing-room:

We were in good time, and among the first to arrive. The Duke of Wellington, however, was already in the room, and of course arrested almost exclusively our first attention. Time has laid his hand with distinctive marks upon him; and he has lost much, in face and form, of the imposing air and strongly marked character distinguishable in busts and portraits taken, at an earlier and more flattering period of his life and history. He is only of middling height, or very little above it, is not stout, stoops a little, and appears to be, what is, perhaps, best expressed by the familiar phrase, "old and broken."

Thinking of him only, as associated in my mind's eye with the image formed by hearing and reading of him when a school and college boy, fifteen or twenty years ago—kept up by representations since seen on canvases and in marble—the involuntary inquiry on a first glance was, "Can this be the hero of Waterloo, and the conqueror of Bonaparte?" Still it is evident that he has possessed a fine, commanding face, though, I should think, one never equal in its traits of genius to that which distinguishes the heads of a Washington and a Napoleon.

He was in conversation, at the time, with Prince Leiven, the Russian ambassador; and so slight was the impression made by his personal appearance, that, to my own surprise, I soon found myself standing with my back towards him, forgetful alike of his presence and his glory.

This may perhaps be accounted for, however, by the entrance, in the mean time, of Talleyrand from a private audience in the king's closet. We have just saved a sight of this prince of politicians and diplomatists. He is taking leave, the present week, of their majesties, for a visit to the continent during the summer; and, had we not now have met him, we probably never should. His looks are by far more indicative of the character he sustains in the world, than are those of Wellington; and, were we living in an age of superstition, he is just the face and figure to which, in sailor's phrase, "I would give a wide berth." A disfigured foot, a natural malformation, or an effect of the gout, would, in a darker period of the world, have confirmed the suspicion which a glance at his countenance might excite, that he had received aid, in the political game played by him through the last half century, from a quarter where few are fond of being on very familiar terms.

His countenance is sallow, deeply wrinkled, and imbedded in a large quantity of widely frizzled gray hair. As he moved slowly along, supporting his slender and feeble frame by a cane in one hand, in addition to the arm of a friend held by the other, and sank into a seat, as if exhausted by the interview of courtesy just had with the king, I could but think of his celebrated remark upon hearing of the retreat of Bonaparte from Russia—"C'est le commencement

du fin" and mentally exclaim of himself, so far as this life and world are concerned, "C'est la fin du fin."

THE LIFE AND VOYAGES OF CHRISTOPHER COLUMBUS; BY WASHINGTON IRVING. Abridged by himself, for the Use of School. 1 vol. 12mo. New York: N. & J. WHITE.—We congratulate the schools and the scholars of our country, that this little volume has appeared. In about 200 pages 12mo. it comprises the substance of Irving's great work—great in every sense. It has been, we may say, rewritten by him, so as to adapt it to the capacity of children. It is divided into short and complete sentences, which are numbered in each chapter; and to these, questions are suitably framed. Mr. Irving's object in this abridgement is, while diminishing the volume, to retain the spirit, the substance, and, as far as possible, the phraseology, of the larger work. He has, in our judgment, succeeded admirably, and furnished a book that will scarcely be read as a task, by any child. It is a model of style, as well as replete with instruction, which it should discredit an American to be without.

THE DISTRICT SCHOOL; BY J. O. TAYLOR. 1 vol. New York: HARPER & BROTHERS.—We took occasion last week, when noticing Mr. Simpson's book on popular education, to refer to the work, of which the title is prefixed, as forthcoming. It is still unpublished, though we learn, that in the course of next week it will be ready. Meantime, having received a copy in sheets, we hasten to commend it to our readers by extracts, which will, we think, warrant us in claiming their approbation for it, as a volume of great value, both in its design and in its execution. The design is to show to parents the defects in the present system of common school education, and the mode of removing them—to impress upon teachers the high responsibilities of their profession, the qualifications it requires, and the immeasurable evils of ignorance, passion, and presumption, or either of them, on their part; and finally, to lay before the public a plain and unvarnished account of how lamentably deficient in all these respects, teachers, as now employed, considered, and paid—are, and necessarily must be—together with the suggestions of a sagacious and practical mind, as to the amelioration of the system in all its parts. The volume, consisting of nearly 300 pages, in a fine clear type, is divided into sections, each treating, under a separate head, of a particular branch of the subject. Sec. 1, for instance, is addressed to parents, and dwells upon the part which duty requires from them in the education of their children. It is a natural and able introduction to the whole subject. We can only, however, afford room for a short extract, where, after appealing to them as parents, and as Christians, to care for the proper education of their children, the author addresses them as patriots:

The education of your children, likewise, is a duty to your country. You are under the strongest obligations to prepare your offspring for becoming intelligent, useful citizens. A freeman must be an intelligent man; and this government, wise as it is, cannot make your children free, unless you first make them intelligent. You had better place your children in another land, where others will govern them, unless you prepare them for governing themselves. But, as you intend them to be members of this republic, which is based on intelligence, sustained by intelligence, and looks to intelligence for its protection and safeguard, you are under the most solemn obligations, if you love your country and value its blessings, to make your children intelligent. To permit a son unable to read to go to the polls, is as great an injury as you can do your country. It is, in fact, as far as his vote and influence go, as great a crime as you could commit towards these free institutions. In a despotic government ignorance is the best quality in the people, but a free government demands virtue and intelligence; it cannot prosper, it cannot exist, without them. Then, if you desire the perpetuity of your liberties, the equal rights and privileges of these free institutions, and the honor and glory of your

happy country, educate your children; fit them for enacting, administering, and obeying their own laws. Unless you do this you are not your country's friend.

The next three sections are devoted to the qualifications of teachers, and are capably conceived and executed. Then follow sections on the importance of Common Schools—on teaching as a profession—on the government and discipline of a school—on the responsibility of teachers—and on the teacher's Compensation. From this last mentioned section we make a long extract, because herein, after all, lies much of the difficulty of the whole case. Until common school teachers are elevated in public estimation, by being better paid, and treated with more distinction, there is little hope of improving the scholars. On this head our author thus emphatically speaks:

If parents would give teachers a higher compensation, it would encourage young men to qualify themselves for instructing. In the United States men pursue science and literature for a livelihood. There are but very few whose circumstances are such as to permit them to seek knowledge merely to gratify a love of letters. The most are obliged to make use of the attainments they have made as a means to give them a support. No one will improve his education beyond what is required by the common business of life, unless he knows that these extra acquisitions will be the means, hereafter, of giving him higher wages for his services. He cannot afford it. If he prepares himself to teach others, the taught must be willing to pay him for that preparation; for these previous expenses will not be incurred unless there is a certainty of a future return. If the wages of teachers were higher, the candidates for this profession could afford to make a proportionate preparation for this office. And hence, if parents would improve the character and usefulness of their schools; they must be willing to indemnify teachers for the extra expenses necessarily incurred by making suitable attainments. Young men will never qualify themselves to teach until they see this disposition in parents. But as soon as a good education is honored and rewarded in a teacher, acquisitions extensive and suitable will be made. Reward the profession of teaching as liberally as we do the profession of law or physic, and the teacher will be as liberal in his preparation as the lawyer or the physician. If we have poor teachers, it is because we give poor pay; and if we would have better teachers, we must pay better. Parents have it in their own power, as we trust has been clearly shown, to raise the character and qualifications of teachers; and we shall now show that it would be for the parent's advantage to do so.

In the first place, it would be the parent's interest to employ qualified teachers, because it would save tuition money. Parents pay more money for the education of their children by employing incompetent teachers, than they would do, by employing teachers who are competent. In the affairs of life parents generally perceive that the cheapest article is commonly the dearest; and those of more reflection perceive that this is always the case in the article of teachers. A child, to obtain the same amount of knowledge, must attend to the instructions of a poor teacher three times as long as would be necessary with a good teacher. Thus, if parents do give but little to the teacher, they pay dearly for their children's instruction. If they would secure the services of a qualified teacher, by giving him double the price of present wages, their school tax would be one-third less than it now is. We think it is clear, that even in a mere pecuniary point, it would be for the interest of parents to give a suitable compensation to competent instructors.

In the second place, qualified teachers would promote the parent's interest by saving their children's time. Scholars under a good teacher, will be as far advanced at fourteen years of age, as they will be at twenty under a poor teacher. The time between fourteen and twenty could be spent in learning a useful trade, or in assisting the parent in the maintenance of the family. When children arrive at fourteen years of age, they should begin to acquire habits of industry; and at this age their services begin to be of considerable value to the parent. If the child is sent to school at a proper age, a faithful, qualified teacher will have given it a good English education at fourteen. The child is then prepared to engage in some useful employment. But under the present state of things, children must be sent to school more or less till they are twenty, and then have but a very limited education; not so good as they might have

at fourteen if properly instructed. Parents do not perceive the time which is lost by employing incapable instructors. The time which the children would gain, if sent to a proper teacher while young, would be worth much more than the little extra expense of a good school. Thus it would be much the cheapest for parents to engage the services of teachers who have prepared themselves for their profession.

In the third place, qualified teachers, who would be able to govern correctly, and facilitate the progress of children, would save the parent much expense in books, paper, maps, slates, &c. The school stationary of a large family amounts to a considerable item in the course of a year. Parents know that these incidental expenses are quite a tax; and every one would be glad to have them less. Now, the more rapid the improvement in writing, the smaller the quantity of paper, pens, and ink, which the child will require; the faster the scholar learns to read, the fewer the books which will be necessary; and the quicker the pupils learn their geography and arithmetic, the less the expense of maps, slates, &c. Thus teachers, who could facilitate the progress of the scholars, would save the parent much expense in the stationary of the school-room; and hence the parent's interest would be promoted by employing teachers whose wages must be higher indeed, but whose qualifications would be such, that they would always be found the cheapest.

Lastly (and this every one will think a very important consideration,) teachers who have prepared themselves for their profession are the most profitable for parents to employ, because they will then know that their children will be well educated. This confidence in the instructor will prevent much care and anxiety on the part of the parent. Children are forming a character every moment; and their education, of some kind or other, is constantly going on; this parents know, and it gives them great pleasure to reflect, that their offspring are directed by the skillful, moral influence of a good teacher. It likewise gives the parents pleasure to reflect that their children's progress in knowledge is thorough and useful.

With a cheap, unqualified teacher, the pupils spend most of their valuable time in learning what they must some day or other unlearn, if they ever make studious, correct scholars. Parents frequently pay cheap instructors more for teaching their children what is wrong or useless, or must be forgotten, than would be necessary to give them a good knowledge of elementary studies, under a suitable teacher. This useless expense, bad instruction, and slow progress, would never occur to give the parent distress and anxiety, if a faithful, confidential teacher was always engaged. But all these evils the parent must expect, if he is penurious and short-sighted enough to hire a cheap, worthless teacher.

Again it is common for parents to have not a little trouble in making their children go to school. Now this unwillingness to attend school, manifested by the child, does not arise from its dislike to learning, but from the parents having placed an ignorant, repulsive man in the school-house. The whole exercises of the school are made so unpleasant and disagreeable, that the pupil heartily hates knowledge, and every place where it is taught. It would save children much unhappiness, and parents much labor, if an engaging, accomplished teacher was employed; one who would make the school room the most delightful and profitable one they ever could enter. But before men can understand the operations of the youthful mind, and impart useful knowledge in an attractive, simple manner, they must be well educated, and well instructed in the art of teaching; and this will not be until parents reflect, and perceive that it is for their interest to pay wages which will induce men to make the necessary preparations.

If parents would increase the teacher's wages, they would raise the character of the profession. The compensation for teaching is so small, that accomplished, well-educated men can find other employments much more profitable than teaching. Thus, those who would become useful instructors, and an honor to the profession, are excluded, unless some of these men are willing to make a sacrifice; and our school houses are left to be supplied by the necessitous and unqualified. Indolent, immoral, and ignorant men are often employed to teach our common schools: these disgrace the calling, and have made the saying "as lazy and conceited as a school-master," familiar everywhere. Now, what is it that draws into our schools the worthless, and excludes the worthy? What is it that prevents men from becoming capable teachers? What is it that makes teaching disreputable? Parents, it is your worldly avarice, your own short-sightedness, and your cruelty to your own children! By offering an adequate

compensation to teachers, you could command learning, talent, and elegance. By a high-minded, generous attention to your children's education, you may make the profession of teaching take an equal rank in usefulness and respectability with the lawyer's and the divine's. You may make our literary men feel in their highest ambition to become good school-masters. The honor of the profession of teaching rests with you; you can continue its low condition, or you may raise it to honor and respectability.

Parents cannot receive the advantages of the school system, unless they employ qualified teachers. Legislation in many of the states has done much for the education of children. Large school funds have been raised to assist the parents, and a wise and liberal system has been organized to give union of action and instruction to the inhabitants of every district. Through the vigilance of the public officers, those princely funds have an equitable distribution; and the school system is everywhere in active operation. The wisdom of legislation, and the watchfulness and counsel of learning and talent are ready to assist and protect our schools. The great thing that is wanting is the co-operation of parents. Unless parents are willing to unite their efforts with legislation and official counsel, they will receive but little aid from the government. Great assistance, indeed, may be had from the school funds, and the school system, if parents will make active, liberal co-operation; but without this obligatory exertion on the part of the parents, the State can do but little good. It is to be regretted that so great a part of the school fund is lost by being squandered on unqualified teachers. Parents, by hiring such teachers, pervert the benevolence of the State, and exclude themselves from those advantages which the government wishes to give them. If the funds were bestowed on worthy, well-qualified teachers, the inhabitants of the district would be greatly assisted, and the spirit and intention of the school law would be fully answered. But the public funds are lost when they support men who are rather an injury to the schools than a benefit; and the parents voluntarily deprive themselves of that aid which is so generously offered to all. We do hope that parents hereafter will feel unwilling to pervert the public school funds by squandering them on unworthy, incompetent teachers; and that they will be disposed to receive the advantages of these funds by engaging such teachers as the law intended the funds should support.

And finally, to employ well-qualified teachers is the only way for parents to increase the usefulness and raise the character of district schools. Parents may employ men to recommend the best systems of government, and the best method of teaching; and they may purchase the most improved school books for their children; and they may be attentive to their children's education at home; and they may do all that can be done; and after all, if there is an unfaithful, unqualified teacher in the school-house, all that is done is lost, worse than lost; for they have given their children the means of perverting privileges, of learning error, and of confirming bad habits. Let me, then, again say to parents, if you would act according to your own interest, even in a pecuniary point; if you would encourage young men to qualify themselves for teaching; if you would have your children well educated; if you would have your children love knowledge; if you would raise the character of the teacher's profession; if you would make it the highest ambition of literary men to become a good schoolmaster; if you would receive the advantages of the school system, and obey the spirit of the school act; be willing to give such wages as will secure the service of faithful, well-qualified teachers.

We have only referred to the subjects of eight or nine sections; but there are two or three and twenty of them, and all treated with calmness, clearness, and much thought, evidently the offspring of much observation on the practical working of the system as it exists. The style is striking and vigorous, though occasionally careless and colloquial. We are not sure, however, that that is an objection for such a book, which to produce the effect that may be hoped from it, should pass into the hands of farmers and others who in fact regulate the district schools; and who are more likely to be taken with plain strong talk, than by flourishing periods. We conclude, as we began, by sincerely commending this volume to all who desire that national education should with us be a truth, and not a mere statutory provision, rendered nugatory, if not

mischievous, by the manner in which it is executed.

THE AMERICAN QUARTERLY REVIEW, No. XXX. Philadelphia: KEY & BIDDLE.—Politics, literature, and criticism, are most agreeably combined in this number. The leading paper, on the life and speeches of Mr. Canning, is written with great eloquence, and with an enthusiastic admiration of that highly gifted individual, that in our judgment overrates, not his talents, but his qualities, as a statesman. We extract, for the sake of recalling to many of our readers, that fine illustration in Mr. Canning's Plymouth speech, derived from the line of battle ships laid up in that port.

Speaking of the preparation of England to embark in the war against France, he says:

"Our present repose is no more a proof of inability to act, than the state of inertness and inactivity in which I have seen those mighty masses that float in the waters above your town, is a proof that they are devoid of strength, and incapable of being fitted out for action. You well know, gentlemen, how soon one of those stupendous masses, now reposing on their shadows in perfect stillness—how soon, upon any call of patriotism, or of necessity, it would assume the likeness of an animated thing, instinct with life and motion—how soon it would ruffle, as it were, its swelling plumage—how quickly it would put forth all its beauty and its bravery, collect its scattered elements of strength, and awaken its dormant thunder. Such as is one of these magnificent machines when springing from inaction into a display of its might—such is England herself, while apparently passive and motionless she silently concentrates the power to be put forth on an adequate occasion."

This, as the Reviewer justly says, "is not merely eloquence—it is poetry in the beauty of its conception—it is painting in the complete delineation of its images—it is music in the harmony of its language."

A capital article follows on the Italian lyric poets, in which some of the English versions of Italian poems are truly good.

The long paper on Shirley's Dramatic Works, which is a sort of sequel to the admirable article on the same subject in a recent number of the London Quarterly, will attract many readers. We pass from that to an interesting notice—with some most interesting extracts—of another series of the Diplomatic Correspondence of the United States, published under the direction of the Secretary of States. It embraces the period between the peace of 1783 and the adoption of the Constitution in 1789, and embodies much of the greatest attraction to all students of our early annals. Our limits forbid long quotations. We confine ourselves to two. The first thus states a fact interesting to Episcopalians:

Mr. Adams was sent minister to Holland, prior to his embassy to England, which we shall presently notice. While at the Hague, in the year 1784, an application was made to him by an American gentleman then in London, a candidate for orders in the Episcopal Church, desiring to know if American candidates might have orders from Protestant bishops on the continent, and complaining that he had been refused by the bishop of London, and the archbishop of Canterbury, unless he would take the oaths of allegiance, &c. Mr. Adams inquired of the Danish Minister for information upon the point, and it was laid formally before his Danish Majesty. What Mr. Adams intended merely to be current conversation, was made the subject of deliberation by the government of Denmark, and their faculty of theology. He received the following extract of a letter communicated by M. de St. Saphorin, Danish Envoy to the States General:

Sir:—"The opinion of the theological faculty having been taken on the question made to your Excellency, by Mr. Adams; if American Ministers of the Church of England, can be consecrated here by a bishop of the Danish Church? I am ordered by the King to authorize you to answer, that such an act can take place according to the Danish rights, but for the convenience of Americans, who are supposed not to know the Danish language, the Latin language will be made use of on the occasion. For the rest, nothing will be exacted from the candidate but a profession conformable to the articles of the English Church, omitting the oath called

test, which prevents their being ordained by the English bishops."

Mr. Adams felt himself called upon to communicate this to Congress, when the following proceedings were had thereupon:

"Extract from the *Secret Journal of Foreign Affairs*, March 21, 1785.

"On the report of a committee, consisting of Mr. Holton, Mr. W. C. Houston, Mr. Read, Mr. Bedford, and Mr. Hardy, to whom were referred sundry letters from the ministers of the United States at Foreign Courts,

"Resolved, That the Minister Plenipotentiary from the United States to the States General of the United Netherlands, be instructed to communicate to Monsieur De St. Saphorin, Envoy Extraordinary from his Danish Majesty to the States General, the high sense the United States, in Congress assembled, entertain of the liberal decision made by his Majesty, on the question proposed to his Majesty's Minister at the Hague, by Mr. Adams, Minister from the United States, respecting the ordination of American candidates for holy orders in the Episcopal Church, commonly called the Church of England.

"Ordered, That the Secretary for Foreign Affairs transmit to the Executive of the several States copies of Mr. Adams's letter of the 22d day of April, 1784, as well as of the papers therein enclosed, relative to Episcopal ordination."

The other records a capital letter from a tailor Alderman of New York, who, through mistake, had issued a writ against a servant of the Dutch Minister, *M. Von Berckle*. Being requested by Mr. Duane, the Mayor, to explain the circumstances, he wrote this letter:

"New York January 19, 1788.

"SIR—In answer to your letter of the 7th instant, on the subject of a complaint exhibited against me by the Minister of the United Netherlands, I beg leave to inform you substantially of my whole conduct in the business, from which you will be enabled to judge whether I have, in the least, been guilty of the violation of the privilege of an ambassador.

"On Tuesday, the 18th December last, I issued a warrant against a certain James Van Antwerp, at the suit of John Van Gelder for a debt; which warrant by mistake I dated the 14th, instead of the 13th. That on Tuesday following I received two messages from his Excellency, Mr. Van Berckel, desiring me to wait on him immediately; I accordingly left my business, and went to his Excellency's residence, when, after waiting in a cold room for a quarter of an hour, his Excellency appeared, and asked me my name; I answered John Willey; he charged me with having issued a writ against his servant, which I denied; I then asked him the name of his servant, and on his answering Van Antwerp, I said I had issued a warrant against a young man of that name, not knowing him to be an ambassador's servant, but supposing him to be in the service of Mr. Stevens, as I was informed by Mr. Van Gelder, the plaintiff, at the time of issuing the warrant. His Excellency then said I should be made to know his servants; I replied that I did not know that I was obliged to know him or his servants, but in the way that was right. He then directed me to go home, and mind my tailoring, that I had no business to be an alderman. I replied that I had supported myself and family many years by the tailor's business, and hoped for the continuance of the favours of many good friends who had employed me in that way; that as to the office of alderman, the people had been pleased to elect me, and I placed my hope in a higher power than that of his Excellency for support, in the execution of my office. He then said I should be punished, as falling under his notice. I replied, I asked no favour of him; he then asked me if I did not know that his person was sacred; I replied I did, and had done him no injury. He then repeated the threat, that he would punish me; and I again answered, I asked no favour, then, setting himself in the window, he asked me if I thought him a fool. I answered, that the people of the States of Holland would be wanting in their duty, if they should send a fool on so important an embassy. I then asked him if he had any further command, and on receiving no answer, I wished his Excellency a good morning.—On my leaving the room, he repeated the threat of punishment, and I repeated the answer that I asked no favour. I have the honor to be, &c.,

"JOHN WILLEY."

Bancroft's admirable first volume of the history of the United States, is commended in terms of besetting praise; and the number winds up with a paper on the

Executive Power, which even after the admirable expositions of the Websters, the Calhouns, the Clays, and other hardly inferior minds, is yet striking by the vigor and justness of its arguments.

This number of the Review is of great general excellence.]

THE DOOMED; 2 vols. Philadelphia: CAREY, LEA & BLANCHARD.—We find in the Baltimore American a notice of this work, which so aptly coincides with our own opinion of it, that we make no scruple of adopting it:

There is a caricature of the famous French comic actor Potier, pursued by a dream: the expression given to his countenance, represents well the feeling produced on the mind by reading this book. One feels as if pursued by a dream. It is the old tradition of Ahasuerus, condemned to wander on the earth to the last day of time, which has frequently before been unwisely made the subject of a fictitious narrative. The reader soon partakes of the weariness of the wanderer; and with his imagination fatigued by the vagueness and extravagance inseparable from the subject, sympathizes with him from being made a sharer of his misery. The preface is in good keeping with the book itself, having the empty mysteriousness of a dream."

WORKS OF MRS. SHERWOOD; vol. V., Uniform Edition. New York: HARPER & BROTHERS.—This handsome stereotype edition of the well-renowned writings of Mrs. Sherwood is hastening on. This volume comprises "The Infant's Progress," "The Flowers of the Forest," Julianna Oakley," "Ermina," and "Emancipation."

WALDIE'S SELECT CIRCULATING LIBRARY; Part 1, vol. 3.—We have received from the agents here, P. Hill, & Co. of the Philadelphia publishers, bound in a comprehensive volume, the weekly sheets of this Library from January to June of the present year; and certainly in cheapness of price, and good taste in selection, this work cannot, we imagine, be surpassed.

THE ORIENTAL LIBRARY; No. 1. Edited by A. D. PATTERSON. New York: J. SWINBORNE & Co.—This is the first number of a new periodical devoted to illustrate Eastern literature and fable. It commences, therefore, appropriately enough, with the *Arabian Nights*, which are to be republished from the best edition, with original notes, critical and explanatory. The publication is to be weekly, and the price sixpence per number, or \$3 per annum. We like the notion and hope others will.

MECHANICA MAGAZINE, vol. IV. No. 3; New York: Minor & Chellis.—The latest number of this valuable and improving miscellany, is before us—and we have only to repeat of it, what we have had frequent occasion to say before, that no work seems to us better calculated than this to elevate the character and increase the just influence, by increasing the knowledge, of Mechanics.

We are again obliged to omit some notices of new works; but cannot close the Review to-day without announcing that *Mr. Dunlap's History of the Rise and Progress of the Arts of Design in the U. States*, is in a state of great forwardness, and will soon be published. We run no risk, we are sure, in predicting that this will be a work eagerly sought for.

SUMMARY.

The Abingdon (Va.) Statesman of Saturday, 20th inst. says:—The President of the U. States arrived in this place yesterday, on his return to Washington City. He left here the same evening. He seemed to be in good spirits; and we were gratified to find that his health has been much improved, by his visit to the Hermitage.

WM. H. ASPINWALL, of this city, has been recognized by the President as Vice Consul for Tuscany in the city of New York.

Mr. Wyer, the bearer of the ratification by the President and Senate, of the Treaty, lately concluded

by Gov. Van Ness, with the Spanish Government, for the satisfaction of the claims of American merchants, arrived in Madrid on 22d July. The exchange of the ratifications, which, by the terms of the treaty, was to take place in that city, would be completed, it was supposed, without delay, when Gov. Van Ness, as is generally understood, will return to this country.

[From the National Intelligencer.]

MR. McDUFFIE.—The Charleston Mercury contains a letter from Mr. McDuffie to Governor Hayne, resigning his seat in the present Congress. He states, that although he has devoted himself exclusively to the restoration of his health for the last four or five months, it has experienced no material improvement.

Another is thus added to the number of those Members of the House of Representatives, who, either from the severity of the service in that body, or from other reasons, have withdrawn from it or declined being candidates for re-election, since the termination of the last session of Congress. The House and Nation will feel the loss of such men as Mr. Binney, Mr. McDuffie, Mr. Edward Everett, Mr. Gorham, Mr. Choate, Mr. Bates, Mr. Ellsworth, Mr. Huntington, and others, who are voluntarily retiring from the National Councils.

WM. H. CRAWFORD.—This distinguished individual is no more. He died recently in Georgia while on the Circuit as one of the Judges.

Another Revolutionary Worthly gone.—A letter to a friend, dated Norfolk, Virginia, Sept. 26th, says, "The old revolutionary worthy, the Rev. Jesse Nicholson, Postmaster at Portsmouth, is no more! He died last evening, in the 75th year of his age.—He fought in many of the battles of the revolution, and has been since the establishment of our independence as faithful and zealous a soldier of the Cross, as he had been in early life, in the cause of liberty."

Died on Sunday the 14th inst. at White Sulphur Springs (Va.) where had he gone for the benefit of his health, in an advanced stage of a pulmonary disease, Capt. SILAS E. DUNCAN, of the U. S. Navy, an officer of acknowledged merit—a gentleman of decided worth and purity. He was a native of New Jersey.—[Baltimore Patriot.]

James Hopkins, Esq., the oldest and one of the most eminent members of the bar at Lancaster, Pa., died on Sunday, the 13th instant, at his residence in that city. The Union has the following account of the event:

"A trial of great interest and importance had been progressing for nearly two weeks, in which Mr. Hopkins was the leading counsel for the plaintiffs. On Thursday afternoon, just as Mr. Buchanan, who was one of the counsel for the defendant, had risen to address the jury, he was interrupted by Mr. Hopkins, who expressed a desire to read to the court and jury certain authorities upon which, among others, he said he intended to rely. Mr. Buchanan gave way; but Mr. Hopkins, after a few incoherent remarks, was unable to find the authorities, and resumed his seat. There can be no doubt that the fatal inroads of disease were then commencing, for a short time after he was discovered to be apparently asleep in his chair. There was nothing extraordinary in this; and the first alarm which communicated itself, was on the part of one of his colleagues, who, after having made several attempts to rouse him from his supposed slumber, expressed his apprehension of something serious to the court, when, upon examination, it was discovered that his fears were but too well founded. He was immediately carried home in a chair, medical aid called in, and bleeding promptly resorted to—but in vain—the ravages of disease baffled the energies of science and skill, and he lingered on, in nearly unbroken lethargy, until about nine o'clock of the succeeding Sunday morning."

Joseph Blundin has been convicted at Doylestown, Pa. of "murder in the first degree," for killing Aaron Cutlehou with a scythe, on the 27th July; on which day, being Sunday, they were engaged with five other men in cradling oats.

COUNTERFEIT DETECTOR.—We have received from Mr. Seixas, 162 Broadway, one of "Moore's Patent Eagle Balance," which are for sale by Mr. Seixas—and which are so constructed that any counterfeit of the half or quarter Eagle must be instantly detected. The Balance is alike ingenious and simple, and cannot err.

[From the Philadelphia Gazette.]

PENNSYLVANIA STATE DEBT.

The State debt is about	\$23,000,000
The interest is	1,150,000
Repairs about	350,000
The Canal officers, &c.	120,000
	1,620,000
Tolls this year,	350,000
	\$1,270,000

This one Million two hundred and seventy Thousand dollars—remarks the Harrisburg Intelligencer—is what will be left this year, after deducting the tolls; &c. to be paid in taxes by the people, in some way or other.

At the Supreme Court, held at Greenfield, Ma. last week, Benjamin Perry was mulctied in the sum of \$1250, in an action for slander, brought by Laura Howe, a widow lady, 23 years of age, and of reputable character. No justification was attempted on the part of the defendant.

Snow.—We learn, says the Boston Gazette, by a gentleman from the White Mountains, that there was a heavy fall of snow in that vicinity a week ago last Thursday night; and for several mornings afterwards ice was of the thickness of a dollar at Crawford's.

The splendid ship Echo, of about 800 tons burthen, built by Messrs. C. Bergh & Co. for Russell Glover, Esq., and to be commanded by Capt. Mallett, was launched on Thursday morning, from Bergh's ship-yard, foot of Scammel street.

ALEXANDRIA, MONDAY MORNING.—Ship Launch.—The fine ship Metamora was launched from Hunter's ship yard on Saturday last, at 2 o'clock, P. M. She went off in beautiful style, gaily decorated with flags and streamers, amidst the cheers of numbers who had assembled to witness her "taking to the water." This ship, of the largest class of merchants, built of the finest materials, and in every respect first rate, reflects much credit upon the builder, Mr. Robert Hunter, one of the most experienced and skilful ship builders in the United States. She is owned by Edward Dangerfield and others.—[Phoenix.]

The Steamboat Edgely, with a valuable cargo, for Charleston, sunk on the 18th in the Savannah river just below Hamburg.

The steamboat Waterwitch, Captain Vanderbilt, while on her passage down from Hartford on Wednesday morning, ran upon a snag or rock, near Middletown, and sunk in about nine feet of water. Her upper deck remains out of water, and it is expected that the boat can be raised. The passengers were all got off without injury.—[Daily Adv.]

Dreadful Shipwreck—more than 300 lives lost.—Extract of a letter from Pictou, dated 11th Sept. "We have just received accounts of the loss of the ship Sybelle, of Liverpool, from Cromarty, for Quebec, with 316 emigrants, all of whom perished; six of the crew saved themselves in the boat, four of whom arrived here this morning. Can nothing be done to erect a Light House on that fatal island?—Surely means should be taken, if possible, to prevent such fatal shipwrecks.—[Halifax paper.]

We may say without fear of contradiction, that more than a thousand of the emigrants who have left Great Britain and Ireland the present year for Quebec, have perished by shipwreck on the passage.—This is a 20th part of the whole number of emigrants. Of a still greater number who have left the same countries for New York, not one has perished by shipwreck. These are facts worthy of being taken into consideration by emigrants and their friends.—[Journal of Commerce.]

Shipwrecks.—Bermuda papers to Sept. 16th bring us intelligence that on the 3rd, the hull of a vessel, keel up, was discovered some distance from the Islands, and was towed nearly to shore, when an attempt was made to right her, but without success.—On the 6th, she was scuttled, and it was ascertained that she was the "Helen of Bath." Her foremast floated up, and appeared to be much worm-eaten.—Her foreyard was still across. Subsequently, upwards of 13,000 staves, (red oak,) were recovered from the wrecks.

About midnight on the 12th September, the schr. James A. Stewart, Kellam, from Baltimore, bound to St. Thomas, ran on the reef off the N. W. end of Bermuda, and immediately bilged and soon filled with water. The crew taking to the boats landed at Somerset on the following morning about 4 o'clock.

The whole of the cargo and materials were landed, and exertions were making to get the hull of the vessel into port.—[Jour. of Com.]

FROM BERMUDA.—By the Br. sloop Experiment, Captain Tynes, we have received Bermuda papers to Sept. 16th.

They contain intelligence from many of the British West India Islands in regard to the operation of the Emancipation Law which went into operation on the 1st of August; and, we are happy to say, it is in general of a favorable character. At St. Christopher's, where some discord had occurred, tranquility was again restored. In several other Colonies the negroes at first refused to work, but in one way or another their insubordination was speedily subdued.—[Jour. Com.]

Whew! what have we here!

To all Nations, Languages and People, Greeting. Know ye, that I, NIMROD MURPHREE, of the city of Nashville, and state of Tennessee, have discovered perpetual motion. N. MURPHREE.

Nashville, Aug. 27, 1834.—We clip the above from the last number of the Nashville (Tenn.) Banner, where it appears as an advertisement, without note or comment. Probably Mr. Murphree has succeeded in handing himself over the Cumberland river, or a barn yard fence, by the straps of his boots. We advise him to send his pretensions on the next Congress by Col. Crockett himself, whose motto is "go ahead."—[Mobile Adv.]

A WALK IN THE WATER.—A Mr. Norcross, of Maine, has invented a contrivance which promises to be of importance to sub-marine interests. It consists of a complete dress of gum elastic or India rubber cloth, with an extra skull of lead, so made as to enclose the whole person. From the skull proceed two tubes, through one of which air is forced down by a pump, which, passing off through the other, maintains a healthful atmosphere for respiration. The eyes are provided with windows in the form of goggles. Caparisoned in one of these dresses, with a companion in a small boat upon the surface to work the air-pump and afford other assistance, a man may examine the bottom of the ocean at his pleasure, enter sunken vessels, fasten grapplings, and do whatever else may lawfully be done. He may labor in a manner which requires a good deal of motion. As saw can be used with so much effect that it is supposed the snags of our Western rivers may be easily cut off. By loading his pockets with stones, a man may sink himself to any depth; and it has been ascertained that at the depth of 100 feet, the pressure is not so great as to be painful, or to prevent activity. In water more turbid than in our harbors, vision is quite distinct for the distance of 10 or 12 feet. The contrivance has been patented.

The stud of Horses belonging to the estate of JOHN RANDOLPH of Roanoke, deceased—more than 100 head, consisting of Stallions, Mares, Colts Fillies, and a few Geldings—will be sold at auction, at the stable of Wyatt Cardwell, at Charlotte Court House, Virginia: the sale to commence on Thursday, the 9th of October, 1834, and continue from day to day until completed.

It gives us pleasure to be able to state, for the information of his many anxious friends, that the current report of the death of Capt. MUNROE, (son of T. MUNROE, Esq. of this city,) now of the Imperial Army of Russia, and Aid-de-camp to the Emperor, has been authoritatively contradicted by a letter to the family from J. RANDOLPH CLAY, Esq. Chargé d'Affaires at St. Petersburg.—[National Intell.]

The Rev. Stephen Olin, President of the Randolph Macon College in Virginia, has received the degree of D. D., from the Wesleyan University, Middletown, Conn., and from the College at Middlebury, Vt.

We learn from the Gospel Messenger that the degree of D. D. [was conferred at the late Commencement of the Geneva College, upon the Rev. H. J. Whitehouse, Rector of St. Luke's Church, Rochester.—[Churchman.]

LAONIC AND LIBERAL.—Copy of a letter received by the American Board Commissioners of Foreign Missions, enclosing a draft for Two Thousand five hundred dollars:

PAINSVILLE, (Ohio) Aug. 29, 1834.

Mr. G. M. Tracy:

DEAR SIR:—I send the foregoing draft for \$2,500 to the American Board Commissioners of Foreign Missions, to be used in the distributing of Bibles and Tracts in China. Yours truly, &c.

A FRIEND TO CHINA.

COMMENCEMENT AT PRINCETON COLLEGE.—The usual anniversary exercises of the College of New Jersey occurred on Tuesday and Wednesday of week. The declamations by the Junior class before the Societies took place on Tuesday evening. On Wednesday the degrees were conferred in presence of a numerous assembly. We subjoin a list, together with the exercises of the Senior class. The commencement ball in the evening we learn was fashionably attended.

The degree of A. B. was conferred upon the 37 members of the Senior class.

The Trustees of the college have conferred the degree of Doctor of Divinity upon

The Rev. John Johns, of Baltimore.

The Rev. William S. Reid, of Lynchburg, Va.

The Rev. William Nevins, of Baltimore.

The Rev. Alfred Ely, of Munson, Mass.,

The honorary degree of Master of Arts has been conferred on.

Mr. Samuel U. Berrien, of New York,

Rev. Clarkeon Dunn, of Newton N. J.

Edward Courtney Professor of Mathematics in the university of Penn.

Charles Dubuisson, Professor of Language in Jefferson College, Louisiana.

Charles J. Haddermann, Teacher of Mathematics in Jefferson College, Penn.

Hon. John Milligan Delaware.

[FOR THE NEW YORK AMERICAN.]

Consecration.—The neat and commodious Church which has been erected by a few Episcopalians in the borough of Princeton, was consecrated to the service of Almighty God, on Tuesday last, by the Right Rev. Bishop Doane, assisted by the venerable Patriarch of the American Church, the Right Rev. Bishop White, and the Right Rev. Bishop Ives, of North Carolina. Morning Prayer was read by the Rev. Dr. Ducachet, of Virginia; the Lessons by the Rev. Dr. Abercrombie, of Philadelphia; and the Sermon by the veteran Presiding Bishop. The Holy Communion was also administered, in which holy ordinance it was interesting to observe at the altar at once the eldest and the youngest Bishop probably in Christendom, dispensing the emblems and pledges of pardon to their brethren in the ministry, of whom the number present was seventeen.

Although the weather was unfavorable, the Church was filled to overflowing, and an attentive and intelligent audience listened with apparent delight and admiration to the solemn and impressive services.

The writer of this notice cannot refrain from expressing the opinion, as an Alumnus of Nassau Hall, that the establishment of the Church in her purity, near this seat of learning, will exert a most propitious influence in favor of that justly celebrated Institution, and that the good feeling with which this work has thus far been conducted may be perpetual.

AN OBSERVER.

THE WATER LILY.

BY FELICIA HEMANS.

Oh! beautiful thou art,
Thou sculpture-like and stately river queen!
Crowning the depths, as with the light serene
Of a pure heart.

Bright lily of the wave!
Rising in fearless grace with every swell,
Thou seem'st as if a spirit meekly brave
Dwelt in thy cell:

Lifting alike thy head
Of placid beauty, feminine yet free,
Whether with foam or pictured azure spread
The waters be.

What is like thee, fair flower,
The gentle and the firm? thus bearing up
To the blue sky that alabaster cup,
As to the shower?

Oh! Love is most like thee,
The love of woman; quivering to the blast
Through every nerve, yet rooted deep and fast.
Mid life's dark sea.

And faith—O, is not faith
Like thee, too, lily, spreading into light,
Still buoyantly, above the billows' might,
Through the storm's breath?

Yes, linked with such high thought,
Flower, let thine image in my bosom lie:
Till something there of its own purity
And peace be wrought:

Something yet more divine
Than the clear, pearly, virgin's shed
Forth from thy breast upon the river's bed,
As from a shrine.

AMERICAN INSTITUTE.

Mechanics and others, who intend to exhibit models of their inventions at the forthcoming exhibition at Nido's Garden, are respectfully requested to forward to the Editor of the MECHANICS' MAGAZINE, at 35 Wall street, descriptive accounts of the same, with drawings or engravings, (should they wish them introduced into his Annual Report of the Exhibition,) as early as possible, as the report will be made up immediately after the fair is ended.

HONOR TO WHOM HONOR IS DUE.—We have received from the French Consul General, the annexed communication apprising the gallant individual, whose courageous benevolence it records, of the honorable token of respect and commemoration that has called forth from the King of the French, and inviting him to present himself to receive it:

Communication.

The French brig *L'Esperance* of Paimpol, on the 17th of May last was in the greatest danger, and upon the point of foundering. The boat in which the crew hoped to escape, had just been crushed by a heavy sea, and a fearful death seemed inevitable for all, when Capt. NATHANIEL ROGERS, of the American ship *Grecian* of Portland, then in sight—in despite of the tempest which threatened to engulf him—launched his boat, and boldly adventuring in it himself, succeeded, after unheard of efforts and surmounting dangers the most threatening, in taking off the shipwrecked crew, and almost at the same moment their vessel, *L'Esperance*, disappeared beneath the waves.

Not content with this act of courage and humanity, the captain treated the unfortunate crew with the most sedulous kindness until he landed them at Havre.

Such fine conduct, such noble devotedness, and which does so much honor to the American character, could not be suffered to sink into oblivion. The facts just stated were submitted by the Minister of Marine to the King of the French, and H. M. desired that a gold medal should be struck to commemorate the act, and be presented in his name to Captain Rogers.

The Consul General for the United States, residing in New York, has received this medal, and will hold it subject to the order of Captain Rogers, in case he cannot himself receive it from the hands of the Consul.

(Signed)

The Consul General of France in the U. S.

L. DE LA FORET.

New York, 25th Sept. 1834.

The Consul was good enough to show us the medal, which is about the size of a doubloon, though much thicker and more massive. On the one side is the head of the King, with the legend *Louis Philippe, Roi des Français*—on the other a civic wreath, within which are the words *a Nathaniel Rogers, Capitaine de navire Americain, pour avoir sauvé des marins Français en danger de périr dans les flots, 1834.* (To Nathl. Rogers, Captain of an American ship, for having saved some French sailors in danger of perishing in the waves.)

This is a mode of commemorating the courage and the disinterestedness of Capt. Rogers, alike honorable and enduring, for the duplicates of the medal will take their place in the series of medals which are preserved to illustrate French history, of which, therefore, his noble act will thus become an imperishable part.

It is gratifying to his own countrymen too, in every sense, and none the less, because the period when the die for the medal must have been ordered, was shortly after the unfortunate occurrence at Toulon, where some French sailors were unhappily killed by neglected balls from one of our ships of war. The compliment at such a time to an American seaman, affords the best evidence that no unkind feeling was produced by that *gâchis*.

The schooner *Dash*, Keating, of Boston, got on a reef at the Carolina Islands, about 16th March, and while trying to heave her off, the natives made an attack on her, and killed three men and wounded Captain K. who, with the remainder of the crew, escaped in the schooner's boats, and made for the Pelew Islands, where part of the crew left Captain K. From thence Capt. K. and his two officers reached Burias, a Spanish province, in April last, and was expected at Manilla 15th or 20th May, but had not arrived there 17th May.—[Boston Atlas.]

The National Intelligencer says—We understand that all the members of the Committee of the House of Representatives on the Post Office business have reached this city. The Committee consists of Mr. Connor of North Carolina, Mr. Whitley of Ohio, Mr. Everett of Vermont, Mr. Beardsley of N. York, Mr. Watmough of Pennsylvania, Mr. Hawes of Kentucky, and Mr. Stoddert of Maryland.

THE MARCH OF INTELLECT.—In the Albany Journal of last week, we find the following statement of most extraordinary occurrences—involving, it would seem, on the one side crimes of the deepest die, on the other, credulity that surpasses all conception:

"Matthias the Prophet."—This notorious individual, whose proper name is Robert Mathies, was arrested in this city on Monday afternoon, upon the authority of an advertisement issued by Mr. Benjamin H. Folger, of the city of New York. The expressed charge against him was, that he had left New York having in his possession a large amount of Mr. Folger's property; but he has been guilty, it is asserted, of many other mal-practices, some of them of the blackest character, and worthy of the most severe punishment.

Mathies commenced his career of fanaticism some two or three years since, in this city, when he proclaimed himself "The Prophet of the God of the Jews," and asserted divine power. He shortly afterwards went to New York, where he continued to proclaim his doctrines, but with little success at first. He soon, however, secured the favor, among a few others of less consequence, of three of the most wealthy and respected merchants of Pearl street—Messrs. Pierson, Mills and Folger. These gentlemen received his doctrines in the fullest confidence, and believed him to be all that he declared himself. Their treasures were thrown open to the impostor, and he lavished them upon himself most profusely. He purchased the most costly wardrobe. His robes of office were richly trimmed with gold and silver. He wore a sword of the finest workmanship, and his gold watch and establishment, equalled the lustre of the most costly.

The bondage of these gentlemen was complete; and the fact that three intelligent citizens of N. York were thus deluded, will form one of the darkest pages in the whole chapter of modern fanaticism; but the chain with which they were bound is broken.

Death liberated Mr. Pierson. He died in Westchester county, at his country seat, near Sing-Sing, and the event was clothed in mystery. A short time previous to his death, and while in health, as we understand, Mathies prevailed upon Mr. P. to assign to him his whole estate. He was shortly after taken sick, and, although his friends who were with him insisted upon calling medical aid, they were deterred by Mathies, who told them that "he had power of life and death, and Mr. Pierson would not die." But he did die; and a subsequent examination of the body by three able physicians, resulted in the conviction that he had been poisoned, and certificates to this effect were drawn up and signed by these physicians, and are now in New York. Who poisoned Mr. Pierson is to be determined by the proper tribunal.

The mysterious death of Mr. Pierson and the accompanying circumstances, shook the confidence of Mr. Folger and his family, and they resolved to abandon Mathies and his principles. After his return to New York, they announced this determination to the "Prophet," who then declared to them, that if they did, "sickness, and perhaps death, would follow!" This threat was not sufficient to overthrow their resolution, and a day was fixed upon when Mathies should leave the house. Upon the morning of that day, Mathies partook of very little breakfast, and scarcely tasted the coffee, saying as an excuse, that he was unwell. Immediately after breakfast, Mr. Folger, his wife, and children, were taken violently sick. Mr. Folger did not suspect the cause of his sickness until after the villain had left the city; when, upon examination, he learned that the black woman who did the cooking for the family, had also obtained from the use of any coffee upon that morning, and, from other circumstances, he became confirmed, that the woman was bribed by Mathies to poison the family. From some cause, the effort was not successful. To none of the family did it prove fatal, although all of them have not yet recovered from its effects. This transaction induced Mr. F. to procure his arrest, for which purpose he despatched the notice before mentioned.

Mathies did not expect thus suddenly to be stopped in his mad career, and expressed a good deal of surprise when arrested. He had in his possession two large trunks, which he acknowledged contained articles which did belong to Mr. Folger, but which, he said, Mr. F. gave to him when he left New York. Among the articles were sundry rich dresses, about \$500 in gold, a gold watch worth about \$160, a sword of great value, and a rod with which he was going to measure the bounds of his paradise; "the gates thereof and the walls thereof." He was taken to New York this morning.

His trial will unfold strange deeds of crime and fanaticism.

The Journal of Commerce gives this account of the same impostor and villain:

For a considerable period prior to the year 1832, Mr. Benjamin Folger, of this city, was on terms of the most intimate friendship with a Mr. Elijah Pierson, also of this city, whose piety and good sense he highly respected and esteemed. A short time previous to the period adverted to, Matthews had announced to Mr. Pierson that he (Matthews) "was the spirit of truth, that the spirit of truth had disappeared from the earth at the death of the Matthias mentioned in the New Testament, that the spirit of Jesus Christ had entered into that Matthias, and that he (the fellow now in Albany Prison) was the same Matthias, the apostle of the New Testament, who had risen from the dead and possessed the spirit of Jesus of Nazareth. That he (Jesus Christ) at this second appearance, was God the Father, and had power to do all things—to forgive sins, and communicate the Holy Ghost to such as believed in him."

The above tissue of blasphemy and absurdity was, strange to say, believed by Mr. Pierson, and regarding Matthews as the character he represented himself, he respected him accordingly, and took him into his house to reside with him.

In the month of September, 1832, Mr. Pierson introduced Mr. Folger to Mr. Matthews, and at the same time informed him, who and what Matthews announced himself to be, and also of his (Pierson's) implicit belief in the truth of Matthews' divine attributes. Matthews having thus become acquainted with Mr. Folger, lost no time in endeavoring to increase the number of his dupes, and repeatedly called at Mr. Folger's counting-house to announce his divine mission, and strove to convert Mr. Folger to a belief of it. On one occasion he said to Mr. Folger, "I know the end of all things," and then made use of the following mode of illustrating his assertion.—Taking up a piece of paper he placed it in a drawer, so that one end of the paper remained outside the drawer, and then said to Mr. Folger, "You can see but one end of the paper, which is outside the drawer, and so the world sees; but I see the whole length of it—I see the end."

He succeeded in impressing Mr. Folger and a few others with a firm belief that he was the prophet he pretended to be, and having gained this point, he then began to execute the true mission he came upon, and informed Mr. Folger that "he was poor and in want of money; that the world persecuted him, and it was instigated to do so by the devil, because there was no truth now in the world except in him (Matthews)."

Puerile and absurd as were these representations, they nevertheless induced Mr. Folger to give Matthews different sums of money, and the latter, encouraged by his success thus far, determined to spare neither promises nor threats to make the best of the advantage he had gained. In addition to what he had already told Mr. Folger, he therefore informed him that he (Matthews) had commenced the reign of God on earth; that Mills and Pierson had been called into the kingdom, and although the devil had succeeded in suspending for a time its permanent establishment, he (Matthews) would now go on to overcome the devil and to establish the kingdom of God. Under these circumstances he called on Mr. Folger to contribute of his substance for his (Matthews') support and the promotion of the kingdom, and threatened that in case he should refuse to provide him whatever money he wanted, he would visit upon him (which he was empowered to do) the wrath of the Almighty; but that if he (Folger) would believe in him and obey him in all things, he should be called into the kingdom, and he (Matthews) would forgive him all his sins, and he would enjoy eternal happiness.

In this style Matthews continued preaching, until by dint of downright impudence he converted, or rather perverted, Mr. Folger to the firm belief that he was the personage he represented himself to be.

In the month of August 1833, Matthews went to Sing Sing, West Chester county, where Mr. Folger had a furnished house, and where his family at that time resided. As Matthews brought his baggage along with him, his intention of a long visit to Sing Sing was pretty obvious; and Mr. Folger invited him to take up his residence at his house. Having remained there a week, he got tired of such narrow accommodations, and told Mr. Folger that he and Pierson ought to hire a house for his own special use. Mr. Folger consulted Mr. Pierson on the subject, and they agreed to comply with the very reasonable request of Matthews, and so informed him. In the meantime the ambition of Matthews had so increased

that a hired house would no longer content him, and he intimated to his two friends that it would be improper for a person of his character to reside in a hired house, and that they ought to purchase a house for him. This also Messrs. Folger and Pierson agreed to; but before they could accomplish their purpose, Matthews imparted another revelation to Mr. Folger, and informed him that the house which Mr. Folger purchased sometime previous at Sing Sing, and in which he then resided, had been purchased for him, Matthews, and that the spirit of truth had directed Mr. Folger in making the said purchase."

As the house had been thus miraculously purchased for Matthews, he had of course a clear right to remain in it, and he did remain in it without further ceremony until October, 1833, when he required that Messrs. Folger and Pierson, who then resided with him, should give up the house to his own charge, which they accordingly did.

In the latter part of October, 1833, he required them to give an account of their property, and having attained it, he demanded that they should both enter into an agreement to support him, which would insure them the continued blessing of God. They accordingly entered into the required agreement, and supported him, and supplied him with whatever money he demanded, until the month of August, when Mr. Pierson died. On the death of Mr. Pierson, Matthews came to reside at Mr. Folger's house in this city, and continued to be supplied with money by him, until last March, when Mr. Folger unfortunately became bankrupt. Notwithstanding this occurrence, Matthews continued to reside with Mr. Folger, until last September, when the latter intimated to him that he could no longer continue to support him, and that they must then part. Matthews by no means liked the proposed arrangement, but being determined to make the most he could of the matter, and knowing that Mr. Folger had some money belonging to the estate of his wife, he told him very peremptorily, that "he must not throw him destitute on the world, that if he did so the blessing of God would depart from him, but that if he gave him money to support him, the blessing of God should continue to him." Mr. Folger then gave him one hundred dollars in bills of the Bank of the United States. Matthews received this money a few days prior to the 18th of September, and on that day he told Mr. Folger that he was about to leave his house, but insisted on being supplied with more money before he took his departure. In order to obtain it, he had recourse to his old expedient of threatening and promising the wrath or blessing of God, according as his demand was refused or complied with, and so wrought on Mr. Folger, that in addition to the hundred dollars he had already given to him in bills, he now gave Matthews five hundred and thirty dollars in gold coin—on receiving which, he left Mr. Folger's house, and immediately after departed from this city. Besides the above mentioned sums of money, and those which he obtained at different other periods, from Messrs. Folger and Pierson, he also obtained a watch from the latter gentleman, and in the month of January last, he informed Mr. Folger that some person had taken the watch from him, and that "it was Mr. Folger's duty to provide him with another, and that the blessing of God would rest upon him if he did so." Mr. Folger immediately purchased a fine gold watch, with a chain and seal, for which he gave one hundred and fifteen dollars, and gave it to Matthews.

FEMALE DIPLOMACY.—The first question usually demanded in France, on the appointment of a new ambassador to any foreign Court, is—Whom has he engaged as cook?—Has he secured a *Cordon Bleu*? In England, on the contrary, no sooner has a lordship of any kind kissed hands and received his credentials upon his promotion to be an Excellency, than the newspapers begin to inform the world at what warehouse in the 'Acres' his state-carriage is to be seen;—the description of his patent axles and hammercloth alone is sure to occupy half a column of the *Morning Post*. The German *corps diplomatique*, meanwhile, would appear to be a squadron of poets. A High Dutch Envoy is often chosen in honor of his epic;—and not an *attaché* of them all but has been guilty of a small matter of a lyric!

But if the most necessary appendage to the dignity of the representative of the Tuileries be a white night cap, and of those of St. James' a body coachman in a white wig; other countries of modern Europe, which it would be ungracious to name, insist that the ambassadors who represent them shall be married men. A wife is, in certain instances, the one thing needful;

and Her excellency's Excellency in diplomacy, is at least twice as important as *His*. He plays his fantastic tricks in Downing street, or the Rue des Capucines, before high ministers, who are on their guard against every step he advances:—*She*, in ball-rooms and at banquets, where no one mistrusts her machinations, and where every flirt of her fan is worth a protocol! A Prince may turn aside from the expostulations of the most courteous and courtier-like diplomatist who ever bowed his way with retrogressive dignity, without offending the eye of Majesty by the spectacle of the tail of his embroidered suit; but we defy either King or Kaiser, ay! even those autocratic Majesties whose northern breeding '*sent le goudron*,' to be ungracious towards a fair diplomatist, who wears her train and lappets meekly, and distributes her curtsies and courtesies with proper tact. The female moiety of a mission cannot but be well received: and it is its own fault if it fail to make the most of its opportunities. One of the most eminent prime-ministers of the last reign is said to have owed his elevation to the influence of a foreign ambassadress, who knew that she was serving her own government by exercising in his favor the influence secured to her over the mind of the King, by her elegance and high-breeding—the whiteness of her white satin, and the size and lustre of her 'strings of Orient pearls. Her Lord although a sufficiently great man in his little way, would scarcely have cared to direct his Majesty's choice of a *valet de chambre*; while *She* (honor to her diplomacy!) contrived to direct the formation of a Cabinet, and to nominate the sovereign legs to be successively honored with every vacant Garter! It was her excellency who decided, for a year or two, whether we should up to Ramoth Gilead to battle, or whether we should forbear!

Nothing can be clearer, therefore, than that the matrimonial tendencies of the diplomatic class are of the highest importance to the governments of their respective countries. Princess Lieven, Princess Esterhazy, and the Duchess of Dino, have severally done their parts of conciliation for their royal and imperial masters; and propitiated more votes both in the Upper and Lower House by their graces and ingratiations, than even the *finesse* of a Talleyrand, or the high-breeding of an Esterhazy; and we would wager a five sous piece (the largest sum likely to be hazarded by a *Roi-Citoyen* of frugal habits,) that on the retirement of the latter of these three diplomatic graces, Louis Philippe might achieve a majority in our high court of parliament in the course of six months, by confiding his *lettre de créance* to the brilliant Madame de Caraman. Certain public prints, we observe, are much addicted to bringing forward the Countess Flahault as future French ambassadress to the court of London; on the score that, being an English Peeress, her pretensions would be doubly supported; whereas this very circumstance establishes her disqualification. One of the peculiar obligations incurred by a French Ambassador to Great Britain is, that he shall bring with him a wife, daughter, or niece, to teach the English ladies how to put on their hats, and by what standard to shorten or lengthen their petticoats; and these are lessons which an English exclusive would never deign to receive from a countrywoman of her own—a sister of her own caste! The French Ambassadress must be Parisian to the finger tips;—*plus Arabe qu'en Arabie*;—*distinguée*, in short, as Madame de Dino!

A few years ago, Yankeeeland sent us as her representative a plain, sturdy, sensible gentleman, whom we 'guessed' to be a 'tarnation' good sort of minister. And yet it was found impossible to continue him at his post. His Excellency's lady was considered such an 'almighty' vulgar woman among the belles of Almack's! *She* was a genuine specimen of the half-horse, half-alligator; only that (to borrow a Nigger bull) one might have fancied each half to be the largest! Well do we remember the bolster-case twisted round her head, one night at Carlton House, and mis-called a turban!

This accendancy of Female Diplomats, by the way, is no new thing, either in this or any other country. In Madame de Sevigne's Letters, we find that witliest satire of the Court of Louis XIV announcing the arrival, as Ambassadress from St. James', of the Duchess of Shrewsbury; whom the Duc de St. Simon agrees with her in describing as a half-crazy humourist, at war with all the forms and conventions of society. Yet in the course of a few months, 'Madame de Shrewsbury' became so furiously the fashion in Paris, that the ladies both of the Court and the City, with one accord, altered the national form of their head-dress to do her honor, by adopting a style of *coiffure*, which *Notre dame de Livry* had previously described as *le comble de la vulgarité*!

The first of modern female diplomatists, therefore, has effected nothing more remarkable in England than the nomination of a Premier; while an English Ambassadress boasts the far more extraordinary *tour de force* of having persuaded the ladies of Paris to assume a hideous costume;—making frights of themselves to the glorification of FEMALE DIPLOMACY!

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.



The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN.

347 N. Market st. (opposite Post Office). Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—

NEW YORK FARMER and American Gardener's Magazine. MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them; by calling at 347 North Market street, Albany.

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street house, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER. a 30

TOWNSEND & DUFFEE, of Patuxent, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania. Hudson, Columbia county, New-York, } January 29, 1833.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13 1y

RAILWAY IRON.

Ninety-five tons of 1 inch by 1 inch,	Flat Bars in length of 14 to 15
200 do. 1 1/2 do. do.	do. 14 do. do.
40 do. 1 1/2 do. do.	do. 14 do. do.
800 do. 3 do. do.	do. 3 do. do.
800 do. 2 1/2 do. do.	do. 2 1/2 do. do.
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 2 3/4, 3, 3 1/4, and 3 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia. Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. 471meowr

FOR SALE.

A second hand double cylinder **NAPIER PRINTING MACHINE**, that will work about two thousand sheets an hour, in perfect order. It will be sold a bargain. Apply at this office. a12 d&c

RAILROAD AND CANAL MAP.

This long promised Map is now ready for those who wish it. Its size is 34 by 40 inches. It is put up in a convenient pocket form, in Morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.

Published at 35 Wall street, N. Y., by
D. K. MINOR & J. E. CHALLIS.

CHOICE WINES, &c.

The subscriber offers for sale, a large assortment of Wines consisting of

MADIRA—Impres, hhd. and quarter casks, of different qualities and brands, part received direct, and part via East India. superior old L. P. in hhd. quarter casks, and half quarts.

Also—in cases of 1, 2 and 3 dozen each, old and choice.

SWEET WINE—Pale and brown, in wood and glass, of different qualities, from 14s to 36s per of it imported by order.

PORT WINE—In hhd. and quarter casks. Also, in cases of 1 and 2 dozen each.

HOCK WINE—A large assortment, of various brands, qualities and vintages, in cases and hampers, some very old.

FRANCE WINE—Sparkling Champaign, of all the favorite brands, quarts and pints, with and without wax on the corks. Also, Pink Champaign.

Sauterne, Vin de Grave, and Burgundy.

Bordeaux Claret, Lafitte, Chateau Margaux, Leoville, St. Euphe.

Low priced, in boxes and casks.

Muscad, in boxes and small casks. Old Malaga Sherry, a fine light wine, in casks of 18 and 30 gallons each. **Marselles** Malaga, in quarter casks and Indian barrels. **Canary, Malmsay and Tenerife, &c. &c.**

BOTTLES—Wine, Porter and Claret, in hampers, one gross each. **Penalpus.**

HIBBERT'S PORTER—London Porter, Brown Stout, and Pale Ale, in casks of 7 dozen quarts, and 8 do. pints.

SCOTCH ALE—Younger & Co's Pale Ale, qts. and pints, &c. &c.

SALLAD OIL—Bordeaux and Marselles, in boxes and baskets. **Olives, Capers and Anchovies.**

Fruit—Bunch and Muscatel Raisins, Almonds, E. I. Preserves and Canton Ginger.

Coffee, &c.—Old Java and Manilla, Souchow Tea, Refined White Sugars, &c.

Part of the above are entitled to adventure, and will be sold in lots to suit purchasers. Orders received, and forwarded as directed.

ROBERT GRACIE,

20 Broad street.

UTICA AND SCHENECTADY RAILROAD COMPANY PROPOSALS will be received until the last Monday of October next, at 12 o'clock at noon—

For grading about sixty-five miles of the Utica and Schenectady Railroad, between the Sand Ridge on Sanders Flats in Schenectady, and the western boundary line of the town of Herkimer;

For the masonry within those limits, embracing the culverts, and the abutments and piers of the respective bridges; and

For the wooden superstructure of bridges across the Cayadutta Creek at Canajoharie, the Garoga Creek at Palatine Church, the East Canada Creek at Manheim, the Gulf at Little Falls, and the West Canada Creek at Herkimer.

The line will be divided into sections of about one mile each, and prepared for examination, and maps, profiles and plans deposited for inspection with W. C. Young, the chief engineer, at Schenectady, ten days previous to the time above mentioned.

Blank forms of proposals will be furnished at an early day at the company's offices at Schenectady, Palatine, Little Falls and Utica.

The names of persons to whom contracts are awarded (who will not be permitted to sub-contract the same) will be made known at Schenectady on the 20th day of October, when it will be required that the grading proceed without delay, wherever, and upon as titles to the lands are acquired by the company; that the culverts and small bridges be completed by the first of August next; that the residue of the masonry and the large bridges be finished by the 1st of October thereafter; and that the grading be completed during the year 1835. Contractors to furnish security for the faithful performance of their contracts. The use of ardent spirits will be prohibited in constructing the road.

Proposals, post paid, to be endorsed "Proposals," and containing the names of the persons offered as securities, to be addressed to the undersigned at Schenectady, or deposited at the company's office at that place. September 4, 1834.

G. M. DAVISON, Commissioner
s-17 to 27 Utica and Schenectady Railroad Company.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Tro N. Y. July, 1831.
Spikes are kept for sale, at factory prices, by J. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. L. Brower, 222 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

H. BURDEN.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal-pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh, August 15, 1833. A291 RM&F

SURVEYOR'S INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by

E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes; and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction

of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,

Germantown, and Norristown, Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J25 17

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m19



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

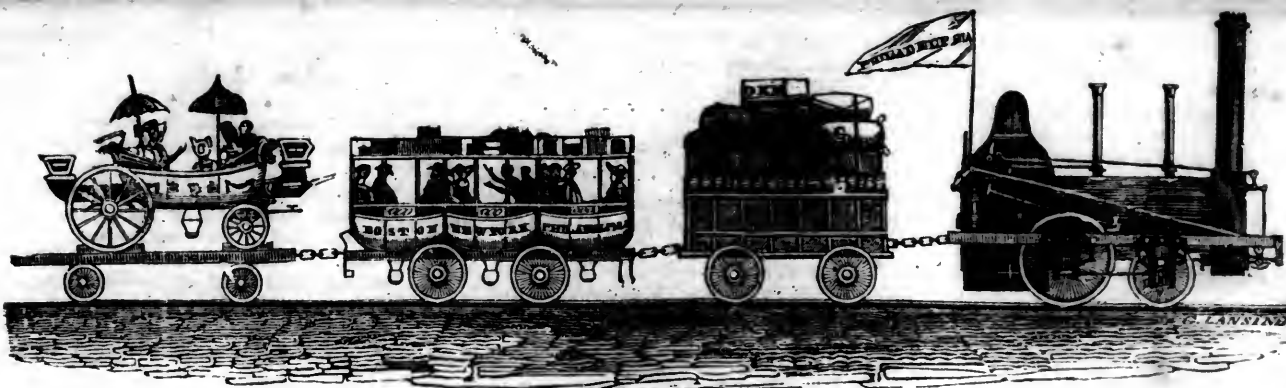
Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

E. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, OCTOBER 11, 1834.

[VOLUME III.—No. 40.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 11, 1834.

It was with the greatest pleasure that we inserted in our paper of last week the communication from the Chief Engineer of the Tusculum, Courtland and Decatur Railroad. In our previous description of this important work, to which he refers as being incorrect, we had endeavored to embody the little information regarding it that we were enabled to procure from hearsay and from the newspapers of the vicinity. Such information cannot, of course, be so accurate or detailed as is our wish to make it; but was given for want of better.

We are grateful for communications that furnish authentic details, and sincerely hope that the example thus afforded may be generally followed by others possessing similar opportunities.

AMERICAN JOURNAL OF SCIENCE AND ARTS, FOR JULY, AUGUST, AND SEPTEMBER.—The number before us is in no wise calculated to diminish the well-earned reputation for ability which this journal has so long possessed. Amid its varied contents, we have read with the greatest pleasure the Report on the projected Geological and Topographical Survey of the State of Maryland. This report is intended only as an introductory account of the geology and hy-

drology of the State, with a view of inducing the Legislature, in its coming session, to authorize their more thorough investigation. There is but little doubt, we learn, but what a liberal appropriation will be made, to bring to a completion what the authors of this report have so successfully commenced. But why is it, we would here ask, that while such States as Massachusetts, Maryland, Virginia, and Tennessee, have either completed or are now carrying on surveys of a like character, our own State has done nothing towards a development of her physical geography? As regards its "mineral constitution," we may safely say, that with the exception of the iron at Ramapo, and the salt at Salina, there is scarcely any thing known. That our State is eminently rich in wealth of this nature, from which might be drawn a fruitful source of revenue, there is no reason to doubt. Our public as well as individual interest require that that scientific information on the subject of our agricultural and manufacturing resources, which can only be obtained by means of surveys like the above, should be furnished without delay.

RICHMOND AND POTOMAC RAILROAD.—We have conversed with Mr. Hunter, one of the engineers who have been, for some time past, engaged in experimental surveys for the route of the railroad from Richmond to Fredericksburg, and learn that the face of the country presents no serious obstacle, and that the Western Line has proved less difficult than was anticipated. We learn also that, on the western route, there has been a relinquishment of land in all instances except two or three, where the property belongs to orphan children, and that the disposition of the people, towards the work, as might be inferred from what we have stated, is exceedingly favorable. It is thought to have an advantage over the other route in a greater abundance of timber and stone, but very little in distance.

Engineers are now engaged in locating 17 miles of the road from Richmond to the ridge south of the Pamunkey—a portion common to the rival routes, which will be prepared for letting forthwith. The Board of Directors will decide very soon which course the road will take thence, and the expectation is that by February next a location of the road will be made to within 15 miles of this place. Every thing indicates that the work will be prosecuted with vigor.—[Fredericksburg paper.]

[From the Newark Advertiser.]

NEW JERSEY RAIL ROAD.—It is now two weeks since this work was opened for public use, and we learn that its success in furnishing facilities for travelling has exceeded the most sanguine anticipations. Some evidence of this may be inferred from the fact, that during the first week 2026 passengers were carried between Newark and New York; and that last week, (being the second) there were 2548.—This number we are told includes only the actual passengers as standing on the books of the Co. and is exclusive of officers, contractors and others, some of whom constantly traverse the Road, with a view to detect and repair any little imperfections or injuries in the work; which are sometimes incident to the first operation of Rail Roads, and thus to secure the entire safety of the traveller. No accident as we are informed, has taken place, which has in the slightest degree resulted in the injury of any person. The cracking of two cast iron wheels, and the breaking of a pair of shafts the first week, are the only casualties worth mentioning and the issue of these rather go to establish the security of this mode of conveyance, since on the occurrence the cars were promptly and gently brought to a stop, with the wheels remaining unmoved from the rails.

A foreign correspondent of the United States Gazette says—

"The steamboats, on the Clyde, are the best models in the kingdom, and much celebrated. I believe Mr. Wood, of Port Glasgow, is entitled to the most credit on this account; indeed, the models of the canal boats are his. The fastest boats and finest models are of sheet iron. This material is coming into very general use, both for steamboats and canal boats, and it is probable that, in a few years, it will supersede wood entirely. The iron boats are more buoyant, and, for the same tonnage, are made smaller, as the material takes up much less room. This is of great advantage in canal boats, where the size is limited by the locks; and I cannot help thinking that the gentlemen engaged in trading upon our canals, would find it much to their advantage, to turn their attention to boats of this description. The cost will not much exceed the expense of wooden boats, while the term of duration, and additional burthen of iron boats, to pass the same locks, will more than compensate for this additional expense."

STEAM CARRIAGE ACCIDENT.—One of the steam carriages plying from Glasgow to Paisley was upset on Tuesday, from the breaking of a wheel. The boiler burst, and the concussion was most dreadful; thirteen passengers were more or less injured, of whom Capt. E. B. Gellner, from Ireland, was killed, and Mr. Morrison, a merchant, of Gallowgate, and Mr. Blackwood, a commercial traveller, are not expected to survive. Mr. Serjeant, of Leicester, had his leg amputated. Several persons were scalded. A great sensation was produced in Paisley and Glasgow, and hundreds set out to view the scene of the disaster.—[English paper.]

On the Comparative Value and Importance of Mathematical Science, and on the Pretensions of its Professors.

[From the London Mechanics' Magazine.]

SIR,—Whilst occupied in writing a reply to Kinclaven, I was led to indulge in some observations on the intellectual grade and practical value which ought to be assigned to mathematical acquirements, and on the overweening pretensions of some of the mathematicians; but these remarks became so much extended under my hand, that I have thought it best to give them to you under another form.

I am sir, yours respectfully,

BENJ. CHEVERTON.

Men's minds appear to be differently constituted in regard to the investigation of things. Whilst the generality take a view of a subject merely as a particular case, and reason upon and examine it only as connected with its more immediate causes and consequences, the profound inquirer analyses it, to discover the law or principle which pervades it in common with many others; to trace and connect it with those of dissimilar aspect; to show that in the abstract they belong to one common truth, though in the concrete, or in their actual existence, produced by the modifying agencies of their peculiar circumstances, they present appearances which apparently have no relation to each other. Such are the minds who have for their high aim the extension of the principles of knowledge; but though peculiarly fitted for discovery, they are not the best qualified to bring science down to practical application, or even to make it literally accord with matter of fact. In disentangling the complications resulting from concomitant agencies, they are so intent on arriving at the most general truths, so systematically disregarding of the separate consideration of those agencies, and so much in the habit of keeping the analysis disencumbered of all ideas not comprised in the upward leading train, that when, by a course of synthetical reasoning, they would turn their discovered principles to account, and build up a system on their foundation, they too much exclude the operation of the subordinate laws which concur in influencing, and more immediately regulate, the ultimate result, and which give to things the form and appearance which they present. Their conclusions, though correctly drawn, are true only in part, and by assumption and limitation, true mentally, but not materially, or as found in actual existence.

But there is another class of minds of nearly the same stamp and mould as the former, who, though not taking the like grand and original views, are yet of a kindred spirit. The former act the part of pioneers, but these take to the circumstantial, and bring into subjection what the others merely pass by. They fill up that outline of a science or system which the former, in the discovery of its most general law, was content merely to trace; they bring the analysis to bear on all the relations implicated; weigh, balance, and proportion the conflicting agencies; and are thus enabled to perfect the subsequent synthesis in all its details, to take a complete view of the subject in all its parts, and a comprehensive one in all its bearings, and to bring forth to view the modified results, the exceptions and the anomalies, as illustrations of, and confirming at-

testations to, the fraudulent truths which at first sight they may appear to invalidate.

Both these classes of men are philosophers, the distinction between them having reference to a tendency to generalize, rather than to the usefulness of their labors, or the rank in which they ought to stand; but they *may not* be mathematicians, that depending on the circumstance whether the science of quantity is required in their investigations. These last, therefore, form a third class, whose object is less the extension and perfection of science or system, than the cultivation of the means thereof, so far as the relations of quantity are concerned.

The mathematicians—I mean mere mathematicians—are doubtless valuable members of the body scientific, but some among them, (the least generally informed,) are sadly inclined to over-estimate the honor of their station, and the comparative value and importance of their labors. In the great field of science, to say nothing of the greater field of knowledge, they occupy merely one of its sections, they facilitate and abridge the work of some, and co-operate in the work of others; but they are neither the pioneers nor the finishers of the operations going on around. Subsidiary and assistant to original investigation, the *science of quantity* is of important service, but if put forward and esteemed as the *science of things*, it is worse than useless, and many who might have made good philosophers, have been spoiled by the false glare reflected from their own doings being taken for the true light thrown on Nature's works. The lines and characters with which mathematical operations are conducted, and whose results, though only abstractions, are too often confounded and identified with realities, are not only the mere symbols of things, but the symbols merely of one or two qualities in things; and therefore, though the conclusions are true, rigorously true, as to the signs, they are false as to the things themselves, when regarded in their ultimate modified results, from the influence of those qualities or accidents which the mathematician does not or cannot symbolise—which he does not, because the complication arising from their reciprocal actions exceeds and defies his means—which he cannot, because in regard to some of them there is not sufficient analogy in the types to warrant the deductions they afford being transferred to the archetypes. Even as to those said qualities (extension and individuality) which form the subject matter of mathematics, the investigation is often limited, and therefore imperfect, from the impossibility of extending the analysis to all the ramifications which branch forth from it. The mathematician arrives at the truth, and nothing but the truth, but not at the whole truth—not even at the whole of the only kind of truth which symbols give. When, however, the case is so simple that the investigation comprehends all the possible relations belonging to those qualities, and the only result sought for in things is a knowledge of those relations, then it may be said, and only then, that the conclusions of the science are not only indubitable, but identical with realities—but what does not this limitation exclude?

The mathematician has a little, a very little, world of his own, in which every thing is in the utmost order, subject to known laws, involving definite and foreseen action, liable

to no interference not calculated on and provided for, and the whole capable of coming within his own powers to regulate and govern according to assigned rules; for things which cannot be made amenable to his jurisdiction are ejected from his dominion. He therefore admits nothing of unknown power, or which may exert an influence which he cannot see, and introduce uncertainty and casualty within his precincts. Hence, also, many agencies, though well understood, are rejected by him, lest they should prove too numerous for his perfect cognisance, and lest more subordinate laws should obtain than he can see and understand their bearings; or else he accepts only the first modifications which they may produce, and then casts them out altogether, whereby he avoids the many puzzling anomalies and exceptions which would proceed from their mutual actions. Hence, also, he ejects, as they arise, whatever among the collateral effects may complicate and embarrass the more direct train of results. Thus he sees and comprehends every thing, the whole is within his grasp, demonstration attends him at every step, aberrations are impossible, contingencies are out of the question, all results are naked to his sight, and his prescience embraces all, because his knowledge is certain and perfect, and extends to all. But, on the other hand, this is a world of curtailment and exclusion, in which nature is deprived of her just proportions, and of many of her endowments—it is a world of meagre forms and distorted shapes; and thus feeble man, failing to stretch his powers to a comprehension of the full length and breadth and depth of things, makes the things themselves conform to the extent of his own puny faculties, and then, in all the self-sufficiency of pride, exclaims—behold! this is nature!

When the mathematician comes forth from this tiny world of his into the world of realities, he is bewildered with the multiplicity of its objects, he is confounded with the immensity of their relations and mutual aspects. He looks for certainty, and can scarcely find probability. Accustomed to demonstrate, he is unqualified to estimate; and in the habit of concentrating his attention to a single, unbroken, unerring, and necessary chain of inferences, and having the power permanently to record its every link, and fix the otherwise fleeting convictions of certainty, he is unfitted to retain a steady and expansive view of several collateral lines of action, to balance conflicting influences, to adjust their proportions, and from the whole to educe the nearest to the true conclusion which only actual results can make to appear. Emerging from his world of abstract ideas, if indeed it be so much as this, he finds the real world, and the things thereof, to be a perfect enigma. He can follow, it may be, in the track of those who have unravelled it a little; but he has no powers of himself to unravel it further. Desirous, however, of doing something, though it may be only after his own method, suiting, therefore, the subject to his means and habits, he seizes a few of the most manageable facts; and if they are not to him already isolated, by his ignorance of the ties by which

* The arrogance of some of the naturalists is astonishing. They sit in judgment on nature, criticise her works, and talk of the attempts in which she has failed to perfect her plan. After all that has been said of the inductive philosophy, and of our being the humble disciples of nature, the race of the king of Castile is not yet extinct.

they with all things are bound together, he takes care to sever their connection with disturbing causes, and to rid himself of all embarrassing extraneous influences. If his facts are not sufficiently fruitful of principles, he can eke out his case with a few postulates; and if they are untractable, he can frame an hypothesis which shall present as nearly as possible the same appearances. He then proceeds in the most lucid and masterly manner, to build his system scientifically. All its parts are in harmony, all its conclusions are demonstrable. His penchant for clearness, order, and certainty, is gratified, and he fondly flatters himself that the results which he brings forth are conformable to nature. He does not consider that the harmony and clearness which he so much admires, gives every reason to suspect that he is entirely wrong; for the one may arise from every element of discord being rejected, and the other from those narrow and contracted views, which, by reason of our limited faculties, we are only able to take when absolute certainty is to be the result. Professor Sedgwick, whose scientific pursuits tend to enlarge and expand the mind, has a just observation in a recent publication of his, which, though having an immediate application to one particular subject, is by no means foreign to the tenor of the present remarks: "To suppose that we can reason up to a First Cause in moral questions—that we can reach some simple principle, whence we can descend with logical precision to all the complicated duties of a social being, is to misapprehend the nature of our faculties, and utterly mistake the relation we bear both to God and man. Such a system may delight by its clearness, and flatter our pride, because it appears to bring all our duties within our narrow grasp; but it is clear only because it is shallow, while a better system may seem darker only because it is more profound." Thus, the mere mathematician is disqualified by his prejudices, his habits, and the tutored bias of his mind, to look at the world of nature as it is. For, however paradoxical it may appear, views may be taken of it, which, though less exact than his, may be more complete, and though less certain, may be more probable. He is really better qualified to comprehend an entire system of worlds, so far as it may be explored by others possessed of a superior order of intellectual gifts—for the only point of view in which he can regard them, is merely as individual entities, whose dependence on each other is governed by one universal law of influence, and whose aberrations and disturbances, therefore, are not in the main beyond his scope. But in respect to mundane affairs, he has not the *coup d'œil*, the tact, or the intuitive perception, as it appears to be—though it is not that, nor is it innate, except so far as natural aptitude is concerned; but it is a deliberate process, and an acquirement derived from long habituated reaches of comprehensive thought, and faculties well disciplined by suitable practice—he has not, I say, that fine *eventual* perception, as it may with more propriety be called, which includes the whole implication of things, their mutual actions, and their final issue, whereby others are enabled to combine vast, if not minutely, to establish something like order and gradation in the gross, if not in the detail; to foresee with a degree of certainty, though it may be with some ob-

scurity; and to catch the shadows, if not the lineaments, of unknown forms. Such powers in any perfection are not often combined with high mathematical attributes, for they are of diverse tendency; but when they are united and directed with a combined effort to connect systematically the wide survey with first principles, they mark not only the true but the pre-eminent philosopher. Such was Newton. In his profound inquiries into the phenomena of nature, requiring new methods of mathematical investigation, his merits in that respect are, no doubt, eminently conspicuous; but yet, as the founder of a system, it is not so much the mathematician as the philosopher which shines forth in him. What a contrast there is between him and Descartes. With what sagacity he brought to light slight and hidden analogies, and what wisdom is displayed even in his scholia and his queries. His very conjectures partake of the nature of science. How extraordinary was that concerning the diamond; and who can say that his idea concerning the cause of gravitation may not yet be verified, or at least rendered highly probable?

The tendency of mathematical studies to unfit the mathematician for the general study of nature, and for investigation into the complex structure of human affairs, has now been stated—in very general terms confessedly, but that of course was unavoidable, unless there was an intention to write a complete dissertation on the subject. There is, however, another cause which lies at the root of that unfitness, peculiar to the mere mathematician. It consists in the very structure of the mind, that is, in the inequality of his faculties. "In almost all the instances of mental superiority," says Dr. Chalmers, "it will be found that it is a superiority above the average level of the species in but one thing—or that arises from the predominance of one faculty over all the rest." We may extend this remark, and say that nature is seldom perfect in opposite directions in the same individual, and that if her bounty flows strongly in any particular channel, it is generally at the expense of the diverging streams. This is so remarkably the case in regard to the mathematician, that deficiency in judgment is proverbially ascribed to him. Now judgment, in a popular sense, is a collective word for the several faculties which concern not the abstract ideas, but the realities of things in their actual forms. Thus both the congenital deficiency and the predisposition mutually concur with the habit which they produce to make the mere mathematician what he is—utterly unqualified to investigate any thing out of his own province. But properly to establish the point of his *natural* inaptitude would lead me too far into metaphysical, and, as some would think, into phrenological disquisitions.

Nature may, in some instances, bestow her gifts with as balanced as a bounteous hand; but then the study of mathematics, in all its fullness, is so engrossing, demanding so large a portion of time, as to preclude the generality of its students from the acquirement of that extensive knowledge of things and their relations which is necessary to furnish the philosophic mind. "Mathematics," says Duncan in his Logic, "is an engaging study; and men who apply themselves that way so wholly plunge into it,

that they are, for the most part, but little acquainted with other branches of knowledge. Even such as are alleged to have excelled in their own profession, and to have discovered themselves perfect masters of the art of reasoning, have not always been happy in treating upon other subjects; but rather fallen short, not only of what might naturally have been expected from them, but of many writers much less exercised in the rules of argumentation. Because, however perfect they may be in the art of reasoning, yet wanting here those intermediate ideas, which are necessary to furnish out a due train of propositions, all their skill and ability fails them, for a bare knowledge of the rules are not sufficient—we must further have materials whereunto to apply them."

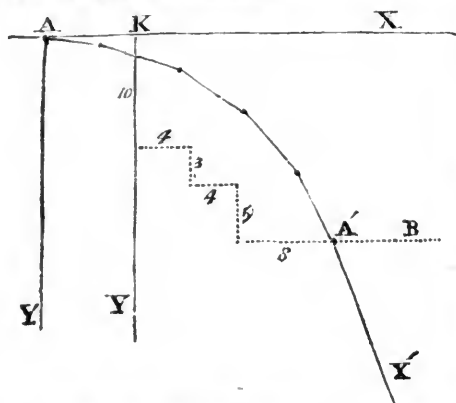
Barbeyrac, in the preface to his translation of Grotius, "*De Jure Belli et Pacis*," informs us, says Kirwan, that a mathematician undertook to refute it; but of this refutation he says, "*on n'a jamais rien vu de plus pifoyable, et on seroit surpris qu'un mathématicien put si mal raisonner, si l'on n'avoit d'autres exemples bien plus illustres, qui montrent clairement que l'étude des mathématiques, ne rend pas toujours l'esprit plus juste en matière des choses qui sont hors de la sphere de ces sciences.*" And Condillac, according to the same author, says, "*nous avons quatre métaphysiciens célèbres, Descartes, Malbranche, Leibnitz, et Locke; le dernier et le seul qui ne fut pas géomètre, et de combien n'est-il pas supérieur aux trois autres?*"

It cannot, however, be denied that a few mathematicians have been philosophers; or, rather, that some philosophers have also been mathematicians. Men possessed of an equilibrium of the faculties, and endowed with sufficient energy to sustain and invigorate them all—men of panoramic as well as of microscopic vision—men who extend their views beyond the mere rules, the elegant abridgments, and the ingenious artifices of the science, and who, valuing them only as means to a nobler end, merge the powers of the analyst in subservience to the grand objects of philosophy. It is from men like these that the mere mathematician has received a reflected lustre, and a consideration which is not his due. But the far greater number of philosophers, and the most useful ones too, have *not* been mathematicians. To instance only in our own time, and without adverting to living characters—having regard only to one branch of physical science, that which concerns the intimate nature and constitution of bodies, and passing by the various other departments of philosophy, such as morals, economics, physiology, geology, and the like, we may mention the names of Priestley, Franklin, Davy, and Wollaston.* It is probable that most of our eminent philosophers may have had some slight general knowledge of the mathematics, such as even our practical men commonly possess, and such as becomes a liberal education. They may have run through Euclid just as they may have run through Homer; nay, they may have done more than this, without being mathematicians any more than they were Grecians. This, in particular, may be said of the last-mentioned philosopher, though I believe so much even cannot be affirmed of the others. Even among our engineers,

* We have Mr. Babbage's authority in regard to Dr. Wollaston.

with the subject of curvatures, when properly understood and skilfully managed.

18. It is proposed to determine the modulus of curvature which will trace a curve from a given tangent line, and from a given point therein, in such a manner as to touch another right line given in position.



Let AX represent that tangent line in which the origin of the required curve is unknown, and A'X' that in which the origin of the curve is given at the point A'. Select any arbitrary point K, in the former tangent line AX, for the origin of a system of rectangular co-ordinate axes KX, KY; and parallel respectively to those axes let a system of rectangular lines be traced from the origin of the co-ordinates at K, and terminating at that origin of the curve which is given in the other tangent line A'X' at the point A'; and by means of those rectangular lines let the angle BA'X' be measured, and denoted by D, and which will express the inclination of the two given tangents AX and A'X' to each other. Take the equations

$$\begin{cases} X = a + b + c + \&c. \\ Y = d + e + f + \&c. \end{cases}$$

as given by means of those rectangular lines, and explained in the preceding articles. It is then very evident that the value of the ordinate Y, as thus determined, will not, in any manner whatever, depend upon the point which was selected in the tangent line AX, for the origin of the co-ordinates; and consequently that value of Y will express the true ordinate which corresponds with the given point A' in the required curve, as estimated from that origin of the curve, which is required to be situated somewhere in the given tangent line AX. And it hence follows from (VII.), that, $Y = \frac{1 - \cos. 2nT}{2 \sin. T}$. But, $D = 2nT$, as appears from (IV.); and this value being substituted in the expression for Y, the following formula will result:

$$\sin. T = \frac{1 - \cos. D}{2Y}. \quad (\text{XVII.})$$

And thus the modulus of curvature of the required curve may be easily computed after tracing a system of rectangular lines

$$\begin{cases} X = a + b + c + \&c. \\ Y = d + e + f + \&c. \end{cases}$$

But that origin of the required curve, which is situated somewhere in the given tangent line AX, will also in some cases be wanted. Let that origin be at A, and put $\alpha = AK$; and then $X = \alpha$, and Y will evidently be the co-ordinates of the point A', as estimated from the origin A, and axes AX, AY. Hence, by (XIII.) $\cot. \frac{1}{2}D = \frac{X = \alpha}{Y}$; or, eliminating α ; the result is,

$$\alpha = Y \times \cot. \frac{1}{2}D. - X. \quad (\text{XVIII.})$$

Which makes the required origin known; but in using this formula, it must be observed, that the hypothesis here assumed is, that α is considered positive when it is measured immediately opposite to the direction of X from the selected origin of the given co-ordinates X and Y; and consequently, when α comes out negative from (XVIII.), it must be taken in a direction coinciding with X.

Example. Let a system of rectangular lines be traced in a manner similar to those represented upon the figure by the figures 10, 4, 3, &c.; and let those figures denote the length of each line in chains. The angle BA'X' being measured, let it be found = 60° .

In this case, then, $\begin{cases} X = 4 + 5 \\ Y = 10 + 8 \end{cases}$; that is, $X = 16$, and $Y = 18$. And,

$$\sin. T = \frac{1 - \cos. 60^\circ}{36} = \frac{.5000}{36} = .01390;$$

from which is found $T = 0^\circ 48' =$ modulus of curvature of the required curve. To find the position of the origin A, we have $\alpha = 18 \times \cot. 30^\circ - 16 = 18 \times 1.732 - 16 = 31.18 - 16 = + 15.18$. Hence measure 15.18 chains from the selected point K, and backward as regards the axis KX, of X. The required point A will be then obtained; from which a curve being traced by means of the modulus of curvature $0^\circ 48'$, it will meet the given point A', and come into the given tangent line A'X'. Or, vice versa, being traced from the given point A' and from the given tangent line A'X', it will touch the other given right line AX at the point A.

On the Arrangement of Cylindric Steam Boilers.

To the Editor of the Mechanics' Magazine:

SIR,—It is well known that a cylindric steam boiler, thirty inches in diameter, made of wrought iron plates one fourth of an inch thick, will sustain a pressure of more than one hundred pounds to the square inch. Or course, a cylinder of the same material, three inches in diameter, will sustain an equal pressure, although the iron of which it is made be but one fortieth of an inch thick; the thickness and strength of the iron being in the same proportion to the diameter as those of the thirty inch cylinder. A thirty inch boiler, eighteen feet long, and presenting one third part of its surface to the action of the fire, will produce about six horse power of steam: from which it may be inferred, that thirty-six cylinders, each being thirty inches long and three inches in diameter, and presenting two thirds of their surface to the action of fire, will also give a six horse power of steam; yet the weight of the thirty-six cylinders may be less than one sixtieth part of that of one large cylinder of the dimensions above specified. Several inventors have endeavored to avail themselves of this principle, but I know of no instance in which they have fairly succeeded in evading the difficulties attending the construction of a boiler consisting of many cylinders or pipes. In one instance, the pipes were so small that they soon became smoked; in another, they were arranged horizontally, consequently the steam could not readily escape; and in both, the pipes have been connected with cross-pipes by brazing, which rendered it difficult to keep them clean from the sediment which always accumulates in boilers; or to remove one without disturbing the arrangement of the rest. With this view of the subject, I have lately constructed a boiler on this principle, which appears likely to be useful for locomotives at least. It produces rather more than one horse power of steam, will sustain a pressure of three hundred pounds to an inch, weighs less than eighty pounds, and cost, (made of copper,) less than sixty dollars; yet so constructed, that the steam rises freely, and that either of the cylinders may be removed occasionally and replaced again in five minutes. The following is the specification of a boiler of the same construction, but of larger dimensions, and calculated for three horse power.

Twenty-four cylinders, made of sheet iron or copper, each being thirteen inches in length, and two and a half inches in diameter, are arranged vertically in two rows, parallel to each other, the cylinders in each row being half an inch apart, and the space between the two rows being eight inches. Each cylinder has a cast metal head at each end, secured by revits, or by brazing; and from the centre of which projects a tube an inch and a half long and one inch in diameter; each tube having ears projecting half an inch from two opposite sides, by which the tubes are secured by screws to the sides of four pipes, which are placed horizontally, parallel to each other, one at the top and another at the bottom of each row of cylinders. These tubes may otherwise be secured to the pipes, by having an iron strap bent over each tube, and a screw passing through each end of each strap into the side of the pipe. One side of each tube is nicely fitted to the side of the pipe to which it is attached; and the pipe and tube having each a corresponding orifice at the point of contact, an internal communication is effected between each cylinder and each pipe connected with each row. These parallel pipes, which are about one inch and a half in diameter, are also connected by cross-pipes at each end. The cross-pipes are cast with a cube at each end, or at the point of connection with the side-pipes; and instead of being open at the ends, have an opening on the side of each cube of a size to admit the end of the side-pipe; and a small iron rod, passing through the length of the side-pipe, and through the cube at each end, has a square head at one end, and a screw and nut at the other, by which the opposite cubes are drawn up to the ends of the pipe. Note—The length and size of the cylinders, the number of cylinders in a row, or the number of rows, may be varied as occasion may require.

The lower part of the cylinders are inclosed in a sheet iron furnace or stove, the height of which is equal to two thirds of that of the cylinders. The top of the stove being fitted to the several rows of cylinders, and the cylinders being filled two thirds full of water, the fire within the stove cannot approach them above the surface of the water. Between the two rows (or each two rows) of cylinders, at the bottom, is a grate, which rests on the bottom pipes; and at the top of the stove a horizontal door, by which the stove is supplied with fuel. Through one side of the stove are several small apertures for the induction of air; and attached to the opposite side is a funnel for the eduction of smoke. Steam-pipes, gauge-cocks, &c. may be attached to either of the pipes or cylinders, as may be most convenient.

I claim as original the arrangement of the cylinders, the method of attaching them to the pipes, and that of connecting the side-pipes with the cross-pipes.

Yours, respectfully,

RUFUS PORTER.

Billerica, Mass., Aug. 22, 1834.

[From the Buffalo Whig.]

STATE'S PRISON MONOPOLY.—Since the Mechanics' Convention, upon the subject of our States' Prison labor, some notice of the facts, it seems, is deemed advisable, by "the powers that be." Printed circulars have been despatched by the keeper of the Auburn Prison, of which a copy follows, below. Several have been received in this city, and they have probably gone to all parts of the State. The motive of this movement is left to be inferred. We more

than suspect it to be none of the best. The circular follows:

State Prison, Auburn, August, 1834.

DEAR SIR: You are doubtless aware that latterly considerable excitement has existed in many parts of the State, relative to the employment of convicts in mechanical labor in the State Prisons. Feeling deeply the importance of the subject, as connected with our penitentiary institutions, and anxious to learn, as far as possible, the effect which that labor has upon the citizen mechanics' interests, as well as the effects of our prison system upon our discharged convicts, allow me to solicit your answers to the following interrogatories:

1st. Are you acquainted with any persons who have been discharged from either of the State Prisons? and if so, what are their names, places of residence, and what has been their conduct, habits, and character, since their discharge; also before conviction, if known?

2d. What branches of mechanical or other business do they prosecute, and to what extent?

3d. Are there any articles manufactured in the prisons of the State sold in your place? and if so, what kinds, and to what amount per annum?

4th. Does the mechanical business of the prisons injuriously affect the interests of the mechanics of your place? and if so, is it in the price or the quantity brought into your market, or any other cause?

The information above sought, is not merely important to the State, but to the United States, as well as to European nations, inasmuch as it involves the permanency of a system of prison discipline, which has been considered the best extant, and which, in truth, has constituted a new era in the punishment and reformation of criminals in this country, and is now receiving the attention of the governments of Europe.

I therefore trust the subject will be considered of sufficient importance to claim your early and serious attention.

I am, with great respect, your obedient servant,
Levi Lewis, Agent and Keeper.

To ———, Buffalo, Erie Co.

The following answers to the third and fourth interrogatories, were prepared by one of our mechanics, to be forwarded to the keeper of the Prison: Answer to third interrogatory.

There are a number of articles sold in Buffalo, which are manufactured in the prisons of this State, to wit: joiners' tools, saddlery of all kinds, both brass and plated, hames, saddle trees; copper ware, such as furniture for cook stoves, &c.; blacksmith work, of various kinds, such as iron doors, grates, bars, bolts, locks, chains, and hinges; wooden ware, such as tubs, pails, churns, &c.; ready made clothing, and it is believed boots and shoes; combs, and several other articles, some of which are purchased in New-York, at second hand, without the purchaser's being aware of the articles being manufactured in the prisons.

The amount of articles sold in this city the last year, from the best data that can be obtained, exceeds fifteen thousand dollars—one house disposing of about one fourth part of this amount.

Answer to the fourth interrogatory.

The several mechanical branches with which the prison wares have come into competition, are seriously injured, and it is said some establishments have been broken up in consequence, and that others must follow.

It is believed that the low price at which the prison wares are sold, is the principal cause of complaint, it being on some articles but little above the price of the raw material.

The manufacture of some articles which are carried on pretty extensively, have, in consequence of the introduction of the same kind of articles manufactured in the prisons, been entirely discontinued—an establishment for manufacturing hames, employing from 10 to 12 workmen in 1830, has been entirely abandoned.

Copper furniture, for cooking stoves, manufactured in the prisons, was introduced into this city in 1833, and offered at prices considerably below what it cost to manufacture it. The consequence has been, that the prison ware is now extensively sold, and will, if this is persisted in, supersede all other. There are about 6 or 8 establishments now in Buffalo for the manufacture of copper, tin and sheet iron ware, employing about 50 workmen. The conductors of these establishments say it is impossible for them to compete with prison prices. The iron work for the new county prison erected in 1832 and 3, was wrought at the Auburn Prison, consisting of doors, grates, locks, &c. &c. amounting to more than two thousand dollars.

Whether any answers or queries one and two have been returned, we are not informed. We were recently acquainted with a very worthy mechanic, in this city, now deceased, who, previously to his residence here, was employed, in superintending the blacksmiths, in the Auburn prison. That trade he followed here; and from his knowledge of the discipline of the prison, and the signs by which the prisoners, (not being allowed to speak) call for what they need, he often detected those he had employed, as graduates of the Auburn Institution. He informed us that he detected, in this way, from fifteen to twenty of these, in the course of two years. Several of them proved most arrant knaves; and no one so demeaned himself as to retain his place longer than a few days. Some of them pilfered his small tools, and one broke open his shop at night and robbed it. A chair-maker, also at work here, plundered his employer and decamped, who was from the same school.

In short, reformation, we believe, can seldom be found to have resulted from our prison system.

SURVEY OF THE COAST OF THE UNITED STATES. No. I.

It is, perhaps, known to some of our readers, that a systematic survey of the Coast of the United States is at present going on. This undertaking, of so much importance to our mercantile marine and to our navy, has been recently recalled to our recollection by a conversation with one who has had an opportunity of examining its details, and of assisting at one of its most important operations, and from him we have the following statements:

"The director of the surveys is a gentleman well known to the scientific world, Mr. F. R. Hassler, and whose high attainments in astronomy, and the application of Mathematics to useful purposes, are most fully appreciated by those who are best qualified to judge of such acquirements. While still a young man and a stranger, he was chosen by Jefferson and Gallatin to perform this task, and the unanimous voice of the scientific men of both hemispheres has sanctioned their judgment.

It is not our present purpose to explain how it happened that the survey ordered by a law of 1807, was not commenced until 1816, nor why its progress was interrupted after the lapse of no more than a single summer. It is sufficient to say, that in spite of circumstances the most unfavorable, in the absence of any practical assistants, and defiance of an opposition which we shall in charity call ignorant, more was done by Hassler in that single campaign, than had ever been before effected in an equal space of time, in the surveys of either France or England. The operations of this summer have since served as a model to more than one European nation in works of a similar character.

The survey of 1816 was commenced in the vicinity of New York, and in its operations included the whole the neighbourhood of our city; and it is perhaps remarkable, that an examination of the figure of our coast in reference to a scientific operation, should have pointed to that very spot as most important, which the subsequent increase of its commerce has made the mart of the Western hemisphere.

Surveys of the character of which we speak, are necessarily performed by the united aids of astronomical observation and terrestrial measures. The first part of the process consists in forming upon the ground a network of great triangles, whose sides may be as large as the eye, when aided by the telescope, can scan. Every angle of these triangles must be measured, and the inclination of many of their sides to the Meridian exactly ascertained. The length of one side of a single triangle must be known, in order that the rest may be computed; and it will be obvious that upon the truth with which the accuracy of this base is determined, the certainty with which the position of distant points can be defined will wholly depend. The attention of Mr. Hassler himself has for the present summer been principally directed to the

measurement of such a base. For this purpose he has selected a line upon the southern beach of Long Island, near Fire Island Inlet. Here, at the very level of the sea, he has found a base exceeding in length any ever before measured, and which requires neither correction nor reduction. To ensure the necessary accuracy in this important task, he has brought in aid methods of his own invention, superior to any hitherto furnished by scientific research. We have the pleasure to be able to say that it is some weeks since this important part of his work has been completed, and the data furnished for defining in itinerary measure the great outlines of the Coast and Harbors of N. w. Jersey, New York and Connecticut; a large portion of the respective seaboard of which States had been previously enveloped in his triangles. Pending this operation, two parties, directed by civil engineers in the employ of the government, have been busy in forming a series of secondary triangles, embracing points not seen from the summits of those of the greater series; another under the command of a naval officer, and a fourth led by a civil Engineer, are now organizing, the one to take soundings, the other to fill up the topographical details.—The work in fact, which has hitherto been confined to preliminary scientific observations, of which only the initiated could see the value, is now in that state in which it will speedily develop its practical and useful bearings. Every new step in the scientific part of the survey will hereafter give increased space for the services of civil, military and naval engineers, and the extent to which they may be employed will depend upon the liberality of the appropriations.

Compared with similar works in Europe, the writer was struck with the economy and strict attention to husband the resources furnished by the government, manifested by Mr. Hassler; in spite of this he could not help observing that the usefulness of Mr. H. and the progress of the work were checked by the inadequacy of the allowances made for his personal expenses, and by the necessity of corresponding with Washington in relation to petty expenditures, of which none but the director of the work itself is competent to judge. Of the precise amount of these difficulties we are unable to judge, but as we know that Mr. Hassler sacrificed a competence in his exertions to organize the survey of the coast at the beginning, we are not without our fears that the same species of bureaucratic influence which caused the interruption of the work in 1816, and thus deprived the country of the benefit of much of its earlier expenditures, may again be efficient in delaying, if not in wholly frustrating the hopes now justly entertained of important national benefits. We witnessed on that occasion, under the pretence of economy, the fruits of several years of preparation entirely lost; instruments, unequalled in structure, destroyed by the unskilful hands to which they were entrusted for keeping, or worn out in operations for which they were never intended; and a library, both public and private, that money can never again collect, dispersed to the winds; not to mention the loss of property and life which the unexplored portions of our coast have witnessed in the interim. These enormous public and private losses were caused by an attempt to save less than a thousand dollars of salary and travelling expenses.

It has luckily happened that when the gross error which had been committed was made manifest, Mr. Hassler was still alive, and in the enjoyment of his faculties; otherwise, we should have been compelled to have had recourse to Europe for a substitute, or to have sent a person there to acquire the practice of observation, for our country as yet possesses none of those establishments, and carries on none of those great operations, in which alone the competent skill can be attained. The survey of the coast may, and probably will, in its progress, form persons qualified to continue it, but the physical and moral qualities, necessary to execute such a task successfully, are rare in all countries, and would probably in ours be directed to more lucrative pursuits. A thorough and complete mathematical education, an intimate and accurate knowledge of all the physical sciences, a love of them for their own sake, a constitution to bear unshaken, constant exposure to our climate, the activity and energy of the partisan, with the *coup d'œil* of the general, do not form a combination of usual occurrence, and yet the want of any one of these requisites, would probably unfit a person for conducting such a work. If to this we add that the person thus nobly endowed, by nature and education, must work for a bare subsistence, under every probability of a premature old age, we can see how rare must be those who will engage in such an occupation."

On the Comparative Value and Importance of Mathematical Science, and on the Pretensions of its Professors.

[From the London Mechanics' Magazine.]

SIR,—Whilst occupied in writing a reply to Kinclaven, I was led to indulge in some observations on the intellectual grade and practical value which ought to be assigned to mathematical acquirements, and on the overweening pretensions of some of the mathematicians; but these remarks became so much extended under my hand, that I have thought it best to give them to you under another form.

I am sir, yours respectfully,

BENJ. CHEVERTON.

Men's minds appear to be differently constituted in regard to the investigation of things. Whilst the generality take a view of a subject merely as a particular case, and reason upon and examine it only as connected with its more immediate causes and consequences, the profound inquirer analyses it, to discover the law or principle which pervades it in common with many others; to trace and connect it with those of dissimilar aspect; to show that in the abstract they belong to one common truth, though in the concrete, or in their actual existence, produced by the modifying agencies of their peculiar circumstances, they present appearances which apparently have no relation to each other. Such are the minds who have for their high aim the extension of the principles of knowledge; but though peculiarly fitted for discovery, they are not the best qualified to bring science down to practical application, or even to make it literally accord with matter of fact. In disentangling the complications resulting from concomitant agencies, they are so intent on arriving at the most general truths, so systematically disregardful of the separate consideration of those agencies, and so much in the habit of keeping the analysis disencumbered of all ideas not comprised in the upward leading train, that when, by a course of synthetical reasoning, they would turn their discovered principles to account, and build up a system on their foundation, they too much exclude the operation of the subordinate laws which concur in influencing, and more immediately regulate, the ultimate result, and which give to things the form and appearance which they present. Their conclusions, though correctly drawn, are true only in part, and by assumption and limitation, true mentally, but not materially, or as found in actual existence.

But there is another class of minds of nearly the same stamp and mould as the former, who, though not taking the like grand and original views, are yet of a kindred spirit. The former act the part of pioneers, but these take to the circumstantialists, and bring into subjection what the others merely pass by. They fill up that outline of a science or system which the former, in the discovery of its most general law, was content merely to trace; they bring the analysis to bear on all the relations implicated; weigh, balance, and proportion the conflicting agencies; and are thus enabled to perfect the subsequent synthesis in all its details, to take a complete view of the subject in all its parts, and a comprehensive one in all its bearings, and to bring forth to view the modified results, the exceptions and the anomalies, as illustrations of, and confirming at-

testations to, the fraudulent truths which at first sight they may appear to invalidate.

Both these classes of men are philosophers, the distinction between them having reference to a tendency to generalize, rather than to the usefulness of their labors, or the rank in which they ought to stand; but they *may not* be mathematicians, that depending on the circumstance whether the science of quantity is required in their investigations. These last, therefore, form a third class, whose object is less the extension and perfection of science or system, than the cultivation of the means thereof, so far as the relations of quantity are concerned.

The mathematicians—I mean mere mathematicians—are doubtless valuable members of the body scientific, but some among them, (the least generally informed,) are sadly inclined to over-estimate the honor of their station, and the comparative value and importance of their labors. In the great field of science, to say nothing of the greater field of knowledge, they occupy merely one of its sections, they facilitate and abridge the work of some, and co-operate in the work of others; but they are neither the pioneers nor the finishers of the operations going on around. Subsidiary and assistant to original investigation, the *science of quantity* is of important service, but if put forward and esteemed as the *science of things*, it is worse than useless, and many who might have made good philosophers, have been spoiled by the false glare reflected from their own doings being taken for the true light thrown on Nature's works. The lines and characters with which mathematical operations are conducted, and whose results, though only abstractions, are too often confounded and identified with realities, are not only the mere symbols of things, but the symbols merely of one or two qualities in things; and therefore, though the conclusions are true, rigorously true, as to the signs, they are false as to the things themselves, when regarded in their ultimate modified results, from the influence of those qualities or accidents which the mathematician does not or cannot symbolise—which he does not, because the complication arising from their reciprocal actions exceeds and defies his means—which he cannot, because in regard to some of them there is not sufficient analogy in the types to warrant the deductions they afford being transferred to the archetypes. Even as to those said qualities (extension and individuality) which form the subject matter of mathematics, the investigation is often limited, and therefore imperfect, from the impossibility of extending the analysis to all the ramifications which branch forth from it. The mathematician arrives at the truth, and nothing but the truth, but not at the whole truth—not even at the whole of the only kind of truth which symbols give. When, however, the case is so simple that the investigation comprehends all the possible relations belonging to those qualities, and the only result sought for in things is a knowledge of those relations, then it may be said, and only then, that the conclusions of the science are not only indubitable, but identical with realities—but what does not this limitation exclude?

The mathematician has a little, a very little, world of his own, in which every thing is in the utmost order, subject to known laws, involving definite and foreseen action, liable

to no interference not calculated on and provided for, and the whole capable of coming within his own powers to regulate and govern according to assigned rules; for things which cannot be made amenable to his jurisdiction are ejected from his dominion. He therefore admits nothing of unknown power, or which may exert an influence which he cannot see, and introduce uncertainty and casualty within his precincts. Hence, also, many agencies, though well understood, are rejected by him, lest they should prove too numerous for his perfect cognisance, and lest more subordinate laws should obtain than he can see and understand their bearings; or else he accepts only the first modifications which they may produce, and then casts them out altogether, whereby he avoids the many puzzling anomalies and exceptions which would proceed from their mutual actions. Hence, also, he ejects, as they arise, whatever among the collateral effects may complicate and embarrass the more direct train of results. Thus he sees and comprehends every thing, the whole is within his grasp, demonstration attends him at every step, aberrations are impossible, contingencies are out of the question, all results are naked to his sight, and his prescience embraces all, because his knowledge is certain and perfect, and extends to all. But, on the other hand, this is a world of curtailment and exclusion, in which nature is deprived of her just proportions, and of many of her endowments—it is a world of meagre forms and distorted shapes; and thus feeble man, failing to stretch his powers to a comprehension of the full length and breadth and depth of things, makes the things themselves conform to the extent of his own puny faculties, and then, in all the self-sufficiency of pride, exclaims—behold! this is nature!^{*}

When the mathematician comes forth from this tiny world of his into the world of realities, he is bewildered with the multiplicity of its objects, he is confounded with the immensity of their relations and mutual aspects. He looks for certainty, and can scarcely find probability. Accustomed to demonstrate, he is unqualified to estimate; and in the habit of concentrating his attention to a single, unbroken, unerring, and necessary chain of inferences, and having the power permanently to record its every link, and fix the otherwise fleeting convictions of certainty, he is unfitted to retain a steady and expansive view of several collateral lines of action, to balance conflicting influences, to adjust their proportions, and from the whole to educe the nearest to the true conclusion which only actual results can make to appear. Emerging from his world of abstract ideas, if indeed it be so much as this, he finds the real world, and the things thereof, to be a perfect enigma. He can follow, it may be, in the track of those who have unravelled it a little; but he has no powers of himself to unravel it further. Desirous, however, of doing something, though it may be only after his own method, suiting, therefore, the subject to his means and habits, he seizes a few of the most manageable facts; and if they are not to him already isolated, by his ignorance of the ties by which

^{*} The arrogance of some of the naturalists is astonishing. They sit in judgment on nature, criticise her works, and talk of the attempts in which she has failed to perfect her plan. After all that has been said of the inductive philosophy, and of our being the humble disciples of nature, the race of the king of Castile is not yet extinct.

they with all things are bound together, he takes care to sever their connection with disturbing causes, and to rid himself of all embarrassing extraneous influences. If his facts are not sufficiently fruitful of principles, he can eke out his case with a few postulates; and if they are untractable, he can frame an hypothesis which shall present as nearly as possible the same appearances.

He then proceeds in the most lucid and masterly manner, to build his system scientifically. All its parts are in harmony, all its conclusions are demonstrable. His penchant for clearness, order, and certainty, is gratified, and he fondly flatters himself that the results which he brings forth are conformable to nature. He does not consider that the harmony and clearness which he so much admires, gives every reason to suspect that he is entirely wrong; for the one may arise from every element of discord being rejected, and the other from those narrow and contracted views, which, by reason of our limited faculties, we are only able to take when absolute certainty is to be the result. Professor Sedgwick, whose scientific pursuits tend to enlarge and expand the mind, has a just observation in a recent publication of his, which, though having an immediate application to one particular subject, is by no means foreign to the tenor of the present remarks:

"To suppose that we can reason up to a First Cause in moral questions—that we can reach some simple principle, whence we can descend with logical precision to all the complicated duties of a social being, is to misapprehend the nature of our faculties, and utterly mistake the relation we bear both to God and man. Such a system may delight by its clearness, and flatter our pride, because it appears to bring all our duties within our narrow grasp; but it is clear only because it is shallow, while a better system may seem darker only because it is more profound." Thus, the mere mathematician is disqualified by his prejudices, his habits, and the tutored bias of his mind, to look at the world of nature as it is. For, however paradoxical it may appear, views may be taken of it, which, though less exact than his, may be more complete, and though less certain, may be more probable. He is really better qualified to comprehend an entire system of worlds, so far as it may be explored by others possessed of a superior order of intellectual gifts—for the only point of view in which he can regard them, is merely as individual entities, whose dependence on each other is governed by one universal law of influence, and whose aberrations and disturbances, therefore, are not in the main beyond his scope. But in respect to mundane affairs, he has not the *coup d'œil*, the tact, or the intuitive perception, as it appears to be—though it is not that, nor is it innate, except so far as natural aptitude is concerned; but it is a deliberate process, and an acquirement derived from long habituated reaches of comprehensive thought, and faculties well disciplined by suitable practice—he has not, I say, that fine eventual perception, as it may with more propriety be called, which includes the whole implication of things, their mutual actions, and their final issue, whereby others are enabled to combine vast, if not minutely, to establish something like order and gradation in the gross, if not in the detail; to foresee with a degree of certainty, though it may be with some ob-

curity; and to catch the shadows, if not the lineaments, of unknown forms. Such powers in any perfection are not often combined with high mathematical attributes, for they are of diverse tendency; but when they are united and directed with a combined effort to connect systematically the wide survey with first principles, they mark not only the true but the pre-eminent philosopher. Such was Newton. In his profound inquiries into the phenomena of nature, requiring new methods of mathematical investigation, his merits in that respect are, no doubt, eminently conspicuous; but yet, as the founder of a system, it is not so much the mathematician as the philosopher which shines forth in him. What a contrast there is between him and Descartes. With what sagacity he brought to light slight and hidden analogies, and what wisdom is displayed even in his scholia and his queries. His very conjectures partake of the nature of science. How extraordinary was that concerning the diamond; and who can say that his idea concerning the cause of gravitation may not yet be verified, or at least rendered highly probable?

The tendency of mathematical studies to unfit the mathematician for the general study of nature, and for investigation into the complex structure of human affairs, has now been stated—in very general terms confessedly, but that of course was unavoidable, unless there was an intention to write a complete dissertation on the subject. There is, however, another cause which lies at the root of that unfitness, peculiar to the mere mathematician. It consists in the very structure of the mind, that is, in the inequality of his faculties. "In almost all the instances of mental superiority," says Dr. Chalmers, "it will be found that it is a superiority above the average level of the species in but one thing—or that arises from the predominance of one faculty over all the rest." We may extend this remark, and say that nature is seldom perfect in opposite directions in the same individual, and that if her bounty flows strongly in any particular channel, it is generally at the expense of the diverging streams. This is so remarkably the case in regard to the mathematician, that deficiency in judgment is proverbially ascribed to him. Now judgment, in a popular sense, is a collective word for the several faculties which concern not the abstract ideas, but the realities of things in their actual forms. Thus both the congenital deficiency and the predisposition mutually concur with the habit which they produce to make the mere mathematician what he is—utterly unqualified to investigate any thing out of his own province. But properly to establish the point of his natural inaptitude would lead me too far into metaphysical, and, as some would think, into phrenological disquisitions.

Nature may, in some instances, bestow her gifts with as balanced as a bounteous hand; but then the study of mathematics, in all its fullness, is so engrossing, demanding so large a portion of time, as to preclude the generality of its students from the acquirement of that extensive knowledge of things and their relations which is necessary to furnish the philosophic mind. "Mathematics," says Duncan in his Logic, "is an engaging study; and men who apply themselves that way so wholly plunge into it,

that they are, for the most part, but little acquainted with other branches of knowledge. Even such as are alleged to have excelled in their own profession, and to have discovered themselves perfect masters of the art of reasoning, have not always been happy in treating upon other subjects; but rather fallen short, not only of what might naturally have been expected from them, but of many writers much less exercised in the rules of argumentation. Because, however perfect they may be in the art of reasoning, yet wanting here those intermediate ideas, which are necessary to furnish out a due train of propositions, all their skill and ability fails them, for a bare knowledge of the rules are not sufficient—we must further have materials whereunto to apply them."

Barbeyrac, in the preface to his translation of Grotius, "De Jure Belli et Pacis," informs us, says Kirwan, that a mathematician undertook to refute it; but of this refutation he says, "on n'a jamais rien vu de plus pitoyable, et on seroit surpris qu'un mathématicien put si mal raisonner, si l'on n'avoit d'autres exemples bien plus illustres, qui montrent clairement que l'étude des mathématiques, ne rend pas toujours l'esprit plus juste en matière des choses qui sont hors de la sphere de ces sciences." And Condillac, according to the same author, says, "nous avons quatre métaphysiciens célèbres, Descartes, Malbranche, Leibnitz, et Locke; le dernier et le seul qui ne fut pas géomètre, et de combien n'est-il pas supérieur aux trois autres?"

It cannot, however, be denied that a few mathematicians have been philosophers; or, rather, that some philosophers have also been mathematicians. Men possessed of an equilibrium of the faculties, and endowed with sufficient energy to sustain and invigorate them all—men of panoramic as well as of microscopic vision—men who extend their views beyond the mere rules, the elegant abridgments, and the ingenious artifices of the science, and who, valuing them only as means to a nobler end, merge the powers of the analyst in subservience to the grand objects of philosophy. It is from men like these that the mere mathematician has received a reflected lustre, and a consideration which is not his due. But the far greater number of philosophers, and the most useful ones too, have not been mathematicians. To instance only in our own time, and without adverting to living characters—having regard only to one branch of physical science, that which concerns the intimate nature and constitution of bodies, and passing by the various other departments of philosophy, such as morals, economics, physiology, geology, and the like, we may mention the names of Priestley, Franklin, Davy, and Wollaston.* It is probable that most of our eminent philosophers may have had some slight general knowledge of the mathematics, such as even our practical men commonly possess, and such as becomes a liberal education. They may have run through Euclid just as they may have run through Homer; nay, they may have done more than this, without being mathematicians any more than they were Grecians. This, in particular, may be said of the last-mentioned philosopher, though I believe so much even cannot be affirmed of the others. Even among our engineers,

* We have Mr. Babbage's authority in regard to Dr. Wollaston.

whose pursuits would seem to make mathematical acquirements more requisite, the most eminent, such as Smeaton, Watt, Renie, and Telford, have not been distinguished by any beyond the merest common-place. Many of their compeers have advanced much farther in these routine attainments, and yet wanted that tact, that fine superior sense, which is far more indispensable to the man who has to take and deal with things as they are, enveloped in all their circumstances, and subject to all their qualities and contingencies. Sir John Herschell observes, that "almost all the great combinations of modern mechanism, and many of its refinements, are creations of pure intellect, grounding its exertions upon a very moderate number of elementary propositions in theoretical mechanics and geometry." In what have the pupils of the *Ecole Polytechnique*, who are all mathematicians, excelled our own engineers? Let the fate of the first suspension-bridge at Paris tell. We have yet to avail ourselves of the eminent services which the high mathematical attainments of the pupils of our own school of naval architecture were to render to the science—if science yet it be. What has been the result? Does even the Surveyor of the Navy put forward any scientific pretensions? Has he not been selected out of another profession? Has the professor of the school himself succeeded better, or so well, as the unpretending shipwright who built the Pearl? Let it not, however, be understood, that the school has not sent forth able and useful men, or that they have received rewards equivalent to their merits. But it is maintained that in this, as in many other cases, the tentative method has been, and perhaps ever will be, of more value than science, and that those qualities of the mind for which I have contended, and which science cannot give, are superior to and more indispensable than mathematical attainments; and this may be said without condemning the application of analysis, as far as may be, to the successful results which experiments on a large scale may have produced. In such analysis, indeed, if sagaciously and not too rigidly and scientifically conducted, those superior qualities will appear, just as they do, appear, in the rough empirical sort of analysis which the successful though unpretending shipwright calls to his aid. Those among the students who are in possession of these natural gifts, will break through the prejudices and pedantry which a too engrossing attention to mere science creates, and keeping it in its proper place will make it secondary or subservient to a comprehensive view of their peculiar and very complicated subject, satisfied, if they cannot mark and estimate all the concomitant influences, in a manner so precise and determinate as they could wish, that they at least form their conceptions and draw their conclusions in conformity to the truth of things.*

(To be continued.)

* Let this be exemplified by an able article which appeared within these few months in the "United Service Journal," written, I believe, by a pupil of the school above mentioned.

MITCHELL'S improved mode of setting grates, or rather constructing the lower part of chimneys in which grates are used, may be seen at 216 Fulton st. a few doors above Greenwich st.

The object of the inventor is to do away with the great objection to the use of Coal, the floating dust from it, which settles all round the apartment and

upon all things and persons within it. This we think is effectually attained; a draught is created which completely carries off this dust; so that stir the fire as you may, and rake out the ashes however violently, there come forth no floating particles into the room.

Any chimney may be altered at slight expense, in conformity with this plan. We recommend it to the notice of all neat housewives.

FROM JAMAICA.—The schooner Joseph Y. Tomkins, Taylor, arrived at this port yesterday from Port Royal. Capt. T. has politely favored us with a file of the Jamaica Herald, to the 30th September, from which we glean the following items.

On the night of the 7th September, several severe shocks of an earthquake were experienced at Port Royal. The Herald says:—

"There were, indeed, four distinct shocks within the space of about two minutes—but the first was truly awful and alarming. Many persons were awakened by it and found themselves rocking in their beds, while the roofs, shingling of the houses, and furniture were rattling—the glass on the sideboards ringing, and lamps swinging to and fro. It was both preceded and followed by a sudden gust of wind, accompanied by rain and a peculiar noise, resembling the rumbling of heavy carriages at a distance. The undulations were from east to west, and the duration of the first shock, from 10 to 15 seconds—the other three shocks followed in quick succession, but were gradually fainter to the last. It is but too probable that this was but a slight effect of a more dreadful and disastrous convulsion that may have occurred at the same moment on the continent; and we shall look with much anxiety for intelligence from thence."

The paper of the 11th says:

The Earthquake appears from our country letters to have been severely felt from one end of the Island to the other, and to have caused great consternation. We have not heard that it occasioned any serious damage. Houses, however, have been more or less injured in almost every parish.

It is stated in the paper of the 9th that a serious mutiny occurred on board the schr. J. Y. Tomkins, which sailed from Port Royal on the 9th September, during which an attempt was made on the life of the master. The captain of a British vessel of war observing the schooner's flag hoisted *Union down*, sent a boat to her and secured the mutineers. They were subsequently taken before the magistrates of Port Royal, for examination, the result of which was that the full particulars of the case should be submitted to the Attorney-General, the men, in the meantime, remaining in prison. Col. Harrison, the United States Consul, being anxious to enable the vessel to proceed on her voyage, was desirous of having the offenders delivered over to him, in irons, that he might send them home for trial—but he was informed, that, as they had already been given into the custody of the authorities there, nothing could be decided upon until the Attorney General's opinion was ascertained.

The papers are full of complaints of the conduct of the "apprentices," or negroes, since their emancipation, but make no mention of disturbances of moment. Apprehensions are entertained that owing to their refusing to work more than eight hours a day, the raising of sugar will cease to be profitable to the proprietors. Neither offers of money nor of extra allowances by exchange of time, nor reasonings as to the mischief which must result in the estates, will induce the negroes to work at night.

The accounts from Demarara also represent that Island to be in every disordered state. Martial Law had been proclaimed at St. Kitts, and it was supposed the other colonies would require a resort to it. It is stated that the negroes had set all authority at defiance.—[Baltimore American.]

LATER FROM EUROPE.—By the *Britannia*, Captain Sketcheley, from Liverpool, papers to the 2d ult. are received.

Accounts from Spain appear to be in the usual state of uncertainty, neither party making any decisive movement.

In Portugal the Cortez had met, and Don Pedro had addressed them in a long speech, for which we have not room today. One of the questions propounded for their consideration is, whether the Regency now exercised by him should be continued?

According to the letters from Constantinople war had been renewed between the Porte and the Viceroy of Egypt. Meanwhile Ibrahim—of whose death a

false rumor had reached and rejoiced the Sultan—appears to have subdued Syria.

CONSTANTINOPLE, AUGUST 5.—A Tartar, arrived a few days ago from Sivas, brought despatches from Reschid Mehemet Pasha, announcing the death of Ibrahim Pasha. According to the statement, this Commander-in-Chief of the Egyptian army, after being defeated by the insurgents from Naplooz, was obliged to take refuge with a detachment consisting of a few hundred men in a small fortress, which, after a desperate resistance, was taken by storm.—Ibrahim was taken alive by the enemy, and put to death in the most barbarous manner. After cutting off his hands and feet, the Arabs tied him over the mouth of a loaded cannon, and by firing it put a termination to his sufferings and existence. This information produced the greatest satisfaction to the Sultan, and excited at Court, as well as at the Porte, a joy which they could not be controlled. Numerous addresses forwarded to Reschid from Syria, and signed by the most influential men in the country, were at the same time transmitted to the Porte.

After an enumeration of the vexations to which Ibrahim has subjected them, they implore the assistance of the Sultan's troops, declaring it their determination to rise in mass against their oppressors, as soon as the providential interference they solicit shall arrive.

Another letter despatched from Syria confirming the death of Ibrahim was sent three days ago to the Palace. This concurrence of testimony left no doubt in the Sultan's mind that the information was correct, and induced him to issue the most pressing orders for the departure of the regiment appointed to the reinforcement of the army under the command of Reschid Pasha. Yesterday morning a regiment of the Imperial Guard was embarked for Kara Missal. It is to proceed thence to Iconia where the troops marched from Constantinople, and to establish their headquarters.

The following circular, addressed by Boghoz Bey to the different Consuls at Alexandria, and of which a copy arrived in town yesterday, proves that the insurrection in Syria has been quelled, and that the Sultan, on reckoning on the dreaded Ibrahim's death, has been reckoning without his host:

"Sir—I hasten to forward you the translation of a letter from His Highness Ibrahim Pasha, dated Jesser, the 17th, 1250, (June the 26) the original of which has been sent to Jaffa, and the copy of which has arrived to-day to His Highness, the Viceroy's representative, by a dromedary courier.

"The sheiks and inhabitants of the mountains of Naplooz, Jerusalem, and Yebel Kalil, have presented themselves to solicit pardon. The favor they asked has been granted to them, and their act of submission has been accepted as for the past. Every one of them returned afterwards to his home.

"As there is no reason to doubt that this success has been the result of the superiority of arms of His Highness the Commander-in-Chief, as well as of the kindness and paternal solicitude of His Highness Mehemet Ali, it behoves me to communicate this information to the Consuls of the different European powers in Egypt. "Boghoz Youssef."

"Alexandria, July 2."

The latest letters from Syria, arrived in town, are in date of July the 1st. Ibrahim Pasha was then at Jerusalem. The insurrection in Syria was completely quelled. Mehomet Ali was at Jaffa, where his son was now expected.

CONSTANTINOPLE, Aug. 4.—The important facts I have had in my late communications occasion to record were of a nature to lead you to anticipate a fresh rupture between the Sultan and Mehemet Ali; to-day I have to inform you that this event has taken place. With one accord both parties have "cried havoc, and let slip the dogs of war." At the head of all his disposable troops, the Governor of Egypt, under pretence of quelling the insurrection in Syria, and rescuing his son from the critical position to which, as he gave it out, the victorious insurgents had reduced him, has landed in that country and completed his preparations for a new campaign. Upon receiving information of the explosion of events it had for some time been intent in preparing, the Porte greedily seizes this opportunity, which the exaggerated reports transmitted has induced it to consider as highly favorable to the furtherance of its designs, to vindicate its injured rights, and hurries on as many regiments of the guard and of the line as the safety of Constantinople allows her to spare, to reinforce the army Reschid Mehemet Pasha has collected at Sivas. The fleet is to sail in two days hence. A circular, it is said, has been forwarded by the Reis Effendi to the different Embassies at Constantinople, acquainting them with the resolution

the Porte has adopted of taking coercive measures against Mehemet Ali, and with the motives on which this determination is founded. The principal of these are,—the refusal on his part to pay, according to the stipulations agreed upon at Kioutayah, the tribute; to evacuate the districts of Oursa and Rana, which he has taken possession of without the Sultan's consent; and thirdly, the imperious obligation under which the Sultan is placed, as the father of his people, to lend a favorable ear to the incessant entreaties of the population of Syria, which reduced, through Ibrahim's tyrannical conduct, to the utmost despair and misery, implores the intervening protection of their legitimate sovereign. A few weeks yet, and hostilities will have commenced.

STILL LATER FROM EUROPE.—The Pacific, from Liverpool, the packet of the 8th, is below. We are indebted to "the mate of the Pacific," and he will be good enough to accept our thanks therefor, for Liverpool, London and Dublin papers of the 6th.—We can to-day give but very short extracts, which is however the less material as there is nothing of much interest.

The accounts from Spain are still of a perfectly undecided character. Don Carlos seems to keep his antagonist busy at the game of hide and seek. The following is the latest news from the Spanish frontier: BAYONNE, SEPT. 2.—"We are assured that the two battalions of Guipuzcoas are dissolved, and that the men composing them have returned to their homes in the neighborhood of St. Sebastian.

"Don Carlos passed Araiz on the 30th ult." Our Bayonne letter, dated the 30th ult., mentions that reports were prevalent in that town that the Carlists had been successful in various encounters with the troops of the Queen; but adds, however, that little or no reliance is to be placed in them. Fifty mounted Carlist lancers, and a number of wounded and sick, driven from Elisondo by El Pastor, had taken refuge on the French Territory.

His consort, whom he left behind in England, is dead.

PORTSMOUTH, SEPT. 4th, 1834.

Death of Don Carlos's Wife.—At noon to-day this illustrious Princess, the Donna FRANCISCA TERESA of SPAIN, departed this life, in the 36th year of her age. She died of internal mortification. She will be buried, *pro tem.*, in the churchyard of Alverstoke, for subsequent removal to Valencia.

Conspiracies in the Spanish capital are still spoken of. Attempts at insurrection had been made in various parts of Spain, but thus far appear to have been immediately suppressed.

A Liverpool paper of the 5th has the following from Portugal:

FALMOUTH, AUG. 31.—This afternoon his Majesty's brig *Royalist*, arrived here from Oporto, whence she sailed on Wednesday last. Information had been received there from Lisbon, announcing the election of Don Pedro as Regent, by the Cortes, with scarcely a dissentient voice. The choice of the Emperor had given much satisfaction at Oporto; it was expected that the Queen's marriage would be the next subject for discussion.

From France the only intelligence of any interest is that Marshal Gerard, the President of the Council, is seriously indisposed.

VARIETIES.

Death by the bursting of a Soda Water Bottle.—Judge JEAN, of Rostrevor, Ireland, died suddenly—and, as was at first supposed, of Cholera. Late accounts, however, attribute his death to the explosion of a soda water bottle, which he was shaking preparatory to opening. A fragment of the glass entered his thumb, and some efforts were made to extract it. This brought on a serious nervous excitement, to which the judge was habitually subject, and in the course of a few hours became so violent as to terminate his existence. It is not decidedly stated whether the attack partook more of tetanus or paralysis, or whether both series of symptoms were observable in the short progress of his fatal malady.

The Ex-King of Portugal.—Don Miguel arrived at Milan on the 20th of August. He took up his abode at the hotel called Albergo Reale. In the evening he went to the theatre at La Scala, where he became an object of great and not very civil curiosity. The Viceroy has exchanged visits with him, but without any formality. The *Milan Gazette* of the

22d, in its list of arrivals and departures, speaks thus about Don Miguel:—"Arrivals.—Il Signore D. Miguel da Braganza, from Genoa, &c."

The Queen Regent of Spain, and her Chamberlain, Munoz.—The present position of the Spanish court proves the profound observation of Napoleon, "*Que les femmes font des mauvaises politiques, se laissant toujours gouverner par le cœur.*" Heedless of every consequence, the Regent has not only publicly appeared in the Prado with Munoz by her side, but she has openly insulted the nobility in the person of the Duke St. Ildefonso, who on that occasion actually rode behind them *en chasseur*. The nation have beheld with indignation her treasures lavished in the purchase of houses and equipages for the happy favorite, who, to crown the whole, has been appointed chamberlain to the queen, an office which gives him the *entrée* to her chamber at all hours. A queen-mother without a cortejo would be quite a novelty in the Spanish annals. The mother of Philip IV. had her Valenzuela, the mother of Ferdinand her Godoy. Christina, the mother of Isabella, is not singular, therefore, in this respect.—[Monthly Mag. for Sept.]

Admiral de Rigny, Minister for Foreign Affairs, is said to be on the point of marriage with an American lady possessed of an income of 16,000*l.* a year, but who has two daughters by her former husband, each of whom, on attaining her majority, will take one fourth of this fortune.—[Paris Journal.]

The speculating ladies, excluded from the upper galleries of the Exchange by the President of the Tribunal of Commerce, have appointed a committee to direct their affairs; and an office has been hired opposite the Exchange, in Rue Notre Dame des Victoires, where the ladies will assemble during 'Change hours.—[Paris paper.]

The British revenue cutter *Cameleon*, lying too in the channel off Dover, was run down in open day light by the British frigate *Castor*. The cutter foundered immediately, and with all her officers and crew except four, who caught by the bobstays of the frigate, or were picked up by her boats.

The Pope has just promulgated throughout his states regulations concerning public executioners, their assistants, and their wives. They prescribe the cut of their clothes, the hours at which they are allowed to appear in public, and the places and churches they are permitted to frequent. Among other characteristic marks of this fraternity, they are required to carry a black stick, wherewith to point out the objects they are desirous of purchasing.—[French paper.]

The ancient and formidable fortress of Montgat, in Hungary, was destroyed by fire on the night of the 27th July. The flames burst out about eleven o'clock, at the northern angle, and spread with such rapidity, that in a very few hours every part which was combustible was consumed. All assistance from without was impossible, from the situation of the castle, which was seated on a steep isolated rock. A great number of valuable works of art have perished; but fortunately no lives were lost.

Pinder.—Splendor was the passion of his soul: splendor of achievement, splendor of renown, splendor of station and outward circumstances. His very pride seems to have suggested to him that nothing but splendor was worthy of his muse. His genius, to use a figure of his own, was the eagle of Jove, that would not be severed from the sceptre and the god. These aristocratic predilections, this enthusiastic attachment to munificent monarchs and chiefs of ancient fame, were in perfect unison with the whole tenor of his destiny; born, as he was, in the midst of the Pythian festival, living surrounded by shows of solemn pomp, and dying, as he had lived, in the full blaze of public ceremony, in the center of a theatre, and while rapt in those emotions of rejoicing sympathy, which such scenes were sure to awaken in his bosom.—[From an Article on Literature, by Sir D. K. Sandford, in "Popular Encyclopedia."]

The Maquati, or sea-cow, from ten to sixteen feet in length, has a head something like a bull-dog, nostrils semi-lunar, and eyes very small and near the snout; it is without ears in outward appearance, but has two small spiracula situated at the back part of the head; mouth large, with sola and protracted lips, fitted for laying hold of the grass or herbage growing near the shore; neck short, and body covered with a rough blackish skin, thinly sprinkled with bristly hair; the belly and sides near the tail, white. From the shoulders protrude two pectoral

fins (the only fins on the animal) resembling arms, with which it supports itself in the water, and which enables the female to give suck to its young, who receives it from several porous openings or mammae in the breast of the animal. The tail is formed like that of the whale. It is an amphibious animal, never leaving the water, but feeding upon the aquatic plants and shrubs growing on the borders of the rivers and lakes, sometimes elevating its head to munch at the bushes which overhang them. Its flesh is white and delicate, resembling veal, in appearance and taste, and particularly when dressed, and it will keep good several weeks, even in the hot climate of which it is a native, when other meat will not resist putrefaction for as many days.—[Martin's West Indies.]

The Penguin.—At a recent meeting of the Zoological Society, Mr. G. Bennett read a note on the habits of the *King Penguin*, *Aptenodytes Patagonica*, Gmel., as observed by him on various occasions when in high southern latitudes. He described particularly a colony of these birds, which covers an extent of thirty or forty acres, at the north end of Macquarie Island, in the South Pacific Ocean. The number of penguins collected together in this spot is immense, but it would be almost impossible to guess at it with any near approach to truth, as during the whole of the day and night, 30,000 or 40,000 of them are continually landing, and an equal number going to sea. They are arranged, when on shore, in as compact manner, and in as regular ranks as an army of soldiers; and are classed with the greatest order, the young birds being in one situation, the moulting birds in another, the sitting hens in a third, the clean birds in a fourth, &c.; and so strictly do birds in similar condition congregate, that should a bird that is moulting intrude itself among those which are clean, it is immediately ejected from among them. The females hatch the eggs by keeping them close between their thighs; and if approached during the time of incubation, move away, carrying the eggs with them. At this time the male birds go to sea, and bring home food for it; it soon becomes so fat as scarcely to be able to walk, the old birds getting very thin. They sit quite upright in their roosting places, and walk in the erect position until they arrive at the beach, when they throw themselves on their breasts, in order to encounter the very heavy sea met with at their landing place. Although the appearance of the penguins generally indicates the neighborhood, Mr. G. Bennett cited several instances of their occurrence at a considerable distance from any known land.

Compression.—No one who has not attempted the task can fully appreciate the difficulty of compressing within prescribed limits the remarks suggested by a subject affording superabundant materials of interest and excitement. When some one asked Sir Walter Scott why he did not write his life of Napoleon in three volumes, instead of nine, his answer was, "I had not time." A reply which will appear by no means paradoxical to any who have had the least literary experience; as it is a truism among all such, that it is much easier to amplify than to condense; to be verbose on the most barren, than concise on the most fertile theme.—[Literary Gazette.]

Days of the Creation.—Supposing that there are inhabitants at the poles of the earth, how must they understand the days of the creation? To them a day of light is six months long, and a night of darkness six months long, and the day made up of night and day covers a year, and it is a day, too, limited by morning and evening. Such persons, therefore, must suppose, upon the literal understanding of the days of the creation, that at least six years were employed upon the work. So also at the polar circles, there is every year one day that is one continued vision of the sun for 24 hours, and one continued night of 24 hours; while everywhere within the polar circles the day and the nights respectively are for six months more than 24 hours, extending even as we advance towards the poles through the time of many of our days and nights. How are the inhabitants of these regions to understand the week of the creation, if limited to the literal interpretation of the inspired record?—[Professor Silliman.]

The following picture of matrimonial felicity of from the "King's Own."

"Mr. and Mrs. Reinscourt were joined, but they were not one. Like many others in this world is error, the marriage might be typified by a vial, of which one half has been filled with oil, and the other with water, having a cork in its mouth, which confined them, and forced them to remain in contact, although they refused to unite."

NEW-YORK AMERICAN.

OCTOBER 4—10, 1834.

LITERARY NOTICES.

THE LITERARY AND THEOLOGICAL REVIEW, NOS. I, II and III; conducted by LEONARD WOODS, JR.; N. York, D. APPLETON & Co.—This well printed and ably conducted "Review" had reached its third number before it was our fortune either to see or hear of it. We shall not, judging from what has appeared, be willing that its future progress should be as unmarked by us as its commencement.

It is a quarterly publication, to which the name of "Review" is affixed, rather, it would seem, in compliance with some notion of the popularity or general acceptance of such a designation, than because it is, or is intended to be, literally a critical Review. It is rather a collection of essays periodically issued on topics of interest—chiefly religious—but not by any means excluding those purely literary.

One established rule connected with this work is, that each article shall be given under the name of the writer. Thus the positive evils—and, we must say, the, in some cases, positive benefits—of anonymous writings are avoided. How it will work remains to be seen.

The Editor writes well—appears to be much conversant with modern languages, and particularly with the rich mines of German theology and literature. His correspondents, lay and clerical, seem to enter zealously upon their portions of the labor and research—greater far than is imagined by those who read currently and rapidly what it requires months adequately to prepare—requisite for the success of such a periodical; and we cannot but believe that the cause of religion and of good letters will derive important aid from it. From No. II, we make an extract from a paper by the Rev. Mr. Gallaudet, on the assistance which the language of signs may afford to missionaries among foreign tribes or peoples, while the language of each is unknown. We were much struck with the results stated by this ingenious and indefatigable philanthropist.

It is a curious fact, taken in connexion with what has just been stated, to show the power of *natural sign-language*, that the late Principal of the American Asylum for the deaf and dumb, while engaged in their instruction, was able to convey to an intelligent pupil whom he had taught for some time, and who had become very familiar with the expressions of his countenance, *historical facts*, without spelling any words on his fingers, or using his arms at all in making gestures. He would take, at the suggestion of a bystander, any event in history, which could be portrayed on canvass, so as to make a graphical picture of it,—and which the pupil had read, perhaps some two or three years previous,—but selected at random, and without the most remote allusion to it, so that the pupil could even conjecture what it might be,—and by the mere expressions of his countenance, accompanied with a few motions of the head, and attitudes of the body, so distinctly convey the facts, that the pupil would immediately write them down, in his own language, on his slate. As an illustration of this, the request was made, one day, by an eminent painter of our country, that the *historical fact* of the sentencing of his sons to death by the elder Brutus, might be communicated. This was attempted in the mode that has been mentioned, and with entire success. The pupil had, indeed, read the account, it may be, some two or three years previous, but no allusion whatever was made to it, by any other communication than that of certain expressions of the countenance, motions of the head, and attitudes of the body.

Keeping these things in mind, let us proceed to the examination of our subject. Let us suppose a missionary to be landed on one of the islands of the Pacific Ocean, for the purpose of conveying to the minds of its inhabitants the interesting truths of the Gospel. They are entirely ignorant of the English language, and the missionary is supposed to be as ignorant of theirs. It is in vain for him to begin with putting a grammar or dictionary of his tongue into their hands, and they cannot furnish him with one of theirs. Words either of his or their language must

first be learned, before they can advance a single step in their intercourse with each other. Under these circumstances the missionary's first attempt will naturally be, to learn the language of the island. How is he to do this? He points to the most common objects, and inquires their names; thus he may easily learn the names of every thing which immediately addresses itself to some one of the senses.—In all this he learns nothing by the ear, excepting indeed the names of the mere sounds of animals, or of nature, or of music: besides these, all his knowledge of this part of the vocabulary of the island is obtained through the medium of the eye. True, the name or ordinary sign for these various objects is an oral one; but this is quite a different thing from the import of this sign, which might as well have been expressed by an appropriate gesture, or by the manual alphabet of the deaf and dumb, or by written characters.

But let us advance a step farther. These objects which are addressed to the senses, are not always accessible. The missionary may have forgotten the name of an animal, a tree, or a utensil, and may wish to have it repeated. The object must be found, before its name can be revived. But were the missionary familiar with the language of signs, and a little practice would make the native equally so, without stirring from the shade of the tree under which they were conversing, they can, in imagination, gather round them all the objects of the visible world, and fix their names in the memory. These signs, too, being actual portraits of the objects, serve more easily to recall them when the arbitrary sound which denotes them may have escaped from the recollection.

But this is comparatively the least important part of the labor of the missionary. He now wishes to learn the terms which denote the most common actions and affections of the body; for instance, to eat, to drink, to walk, to run, to ride, to sleep. Must he wait till he and the native see some person engaged in these actions; or shall he make a sign descriptive of them? The sign would be easily understood, and the name settled. In this respect he gains no new knowledge by the ear; whatever he learns is acquired by the eye. He and his companion are as it were DEAF AND DUMB. He next is anxious to learn the words which denote some of the familiar occupations of life, perhaps to boil, to bake, to cut, to kindle a fire, to build a hut. Must he go where these processes are actually in progress?—He needs not, if he is familiar with the language of signs and gestures. He describes a kettle by sign; he places the wood beneath it; he fills it with water; he kindles the fire; he portrays the bubbling of the water; he dips his finger into it, and draws it out suddenly, as if it were scalded. He has before learned the name of water, "and what do you call this bubbling water," he inquires; "this water which burns my finger?" The reply furnishes him with the name he sought, and a sign is also established for the art of boiling, which may be profitably used in various other instances. And in a similar way he may acquire the meaning of all other terms, descriptive of common transactions. Still it is his eye which teaches him, and not his ear. He is still, as well as his companion, practically DEAF AND DUMB.

The various emotions of the heart, the foundation, let it be remembered, of all moral and religious instruction, perhaps next demand the attention of our missionary. He may utter the words *love* and *hate* ten thousand times, and ask as often the islander what are the corresponding terms in his language, but to no purpose. A mother passes who is caressing her infant with parental tenderness, and two friends soon follow her, who are exhibiting, by their looks and conversation, the emotion of love.—Now he has something upon which to fix the attention of the native, and inquires by what term he denotes this feeling. The eye, not the ear, is still the medium of intercourse. But he might have portrayed a woman by appropriate signs, and the infant whom she caresses, and the friends who were conversing together, without waiting to have these scenes actually take place; and, in addition to this, exhibit the emotion of love strongly in his own countenance. The islander at once comprehends him; and thus a new word, and a new symbolical sign are settled for future use. By similar processes of description, he may speedily add the names of all the passions and emotions of his vocabulary.

He advances to the operations of the intellect; and what an herculean task is before him! By what process shall he pre-empt the observation of the islander, such operations of the mind, as to think, to remember, to forget, to understand, to contemplate, to imagine. He sees at a distance a man building

his hut; the man finds a difficulty in the construction of the door; he stops and assumes the attitude of thought. The moment is a happy one, and the missionary inquires by what term that visible exhibition of the internal working of the mind is denoted, and receives a satisfactory reply. But this illustrative example might not have occurred for hours, or even for days. By the language of signs, however, he can portray this very example, and a hundred others equally pertinent; and thus, on the spot, acquire the new word which he seeks.

He rises from the ground: he describes, by signs the setting of the sun, and the appearing of the stars, covering the whole concave of the sky; he puts himself in the attitude of contemplation: his eyes leisurely survey the immense assemblage of the heavenly hosts, his countenance exhibits the actings of his soul. The islander who has already caught with enthusiastic ardour this new and fascinating language, immediately utters, in his own tongue, the word which denotes "to contemplate." Still the eye claims the honor of being the teacher; the ear serves only the humble purpose of furnishing an arbitrary name, by which the imagination may again form, and the memory revive the associated thought.

Our fellow students need a few adjectives to add to their nomenclature; such as high and low, hard and soft, long and short, round and square, bold and cowardly, alive and dead. They are quickly learned: for the various objects to which these epithets belong can easily be presented to the imagination by signs, and also the qualities which are denoted by the above-mentioned terms. And all this is done while our missionary, and his friend are calmly reposing beneath their bread-fruit tree.

And now pronouns must be learned, and the cases of nouns, and the comparison of adjectives, and the moods and tenses of verbs. "I give you a fish," says the missionary: "what is that in your language?" He speaks an unknown tongue; but he makes the sign for a fish: he points to himself as possessing it; he hands it to his companion, and signifies that he will not take it back, that it is to belong to his companion. He is immediately furnished with the appropriate phrase. He multiplies examples, and he soon has a little stock of phrases, by comparing of which together he begins to elicit the structure and idioms of the language.—Were he not to pursue this course, he must wait day after day till the suitable occasions occur, illustrative of the phrases, the import of which he seeks. "How many tenses have your verbs?" The question is useless. He must allude to some known past, and some anticipated future event, in order to obtain knowledge on this point; and what carefulness is necessary, if he depends on the common occurrences of life, as they transpire during his intercourse with the natives, in order to acquire an accurate knowledge of this very difficult part of all languages? But if he has well settled, by appropriate signs, the diurnal motion of the great luminary of heaven, the succession of days and nights, of weeks and months; nay of hours and minutes, all of which is quite practicable; and if he is expert in describing motions and actions, he can easily portray a variety of events in such an order and connexion, as to mark all the varieties of time, and thus ascertain how this order and succession are denoted in all the various tenses of language which it is his aim to acquire.

LETTERS TO THE YOUNG, by MARY JANE JEWELL, 1 vol.; N. York, D. APPLETON & Co.—These letters have not, that we are aware, been presented before in an American edition, though they have gone through several editions in England.

They are, we are assured by the writer in her prefatory remarks, a real and not a fictitious correspondence—though names are of course suppressed. They are the letters of a pure, humble and enlightened Christian, who has studied the human heart, its temptations and its weaknesses, and has found one only safe reliance for strength—and who earnestly strives to impart to her young friend a sense of the necessity and value of early acquiring the same reliance.

We extract letter XVII. on the dangers of emulation and ambition, as worthy to be deeply considered.

My Dear —: From what I have observed and heard of you, and from what I recollect of myself at your age, I think I understand your present state of feeling, your tastes, desires, opinions, and senti-

ments. From having drawn them out into action, and from having enjoyed and suffered their consequences, I know too whence they come, and whither they tend. To this you will attribute my affectionate anxiety on your account.

My love, you are ambitious;—vague, restless, ever-changing desires occupy your mind, and your heart is full of those fair shadows with which romance disguises reality. What kind of distinction is best worth having you have not yet decided; but, as least unattainable in the present state of society, perhaps your thoughts fix most frequently on intellectual celebrity. I say celebrity, for I do not believe that intellectual acquirements would fulfil your vision. Your judgment is convinced of the necessity of spiritual religion; occasionally you are touched with a sense of its worth and sweetness, but you do not believe that it is in itself all-sufficient to make you happy, and your heart rebels frequently against its requirements. You are well aware that you cannot compromise with God; "that you are not your own"; that, as "bought with a price," you are bound to surrender all you are, and all you possess, to his service; to account your talents a delegated trust, for the use of which you are responsible, and the glory of which appertains to him! Now this loving God, with "all the understanding," is a stumbling block at which thousands have stumbled, and tens of thousands have fallen to rise no more. To toil, deserve, and acquire, without the stimulus supplied by personal ambition, or an exulting consciousness of superiority; to receive praise and render it to God untouched: to strive for victory and inscribe the trophy with the name of another—this you feel is a "hard saying." Yet, herein lies true happiness and true distinction. Personal aggrandizement is the stately phantom, of which desire to glorify God was once the warm and living substance. It expired in Paradise with Adam's innocence, but divine grace can revive it even here; and it starts into full life and beauty, in that region where each glorified spirit casts his crown at the foot of him who gave it.—Was not David, making magnificent preparations for the temple which another was to build, and renouncing even the glory of those preparations, nobler and more distinguished than the same David numbering his people from vain-glorious pride? My love, you are dazzled with the dew-drops of earth, because you do not raise your eyes to the sun in heaven. The queen of Sheba thought no more of the glory of her own court, when she had seen the surpassing excellence of Solomon's; and Paul, after he knew him who alone "hath life and immortality," could cheerfully "account all things but loss" for the excellency of that knowledge. Love, the constraining love of Christ, can alone render this self-renunciation easy and delightful—but it can do so; can enable a soul really to like, and rest contented with, life's most secluded path, and most unobtrusive occupations. But do not misunderstand me, and suppose that this renders the cultivation of our talents unlawful, or unnecessary. Never let indolence, as an excuse for supineness, say to vanity, as Balak did to Balaam, "Thy God hath kept thee back from honor." Had you the mind of an angel, religion would not circumscribe its exercise—it would allow you to know, and desire to know; to learn, and determine to learn—all that art, imagination, and science have placed within human reach. One thing religion certainly does—it claims a right to prescribe the motive by which we shall be actuated, and the object at which we shall aim; but surely, the glory of "him who filleth all things," is no mean motive, and the everlasting welfare of our fellow-creatures, no unworthy object. Besides, with this apparent subjection, it entwines our happiness; and in exchange for the wild liberty of living to ourselves, it offers a joy which the world cannot give, a peace which it cannot take away.

But I have overlooked one material point in the argument. Distinction is not, as David says, of ourselves: "It cometh neither from the east, nor from the west, nor from the south, but God is the judge: He putteth down one and setteth up another." Anxiety, therefore, on this point, is vain even on the ground of probabilities, which, in regard to woman, are as one to ten thousand against her attaining it. Again, if an early desire of distinction has often been the pledge and concomitant of genius, it has yet often been associated with presumptuous mediocrity. I am, however, tired of argument; so, I doubt not, are you; let us therefore forget this present world, and realize that coming day when God shall manifest that all which has been "highly esteemed among men," has, in his sight, been "abomination." Would you then be some sparkling wit, or admired poet, or erudite scholar, who, having

wholly sought his own glory, and wholly received his reward in this life, has nothing further to expect; or the Christian, who, with one talent or with five, has "occupied for his Lord?" What you would wish to be then, resolve to be now. Fame's trumpet will be silent in that day, and the approbation of God seen to be what it is even now—all that confers distinction. Read the first four chapters of the first of Corinthians as often as you are tempted to covet the pride of life, or "the honor that cometh from men." I do not expect that your heart will agree with my present statements; but I hope for the future; I hope for a blessing on the privileges which you are now enjoying; I hope, too, that you are not indisposed to ask, "What is truth?" at a higher tribunal than that of human reason, and with a more teachable spirit than that of him who first asked the question. One thing you can do; you can, by a painful effort, but one well worthy of being made, resolve to read neither poetry nor fiction till your mind is steadied. Dr. Johnson says, "It is easier to be abstemious than to be temperate;" I think you will find it easier to abstain altogether, than to taste moderately. If, however, you cannot make this resolution, at least read neither poetry nor fiction that will kindle and increase the fancies and desires of which your heart is already too full; at least let it be the fiction fullest of truth, and the poetry fullest of thought. I now bid you farewell, assuring you of my affectionate interest in your welfare.

TALES OF THE GARDEN OF KOSCIUSKO, by SAM'L. L. KNAPP; N. York, West & Trow.—This fanciful title—derived from the circumstance that it was on the little spot amid the rocks of Westpoint which bears this name, that the idea of relaxing his mind from severer labor by a series of light tales, first struck the author—ushers forth several stories unconnected with each other, but each possessing a due share of interest. *The Exile* is particularly well told.

THE NEW ENGLAND MAGAZINE, for October. Boston: J. T. BUCKINGHAM.

THE KNICKERBOCKER, for October. New York: J. DISTURNELL.

THE POCKET ANNUAL; New York: J. DISTURNELL.

The first named of these periodicals is, as usual, varied, original, and spirited. We copy a paper on *Mount Auburn*, because, we do hope New York will one day have such a cemetery, and because there are spots on our island, not much farther from the City Hall than Mount Auburn is from Boston, where nature offers every attraction of hill and dale, and woods, rocks, and water, for such a final resting-place. [For the extract referred to, see page 638.]

THE KNICKERBOCKER is good this month; but we have no room for extracts.

THE POCKET ANNUAL, is at once an almanac, pocket and memorandum book, with a list of public officers; and finally, some good literary extracts and various engravings. It is convenient, portable and pretty.

THE WESTMINSTER REVIEW FOR APRIL, being No. II of the republication of the Foreign Reviews; N. York, THEODORE FOSTER.—We noticed the first number of this republication when it appeared. The numbers of each Review—and the enterprise embraces four, the London, Foreign, Edinburgh and the Westminster—will commence with a new volume. The type, paper, and general execution of this republication are very good.

BERNARDO DEL CARPIO, a Historical Novel of the Eighth Century: from the Spanish of *Don Jorge Montgomery*. New York: HARPER & BROTHERS.—This tale is rather curious as an *antique*, than interesting, either by its incidents, or any particular fidelity in its narrative. It goes back to the period of the Paladins and the field of Roncesvalles—but it fails to present them vividly to our modern eyes.

GATHERING POTATOES.—Recollect that potatoes should not be exposed to the sun when digging them, any longer than can be possibly avoided.

SUMMARY.

The President of the United States returned to Washington, on Tuesday week, in health.

A letter from Dr. Isaac Hulse, of the U. S. Naval Hospital at Pensacola, states that up to the 8th inst. forty cases of *yellow fever* had occurred on board the U. S. schr. *Grampus*. Four of the crew had died, three of whom with black vomit. He attributes the origin of the disease to the decayed condition of the ceiling of the *Grampus*.

Early Ice.—The Germantown Telegraph of Wednesday says: "On Tuesday morning, ice was formed in that vicinity, to the thickness of nearly the eighth of an inch."

Destructive Gale.—A heavy rain commenced on the Mississippi, in the region of Natchez, on Tuesday, the 2d ult., and continued till the Sunday following. On the intervening Friday and Sunday a violent gale was experienced, which "prostrated every thing," and caused an immense destruction of crops for a great distance along the Mississippi.

Accident.—At the launch of the *Echo* yesterday morning, a small boat, containing two men and one woman, being near her stern, was drawn into a position where it was capized in the whirl occasioned by recoil of the surges in the wake of the vessel—by which means one of the men was unfortunately drowned.

TROY, MONDAY.—*Stage Accident*.—We learn that one of Walbridge's line of stages for the north, yesterday morning upset near the Washington Hall, in this city, in consequence of a wheel running off.—Nine passengers were in the stage, two of whom were severely injured. Mr. J. M. McAlister, of Albany, had his arm badly fractured, and another gentleman is now at Washington Hall, considerably injured. Six out of the nine passengers were unable to proceed on their journey.

[From the Journal of Commerce.]

WALL STREET CHURCH.—We understand that the Trustees of the Wall Street Church have, with the best legal advice, determined that the conditions of the gift of the land upon which the church stands, are such that it cannot be sold and the proceeds invested in other property for the use of the church.—It has been determined therefore to rebuild the present edifice without delay. Besides the difficulty above mentioned, the tombs are private property.

This difficulty did not stand in the way of building large stores, for the sake of the profit to be derived from them, on part of the church yard; to make room for which the sacred ashes of the dead were tossed about with horrid indifference. The organ of veneration—for the dead at least—though strongly developed in the *savage American*, belongs not we fear to his civilized destroyers.

Anniversary Celebration.—On Thursday evening three of our diocesan societies held their annual meeting in St. John's Chapel. The celebration was preceded by appropriate religious services conducted by the Bishop, who presided on the occasion. The congregation was numerous, and a great proportion of the clergy was present. The report of the Tract Society was first read, by the Rev. Aldert Smedes, jun., of Christ Church. Resolutions expressive of the satisfaction with which it had been heard, and of the importance of the cause, were then offered by Rev. T. S. Brittan. Next followed the report of Aux. N. Y. Bible and Common Prayer book Society, which was read by William Betts, Esq. Similar resolutions were then submitted by the Rev. J. F. Schroeder, who, by a reference to the early history of the Church of England, illustrated the important agency of Episcopalians in the dissemination and exposition of the Scripture. The Report of the Education and Missionary Society was then read by the Rev. Hugh Smith, Rector of the Mission Church of the Holy Evangelists. It was longer than the other reports, but was a clear and well written document, and presented several views of much interest and importance. This was followed by an animated effusion from the Rev. Lot Jones, of the Mission Church of the Epiphany, on the pains and pleasures of the Missionary life. The ceremonies of the evening were then closed with appropriate devotional exercises.—[Churchman.]

Fort Adams.—More than five hundred men are employed on the great Fort, at the entrance of Newport Harbor. The weekly disbursements are about twelve thousand dollars.

FAIR OF THE AMERICAN INSTITUTE AT NIBLO'S.

The general result of our examination of the various articles presented at this exhibition is, that although it seems to us less varied, and, as a whole, less attractive, than preceding ones, there is manifest improvement in the quality and workmanship of the articles exhibited; and that we take to be the best evidence of the value of such annual shows. It would be quite impossible for us to enumerate, after a single visit,—(we have not been able to find time for a second,) all, or even any considerable portion, of the goods, wares, and varieties exhibited. In noticing, therefore, as we shall now proceed to do, some specimens, it must not be taken as a slight of others.

The first objects that arrested our attention, were three carriages of different construction, in the covered walk.

183, is a double-seated phaeton, leather top extending over the whole, with a coachman's seat, removable at pleasure, and the front seat of the phaeton so arranged, as to be turned round, and become faced to the horses. The makers are *J. Cooke & Son*, and in this sample they have turned out a very finished piece of work.

No. 54—a four-wheeled Stanhope, with two seats and small rumble behind, which, when not needed, is shoved in, so as not to be seen at all. Makers, *Isaac Mix & Son*. This is also an extremely well finished carriage, and withal, light and tasty.

No. 405—a one-horse Stanhope wagon, with turn-over seat—same makers.

Entering the saloon, the eye hardly knows where to rest. Looking, however, to the left, we found *McDonald Clark*, or a bust that is his fac simile, watching all who entered. We went up to it at once, and have rarely seen a better likeness, better executed. The material is a composition, which takes all the polish, and seems to have almost the solidity of marble. Beside the poet, is the head of a dead infant, where the calm repose of death is admirably typified. The sculptor of both is *James V. Stout*, of 566 Broome street. These busts stand on two *Seagliola* columns, imitating marble admirably, and at a price greatly below that of marble. These imitations, in all varieties, are executed by *Clark & Dogherty*, 40 Hamersley street.

Passing thence along the north side of the saloon there is a great variety of shell-work, ingeniously and laboriously put together. In a frame by itself, there is a ladies' cape and hat in feathers, made by *Mrs. Little*, 440 Washington street. At the extremity of this walk, are some sculptured marbles, executed with a good deal of delicacy and skill—a part by *Wm. Eagleson*, 150 Broadway, and others by *R. J. Brown*, of Greenwich street. A centre table of dark and variegated Egyptian marble, with pedestal of the same, the whole of great beauty and finish, which we afterwards saw in another part of the saloon, is also of the manufacture of *R. J. Brown*. A case of Shears, part of them of what was described to us as German silver—the cutting part of the best steel—seemed to attract much notice. Near them, Flutes finished with great nicety, and with stops more, one would think, than ten fingers could govern; and Guitars, from *J. H. Atwill's*, Broadway, that Spaniards even might covet, tempted musical amateurs; while other persons more on household goods intent, were examining and admiring some Spermaceti Candles of the manufacture of *Samuel Judd*—hard, polished and diaphanous as finest alabaster. Close by were some loaves of refined Sugar from *R. S. & A. Stuart*, Greenwich street, white and close grained as Parian marble. Turning from which, the Perfumes, Soaps and toilet accessories in every variety, of *Johnson & Co.* of 35 Cedar street, agreeably arrest the senses both of sight and smell. Hard by is a fine display of Broadcloths, soft and glossy to the touch—of the color, seeing them by gas light, we could not judge. Among them were the "Denny cloths," from Oxford, Mass.; cloths manufactured from American wool at Marlborough, Ulster co., by *Jno. Buckley*. Farther on, some pieces of Nankeen, made by the *Lonsdale Co.*, Rhode Island, from nankeen cotton grown in Georgia, might well pass for Chinese goods; next some American calicoes of the fashionable patterns of the day, manufactured by *A. Robinson*, Fall River, Mass., and sold by *Brown, Brothers & Co.* here, would, as it seemed to us, bear comparison, both as to texture and colors, with the best imported fabrics. India Rubber too, put to strange uses, may here be seen: garments light and well finished, and withal impervious to the rain, from the *Roxbury fac-*

tory, Mass.; life preservers of the same material, and cushions, to be inflated as required. These are all for sale here at *Winslow's*, 66 Maiden lane.

At the extremity of the Saloon there were Carpets of substantial fabric and bright colors from *Lowell, Mass.*, also good Oil Cloths from *Lansingburg*, in this State. Many articles of cabinet furniture were here exhibited. A centre table inlaid with different woods, by *Wm. Pitcher*, cabinet maker, 38 Elm street, very handsome; a secretary, of the finest grained and most highly polished mahogany, with every convenience, by *B. Bosch*, cabinet maker, 196 Broadway; a counting house desk and table, perfect in its arrangement—also two highly finished music stools, by *Samuel Carter*, cabinet maker, 51 Beckman street; sofa beds, by *Brickles*, that might pass for handsome sofas in the best furnished apartments; the same by *Woolley*, 578 Broadway, and so constructed as that the sacking bottom can always be drawn tight. Mr. Woolley has also some very ingenious cots for sick persons, whereby the position may be varied without effort on their part. Among many imitations of marble on wood, we were struck with those by *Geo. Bird*, grainer, 148 Sullivan street. A case of composition ornaments, such as capitals of columns, friezes, &c. by *John Tallier*, manufacturer, 185 Spring street, introduced us to a new and valuable invention.

Returning towards the entrance and hastily glancing at some handsome silver from *Marquand's*, Broadway, and from *Thomson's*, 129 William street, among the latter two particularly pretty fruit baskets, at the famous display of the various articles of stationery from *D. Fell's*, and at two Indians carved to the life, though in a little, out of a solid block of mahogany, by *J. Dodge & Son*, 75 Columbia st., and intended as a front station of fire engine No. 4—a rapid turn in the gallery brought under our notice several highly finished pianos—some capital specimens of writing, by *Isaac F. Bragg*—the beautiful head of a beautiful child, painted in oil, by *H. I. Hubbard*, now of Baltimore, and known formerly when Master Hubbard, for his skill in cutting paper likenesses—a spirited sea piece, in water colors, by *J. W. Hill*, and the portrait, in oil color, of a boy—well done—by *Marchant*—and here, for today, we must stop our fairing.

THE FAIR.—We hope to be able to continue our notice of this interesting exhibition; meantime we are informed, and so state, that instead of fewer articles than heretofore being in exhibition, there were last evening fifty-three more contributors than on any previous occasion; and the number was still increasing. The greater extent of the saloon and galleries has the effect of apparently diminishing the extent of the show.

THE COMMENCEMENT OF COLUMBIA COLLEGE took place yesterday.

The Procession moved from the College at half past 9 A. M. passing through Park Place, Broadway, Walker and Varick streets, to St. John's Chapel, in the following order:—

Janitor of the College.
Students of Arts.
Candidates for the Degree of Bachelor of Arts.
Former } Candidates for the Degree of Master of Arts.
Graduates }
Honorary Members of the Philological and Ethnological Societies.
Teachers of the Grammar School of Columbia College.
Principals of Public Schools and Academies.
Faculty of Arts of Columbia College.
The President.
Trustees of the College.
Alumni of King's College.
Governor and Lieutenant Governor of the State.
Members of the Legislature from the City and County of New York.
Mayor of the City.
Regents of the University.
Foreign Ministers.
Judges of the United States, State, and City Courts.
Members of Congress.
Strangers of distinction.
Foreign Consuls.
Commanding Officers of the Army and Navy of the United States.
Civil Officers of the United States.
Corporation of the City.
Clergy and Professors of Theological Seminaries.
Officers of the State Medical Society and of the Medical Society of the City and County of New York.
President and Professors of the College of Physicians and Surgeons.
Officers of the University of the City of New York.
City and County Officers.
Trustees of the Public Schools.
Trustees of the High School Society.
Officers and Members of Literary Societies.
Officers and Members of the Academy of Fine Arts.
Officers and Members of the National Academy of Design.

When the procession arrived at the Church, the

exercises of the day were opened with prayer by the President, after which the Candidates for the Degree of Bachelor of Arts delivered their Oration in the following

ORDER.

1. Latin Salutatory Address, with an oration, "Ne quo majus aliud neque preestabilis humani generis natura invenias."—*Isaac C. Delaplaine*.

Music.

2. English Salutatory Address, with an Oration on "The comparative effects of Genius and Industry."—*William H. Hyde*.

Music.

3. An Oration on "The Moorish Character."—*Samuel E. Johnson*.

4. An Oration on "The Dignity of Human Nature."—*Henry Heyward*.

5. An Oration on "The difficulty of forming a Correct Estimate of Character."—*Edward K. Bryant*.

6. An Oration on "The Genius and Influence of Women."—*William M. Allen*.

Music.

7. An Oration on "The Causes of the Progress of Society in Modern Europe."—*John Conger*.

8. An Oration on "the influence of imagination upon Intellect, considered particularly with reference to Fictitious Writings."—*Richard E. Mount, Jr.*

9. An oration on "The excellence of Common Sense, considered particularly in its application to Philosophy."—*William Demarest*.

Music.

10. An Oration on "Education."—*William Dennis*.

11. An Oration on "Memory."—*Alexander Major*.

12. An Oration on "The Power of Superstition."—*Robert S. Swords*.

13. An Oration on "The Characteristics of the Mathematician."—*William M. Gillespie*.

14. An oration on "The Importance of Political Economy as a Branch of Education."—*John S. Heard*.

Music.

15. An Oration on "The Institutions of Chivalry."—*William B. Casey*.

16. An Oration on "The Republican Form of Government."—*James M. Cockcroft*.

17. An Oration on "The Pleasures and Advantages of a Cultivated Taste."—*James M. Beckman*.

18. An Oration on "The Pursuit of Happiness."—*Philip Rhineland*.

Music.

19. An Oration on "The Insufficiency of the Light of Natural Reason."—*Lloyd Windsor*.

20. An Oration on "English Poetry."—*William G. King*.

21. An Oration on "The benefits derived from Intellectual Pursuits."—*William Cockcroft*.

22. An Oration on "The Troubadours."—*William Dodge*.

23. An Oration on "The Evidences afforded to the Truth of Christianity by its contrast with the Systems of Ancient Philosophy."—*Benjamin S. Huntington*.

Music.

The Honorary Testimonials were then announced and presented by the President, after the following explanatory remarks:

By a statute of this College, it is ordained, that at the concluding examination, there shall be awarded in each Class, a Gold Medal to the student of the best general standing; and also to the student of the best standing in each particular department of study, a Silver Medal; and to the second best student, a Medal of Bronze; which honors are directed to be awarded and conferred at the Annual Commencements. We now proceed to the performance of that grateful duty. Those students, therefore, to whom Medals were adjudged at the late concluding examination of the several classes, will present themselves upon the stage, in the order in which their names are called.

I. Senior Class.

The Gold Medal for the Student of the best general standing in the class, to *ISAAC C. DELAPLAINE*.

I. In the Department of Constitutional Jurisprudence—

1. The Silver Medal, to *EDWARD K. BRYAN*;
2. The Bronze Medal, to *WILLIAM M. GILLESPIE*.

II. In Moral and Political Philosophy—

* Students having an asterisk affixed to their names, are absent by permission, or excused from delivering their Oration.

1. The Silver Medal, to ISAAC C. DELAPLAINE;
2. The Bronze Medal, to JOHN S. HEARD.
- III. In Greek and Roman Literature—
1. The Silver Medal, to ISAAC C. DELAPLAINE;
2. The Bronze Medal, to WILLIAM DEMAREST.
- IV. In Natural, Experimental, and Mechanical Philosophy—
1. The Silver Medal, to WM. M. GILLESPIE;
2. The Bronze Medal, to ISAAC C. DELAPLAINE.
- V. In Mathematics and Astronomy—
1. The Silver Medal, to ISAAC C. DELAPLAINE;
2. The Bronze Medal, to WILLIAM DENNIS.

The Gold Medal for the Student of the best general standing in his Class, to ORLANDO HARRIMAN, JR.

I. In the department of the Rhetoric and the Belles Lettres—

1. The Silver Medal, to ORLANDO HARRIMAN, JR.;
2. The Bronze Medal, to EVERT A. DUYCKINCK.

II. In Greek and Roman Literature—

1. The Silver Medal, to ORLANDO HARRIMAN, JR.;
2. The Bronze Medal, to CHRISTIAN ZABISKIE, JR.

III. In Chemistry applied to the Arts—

1. The Silver Medal, to ORLANDO HARRIMAN, JR.;
2. The Bronze Medal, to LUDLOW THOMAS.

IV. In Mineralogy and Geology—

1. The Silver Medal, to JEDEDIAH B. AULD;
2. The Bronze Medal, to JOHN H. RIKER.

V. In Mathematics and Astronomy—

1. The Silver Medal, to JEDEDIAH B. AULD;
2. The Bronze Medal to ORLANDO HARRIMAN, JR.

3. Sophomore Class.

The Gold Medal for the Student of the best general excellence in his class, to GILES M. HILLYER.

I. In the Department of History—

1. The Silver Medal, to HENRY MCVICKAR;
2. The Bronze Medal, to GILES M. HILLYER.

II. In Greek and Roman Literature—

1. The Silver Medal, to GEO. HARRISON LYNCH;
2. The Bronze Medal, to GILES M. HILLYER.

III. In Elementary Chemistry—

1. The Silver Medal, to GILES M. HILLYER;
2. The Bronze Medal, to JAMES RENWICK, JR.

IV. In Geometry and Spherical Trigonometry.

1. The Silver Medal, to HARVEY A. WREED.
2. The Bronze Medal, in Geometry, to G. W. HILLYER. In Physics, to H. MCVICKAR.

4. Freshman Class.

The Gold Medal for the Student of the best general standing in the class, to SAMUEL BLATCHFORD.

I. In the department of Rhetoric, &c.

1. The Silver Medal, to SAMUEL BLATCHFORD.
2. The Bronze Medal, to JOHN McMULLEN.

II. In Greek and Latin Classics.

1. The Silver Medal, to SAMUEL BLATCHFORD.
2. The Bronze Medal, to JOHN MCVICKAR.

III. In Roman Antiquities.

1. The Silver Medal, to THOMAS G. TALCOTT.
2. The Bronze Medal, to SAMUEL BLATCHFORD.

IV. In Ancient Geography.

1. The Silver Medal, to THOMAS G. TALCOTT.
2. The Bronze Medal, to GEORGE S. VAN CLEEVE.

V. In Geometry and Algebra.

1. The Silver Medal, to SAMUEL BLATCHFORD.
2. The Bronze Medal, to CHARLES E. SHEA.

When this most interesting ceremonial was concluded, the young gentlemen who had won the honors remaining on the stage, were thus feelingly addressed by the President:

Young Gentlemen: Besides publicly announcing your names and delivering the testimonials awarded to you as directed on this occasion, it is due to you to present you personally to the Government of the College in the face of this assemblage of your parents, friends, and fellow-citizens, as those sons who, during the last Collegiate year, have deserved best of their *Alma Mater*, and whom consequently she delights to honor. To have earned this distinction when the claims of others were so nearly equal to your own, must be a source of lasting gratification to yourselves, as well as of just exultation to those with whom you are most nearly and dearly connected; whilst the rewards bestowed on you may incite your fellow students to greater diligence, and awaken within the breast of all who remain within our walls an ardent spirit of persevering exertion and generous emulation. To those of you who continue with us, I cannot but express a confidence that you will pursue to the end the course thus auspiciously begun; and that the evidence now given of the approbation of your instructors, will bind you to consistency, from regard both to your own characters, and their estimation of them.

To those of you who have finished your academic

career, and are about to enter upon new and untried paths, to you who are now to leave the peaceful retreats of Science for the allurements, cares and duties of Society, who are to exchange the discipline of the College for that of the world—to you my young friends, from whom we are this day to part, I hope and trust that your success in youth may prove an earnest of your prosperity in manhood, and that the honors you have obtained as scholars will be pledges of your future renown as wise and good, as intelligent and useful, citizens.—Thus may your example operate beneficially upon the companions you leave behind you and its influence be extended to your remotest successors.—Cherish this reflection in your hearts, for it will not only impart consolation amidst the disappointments and afford you satisfaction amidst the enjoyments of this life, but it will survive your present existence and increase your happiness in that which is to come."

Music.

The Degree of *Bachelor of Arts* was then conferred on the following named Students of the Senior Class, viz:

William M. Allen, James W. Beekman, Edward K. Bryar, William B. Casey, James M. Cockcroft, William Cockcroft, John Conger, Isaac C. Delaplaire, William Demarest, William Dodge, John S. Heard, Henry Heyward, William H. Hyde, Samuel E. Johnson, William G. King, Alexander Major, Richard E. Mount, Jr., Philip Rhineland, Robert S. Swords, Anthony Ten Broeck, Lloyd Windsor.—Also on William Dennis, William M. Gillespie, and Benjamin S. Huntington, absent by permission.

The Degree of *Master of Arts* on the following gentlemen, Alumni of the College, viz:—

John W. Mulligan, Michael Floy, Jr. Hamilton Morton, M. D. Samuel S. St. John, Robert Emory, Timothy R. Green, William W. Van Wagenen, P. Stuyvesant Fish, John B. Purroy, Robert Watts, Jr. M. D. Abraham B. Conger.

Honorary Degrees were conferred as follows:—

That of L. L. D. on DON THOMAS GENER, late President of the Spanish Cortez; that of D. D. on the Rev. THOMAS W. COIT, of Cambridge, Massachusetts, and the Rev. WILLIAM A. MUHLENSBURG, principal of the Flushing Institute.

The Honorary Degree of A. M. was conferred on WILLIAM SHERWOOD, Principal of a Classical School in the city of New-York; and on ROBERT J. HARVEY, an Assistant Teacher in the Grammar School of the College; also, on Rev. O. CLARK, of Lockport, N.Y.

Music.

24. Valedictory Address, with an Oration on "Moral Sensibility."—Anthony Ten Broeck.

The Exercises of the day concluded with prayer by the President.

Altogether the celebration was one of great interest:—the beauty of the weather, the numerous audience, the presence of many citizens distinguished by station, by learning, and by public services—and especially the general good taste, good sense, and good style of the orations, were calculated to gratify all who look to this College as one of those few institutions of our country pre-eminently fitted to raise up a race of thoroughly educated young men. Among the honorary degrees conferred was one, it will be perceived, of L. L. D. on DON THOMAS GENER. This affords us the opportunity of stating, what however is probably already known to many of our city readers—that this distinguished foreigner, who, since the restoration of the beloved Ferdinand, has been a proscribed exile in this country, is now about to return to his own. A native of Old Spain, he went at an early age to Cuba, where he subsequently resided, and whence, together with M. Suarez, now engaged in commerce in this city, and the Rev. Mr. Varela, the truly spiritual and exemplary pastor of the Catholic Church in Ann street, he was sent as a deputy to the Cortes of Spain, when in 1823 Spain made an effort to be free. His manly eloquence, his enlightened mind, his energetic character, soon marked him as a leader, and raised him, for a portion of the time when the Cortes were held at Seville, to the presidency of that body. It was there they pronounced the downfall of Ferdinand—in which judgment DON THOMAS GENER concurred—and for which he was condemned to death with confiscation of his property.

Under these circumstances America held out to him her protecting arms. He came among us an exile—he has lived among us as a valued friend; and now, when the political condition of his native land allows him to return to Cuba, with rights reinstated, and an unsullied name—he leaves behind him the memory of many benefits conferred, friends who will not forget him, and an unsurpassed reputation for probity, high honor, and high intellectual attainments.

We rejoice that Columbia College should have added his name to the—not long, but most honorable catalogue of those who have heretofore received her honorary degrees; and are gratified too, by publishing the annexed correspondence, to show, that private friends were not less sensible than this public institution, to the merits of such a man:

New York, 1st October, 1834.

SIR—Apprised of your intended return after so many years absence to your own country, we are desirous in connection with other of your friends, in whose name as well as in our own we speak, to have the pleasure of your company at a parting dinner on any day that may be convenient to you.

In the long period, since as a proscribed Exile in the cause of Liberty, you first sought these shores, during all which you have been a resident of this city, we have had too many opportunities of observing and appreciating the high qualities, social, moral and intellectual, which had secured to you the confidence of the liberal portion of your own countrymen, not to feel, now you are about to return among them, that what is our loss is their gain. While, therefore, we may not regret, what both to them and to you cannot be other than a matter of congratulation, we yet desire the opportunity of marking, by something more than a mere private manifestation, the esteem and respect with which you have inspired the strangers among whom you have worn out years of banishment. Hence the invitation we have the honor to communicate.

We are, Sir, with great respect, your ob't humble servants,
James G. King, G. C. Verplanck,
Geo. Griswold, Jno. Duer,
Arch. Gracie, Wm. H. Aspinwall,
Jon. Goodhue, Ch. Aug. Davis,
Chas. King, John A. Stevens,
James Kent, Augustus Fleming,
L. Peugnet, H. Peugnet,
Mariano Velasquez de la Cadena,
F. Lacoste.

To DON THOMAS GENER,

Ex-Deputy from Cuba to the Spanish Cortez, and Ex-President thereof.

New-York, 2d October, 1834.

GENTLEMEN—I have received with inexpressible gratitude, the friendly invitation to a parting dinner, with which you have favored me. I am sorry to say the time which is left me is so short, and the calls upon that little so numerous, as to place it out of my power to accept of your kindness, although my heart is sensibly touched at saying so. Besides, I have been so very happy in this city, and have received so many testimonials of your esteem, that I have not been able to suppress the emotions of my tenderness every time I have met with either of you during these last days. What, then, would be the effect of seeing you all gathered together with no other object but to do me honor?

I am likewise indebted to you for the favorable opinion you express of my moral qualities, which would be the delight of my latter days, if I could be persuaded it originated in any merit on my part and not in mere generosity on yours. But, perhaps, the debt of most importance I have contracted in this country consists in the excellent lessons and good examples I have received in it. What recourse have I for the extinction of so many debts? None other occurs to me but to avail myself of all opportunities honorably to serve such creditors, and to pray to God continually for their prosperity, and for the preservation of all those social guarantees on which repose public order; and the liberty and prosperity of individuals; that is to say, for the preservation of your admirable institutions in that perfection which appeals the despot, and is the polar star of all friends of the people.

With these sentiments and desires which proceed from the inmost recesses of my heart, I bid farewell to you, and the other friends whom you represent.

Trusting you will accept of my excuses, I am, Gentlemen, with great respect, your obedient servant,
THOMAS GENER.
To JAS. G. KING, Esq. and others, &c.

[From the New-England Magazine.]

Mount Auburn.—"Let us go out to Mount Auburn," says some one of a gay party, just stepping into their vehicles or mounting their horses; and away they dash, full of life, and health, and beauty, to visit the mansions of Death, where he seems to reign in his most elaborate and yet solemn magnificence, reminding us, as they sweep by, to make a sober jest with the line of the poet—

"The paths of glory lead but to the grave."

"Let us ride to Mount Auburn," says the *ennuyé*, rising from dinner, with the prospect of a long afternoon before him; and forth they go, to rid themselves of Time, among the final homes of those who have exchanged it for Eternity. "Let us go out to the Cemetery," whispers the wife to the husband, as some lingering sunset is softening into twilight, half doubting lest he should check the wish, which he knows to spring from a mother's heart; but he yields to the request, and they visit the grave of their child, to strew a few flowers upon its new enclosure. "You must go out to Mount Auburn with us, this afternoon," says the citizen to the stranger; and thither they go, too, to talk learnedly of obelisks and monuments, national taste, Westminster Abbey, and Pere La Chaise. Reader, let us go, too; but let us walk, nor drive up in dusty splendor to the crowded gateway, tossing our reins to the keeper as we would to the ostler of a tavern.

And yet, notwithstanding all that sometimes offends the taste before you enter, in spite of the incongruity of ideas, which the crowd of vehicles and the looks of the riders will excite, when you are once within the enclosure, Fashion and the World, and Gaiety, and Splendor, are soon forgotten.—Standing in the dark groves, where the broken light falls down through the opening of the trees, and singularly possessed by the wonderful stillness of the place, the most distinguished air and the most fashionable tournure will pass unnoticed, when you would have turned to gaze, had you met them in the street. The visitors, too, one and all, no matter what their mood when they reached the gateway, are at once sobered and subdued, as soon as they have passed under those gathering shades. You shall see a young lady leap from the carriage, laughing in all the luxury of youth and health, and revelling in some jest which has been started; and when you pass her in an avenue, or meet her on the hill, she will be lost in contemplation, and forget to return your civilities, if you should not yourself be too abstracted to offer them. Still, the influence of the place is not a melancholy or a saddening influence; it is better—it is expansive and soothing, filling the mind with the beauties of nature, and thus breaking the force of any passionate expressions of affliction, which may be ready to burst forth, and uniting the great idea of death in general, with images and objects which are not shadowy and hard to grasp, but before us, around us, and familiar. We never go in there, without feeling the deep philosophy of the sentiment which Shakespeare has put into the mouth of Timon, when he makes him say, that he will make

his everlasting mansion
Upon the beeched verge of the salt flood;
Which once a day with his embosomed froth
The turbulent surge shall cover;

thus expanding an individual feeling into the vastness and extent of the ocean itself, and depriving it of its bitterness by connecting it with the most magnificent image in nature. We think, indeed, that no one can go in there and give himself up to the spirit of the place, without feeling something of this expansion—this breaking away from the narrow localities of the dismal church-yard, and diffusing the thoughts over a space that admits and embraces greater sympathies with the creation. The moment the feelings are concentrated, if the subject be ourselves or our own griefs, that moment they are cramped; and when we dwell on the confined and ordinary habitations of the dead, with no images of beauty or magnificence to lead away the thoughts from decay and corruption, we are borne down by our feelings of grief, and disgust, and harrowing sorrow for the dead. But in these beautiful pleasure-grounds of Death, there is every thing needful to rob it of its terrors, while the place-of, the deposited remains is sufficiently indicated and exact, to give the feelings a spot on which to dwell. We never lose a certain sort of sympathy for the dead, which arises from placing ourselves in their situation and imagining—strange solecism! but actually one which we commit—imagining *how they feel*. If they are sunk beneath the ocean's wave, we follow them down into those all unvisited depths, where living man never has approached and never can. If, as with the ancients, their bodies are consumed, we strive to go in thought with each atom to

the elements into which it is resolved; and when, at last, the resulting dust is gathered up, we would fain flatter ourselves that all is concentrated there. If they are placed in the common grave, we think, painfully, indeed, and with averted eyes, on the work of dissolution. Wherever they go, whatever disposition is made, thither we go with them, in waking hours and in dreams; and if any thing can be done to beautify the spot, it is so much taken from the cold, repulsive, cheerless condition, in which our feelings are ever presenting them to us. The history of sepulchral architecture and funeral customs has here a deep foundation in the necessities of our nature and condition. We cannot bear that the transition should be so sudden and complete, as it is in its original, unadorned, and simple state. We would make the dead to "stay a little longer," by surrounding them with things which really belong to this world, but which we have thereby consecrated to uses on the passage to the next. Why did the Indian lay the bow and arrow, and slay the dog, by the side of the dead?—Why did the Egyptian embalm and emblazon? Why do the natives of Southern Africa carry food and raiment to their cemeteries? Why do we busy our grief about the marble and the shroud, deeming it a sacrilege that the dead should be more meanly served than was their wont in life? Not solely in any of these cases, from a regard to decency and custom; but because we would feel, if haply we can persuade ourselves to do so, that they are not wholly beyond the consciousness of pomp and ceremony, and have not ceased to be within the sphere of circumstance. We would connect them back, if we could, by some of the things of sense, "the appurtenances of affectionate superstition," and knowing that we cannot pass over the great gulf, really to minister to their wants, we solace ourselves by creating imaginary wants for that only part of them that is still within our reach.

But we are at the gate, and must drop our speculations. Reader, you may not have been there; if not a dweller in the neighborhood; or, if you have, it cannot be unwelcome to stroll with us again thro' the grounds. As you go in, there is the beautiful sarcophagus, chiseled in Italy, erected to the name of Spurzheim, who died among us, as if without a country, but as a citizen of the world, and a member of the human family,—meeting the visitor first, on his entrance, as if to remind him how completely all the members of this great family, whether of the East or the West, are mingled and united at the grave. A little farther on, lies all that was mortal of him; who ministered in the temple of Law, and whose spirit still lingers in the University, shining in the labors of his successor. Where is his learning now? Where his clear reasoning, his refined acuteness, his grasping intellect? They are active in that other sphere, for which the discipline of earth was meant to prepare them. And where is the gratitude of his pupils? Does the marble still sleep in the quarry, or has the chisel begun its work? As you turn to the right, in one of the larger dells, she who traced the recorded History of Religious Sects, lies buried; "First Tenant" of the Cemetery, who led the way, in her fullness of hope and usefulness, down into the new valley of death, at the head of that long train, which every day is gathering in.—Many other names meet the eye, of fathers and parents, who have here prepared the last resting-place for themselves and their families, even as in the city they have built fair, costly homes for their sojourn of life. And now we have wound our way up to the hill-top, let us pause, and look around, and think.

We are but beggarly at description, even with rich autumn woods and fair towns at our feet. But we cannot forbear to remind you of the river on the one hand, and the lake on the other, and the long stretch of marshes, with the University, and then, the city beyond. The city—with its thousand pulses of life, beating warm and quick, through the heart of society—how many eager hopes, vast plans, idle fancies, useful purposes, are there; how do they toil, and enjoy, and pull down, and build up, and then—*here!* here, where sleep cannot be disturbed, though the roar of twenty Babels were rising up into the peaceful groves, and where the unbroken goings on of nature seem to mock the fitful, feverish courses of man. Here the hand will fall, and the eye sink, and they be brought out, one after another, to lie here and take their rest. And still the world will go on, nature and society, nor be stirred in its heavy current by the falling of their stricken leaves. Do their thoughts ever come up here, to contemplate that final rest? Does the image of this spot ever rise up before them, in the haunts of business, or the throng of pleasure?

We remember, on the day when this place was

consecrated, sitting down with a friend, and remarking, that the proprietors seemed in great haste to lay out the grounds, as it would probably be long before many interments would begin to be made. But the seal has long been fully set to that ceremony of words, by the consecrating presence of Death itself. Some, who were of the multitude, here assembled on that day, now lie in the recesses, which they then admired, and, perchance, selected; and many more come daily to wander over the grounds, anticipating, perhaps even longing, for the time, when they, too, shall set up here their everlasting homes. The moral influence of such an establishment, in the immediate vicinity of a large city, cannot be too highly measured, or too often dwelt upon. It is here, that the prospect of death to ourselves, or that of friends, may become familiarized to the degree, and in the manner, that it ought to be; familiarized, by being divested of the old accompaniments, which have made it revolting, and, by being connected with much that is lovely, and tasteful, and new. Whoever thinks of visiting the common grave-yards in a city, to stumble over crowded mounds and old sunken monumental stones? Who can do so, but at the call of duty?—And who does not feel the inestimable blessing of going to the grave of buried friends, amid scenes and objects that do not render it an utterly repulsive task? "When the funeral pyre was out," says the quaint Sir Thomas Browne, "and the last valediction over, men took a *lasting adieu* of their interred friends." Now, indeed, the lasting adieu is taken, both of that which dies, and that which cannot die. But the place of rest can be visited with holy joy; the sorrowful is steeped in the beautiful; the dark, deep waters of affliction can flow on, imaging in their bosom the loveliness that can be caught on earth.—We have no fears that the fine effect should be lost, through publicity and the debasing purpose of a mere lounge for idle pleasure. The novelty will wear off, in a few years, both to the immediate neighborhood and to the more distant parts of the community; and, so long as the place retains its features of stillness and beauty, it will be impossible for levity often to invade its precincts, without sinking to the tone, which they inspire. There have been some few indications of a different spirit; but we have too much confidence in the natural influence of "whatsoever things are lovely and of good repute," to anticipate that it should be wholly lost on the public feeling.

We would say something of decorations and monuments, did we feel sure that our individual opinions are consonant to the intrinsic dictates of good taste and reason. Variety there must be, in these things, and ought to be; for the ornaments set up here, are but types and expressions in the variety of human feeling and affliction, now taking the form of hope and aspiration, now breaking forth in passionate expression, that cannot rise from under the weight of grief, and, sometimes, in fantastic conceits of sorrow, mingling images and thoughts that even verge upon the grotesque. But, in considering this subject, though there are, doubtless, in the sepulchral, as well as all other arts of decoration, certain principles of taste to be violated or to be followed, yet we have need, before we condemn, to cultivate a catholic and tolerant spirit. Whatever has been or shall be erected under the dictates of feeling and pious sorrow, will be sure to fall within the compass of the natural and the true; what is expressed in words, or figured in symbols, will be consistent with the heart and mind from which it emanated, and will embrace some of the forms and some of the ideas, in which the boundless variety of human grief and passion seeks its natural expression. We should go in there to admire or disapprove, precisely as we would go into the great field of human character itself.—Some are nearer to, some more remote from, the standard of perfection; but all were not made to be alike, and in all, we reverence the likeness of the Maker. So the grief and the piety of all men will not find its expression under the same forms, and by the same attempts at external and fixed ideas; and, therefore, one element of correct judgment, on such a point, must be a regard for that metaphysical and moral principle of variety, which runs through all nature, and all classes of ideas. We do not mean, however, to deny the cultivation of the public taste, by good models and long attention to the subject; our argument only is, that whatever is done from feeling, will be, in this high and universal sense, natural and tasteful.

The sun is gone down, and the moon is up,—the Autumn moon,—with its flooding light, filling the air with its cold, silvery shower, and struggling down through the thick foliage into the dark groves, far below. What Elegiac would not Gray have written here! If, from a common church-yard, he could

so strike a chord that has sounded through the world. What Night-Thoughts would here have swept thro' the mind of the melancholy, but pious Young! The burial-places of a city's dead! When a half century has passed, and when, of that active throng, the eloquent tongue, the skilful hand, the robust form of manly beauty, and the charm of female loveliness, shall all have come to moulder here, how will your borders be hallowed to that generation! How will the fond regrets, the deep remembrances, the generous pride of thousands, centre here! Let them live on, while yet they may, and busy eager life in all the ways which duty and pleasure have wrought out. Let them live on,—for the trees are now growing, that shall flourish over their graves, and the marbles are in preparation that shall record their simple story, or their elaborate eulogium. Let them live on,—and buy and sell, and laugh and weep, and love and be disappointed, and press on and be checked in their eagerness. Let them live on,—for "there is a time for all things." G. T. C.

A Chinese minister presented this instruction to one of the emperors of his day, who was then about eighteen years of age. It may be considered as an epitome on the art of governing:—"Fear Heaven; love your subjects; employ men of merit; be always ready to listen to good advice; lessen taxes; mitigate punishments; banish prodigality; avoid luxury; and give good example."

To the Editor of the New York American:

In looking over some of the letters of your late travelling correspondent H., I was struck with a request that some friend would throw his beautiful translation of an Indian Serenade into a different dress. Not aware that any one has done it, and trusting that he will pardon the liberty in a stranger, who has read the published letters with avidity and interest, and impatiently awaits the promised volume that is to contain the remainder, I send you the following version.

As I deem the native simplicity of the original translation its chief ornament, I have endeavored as much as possible to preserve it, but fear it has lost much of its beauty by being cramped into rhyme.—If, however, you find it to possess any merit, you are at liberty to correct, and do what you please with it.

Brightest bird of the prairie, awake thee! awake!
Let thine eyes, like the dawn, beam their gladness on me,
As flowers from the dew all their sweet odors take,
So my spirit its happiness borrows from thee.
Like their fragrance at noon is thy own balmy breath,
On their sweetness at eve, when the red leaf is falling—
Of the freshest, my fair one, I've twined thee a wreath;
Then awaken! awaken! thy own love is calling.
As springs long enchained by cold winter's strong hands,
In gladness bound upward to meet the warm sun,
So my heart leaps to thee, fairest flower of all lands—
So does my blood towards thee in one current run.
My soul sings in joy whene'er thou art near,
As the branches of summer respond to the breeze;
But alas! when away, there is no one can cheer—
Then awaken, and bid my heart sing like the trees.
When thy glance speaks displeasure it saddens my heart,
As the river is darkened when clouds on it fall;
But the smile of thy face can fresh brightness impart,
As the sun, with his light, can the gold wave recall.
The earth smiles in joy and the waters beam bright—
The heavens in thousands of gay lustres shine—
Then awake! my adored! add thy own cheering light—
For without thee I smile not; but in deep darkness pine.
Sept. 1834. ARNA.

[FOR THE NEW YORK AMERICAN.]

When this mortal shall have put on immortality, then shall brought to pass the saying that is written, Death is swallowed up in victory.

Hear, earth, through all thy depths, the dead decree,
Jehovah's fiat, thou no more shalt be!
The gloom and glory of thy ancient brow
No more shall deck the ornament; and thou
Must cease the vasty steep of space to climb;
And sink, as thou began'st to mount, with Time.
But first, oh earth! deliver up thy dead;
All, all; the hand that smote; the heart that bled;
The unwashed, tear-wet form of yesterday;
The dust that knows ten thousand years decay;
The kindred atoms which disunion mourn;
The viewless ashes of the ruin'd urn!
Then, wreck'd in happy chaos, forth be hurl'd,
And roll no more, a mortal bearing world.
Come forth, ye dead, to judgment! Lo, the doom
That veild and fed corruption, flies the tomb!
Death hidden in his deepening shadow lies,
And, Empire torn by warring, shrieks and dies.
See! from its God the soul returns to be
The incarnate beauties, dust, of thee;
And brightly wreath thee to her native shores,
Where spirit-hearted love ALL LOVE adores!
Now, now, the triumph is indeed complete;

Death and the grave lie vanquish'd at the feet.
Arise, and breathe the life of endless day,
Above consuming worlds, and heavens that pass away! E.

CHOICE WINES, &c.

THE subscriber offers for sale, a large assortment of Wines consisting of
MADEIRA—In pipes, hds. and quarter casks, of different qualities and brands, part received direct, and part via East Indies. superior old L. P. in hds. quarter casks, and half quarters.
Also—in cases of 1, 2 and 3 dozen each, old and choice.
SWEET WINE—Pale and brown, in wood and glass, of different qualities, from 14s to 36s part of it imported by order.
PORT WINE—In hds. and quarter casks. Also, in cases of 1 and 2 dozen each.
BOTTLED WINE—A large assortment, of various brands, qualities and vintages, in cases and hampers, some very old.
FRENCH WINES—Sparkling Champagne, of all the favorite brands, quarts and pints, with and without wax on the cork. Also, Pink Champagne.
Sauterne, Vin de Grave, and Burgundy.
Bordeaux Claret, Lafite, Chateau Margaux, Leoville, St. Estephe.
Low priced, in boxes and casks.
Muscadet, in boxes and small casks. Old Malaga Sherry, a fine light wine, in cases of 18 and 20 gallons each. Marselles Madeira, in quarter casks and Indian barrels. Canary, Malmsey; and Teneriffe, &c. &c.
BOTTLED—Wine, Porter and Claret, in hampers, one gross each. Demijohns.
HARRIS'S PORTER.—London Porter, Brown Stout, and Pale Ale, in cases of 7 dozen quarts, and 8 do. pints.
SCOTCH ALE.—Younger & Co's Pale Ale, qu. and pints, &c. &c.
SALLAD OIL.—Bordeaux and Marselles, in boxes and baskets. Olives, Capers and Anchovies.
FRUIT—Runch and Muscatel Raisins, Almonds, E. I. Preserves and Canton Ginger.
COFFEE, &c.—Old Java and Manilla, Souchong Tea, Refined White Sugars, &c.
Part of the above are entitled to drawback, and will be sold in lots to suit purchasers. Orders received, and forwarded as directed.
ROBERT FRACIE,
427 20 Broad street.

UTICA AND SCHENECTADY RAILROAD COMPANY
PROPOSALS will be received until the last Monday of October next, at 12 o'clock at noon—

For grading about sixty-five miles of the Utica and Schenectady Railroad, between the Sand Ridge on Sanders' Flats in Schenectady, and the western boundary line of the town of Herkimer;

For the masonry within those limits, embracing the culverts, and the abutments and piers of the respective bridges; and

For the wooden superstructure of bridges across the Cayadutta Creek at Caughnawaga, the Garoga Creek at Palatine Church, the East Canada Creek at Nauheim, the Gulph at Little Falls, and the West Canada Creek at Herkimer.

The line will be divided into sections of about one mile each, and prepared for examination, and maps, profiles and plans deposited for inspection with W. C. Young, the chief engineer, at Schenectady, ten days previous to the time above mentioned.

Blank forms of proposals will be furnished at an early day at the company's offices at Schenectady, Palatine, Little Falls and Utica.

The names of persons to whom contracts are awarded (who will not be permitted to sub-contract the same) will be made known at Schenectady on the 29th day of October, when it will be required that the grading proceed without delay, wherever, and upon as titles to the lands are acquired by the company; that the culverts and small bridges be completed by the first of August next; that the residue of the masonry and the large bridges be finished by the 1st of October thereafter; and that the grading be completed during the year 1835. Contractors to furnish security for the faithful performance of their contracts.

The use of ardent spirits to be prohibited in constructing the road.

Proposals, post paid, to be endorsed "Proposals," and containing the names of the persons offered as securities, to be addressed to the undersigned at Schenectady, or deposited at the company's office at that place. September 4, 1834.

G. M. DAVISON, Commissioner.
s-17 to 27 Utica and Schenectady Railroad Company.

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheel for six hundred cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.
JEAN WALKER a 31

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. E. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York,
January 29, 1835.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 204 Elizabethstreet, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J35 tf

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
m18



INSTRUMENTS,

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1835.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer to the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.
m21

ROCKY MOUNTAIN CORRESPONDENCE.

[From the *Missouri Enquirer*.]

The following letter received by us may be interesting to a number of our readers. Mr. Edwards, (the author,) is a gentleman about 21 or 22 years old, and well known to many of our readers as a young man of worth and promise. His object at the Rocky mountains was to civilize the Flat Head Indians. He was employed by and accompanied the Messrs. Lees, who were appointed by one of the Eastern Conferences to establish a mission among the above-named Indians. We expect to hear from him again some time during the approaching Fall; when it may be expected that we shall have a more particular account of the country, and manners and customs of the natives.

Waters of the Colorado of the West, June 23.

With regard to our manner of living, I must here remark that the usual order of nature is inverted. The vulgar adage "bread is the staff of life," is here unknown, or if known at all, is known to be false. Meat is here (to be a little pedantic) the *sine qua non*. I have often smiled to think how those friends with whom we have surrounded the festive board would laugh to see us seated, in the Turkish style, round a ponderous dish of buffalo meat, sometimes without salt, or feasting on the exquisite marrow of a bone with as much gusto as if he had literally obeyed the precepts of the Spartan cook. But you must not hence conclude that we have no variety. We sometimes have it fried, sometimes roasted, and sometimes boiled. A large copper kettle full of tea or coffee placed beside our other dish constitutes a part on which we feed with appetites at which your pale and capricious dyspeptics might smile with a contemptuous sneer. Notwithstanding the watching, toils and privations of the journey, we have nearly all increased in health and strength.

A well delineated description of these hardy mountaineers would surely be an interesting production. At this great Western Metropolis, I mean the general rendezvous of mountain traders and trappers, you could see men from almost every country, and almost every shade of character, from the dark sons of Africa to the tawny aborigines, the creole Canadian, the once polite American, and the adventurous European.

Here is the hardy mountain veteran who has ranged these wilds for more than thirty years. Pecuniary emolument was perhaps his first inducement, but now, he is as poor as at first. Reckless of all provision for the future, his great solicitude is to fill up his mental insanity by animal gratification. Here is the man, now past the meridian of life, who has been in the country from his youth, whose connections and associations with the natives have identified his interest and habits with theirs.

To form an adequate conception of their apparel, you must see it. A suit of clothes is seldom washed or turned from the time it is first worn until it is laid aside. Caps and hats are made of beaver and otter skins, the skins of buffalo calves, &c. Some of these are fantastically ornamented with tails and horns. These ornaments may be badges of distinction, for aught that I know, but being a stranger in the country, I am not able to speak decidedly. You will perhaps recollect to have seen in the far west of our own United States, the buckskin hunting shirt and leggings gracefully hung with fringes along the arms and side. But I am sure you have never seen the tasty fashion of fringes carried to perfection. Here they are six or seven inches long and hung densely on every seam, I believe, both of the hunting shirts and leggings. Indeed their weight is a great burden. But it is perhaps advisable, under existing circumstances, that I should leave your imagination to apply the picture. There is, doubtless, many a generous and magnanimous heart couched under the above general outlines, nor must you suppose that these remarks are applicable to all; for there are exceptions to all general rules.

Two gentlemen, a Mr. Pierce and Mr. Bush, I understand, fell victims to the savage malevolence of the Black Feet Indians, a short distance from this place, some time last winter.

Professor Nuttall, of Cambridge, Massachusetts, who accompanied us for the purpose of making botanical inquiries, has met with the most flattering success. Mr. Townsend, the ornithologist, from Philadelphia, who also accompanied us, has surpassed his most sanguine expectations. Last evening he informed me that he had discovered fifteen new species of birds, six that were doubtful, and twenty that were lately found. It is the intention of both these gentlemen to explore the Oregon Territory. From their unremitting exertions, I fondly anticipate that the result of their labors will be many interesting accessions to their respective sciences.

We left Liberty, as you may recollect, on the 25th of April, and arrived at this place (a distance of about eleven or twelve hundred miles) on the 20th instant; few difficulties having occurred on the way, excepting those which are inseparable from the trip. We have not been further north than latitude 43 degrees and 10 seconds, which was on Sweet Water, a tributary stream of the Platte. We are now in latitude 41 degrees 43 seconds, longitude 112 degrees 34 seconds west from Greenwich. I must here remark that much credit is due to Captain Wyeth, for the manner in which he has led us forward. This gentleman unites in his character, qualifications not always to be found, untiring prudence and circumspection, with unhesitating bravery and perseverance.

In a company composed of such a variety of characters as a Rocky Mountain Company usually is, it might reasonably have been expected that we should sometimes be placed in disagreeable circumstances, yet it is due to the whole to say, that we have almost invariably been treated with politeness and respect.

On our arrival at this place, we saw some few of the Indians, among whom it is expected we shall locate. They appear eager for instruction in literature and the principles of the "White man's religion." From this circumstance, and the information we have been able to collect from other sources, we indulge a pleasing hope that open arms await us. Surely every philanthropic heart must ardently desire the dissemination of knowledge and revealed truth among this honest, moral, and yet superstitious and unhappy people.

The distance we have yet to travel before we reach the Pacific Ocean is estimated at something like a thousand miles. We will then have to retrace six or seven hundred miles of our journey. But with regard to our future operations my information is very vague and imperfect. I remain yours, with sentiments of respect.

P. L. EDWARDS.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated. Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Rata Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORNBURN.

347 N. Market st. (opposite Post Office.

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* Mr. Thornburn is also Agent for the following publications, to wit:

NEW YORK FARMER and American Gardener's Magazine. MECHANICS' MAGAZINE and Register of Inventions & Improvements.

AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the

NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly, either or all of which may be seen and obtained by those who wish them by calling at 347 North Market street, Albany.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y.

sept 12 1y

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in
200 do. 1 1/2 do. 1/2 do.	lengths of 14 to 16
40 do. 1 1/2 do. 1/2 do.	feet countersunk
800 do. 2 do. 1/2 do.	holes, ends cut at
800 do. 2 1/2 do. 1/2 do.	an angle of 45 de-
soon expected.	grees with spli-
	cing plates, nails
	to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 2 1/2, 2 3/4, 3, 3 1/2, and 3 3/4 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

d'lmeowr

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lanesburgh, in the county of Henslaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lanesburgh.—August 15, 1833. A29 (RM&F)

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 134 Water street, corner of Maidenlane. J31 6t

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

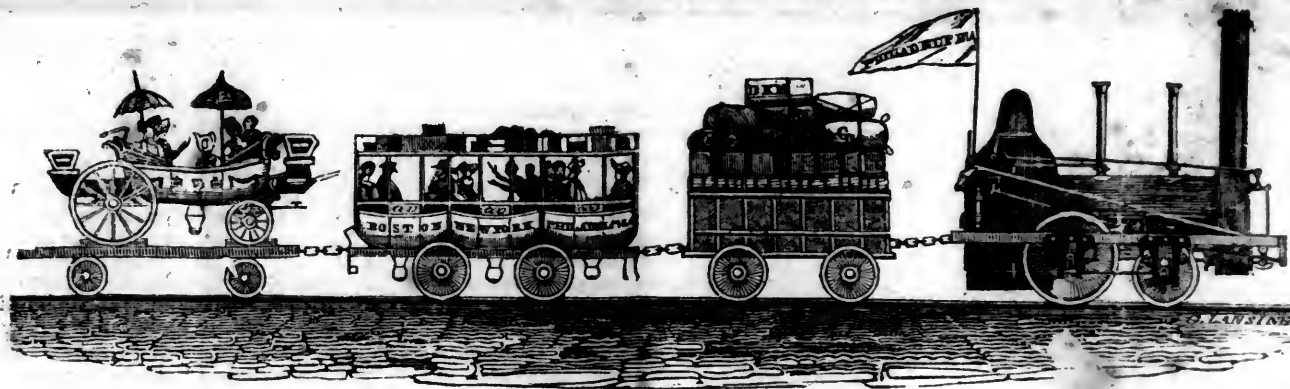
Germantown, February, 1833.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.

Germantown and Norristown



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, OCTOBER 18, 1834.

[VOLUME III.—No. 41.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 18, 1834.

We would invite the attention of our readers in general, and the inhabitants of that section of country referred to in particular, to the able arguments contained in the letter of J. McADAM, JR., which is unavoidably placed on our eighth page.

"The Society of Civil Engineers has obtained from the Crown a charter of incorporation."

We have inserted the above notice, taken from the last number of the London Mechanic's Magazine, with the intention of devoting the editorial column of this week's paper to a consideration of the importance of a like institution to the cause of internal improvements in our own country.

In a conversation which the editor of this paper had some time since with one of our most scientific engineers, the question was asked, "Why is it that while the character and merit of the different works of Rennie, Telford, Stephenson, Vignoles, and other English engineers, are familiar to most of us here, nothing scarcely is known to them of works in this country, that would not suffer by a comparison with the best of those abroad?" He replied "We want a 'Society of Engineers,' with a suitable periodical to publish their proceedings; and until something of the kind is formed, we shall continue to labor under this disadvantage, that while the members of it

have given ample evidence that there is an equal amount of talent and information in the profession here, but little credence will be given to the fact beyond the limited sphere of the directors and company of the work constructed." For the truth of our friend's remark, we can appeal with an honest pride to such works as the inclined planes of the Morris and the aqueducts of the Erie canals. The tunnels, planes, and viaducts of the Allegheny Portage, and Baltimore and Ohio railroads, the hydraulic constructions of the Delaware and Raritan, and Delaware and Chesapeake canals, and the thousand other different works to be found on the numerous canals and railroads of our country. We have breakwaters, artificial harbors, aqueducts and reports on aqueducts, bridges, light-houses, dry docks, and wet docks; and, in fact, artificial constructions of every kind, inferior in boldness of conception or skill of execution to but very few of the boasted works of the English or French engineers. If in a densely settled country like England, with every facility of visiting and becoming acquainted with each other's works, it has been found necessary for the preservation of the dignity of the profession, and for the dissemination of mutual experience, to form themselves into an incorporated society, how much the more does it become necessary for the profession here, to adopt some similar measure. From the comparative paucity of their numbers, they are scattered over an immense section of country, and though, oftentimes two, three, or more works, may from their proximity be under the charge of one person, still from the progress of internal improvement in this country, the profession, from its inadequacy to supply the companies that are daily forming with suitable persons to construct their works, will be daily liable to abuse. Some terprising carpenter or mason of the neighborhood, becoming possessed of a level and compass, styles himself an engineer, and is forthwith, for want of a better, employed by them as such. That some of our most distinguished engineers have commenced in a like manner, no one is more fully aware than ourselves, yet while, from sound judgment and great ability, they have been enabled to elevate themselves

to the highest standing, we are constrained to regard them only as glorious exceptions to the general rule. If the remark is not applicable as a general rule to those who thus commence, why is it, we would ask, that, young as our country is, we already have to lament over so many abortive experiments?

If such an institution as a "Society of Civil Engineers" existed among us, our companies would, as a matter of course, look to its members as the proper persons to which to entrust the charge of their several works. Those entering the profession would naturally connect themselves with some one engineer whose reputation for ability would thus become publicly known, and under whom they could attain that information and experience which would in turn enable them to supply the places that must one day become vacant. That an efficient remedy for the evils we previously stated would be found in such an institution, we firmly believe, and in that belief would cheerfully open our columns for communications on the subject; and as an ardent advocate of the cause of internal improvement, we pledge ourselves that no exertion shall be wanting on our part, that might conduce to carry into effect a measure in which we think the best interests of that cause are so deeply concerned.

CANAL OF BURGUNDY.—The line of internal navigation, which this magnificent undertaking has at last completed, extends from Havre de Grace to Marseilles, and is of the length of 300 leagues and upwards. It was commenced by the states of Burgundy in the year 1775, continued during the imperial sway of Bonaparte, and resumed in the year 1822. The whole sum expended upon it, from first to last, amounted to 40,000,000 francs, (£1,000,000.) Its actual length from St. Jean de Losne to the village of La Roche, where it meets the Yonne, is 242,572 metres, or 795,530 feet. It is provided with 159 sluices.

A CANAL UNITING THE RHINE WITH THE RHONE, and 246,000 metres (or 807,035 feet) in length, has likewise been opened; it begins at St. Symphorien, where it joins the Saone, and passes into the Rhine at a village called Kilstett, near Strasburg. It has also a branch leading from Mulhausen to Basle. The expense of constructing this canal was much less than that of the canal of Burgundy, as there were fewer difficulties to overcome in forming it.—[English paper.]

Substitute for Railroads and Canals, embracing a New Plan of Roadway, combining with the Operation of Steam Carriages, great Economy in carrying into effect a System of Internal Improvement. By ROBERT MILLS, Engineer and Architect.

(Continued from page 626.)

NO. XIV.

The economy of the new plan of roadway, both in its execution and operation with steam carriages, being now established, I shall proceed briefly to describe its mode of construction:

After the line of road has been properly graded, so that no rise or inclination exceeds three degrees, proceed to lay out the space into wheel tracks (two or more, according to circumstances,) of the usual carriage width between the wheels, and form these tracks into paved ways of suitable breadth, and of a shape particularly adapted to the safe travel of the wheels, to prevent their leaving the track, except at the will of the steersman.

Where locomotive carriages only are to travel the road, it will not be necessary to pave between the tracks, by which much expense will be avoided.

These track ways may be paved either with metal stone upon the McAdamized plan, or with the quarry stone, fairly e upwards, (as the streets in the new part of Baltimore are paved,) or with flag stones laid upon a gravel bed, or with solid blocks of granite, or any hard stone. The cross sections of these paved tracks to present a concave surface, so that the wheels running over them should have no tendency to fly the track.

Upon the most perfect plan of construction, these paved tracks would be little inferior to railways upon the level, and much superior where an ascent is to be gained, as the bite of the wheel upon the stone ways is sufficient to enable a steam carriage to ascend a hill rising six hundred feet in the mile, when on a railway the same carriage would scarcely be able to carry itself up an inclination rising two hundred feet in the mile. This is an important consideration, where the motive power is to be steam; as the same power which would propel the locomotive carriage with its load on a horizontal road fifteen to twenty miles an hour, would enable it to ascend a hill rising three hundred feet in the mile, at a speed of five miles an hour, without difficulty.

The vast expense, therefore, of making a railroad over a hilly country, may, by the proposed plan, be avoided; and thus a serious obstacle in effecting an important improvement, be removed.

NO. XV.

The new roadway proposed will be found to embrace many advantages, in a public point of view, which a railway cannot possess. The steam carriage, after running to the end of this road, for instance, in entering a city, would be able to traverse any of its streets and communicate with every part of it: this advantage the railroad locomotive cannot realize, from the particular construction of the wheels. Again, this new roadway, from the tracks being spaced to correspond with the division of common carriage wheels, other vehicles besides those that are locomotive, may travel it, and thus the public convenience be accommodated at the same time that the proprietors of the road would receive the full benefit of their improvement. This description of road, from this circumstance, would certainly be more popular than a railway, as it would possess the advantage of canals in giving to every one an opportunity of using it.

Again, from a series of experiments made in England, on a part of the Liverpool and Manchester railway, to determine upon the practicability of impelling carriages upon a railway, by means of a power derived from the inequalities or undulations of the line, it appears that the correctness of the theory ad-

vanced by the inventor, Mr. Badnall, was so satisfactory, as to leave no doubt of the soundness of the principle. Should future results from experiment confirm present impressions on the value of this discovery, the obstacles to making a road over a hilly country will be almost entirely removed.

NO. XVI.

The undulating roadway, which was referred to in the preceding number, appears (says an eye-witness to the experiments made) to have something extremely feasible in the plan; and being one which can be tested by actual experiment, no extraordinary credulity is involved in giving a serious consideration to its practical applicability. It rests upon one of the simplest laws of nature, which is within the daily experience of almost every individual. We all know that a wheeled vehicle, or any other body, moving freely down a declivity, accumulates a degree of velocity within itself, which will propel it a certain distance after it has ceased to be acted upon by the descent of the road. This momentum will be the greater weight of the body, which is all in favor of the object to which the inventor proposes to apply it. In order to discover how far the impetus acquired in falling down one slope of an undulating road would be availing in impelling a train of carriages over the next, the experiment is very simple; a certain degree of velocity being given to a load at the foot of an ascent, sufficient to carry it to the summit, we have only to ascertain whether an equal degree of velocity could be given to the load by its own passage down a plane of the same inclination. For this purpose it is only necessary to allow the load to traverse the plane in a reverse direction, and ascertain the velocity with which it again passes the foot of the ascent.

The following experiments, to test the principle, were made in the presence of Mr. R. Stephenson, Senior, Messrs. Dixons, Daglish and Badnall, Engineers.

Experiment 1.—The Liver engine and a load of thirteen wagons, weighing in all about seventy-two and a half tons, after traversing a distance of three-fourths of a mile, to acquire a sufficient velocity, ran up the inclined plane two hundred and seventy-eight yards: the time occupied in performing the latter distance being ninety seconds.

Experiment 2.—The power being reversed, the engine and train descended two hundred and seventy-eight yards: the time occupied in the descent, viz. from a state of rest to the point from which the time of ascent had been calculated, being only fifty seconds. The 3d, 4th, 5th, and 6th experiments differed but a few seconds from the above, and the average was as follows:

Total space passed over to generate the velocity, one thousand three hundred and twenty feet.

Time occupied in ascending two hundred and seventy-eight yards, eighty-one and two-thirds seconds.

Total space passed over in generating the velocity on inclined plane, two hundred and seventy-eight yards.

Time occupied in descending two hundred and seventy-eight yards, forty-six and one-sixth seconds.

It is almost needless to add, that these experiments have most fully confirmed the undulating principle, and proved beyond all doubt that a locomotive engine and load can traverse a curve or undulation, whose two summits are of equal altitude, with much greater rapidity, and consequently with far greater economy of time and power, than a level road of proportional length.

NO. XVII.

It being the opinion of Mr. Badnall, that if a velocity of twenty miles an hour were attained at the foot of the plane by two engines, it would be proved by experiment that an en-

gine could move from one summit of an undulation to another summit nearly, if not quite double, the load which that engine was capable of moving on a level: it was determined by the gentlemen present to decide this important question in a few days.

We shall, therefore, soon learn the result of these experiments, which will determine the value of this improvement in the undulating line of roads. From what has been proved, it is evident that no disadvantage can arise from an undulating road, to the carriage travelling thereon; but on the contrary, a positive advantage both in speed and power. Consequently, a hilly or rolling country would offer no serious impediment to the construction of roads where locomotive carriages are to operate; and we may judge what an expense would be saved, by avoiding the cutting down of hills to form a level road. This invention, therefore, if future trials should substantiate the truth of the principle applied in practice, will add much to the economy of constructing the proposed plan of road, and increase the effect of the steam carriages working on the same.

NO. XVIII.

Having thus briefly exhibited the advantages of the new plan of road proposed, especially on the ground of economy, little more, in a general way, remains to be said further, than to urge upon all those who are projecting and carrying into execution plans of internal improvement, the expediency of adopting this new system of roadway, as promising to secure a more profitable return of interest on the capital laid out, than can be realized from any other plan either of railway or canal. In a level country there would exist a considerable disparity in the cost of the two systems of improvement.

The average expense of laying a double line of tracks on a railroad, independent of grading, is \$11,628 per mile; the cost of a thorough double paved way upon the plan proposed, exclusive of grading, is \$4,000 per mile; and if the wheel tracks are only paved, \$2,500 per mile. Difference in the case of a thorough pavement, \$7,628 per mile. Difference in the case of the wheel tracks only paved, \$9,128 per mile. So that in a road one hundred miles long, there would be a saving, in the best plan of trackway, of \$662,500; and on the cheapest plan, of \$912,800.

Should we take into calculation the expense of grading, upon the two plans, there will appear another large difference in favor of the proposed plan, where a hilly country has to be passed: this has been already shown in the instance of the railroad projected between this city and Baltimore; and I would again call the attention of the proprietors of this road, to the immense saving they would realize by adopting the substitute proposed, not only in the cost of the road, but in the motive power used, or rather in the rate of transportation to be charged, as a passenger could be conveyed from city to city on the new plan of road and with equal speed for only one dollar, and yield the company a better interest than the charge of two dollars and a half on a railroad, which large sum it is necessary to demand, to meet the heavy interest accruing on the capital embarked or to be laid out on the work.

In the great project which the writer had the honor to submit to the late Post-Master General, (Judge McLean,) some years ago, to construct a railroad from Washington to New-Orleans, passing through all the seats of Government of the sea-board States, with what economy this important work might be executed upon the plan proposed. Passing chiefly through an alluvial country, little grading would be required, therefore assuming the distance between the two points to be one thousand two hundred and fifty miles, a paved way upon the plan proposed may be estimated to cost about six millions of dollars.

Companies engaged in projecting works of internal improvement, and desirous of further information on the subject contained in the preceding papers, by addressing the subscriber, (post paid) will have their inquiries answered.

ROBERT MILLS,
Engineer and Architect, Washington City.

SUMMARY OF FACTS.

1. Carriages, propelled by steam have averaged a speed of ten miles per hour, on common roads; and on good roads, with the same power, they have been propelled at the rate of thirty miles per hour, for four hours and a half together, with nineteen passengers.

2. They have ascended hills of considerable rise, (1 in 6,) at sixteen and a half miles per hour, loaded with people; they experienced no difficulty in travelling over even the worst and most hilly roads; and further, they were capable of overcoming any ascent which carriages drawn by horses could accomplish, and with much more facility and safety.

3. The saving of expense to travellers, by the substitution of steam for that of horse power, is from one-half to one-third, even on common roads; and upon a good road, adapted for the operation of these carriages, the expenses of transportation would be reduced to half this amount, probably one-fifth or one-sixth that of horse power.

4. They are perfectly safe for passengers; less liable to accident than where horses are used; more manageable in the higher velocities; and their speed capable of being checked at pleasure, in a very few moments.

5. Steam carriages will be found superior, working on good stone roads, to the operation of the same power or railroads—1st, From their capacity to ascend and descend hills, perfectly inaccessible on railroads—2d, From the greater speed which may be given them with safety, and the ease with which they may be checked when requisite, or when encountering an obstacle—3d, From their being able to travel in any direction, making short turns, or the entire sweep of the circle, in a small compass; which advantages will enable them to carry their passengers to any point in a city, which the locomotive carriage on a railroad could not effect without laying a track for this purpose.

6. By the use of steam carriages on good stone roads, a vast saving of expense to the country would result, as the difference of cost between such stone roads and railroads or canals, would be at least two-thirds; so that, if 60 miles of railway or canal cost \$1,200,000, a good stone road would cost but \$400,000.

7. By the use of steam carriages, the expense of repairs of the road will be much reduced, as it has been proved that horses do the chief damage to roads; the carriage wheels but little.

8. The general introduction of steam carriages on these roads will have the effect of removing horse power, "a most unproductive laborer," says Mr. Gurney, "and a dead expense to the country." The advantage to the nation will therefore be in a direct proportion to the substitution of steam for horse power.

The consumption of a horse is equal to what will support eight persons; so that by every horse removed, and supplied by elementary power, the maintenance of eight individuals is provided for. In times of scarcity, this advantage would be sensibly felt in the country, and more especially in the manufacturing districts.

NEW ORLEANS, SEPT. 19.—Comical Accident.—Yesterday the Locomotive Creole of the Railroad, being ready to start for the city, with several cars attached, having been left by the engineer for a few moments, started backwards with full steam, and safely deposited itself and the cars in twelve feet water at the end of the wharf.

On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points. By J. S. VAN DE GRAAFF. Continued from page 628. [For the American Railroad Journal.]

It frequently happens, in tracing curves for the superstructure of a railroad upon a graded surface, that AX will represent a fixed tangent, and that the point A' will represent a station in a curve which is also fixed, and to which A'X' is a tangent at that point; and it is then required to pass that curve into the curve AA' at the station A' and upon the common tangent A'X'. In such a case it will always be the best method, after the necessary modulus of curvature has been computed by means of (XVII), to trace the curve from A' towards the other origin at A. For then the two curves will meet at A' with an integer chain; and the broken chain will come in more conveniently, at the other extremity of the curve, where it meets the given tangent line AX.

The formulas (XVII.) and (XVIII.) will also, in some cases, be highly useful in conducting the location of a line with facility. Suppose, for example, that AX be a given tangent line, whose direction is fixed by some former curve, and particular local circumstances; and let the line A'X' represent the direction of some bluff, or other obstacle, which makes it desirable for that part of the contemplated road to occupy ground which will correspond with the line A'X', or differ from it as little as circumstances will permit. In this case, then, having selected any convenient point K, in the given tangent line AX, for the origin of co-ordinate axes, let the system of rectangular lines

$$\begin{cases} X = a + b + c + \&c. \\ Y = d + e + f + \&c. \end{cases}$$

be traced from that origin, and terminating in such a point A' as the nature of the ground and the levels may require. Then placing the instrument at A', deflect into the proper direction A'X', and thus measure the angle BA'X'. Having then all the requisite data for computing the origin A, and the necessary modulus of curvature, to pass a curve through the point A' and into the direction A'X', let those items be calculated. It will then be seen, at once, whether the point A', and the direction A'X', can both be maintained within the limits of the desired expense and curvatures; and if not, then either some other point A' must be taken, or some new direction must be assumed. These facts should be always ascertained, and the most judicious line definitely selected, before any curve is actually traced. It is, however, necessary to observe here, that, in the location of a line preparatory to the graduation, it will be very seldom proper to trace a curve backward from any selected point A' to meet the line upon a given tangent AX, as was recommended in the case of a graded surface. For in the first location, integer chains should be always retained when practicable; and which cannot be easily done without tracing the curves and tangent lines continuously. In the case, then, last considered, the following principles should be observed: After the point A' and the direction A'X' have been finally selected, and the requisite origin A, together with the modulus of curvature for the required curve, have been already calculated, if that origin does not fall upon the tangent line AX at an integer chain, then select the nearest integer chain for the true origin; and compute a new modulus of curvature, which will pass a curve from that latter origin through the designated point A'. It is then very evident that the direction of this curve, in passing the point A', will differ but little from the direction of the former curve at the same point. When therefore the curve, as last selected, has been laid within one or two chains of the designated point A', let such a variation be made in the modulus of curvature, for the remaining chain or two, as will restore the parallelism of the two tangents, agreeably to principles which will be obvious enough from

(V.) In this manner the true direction will be obtained; and although the line will not then pass exactly through the designated point A', yet it will not vary a material distance from it.

When this system of operation is to be pursued, it will always be convenient, in selecting the arbitrary point K, to take it at an integer chain, counting from the termination of the line as actually laid into the given tangent AX; and then if α does not appear from (XVIII.) to be an integer number of chains, select the nearest integer number to it, and the co-ordinates by which to compute the new modulus of curvature, from (XII.) will evidently be $X \pm \alpha$, and Y, regard being had to the proper sign of α , as already explained.

19. Although a system of rectangular lines, traced from given co-ordinate axes, will in general furnish the best data for computation, yet cases sometimes occur when those calculations have to be made from computed curves or curves already laid upon the ground. In a first location, this case will sometimes happen, when, from difficulties which are found in advance of a line, it becomes necessary to change a part of that which was either already computed, or actually laid. Such a case will sometimes occur even when the operations in the field have been skillfully conducted; and in laying curves upon a surface already graded, it will be frequently necessary to compute from curves actually traced; for in that case it will be often required to notice the particular situations of several stations in a curve or tangent line, and which cannot be so readily done in any other manner as by actually laying an approximate line upon the ground. The notes of those approximate lines are, moreover, in such cases, always furnished from a former survey.

20. Suppose two curves to be laid upon the same tangent line, and let α denote the distance between their origins. Let one of those curves have a given modulus of curvature denoted by T, and let it pass through a certain given point at the extremity of the n th chain. It is then proposed to find the modulus of curvature of the other curve, such that it may also pass through the same given point; and it is likewise required to determine the angle of intersection of the two curves at that point.

The co-ordinates of the given point, taken with reference to the origin of the required curve, are obviously, $x \pm \alpha$ and y; and consequently, taking T' to denote the required modulus of curvature, its value will be expressed by

$$\text{Sin. } T' = \frac{y}{x^2 + y^2 \pm 2\alpha x + \alpha^2}, \text{ as appears from}$$

(XII.) Hence, substituting in this expression, for x and y, their values* as obtained by (VII.), the following theorem will be the obvious result:

$$\text{Sin. } T' = \frac{1 - \text{Cos. } 2nT}{1 \text{Cos. } 2nT \pm 2\alpha \text{ Sin. } 2nT + 2\alpha^2 \text{ Sin. } T} \quad (\text{XIX.})$$

The formula thus obtained will be found to be quite convenient for purposes in the field, when the curves are too long to be within the limits of the more simple approximating methods, which will be hereafter explained.

With regard to the double sign, it must be observed that the negative value of α obtains when the origin of the curve sought is in advance of the origin of the given curve, with respect to the direction in which the curves are laid from their origins; and the positive value must be taken in the contrary case.

In order to determine the angle of intersec-

* Note.—By squaring each of the two formulas given by (VII.), and adding the two squares together, the following expression will result after a little reduction:

$$x^2 + y^2 = \frac{1 - \text{Cos. } 2nT}{2 \text{ Sin. } nT}$$

This is, however, not the form which a formula should have for computing the numerical value of $x^2 + y^2$; but it is useful in reducing other formulas.

tion of the two curves, take D' to denote the number of degrees and minutes contained in the curve whose modulus of curvature is T' , between its origin and the given point, and which will, consequently, by (I.) and (IV.) also express the inclination of the required curve, at that point, to the common tangent at the origins. The value of D' will then be expressed by

$$\text{Cot. } \frac{1}{2}D = \frac{x \pm \alpha}{y},$$

as appears from (XIII.) Now, substituting in this expression for x and y , their values as given by (VII.), the following formula will be the result:

$$\text{Cot. } \frac{1}{2}D' = \text{Cot. } nT \pm 2\alpha \frac{\sin. T}{1 - \cos. 2nT} \quad (\text{XX.})$$

The value of D' being thus obtained, the required angle of intersection will be expressed by $2nT - D'$; as evidently appears from (V.)

Example 1. Let the modulus of curvature of the given curve be $30'$, and let the given point be at the extremity of the 60th chain. Supposing the origin of the other curve to be placed 10 chains back upon the tangent line, what will be the new modulus of curvature, and what will be the angle of intersection at the given point?

In this case,

$$\begin{aligned} \sin. T' &= \frac{.50000}{.00873} + 20 \times .56603 + 200 \times .00873 \\ &= \frac{.50000}{.00873} + 11.3206 + 1.746 = 76.366 \\ &= 57.299 + 17.321 + 1.746 = 76.366 = .00655; \\ \text{and consequently, } T' &= 0^\circ 22\frac{1}{2}' = \text{required modulus of curvature. And, Cot. } \frac{1}{2}D' = 1.73205 \\ &+ 20 \times \frac{.00873}{.50000} = 1.73205 + 20 \times .01746 = 1.73205 \\ &+ .84920 = 2.08125; \text{ and therefore, } \frac{1}{2}D' = 25^\circ 40'; \text{ or, } D' = 51^\circ 20'. \text{ Hence, } 2nT - D' = 60^\circ - 51^\circ 20' = 8^\circ 40', \text{ the angle of intersection required.} \end{aligned}$$

Example 2. Let the modulus of curvature of the given curve be 2° , and let the given point be at the extremity of the 31st chain. Supposing the new curve to be commenced one chain in advance upon the tangent line, what will be the required modulus of curvature, and what will be the angle of intersection at the given point?

Here, $T = 2^\circ$, and $n = 31$; and consequently $2nT = 124^\circ$. Hence, in this case, $\cos. 2nT$ becomes negative, while $\sin. 2nT$ remains positive, agreeably to the principles of trigonometry. Also, in the present example, $\alpha = -1$. Under those considerations, the formula (XIX.) gives,

$$\begin{aligned} \sin. T' &= \frac{1 + \cos. 56^\circ}{1 + \cos. 56^\circ - 2 \sin. 56^\circ + 2 \sin. 2^\circ} \\ &= \frac{1.55919}{.03490} - 2 \times .82904 + 2 \times .03490 \\ &= \frac{1.55919}{.03490} - 1.65808 + .06980 = 42.788 = .03643; \text{ or, } T' = 2^\circ 5\frac{1}{4}' = \text{required modulus of curvature.} \\ \text{In obtaining the value of the angle } D' \text{ by means of (XX.), the necessary sign of the trigonometrical quantities must in like manner be observed; and consequently, Cot. } \frac{1}{2}D' &= \text{Cot. } 62^\circ \\ &- 2 \times \frac{\sin. 2^\circ}{1 + \cos. 56^\circ} = .53171 - 2 \times \frac{.03490}{1.55919} \\ &= .53171 - 2 \times .02239 = .53171 - .04478 = .48693; \\ \text{or } \frac{1}{2}D' &= 64^\circ 2'; \text{ and, } D' = 128^\circ 4'. \text{ Hence, } D' - 2nT = 4^\circ 4', \text{ the angle of intersection required.} \end{aligned}$$

In computing the modulus of curvature for a long curve, which is required to be laid with precision, it will not be sufficient to obtain a result only true to the nearest full minute. For in tracing a curve agreeably to the principles given in Art. 3, it is evident that multiples

of the modulus of curvature are required in laying the different chains; and consequently, an error of $\frac{1}{4}'$ in the modulus of curvature would produce an error of $2'$ in the angle of deflection, placing the 8th chain from the instrument. Now, in any common instrument, containing a good vernier scale, an angle of $2'$ is quite perceptible. Indeed, if the chains be 100 feet each, an angle of $2'$ will be subtended by a line nearly 6 inches long at a distance of 8 chains; and it follows, therefore, that an error of one fourth part of a minute, in the modulus of curvature, will, in such a case, produce an error of nearly 6 inches in the position of every 8th station from the instrument. And as the effects of this error will not continue to be only proportionably greater through the whole line, but will accumulate faster and faster, in a geometrical ratio, it is evident that an error of $\frac{1}{4}'$ in the modulus of curvature is an item of considerable consequence in laying long curves upon a graded surface.

On the Comparative Value and Importance of Mathematical Science, and on the Pretensions of its Professors. [From the London Mechanics Magazine.]

[Continued from page 632.]

Let us take other views of mathematicians and practical men bending their faculties towards the attainment of the same object. The most valuable method of determining the longitude was at last accomplished through practical means, and by practical men. Euler aimed to produce an achromatic lens as well as Dolland, but it was the latter who succeeded; and their respective modes of proceeding mark both the character and comparative value of their efforts. As to the steam engine, science (other than the most common) cannot lay a particle of claim to it. It is the all-important gift to the world from practical men alone. One was a miner, another was a blacksmith, a third was a glazier, and a fourth a watchmaker. Science has not even now elucidated all its principles,—one important point is as obscure at the present day as ever it was. During the time this mighty engine was maturing, and having for its ultimate effect a political, a moral, and a social revolution throughout the whole earth, the mathematicians of the foreign academies, the Eulers, and the Bernouilles, even when engaged on physico-mathematical subjects, were exciting each other's ingenuity, and eliciting their mutual admiration, by very profound but very sterile inquiries into things selected purposely and merely for the opportunity they afforded for the most abstruse and difficult investigations. Such was that concerning the gyratory motion of a body fastened to an extensible thread, first in a horizontal plane, and then, for the sake of the choice piece of complication produced by the introduction of the force of gravity, in a vertical plane, but ending at last with a suspicion that all was wrong. Such was that on the formulae for determining the motion of a thread perfectly flexible, ending in unmanageable equations. And such was that concerning tractory and compound tractory curves, formed by a weight in one case, and two or more weights in the other, being moved by a thread whose end travels along a line either straight or curved, ending also unsatisfactorily. Your Magazine, Mr. Editor, is also the theatre occasionally for the display and sharpening of the wits of certain geometrical correspondents. Such was the tendency of the problem lately proposed and solved—"To inscribe a quadrilateral in a given circle, having given

each of the diagonals and area." Why should not these have their puzzles as well as the more profound analysts? They form good school boy exercises, and school-boys accordingly have sustained a conspicuous part on your stage. Some persons are particularly apt at such questions, and so are others at solving riddles. The different manner in which the proposal for an undulating line in lieu of a level railway has been received by the mere mathematicians on the one hand, and by the body of civil engineers on the other, is also abundantly significant of the comparative rank and importance which the former hold in the scale of intellect and utility. Your correspondents, Kinclaven, Iver Maciver, and M. S., are mathematicians—geometricians, at any rate—and they have sided with Mr. Badnall. Be it so—the impress is of their own stamping, and the currency is their own issue.

The limits to which I am confined will permit me merely to allude, and only, to a few more instances of the unfitness of the mere mathematician for physical inquiries, and of the unsatisfactory applications of their science. At one time the animal economy was mathematically and mechanically explained. The treatises on physiology were filled with problems, long calculations, and algebraic formulæ. Lawrence says, "that one estimated the force of the heart as equal to 180,000 pounds; another reduced it to 8 oz.; and both these conclusions are deduced from reasonings clothed in all the imposing forms of the exact sciences."

Even the phenomena of the mind have been forced within the pale of mathematical disquisition. Hartley's elaborate hypothesis of the vibratory nature of thought and feeling would afford a choice and subtle theme for analysts of the French school, if only a few facts could be found to give it a coloring of truth, and a plausible pretence for the application of the calculus. We may then hope to find an expression for the velocity of our ideas, with the corrections due to variations in the temperature, moisture, and tension of the medullary fibre!

To come to our own times, there is Sir R. Phillips' theory of all things—ingenious enough, but that is all. Then there is Mr. Herepath's mathematico-chemical theory, accompanied with a challenge to the Royal Society, and preposterously backed with an offer to wager £1000 on the issue, in which the molecules of the gases are continually jostling each other and perpetually at loggerheads. The whole scheme is, however, mathematically and demonstrably true, especially if reasoning in a circle be only a circuitous way to truth.* Then there is the more measured movement of the ultimate particles of matter according to the theory of Mr. Emmet, by reason of the altered ratio of the forces which previously held them in equilibrium—the disturbing force being caloric. More recently there is the somewhat similar, but more elaborate and comprehen-

* This conspicuous herald of his own and Mr. Gurney's fame will surely be satisfied if his theory be as true as his assertion, that Mr. Gurney's steam-drag would transfer the same weight as it does on a common road, "two hundred and sixty or two hundred and eighty miles per hour on a railway, supposing mechanical laws followed, and that the materials and the resistance of the atmosphere would allow it." A slight mistake this—identical with Kinclaven's, of supposing the expenditure of power not to follow the ratio of the velocity as well as the resistance. This is another instance, by-the-by, on the part of both these persons, (for they are one only in error, I imagine,) of mathematical fitness and sagacity for physical inquiries.

tion of the two curves, take D' to denote the number of degrees and minutes contained in the curve whose modulus of curvature is T' , between its origin and the given point, and which will, consequently, by (I.) and (IV.) also express the inclination of the required curve, at that point, to the common tangent at the origins. The value of D' will then be expressed by

$$\text{Cot. } \frac{1}{2}D' = \frac{x \pm \alpha}{y},$$

as appears from (XIII.) Now, substituting in this expression for x and y , their values as given by (VII.), the following formula will be the result:

$$\text{Cot. } \frac{1}{2}D' = \text{Cot. } nT \pm 2\alpha \frac{\text{Sin. } T}{1 - \text{Cos. } 2nT}. \quad (\text{XX.})$$

The value of D' being thus obtained, the required angle of intersection will be expressed by $2nT - D'$; as evidently appears from (V.)

Example 1. Let the modulus of curvature of the given curve be $30'$, and let the given point be at the extremity of the 60th chain. Supposing the origin of the other curve to be placed 10 chains back upon the tangent line, what will be the new modulus of curvature, and what will be the angle of intersection at the given point?

In this case,
 $\text{Sin. } T' = \frac{.50000}{.00873} + 20 \times .86603 + 200 \times .00873$
 $= \frac{.50000}{.00873} + 17.321 + 1.746 = 76.366 = .00655$;
 and consequently, $T' = 0^\circ 23\frac{1}{2}'$ = required modulus of curvature. And, $\text{Cot. } \frac{1}{2}D' = 1.73205$
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Example 2. Let the modulus of curvature of the given curve be 2° , and let the given point be at the extremity of the 31st chain. Supposing the new curve to be commenced one chain in advance upon the tangent line, what will be the required modulus of curvature, and what will be the angle of intersection at the given point?

Here, $T = 2^\circ$, and $n = 31$; and consequently $2nT = 124^\circ$. Hence, in this Case, $\text{cos. } 2nT$ becomes negative, while $\text{Sin. } 2nT$ remains positive, agreeably to the principles of trigonometry. Also, in the present example, $\alpha = -1$. Under those considerations, the formula (XIX.) gives,

$\text{Sin. } T' = \frac{1 + \text{Cos. } 56^\circ}{1 + \text{Cos. } 56^\circ - 2 \text{Sin. } 56^\circ + 2 \text{Sin. } 2^\circ}$
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of the modulus of curvature are required in laying the different chains; and consequently, an error of $\frac{1}{4}'$ in the modulus of curvature would produce an error of $2'$ in the angle of deflection, placing the 8th chain from the instrument. Now, in any common instrument, containing a good vernier scale, an angle of $2'$ is quite perceptible. Indeed, if the chains be 100 feet each, an angle of $2'$ will be subtended by a line nearly 6 inches long at a distance of 8 chains; and it follows, therefore, that an error of one fourth part of a minute, in the modulus of curvature, will, in such a case, produce an error of nearly 6 inches in the position of every 8th station from the instrument. And as the effects of this error will not continue to be only proportionably greater through the whole line, but will accumulate faster and faster, in a geometrical ratio, it is evident that an error of $\frac{1}{4}'$ in the modulus of curvature is an item of considerable consequence in laying long curves upon a graded surface.

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Let us take other views of mathematicians and practical men bending their faculties towards the attainment of the same object. The most valuable method of determining the longitude was at last accomplished through practical means, and by practical men. Euler aimed to produce an achromatic lens as well as Dolland, but it was the latter who succeeded; and their respective modes of proceeding mark both the character and comparative value of their efforts. As to the steam engine, science (other than the most common) cannot lay a particle of claim to it. It is the all-important gift to the world from practical men alone. One was a miner, another was a blacksmith, a third was a glazier, and a fourth a watchmaker. Science has not even now elucidated all its principles,—one important point is as obscure at the present day as ever it was. During the time this mighty engine was maturing, and having for its ultimate effect a political, a moral, and a social revolution throughout the whole earth, the mathematicians of the foreign academies, the Eulers, and the Bernouilles, even when engaged on physico-mathematical subjects, were exciting each other's ingenuity, and eliciting their mutual admiration, by very profound but very sterile inquiries into things selected purposely and merely for the opportunity they afforded for the most abstruse and difficult investigations. Such was that concerning the gyratory motion of a body fastened to an extensible thread, first in a horizontal plane, and then, for the sake of the choice piece of complication produced by the introduction of the force of gravity, in a vertical plane, but ending at last with a suspicion that all was wrong. Such was that on the formulæ for determining the motion of a thread perfectly flexible, ending in unmanageable equations. And such was that concerning tractory and compound tractory curves, formed by a weight in one case, and two or more weights in the other, being moved by a thread whose end travels along a line either straight or curved, ending also unsatisfactorily. Your Magazine, Mr. Editor, is also the theatre occasionally for the display and sharpening of the wits of certain geometrical correspondents. Such was the tendency of the problem lately proposed and solved—"To inscribe a quadrilateral in a given circle, having given

each of the diagonals and area." Why should not these have their puzzles as well as the more profound analysts? They form good school boy exercises, and school-boys accordingly have sustained a conspicuous part on your stage. Some persons are particularly apt at such questions, and so are others at solving riddles. The different manner in which the proposal for an undulating in lieu of a level railway has been received by the mere mathematicians on the one hand, and by the body of civil engineers on the other, is also abundantly significant of the comparative rank and importance which the former hold in the scale of intellect and utility. Your correspondents, Kinclaven, Iver Maciver, and M. S., are mathematicians—geometricians, at any rate—and they have sided with Mr. Badnall. Be it so—the impress is of their own stamping, and the currency is their own issue.

The limits to which I am confined will permit me merely to allude, and only, to a few more instances of the unfitness of the mere mathematician for physical inquiries, and of the unsatisfactory applications of their science. At one time the animal economy was mathematically and mechanically explained. The treatises on physiology were filled with problems, long calculations, and algebraic formulæ. Lawrence says, "that one estimated the force of the heart as equal to 180,000 pounds; another reduced it to 8 oz.; and both these conclusions are deduced from reasonings clothed in all the imposing forms of the exact sciences."

Even the phenomena of the mind have been forced within the pale of mathematical disquisition. Hartley's elaborate hypothesis of the vibratory nature of thought and feeling would afford a choice and subtle theme for analysts of the French school, if only a few facts could be found to give it a coloring of truth, and a plausible pretence for the application of the calculus. We may then hope to find an expression for the velocity of our ideas, with the corrections due to variations in the temperature, moisture, and tension of the medullary fibre!

To come to our own times, there is Sir R. Phillips' theory of all things—ingenious enough, but that is all. Then there is Mr. Herepath's mathematico-chemical theory, accompanied with a challenge to the Royal Society, and preposterously backed with an offer to wager £1000 on the issue, in which the molecules of the gases are continually jostling each other and perpetually at loggerheads. The whole scheme is, however, mathematically and demonstrably true, especially if reasoning in a circle be only a circuitous way to truth.* Then there is the more measured movement of the ultimate particles of matter according to the theory of Mr. Emmet, by reason of the altered ratio of the forces which previously held them in equilibrium—the disturbing force being caloric. More recently there is the somewhat similar, but more elaborate and comprehen-

* This conspicuous herald of his own and Mr. Gurney's fame will surely be satisfied if his theory be as true as his assertion, that Mr. Gurney's steam-drag would transfer the same weight as it does on a common road, "two hundred and sixty or two hundred and eighty miles per hour on a railway, supposing mechanical laws followed, and that the materials and the resistance of the atmosphere would allow it." A slight mistake this—identical with Kinclaven's, of supposing the expenditure of power not to follow the ratio of the velocity as well as the resistance. This is another instance, by-the-by, on the part of both these persons, (for they are one only in error, I imagine,) of mathematical fitness and sagacity for physical inquiries.

British cellar, to be sent to a customer. A bottle is drawn for trial, and is found to be deficient in effervescence. This can be remedied by inducing a new fermentation; and we know that it is the practice to accelerate this desirable quality by means of the introduction of a syrup of sugar candy, mixed and purified with cream of tartar. This addition, which is put into the bottle in proportion to the taste of the customer, is certainly not deleterious. But the cork is drawn, the seal is broken, and a part, perhaps a few chips of the wax, is rubbed off, and enters into the bottle. If the color has been either green or yellow, arsenic also enters; and, unfortunately, the world is but too well acquainted with the consequences. We may also add, that in French cellars the wax has another object in view besides (what is generally thought) the exclusion of the atmospheric air. In that country there are numerous swarms of insects, who are ready to devour the corks, and penetrate to the liquid. As far as regards these insects, the poisonous quality of the coloring matter is not to be regretted."—p. 52.

A danger of a less formidable nature to be guarded against, is the substitution of certain home-made imitations for the genuine products of the continental vineyards:

"Of all the vinous liquids which are manufactured in this country, beer and ale, cider and perry, (and mead and mum, when not banished by excise regulations,) are the only kinds that can be called national. The juices of most of our native fruits possess too little *saccharum* to be fermented pure; and when malt wort, or honey, was formerly added, as sugar has been in late times, the compound was also flavored and colored with extraneous substances, so as to imitate one or other of the favorite wines of the Continent. This was more particularly attended to when the making of 'sweets,' or 'British wines,' became a trade. The imitation of foreign wines originated in fraud, and excise duties raised the imitators to the rank of authorised manufacturers. As long as these gentlemen were contented with the ordinary names of currant wine, gooseberry wine, &c. all was well; but we now see champagne, sherry, port, &c. in the bills of the British wine makers, and we have little doubt that some of these compounds occasionally find their way into the cellars of the 'dealers in foreign wines.' Champagne, in particular, is a very high priced article; and the British champagne, made from gooseberries, if properly made, and drunk when young, may impose upon three-fourths of the purchasers. Perry, also, particularly in mixture, is passed off for champagne, and is, perhaps, not much inferior to the real wine which it imitates. It is not so much the inferiority as the lie, which passes a cheaply made article for one that is more expensive, that constitutes the quackery and the crime of those ingenious imitators. If we can make a British wine equal to champagne, we have a right to do so; but we have no right to pass it off in trade as a foreign wine."—pp. 61, 62.

In the "Appendix concerning Cider and Perry," Mr. Booth represents the English manufacture of both these liquids to be in a very declining state. His observations on the subject are well deserving of attention: "We have reason to believe that the superior sorts of perry, as well as of cider, though they may have the same names, are

not equal to what were sold for such forty or fifty years ago. Most of the trees that were famed for the excellence of their produce are either dying or dead. Mr. Marshall published his Rural Economy of Gloucestershire in 1789, at which period he laments the decay of the finest fruit trees. 'All the old fruits,' he says, 'which raised the fame of the liquors of this county (Herefordshire,) are now lost, or so far on the decline as to be deemed irrecoverable. The red streak is given up; the celebrated *stire apple* is going off; and the *squash pear*, which has probably furnished this country with more champagne than was ever imported into it, can no longer be got to flourish; the stocks canker and are unproductive.' The squash pear is described as remarkable for the tenderness of its flesh, which bursts, (or rather bursted,) if allowed to fall ripe from the tree; and hence the name.'—pp. 119, 120.

The pity is the greater, that our British perry is (or rather was) a species of wine particularly worthy of cultivation:

"Perry, when the manufacture has been successful, is much more similar than cider to the sweet wines of the grape. Without any mixture it has often been taken for the best quality of effervescing champagne. The juice, mixed with an equal quantity of a purified syrup of sugar or of honey, of about 25 lbs. gravity, (being allowed to finish its fermentation, so as to be bright before bottling,) is scarcely to be distinguished from a foreign wine of a superior species."—p. 121.

IRON BOAT ON A NEW PRINCIPLE.—Mr. David Napier, engineer, has fitted up an iron boat on a new principle, to sail on the Clyde. A large portion of the boat below the water line is formed into a condenser, and the water outside keeps it cool, so that little (if any) injection water is required. In this plan, the water pumped into the boiler will not be so salt as if more water were let into the condenser; and an air pump a little smaller than ordinary will work the engine.—[James Whitelaw, Glasgow, June 25.]

NEW LOCOMOTIVE ENGINE.—A new locomotive engine, from the foundry of Messrs. Geo. Forrest & Co., was tried on Monday on the railway. It made the journey from Liverpool to Manchester in 67 minutes, and brought back the first class train in 77 minutes. This powerful and rapid engine is intended for the Dublin and Kingstown Railway.—[Liverpool Chronicle, July 28.]

TRADE ON THE CANALS.—During the week ending on the 28th of September, the following, among other property, passed Utica east on the Erie Canal, viz.:

54,229	barrels of flour.
823	" ashes.
172	" provisions.
57,937	bushels of wheat.
25,517	" coarse grain.
33,914	gallons domestic spirits.
1,111,590	feet of lumber.
18,126	" timber.
361,700	staves.

Amount of tolls on clearances passing and issued at Utica, for the same period, \$37,788.62.

Railroad.—We learn that the Paterson Railroad received in August \$4,500, and in September 4,580. In September, the receipts were, for freight, \$2,000, and for passengers, \$2500. In August, for freight, \$1400, and passengers, \$3,000.

Railroad in Virginia.

ORANGE C. H., Va. October, 1834.

To the Editor of the Railroad Journal:

DEAR SIR,—I have noticed in the Virginia Herald a project for a railroad from Fredericksburg, or the Great Bend of the Potomac, to the Virginia Springs, through the Blue Ridge, &c. I look upon this scheme as both practicable and grand, as far as it goes. But one has only to open his eyes upon your new Railroad Map, which should be in the hands of every friend to internal improvement, in order to be convinced that if this railroad is continued on from the Virginia Springs to the ever navigable waters on the Great Bend of the Ohio at Guyandot, it at once opens the most superb highway that can possibly be constructed in the United States, to the great West. It unites the great South-west with the Atlantic in a much shorter distance than the great Erie canal; and when completed, will enable the farmers of the west to carry their corn, which now sells for \$2½ cents a bushel, to the city of New-York in less than 48 hours. Besides, the public will be accommodated in carrying from the great valley of the Mississippi, and thence through Fredericksburg and Washington, Baltimore and Philadelphia, to your city, in a comparatively short period; whereas, to my knowledge, hundreds, if not thousands, have during the past season waited at Guyandot, day after day, for want of conveyance to the White Sulphur and the northern cities. All the travel from the South-west to Washington city, during the session of Congress, will of course fall into this track, the route being nearer and quicker than any other. The inhabitants of Kanawha are now ready to do much for the construction of this road, in order to give free transport to the millions of bushels of salt now manufactured annually at their works. A few days ago I saw a merchant from near the salt works on his way to Philadelphia and New-York to buy goods, which he said he should send home by way of Pittsburg or Wheeling, and that he must wait for rains, because the Ohio was quite too low at this time, and at the best it required four weeks at least. Were the railroad of which we have been speaking completed, it would require no more than 44 or 45 hours to transport the same goods from New-York. If I had time I might mention other advantages, but I only wish to call the attention of the public to this route, and I am sure that they will at once see those advantages, and save me the trouble of mentioning them. I am glad to learn that wood for railroads can now be made durable, as it will greatly lessen the expense of excavations and embankments. In the route above mentioned, there are but few streams to cross, and the gaps through the mountains render it comparatively a level grade. I remain, dear Sir, very respectfully, yours,

J. McADAM, JR.

STEAM COMMUNICATION WITH INDIA.—The House of Commons' Committee on Steam Communication with India have reported to the House that, in their opinion, the route by the Euphrates and the Persian Gulf is superior to every other proposed, for its "physical, commercial, and political advantages," and they recommend that a grant of £20,000, should be made by Parliament to defray the expense of giving it a fair trial. The distance from Bir, in the Persian Gulf, where this line would commence, to Scanderoon, in the Mediterranean, is stated to be much less than that between Suez and Alexandria. The Committee do not appear to have inquired at all into the merits of the route by the Cape of Good Hope. We are surprised at this, for whatever may be said in favor of either of the Mediterranean routes, as affording a quick, though not always sure, conveyance for letters, we think it is demonstrable that for goods, passengers and troops, the line by the Cape is that on which steam may be employed with the greatest advantage.

We alluded some time ago to a pamphlet, by the Messrs. Seward, C. E., in which this view of the subject is very ably advocated, and shall take an early opportunity of bringing it again more particularly under the attention of our readers.—[Lond. Mech. Mag.]

[From the Journal of Commerce.]

U. S. DISTRICT COURT.—JUDGE BETTS PRESIDING.
William Falconer vs Edward Clark. Scire Facias to repeal a Patent.

This patent was for an improvement in the manufacture of white lead and other metallic salts. The patent of the defendant was thus set forth; viz:—"I rest my claim to invention on the introduction or admittance of atmospheric air, air containing oxygen, with the other agents or materials named, that is, the vapor of vinegar and carbonic acid generated by the combustion of fuel, or disengaged from chalk or carbonate of lime, either pure, or mixed with such irrelative matter as will not interfere with the process, or by whatever means or apparatus their introduction or admittance may be effected, into cisterns or apartments, appropriately supplied with metal lead, or with the metal to be acted upon."

The plaintiff insisted that this was in principle and effect the process of Montgolfier and Noble, and called John Steele, professor of chemistry, who said he had lectured in Scotland and in New York before the Mechanic's society, and had long devoted himself to the sciences as applied to the arts.

Into his Common Place Book of 1817, from some work of science at Glasgow, he copied Montgolfier's process, which was thus; viz:—"He constructed a reverberatory furnace, in which was placed burning charcoal; the air that passed in was partly torried into carbonic acid gas, and partly passed the furnace undecomposed into a barrel, partly filled with vinegar, and created a vapor of it, which by a tube communicated with a rectangular case, in which was suspended sheets of lead, and into this case passed the vapor of vinegar, carbonic acid gas, and the oxygen not destroyed in passing the furnace. The case had an aperture to pass off the redundant gas. This was a spontaneous in reduction of oxygen, carbonic acid gas, and vapour of vinegar, into a cistern filled with sheets of lead, to convert them into white or carbonate of lead. See Tenard's Chemistry, and Annals de Chimie and Orfila. Noble's patent used, in a different way, the true agents to operate on sheets of the metal. See a specification in Repertory of Arts, vol. 13.

He says Clark's process is the same in principle and effect. The elemental materials the same, and they produce the same effect. From his knowledge of Chemistry, no doubt Montgolfier's plan would succeed—never knew it put in operation—heard of it once in use at Glasgow, and abandoned. Orfila Vol. 1, 1828, is read as follows, viz:—"Before knowing this process (Litharge) they made White Lead by submitting sheets of the metal to the action of vapor of vinegar, air and carbonic acid. The Lead oxydated and passed to a state of sub-acetate, which was then recomposed by the carbonic acid. This process, less advantageous than the first, is not yet altogether abandoned."

Plaintiff rests. Defendant calls Professor Latham W. Gray, who says that he has ascertained that oxygen is taken out of air that passes through the fire.—Presumes if air is a necessary agent, White Lead cannot be made by Montgolfier's process. In Clark's works at Saugerties, the same air goes through the furnace as in the process of Montgolfier, with an additional quantity at Clark's forced in. The great advantage of Clark's method is the forcing in atmospheric air.

Cross-examined.—Says Chemists don't pretend to fix the quantities of the agents. If Montgolfier's plan admitted sufficient air to go through the furnace, it would make White Lead. The difference between Clark and Montgolfier is—Clark has an apparatus to force in air. From Montgolfier's process, I think he intended a sufficient quantity of oxygen should pass the furnace to produce the desired effect; and of his three agents, oxygen was one. In Orfila's treatise I should, as a Chemist, know the agents must be confined, to operate.

James W. Macneven, for Plaintiff, says—He has long been Professor of Chemistry in the New York State Medical College. I have concluded from Works of Science, Montgolfier's process has been put in practice; but I know not the fact. Atmospheric air there is not all decomposed in passing over the charcoal. I may say I am satisfied Montgolfier's plan was used in France. In it, there is a spontaneous supply of oxygen and carbonic acid gas.

William H. Elliott, M. D. has lectured on Chemis-

try, has known Montgolfier's system for many years. Oxygen is a part of it—thinks it would succeed.

Defendant calls Michael Casey, workman. Proves that Ripley at Saugerties draws his carbonic acid gas and oxygen over and through a furnace. The air was drawn in;—corrosion in 10 or 12 days.—The plan of Clark is a good one, and makes good Lead.

George S. Howland, for Plaintiff, says, he is connected with the Brooklyn Works. The plan of Litharge is used in France, and patronized by government; yet there are other plans. Generally in England and America the old pot method is preferred. It takes from 30 days to 3 months; and the longer the better, for a corrosion. We experimented on a plan like Clark's, and abandoned it.

William Cumberland, for Plaintiff. Atmospheric air or oxygen is considered a necessary agent. I never used it as a distinct one. I experimented and obtained a corrosion daily.

James Renwick, for Defendants, Professor in Columbia College, says he never heard or knew that Montgolfier's plan went into use.

Plaintiff insisted,—

That the same elemental materials to produce the same effect, having been known and used before the patent, that therefore, Clark was not the inventor, and his patent void.—

That whether the same plan was used or not, it was sufficient that it was well known and could have been put into successful operation, as was proved by Professor McNeven, Eliot and Steele.—

The patentee was in law presumed to know all matters described in books of science, and no ignorance in fact could excuse him.

It was proved that excellent white lead was made by Clark's patent.

The defendant insisted that a mere description of the mode, if not proved to have been put in use, would not repeal the patent.

The Judge delivered a very lucid and learned charge to the Jury.—He stated that they were to read the specification of the patentee, and from his summary, ascertain what he claimed as his invention. If this had been before published in works of art and science, the patentee was presumed to know it.—If they found that the invention claimed had been known before and described in authors upon the subject, although it might never have been used, the patent was void. But if they found the invention claimed, a new one, and the patentee the true inventor, the patent was valid.

The Jury found for the Complainants, on the ground that the defendant was not the true inventor, and also further found that the patent was not obtained surreptitiously, or upon false suggestions.—Mr. Clarke has appealed.

For Complainants, C. Walker.

For defendants, Staples, D. P. Hall and Patten.

THE FRENCH TREATY.—The Globe of Monday, gives the following abstract of the chief incidents connected with the forming of this treaty:—

The Convention was signed at Paris on the 4th of July, 1831; the ratifications were exchanged on the 2d of February, 1832, at Washington.

The French Chambers were in session to the 21st of April. The exchange of ratifications must have been known in Paris prior to the close of the session! The subject of the treaty was not presented.

The Chambers met again on the 19th of November, 1832. The session closed on the 25th of April, 1833. On the 6th of April, the Minister of Finance laid before the Chamber of Deputies the treaty with the United States, and a bill making the appropriations to execute it. The bill was read and referred to a committee. No action upon the subject during that session, which closed on the 25th April, 1833.

The next session opened the following day, 26th April, 1833. On the 11th June, the Minister of Finance presented a new bill. It was read and referred. Some incidental discussion took place on the 13th June, but nothing important was done.—The session closed on the 26th of the same month, no further notice being taken of the bill.

The next session began on the 23d December, 1833. On the 13th of January, 1834, the Minister of Finance again presented the bill. It was received, ordered to be printed, and referred to a committee. On the 10th of March, Mr. Jay presented, from the committee, a detailed report, recommending the adoption of the bill. The discussion commenced on the 28th of March. The bill was opposed—by a few of the speakers, because France should not have agreed to pay any thing to the United States; by others, because the administration had contracted to pay too much. The debate continued three days,

and on the 1st of April, the Chamber voted—344 members being present.

The votes in favor of the bill were	168
Against it	176

Majority against it 8

The competent authority having refused the appropriations requisite, the United States would have taken it for granted the decision was final, and the President would necessarily have called upon Congress to decide upon the measures to be pursued.—To avert this consequence, the King of France sent a national vessel to his representative in this country. The vessel arrived before Congress adjourned, and the President made no communication to Congress. The People will understand that the assurances given to him by the Executive of France must have been full and satisfactory as to the intentions of the King, and his expectations of seeing soon redeemed by the new Deputies the faith of the Government which had been disregarded by those whose term of service had just expired. The French Chambers ordinarily meet in December. The King has the constitutional power to convoke them, and they do not assemble until called. If he does not assemble them unusually early, the question will stand as it now stands, at the meeting of Congress, and the final decision of the French Chambers will not be known here, until near the close of the session of Congress; that is, a few days before the 4th of March next.

It is greatly to be desired that the Chambers should assemble before the meeting of Congress, and that the decision of France should be communicated some time before the 4th of March, otherwise, provisional legislation, at all times to be resorted to with regret, may be found necessary to the character of the United States and the just claims of their citizens.

The President of Columbia College has been directed by the Board of Trustees to return their thanks to JOHN BOWRING, Esq. LL. D., of London, for his present to the Library of the College of the works of the late JEREMY BENTHAM, and also to Col. C. W. PASLEY, C. B., F. R. S., of the Royal Engineers, for a similar donation of his "Observations on the Standards of Measures, Weights and Money;" which acknowledgments have accordingly been communicated to those gentlemen respectively.

The President has also received from the Most Rev. THE ARCH BISHOP OF DUBLIN copies of various tracts and pamphlets published by his Grace within the last few years, and transmitted by him for the Library of the College; and from HENRY BEAUFROY, Esq. of South Lambeth, the first volume of a series of Nautical Experiments, by his father, the late Col. MARK BEAUFROY, F. R. S. &c., which publication is to be comprized in three volumes Royal Quarto, illustrated with Engravings by the first artists, and is not intended for sale, but to be distributed among such societies and individuals, as may feel an interest in its subjects. In pursuance of this liberal intention, the work has been presented to the College since the last meeting of the Trustees, and in the recess of the Board, the President loses no time in acknowledging this splendid donation, as well as the valuable gifts of Archbishop Whately.

The liberalizing influence of learning and letters, is very agreeably evinced in the recent presentations by the British Government in some instances, and by munificent individuals in others, of valuable records and publications, to literary institutions in our country.

A notice appeared in our columns a day or two since, from the President of Columbia College, acknowledging the receipt of several such presents—among them, that from Henry Beaufroy, Esq. of Surry, England, embodying the nautical and hydraulic experiments, &c. of his father, Col. Mark Beaufroy.—It gives us pleasure to state, as we are authorized to do, that a copy of this work has also been sent to, and received by, the Naval Lyceum at Brooklyn, and another for the use of the Navy Yard there.

The Albany Institute, too, as we perceive by the Albany Argus, has received a copy, as have some distinguished individuals among us. Mr. G. C. Verplanck, we know has, and there are others to whom the liberal Editor has transmitted this best record of a father's talents, and of a son's admiration and respect.

tion of the two curves, take D' to denote the number of degrees and minutes contained in the curve whose modulus of curvature is T' , between its origin and the given point, and which will, consequently, by (I.) and (IV.) also express the inclination of the required curve, at that point, to the common tangent at the origins. The value of D' will then be expressed by

$$\text{Cot. } \frac{1}{2}D = \frac{x \pm \alpha}{y},$$

as appears from (XIII.) Now, substituting in this expression for x and y , their values as given by (VII.), the following formula will be the result:

$$\text{Cot. } \frac{1}{2}D' = \text{Cot. } nT \pm 2\alpha \frac{\sin T}{1 - \cos 2nT}. \quad (\text{XX.})$$

The value of D' being thus obtained, the required angle of intersection will be expressed by $2nT - D'$; as evidently appears from (V.)

Example 1. Let the modulus of curvature of the given curve be $30'$, and let the given point be at the extremity of the 60th chain. Supposing the origin of the other curve to be placed 10 chains back upon the tangent line, what will be the new modulus of curvature, and what will be the angle of intersection at the given point?

In this case,

$$\begin{aligned} \text{Sin. } T' &= \frac{.50000}{.00873} + 20 \times .86603 + 200 \times .00873 \\ &= \frac{.50000}{.00873} + 17.321 + 1.746 = \frac{.50000}{.00873} + 19.067 \\ &= 57.299 + 17.321 + 1.746 = 76.366 = .00655; \\ \text{and consequently, } T' &= 0^\circ 22\frac{1}{2}' = \text{required modulus of curvature. And, Cot. } \frac{1}{2}D' = 1.73205 \\ &+ 20 \times \frac{.00873}{.50000} = 1.73205 + 20 \times .01746 = 1.73205 \\ &+ .34920 = 2.08125; \text{ and therefore, } \frac{1}{2}D' = 25^\circ \\ &40'; \text{ or, } D' = 51^\circ 20'. \text{ Hence, } 2nT - D' = 60^\circ \\ &- 51^\circ 20' = 8^\circ 40' = \text{the angle of intersection required.} \end{aligned}$$

Example 2. Let the modulus of curvature of the given curve be 2° , and let the given point be at the extremity of the 31st chain. Supposing the new curve to be commenced one chain in advance upon the tangent line, what will be the required modulus of curvature, and what will be the angle of intersection at the given point?

Here, $T = 2^\circ$, and $n = 31$; and consequently $2nT = 124^\circ$. Hence, in this Case, $\cos. 2nT$ becomes negative, while $\sin. 2nT$ remains positive, agreeably to the principles of trigonometry. Also, in the present example, $\alpha = -1$. Under those considerations, the formula (XIX.) gives,

$$\begin{aligned} \text{Sin. } T' &= \frac{1 + \cos. 56^\circ}{1 + \cos. 56^\circ} - 2 \sin. 56^\circ + 2 \sin. 2^\circ \\ &= \frac{1.55919}{.03490} - 2 \times .82904 + 2 \times .03490 \\ &= \frac{1.55919}{.03490} - 1.658 + .070 = \frac{1.55919}{.03490} - 1.588 = .03643; \text{ or, } \\ T' &= 2^\circ 5\frac{1}{2}' = \text{required modulus of curvature. In obtaining the value of the angle } D' \text{ by means of (XX.), the necessary sign of the trigonometrical quantities must in like manner be observed; and consequently, Cot. } \frac{1}{2}D' = \text{Cot. } 62^\circ \\ &- 2 \times \frac{\sin 2^\circ}{1 + \cos. 56^\circ} = .53171 - 2 \times \frac{.03490}{1.55919} = \\ &.53171 - 2 \times .02239 = .53171 - .04478 = .48693; \\ \text{or } \frac{1}{2}D' &= 64^\circ 2'; \text{ and, } D' = 128^\circ 4'. \text{ Hence, } \\ D' - 2nT &= 4^\circ 4', \text{ the angle of intersection required.} \end{aligned}$$

In computing the modulus of curvature for a long curve, which is required to be laid with precision, it will not be sufficient to obtain a result only true to the nearest full minute. For in tracing a curve agreeably to the principles given in Art. 3, it is evident that multiples

of the modulus of curvature are required in laying the different chains; and consequently, an error of $\frac{1}{4}'$ in the modulus of curvature would produce an error of $2'$ in the angle of deflection, placing the 8th chain from the instrument. Now, in any common instrument, containing a good vernier scale, an angle of $2'$ is quite perceptible. Indeed, if the chains be 100 feet each, an angle of $2'$ will be subtended by a line nearly 6 inches long at a distance of 8 chains; and it follows, therefore, that an error of one fourth part of a minute, in the modulus of curvature, will, in such a case, produce an error of nearly 6 inches in the position of every 8th station from the instrument. And as the effects of this error will not continue to be only proportionably greater through the whole line, but will accumulate faster and faster, in a geometrical ratio, it is evident that an error of $\frac{1}{4}'$ in the modulus of curvature is an item of considerable consequence in laying long curves upon a graded surface.

On the Comparative Value and Importance of Mathematical Science, and on the Pretensions of its Professors. [From the London Mechanics' Magazine.]

[Continued from page 632.]

Let us take other views of mathematicians and practical men bending their faculties towards the attainment of the same object. The most valuable method of determining the longitude was at last accomplished through practical means, and by practical men. Euler aimed to produce an achromatic lens as well as Dolland, but it was the latter who succeeded; and their respective modes of proceeding mark both the character and comparative value of their efforts. As to the steam engine, science (other than the most common) cannot lay a particle of claim to it. It is the all-important gift to the world from practical men alone. One was a miner, another was a blacksmith, a third was a glazier, and a fourth a watchmaker. Science has not even now elucidated all its principles,—one important point is as obscure at the present day as ever it was. During the time this mighty engine was maturing, and having for its ultimate effect a political, a moral, and a social revolution throughout the whole earth, the mathematicians of the foreign academies, the Eulers, and the Bernouilles, even when engaged on physico-mathematical subjects, were exciting each other's ingenuity, and eliciting their mutual admiration, by very profound but very sterile inquiries into things selected purposely and merely for the opportunity they afforded for the most abstruse and difficult investigations. Such was that concerning the gyratory motion of a body fastened to an extensible thread, first in a horizontal plane, and then, for the sake of the choice piece of complication produced by the introduction of the force of gravity, in a vertical plane, but ending at last with a suspicion that all was wrong. Such was that on the formulæ for determining the motion of a thread perfectly flexible, ending in unmanageable equations. And such was that concerning tractory and compound tractory curves, formed by a weight in one case, and two or more weights in the other, being moved by a thread whose end travels along a line either straight or curved, ending also unsatisfactorily. Your Magazine, Mr. Editor, is also the theatre occasionally for the display and sharpening of the wits of certain geometrical correspondents. Such was the tendency of the problem lately proposed and solved—"To inscribe a quadrilateral in a given circle, having given

each of the diagonals and area." Why should not these have their puzzles as well as the more profound analysts? They form good school boy exercises, and school-boys accordingly have sustained a conspicuous part on your stage. Some persons are particularly apt at such questions, and so are others at solving riddles. The different manner in which the proposal for an undulating in lieu of a level railway has been received by the mere mathematicians on the one hand, and by the body of civil engineers on the other, is also abundantly significant of the comparative rank and importance which the former hold in the scale of intellect and utility. Your correspondents, Kinclaven, Iver Maciver, and M. S., are mathematicians—geometricians, at any rate—and they have sided with Mr. Badnall. Be it so—the impress is of their own stamping, and the currency is their own issue.

The limits to which I am confined will permit me merely to allude, and only, to a few more instances of the unfitness of the mere mathematician for physical inquiries, and of the unsatisfactory applications of their science. At one time the animal economy was mathematically and mechanically explained. The treatises on physiology were filled with problems, long calculations, and algebraic formulæ. Lawrence says, "that one estimated the force of the heart as equal to 180,000 pounds; another reduced it to 8 oz.; and both these conclusions are deduced from reasonings clothed in all the imposing forms of the exact sciences."

Even the phenomena of the mind have been forced within the pale of mathematical disquisition. Hartley's elaborate hypothesis of the vibratory nature of thought and feeling would afford a choice and subtle theme for analysts of the French school, if only a few facts could be found to give it a coloring of truth, and a plausible pretence for the application of the calculus. We may then hope to find an expression for the velocity of our ideas, with the corrections due to variations in the temperature, moisture, and tension of the medullary fibre!

To come to our own times, there is Sir R. Phillips' theory of all things—ingenious enough, but that is all. Then there is Mr. Herepath's mathematico-chemical theory, accompanied with a challenge to the Royal Society, and preposterously backed with an offer to wager £1000 on the issue, in which the molecules of the gases are continually jostling each other and perpetually at loggerheads. The whole scheme is, however, mathematically and demonstrably true, especially if reasoning in a circle be only a circuitous way to truth.* Then there is the more measured movement of the ultimate particles of matter according to the theory of Mr. Emmet, by reason of the altered ratio of the forces which previously held them in equilibrium—the disturbing force being caloric. More recently there is the somewhat similar, but more elaborate and comprehen-

* This conspicuous herald of his own and Mr. Gurney's fame will surely be satisfied if his theory be as true as his assertion, that Mr. Gurney's steam-drag would transfer the same weight as it does on a common road, "two hundred and sixty or two hundred and eighty miles per hour on a railway, supposing mechanical laws followed, and that the materials and the resistance of the atmosphere would allow it." A slight mistake this—identical with Kinclaven's, of supposing the expenditure of power not to follow the ratio of the velocity as well as the resistance. This is another instance, by-the-by, on the part of both these persons, (for they are one only in error, I imagine,) of mathematical fitness and sagacity for physical inquiries.

sive, atomic theory of Mr. Exley, a work which I approach with the greatest respect, for the many profound, ingenious, and philosophic views with which it abounds; and for the very numerous explanations of phenomena which he adduces in accordance with his hypothesis, and which give it a much less speculative cast than the theories previously mentioned. The laws, however, which govern the immediate action of the atoms, if such there be, are probably not scrutable to our means or faculties; and it must be doubted whether our knowledge, even of the elements of matter, is sufficiently advanced to admit of such mathematical disquisitions: the attempt at present appears to be premature, though possibly it may be ultimately successful; and, in the mean time, the experimental researches of philosophers, with Mr. Faraday at their head, will be more useful, and teem with results of greater consequence. What an important though simple fact has lately been brought to light by this gentleman, and how much of a practical character there is about it, that the chemical action of platina in certain cases depends on its being perfectly *clean*,—a circumstance which your very profound thinker, with his algebraic formulæ, would run every chance of overlooking, because it is just on the surface of things. The sagacious practitioner having his attention alive to every incident, attaches no undue importance to what is recondite, or undervalues any thing because it has not the air of being scientific or *recherche*.

I have thus endeavored to mark the peculiar deficiencies for just reasoning and original investigation, to which the mere mathematician is liable from the biasing tendency of his studies, the natural bent of his mind, and the engrossing occupation of his time. I have illustrated this position with as many instances as my limits will allow, and I have incidentally shadowed forth the true and philosophic mode of conducting inquiries into the mixed and complex affairs which surround us on every hand. In pursuing this subject, there are one or two points on which I wish to guard against misapprehension. It is not intended, then, to impugn any of the methods adopted by the mathematicians in their own science, as purely considered, however they may have differed among themselves respecting them. Still less is it intended to impugn the modes of procedure adopted in the mixed mathematics, or to complain of what has been *fitly* done herein; but rather of what has not been so done—of premature applications of the science before the phenomena of nature have been sufficiently investigated to warrant an hypothesis—of inadequate applications, from a too great sacrifice of physical considerations in deference to the exactness of science—of partial applications being assumed to be complete, or, at any rate, to be of greater pretension and value than avowedly irregular but more comprehensive modes of considering the subject,—and of such applications being put forward in lieu of, and in preference to, tentative proceedings, even when the case points to and admits of their being adopted. Neither is it intended that those observations, or mere hints, rather, concerning the true and more ample mode of philosophising, should point to the analytic more than to the synthetic method, for they refer to both; and the reference is also as much to the secret mental process as to the published and formal procedures. The former is a curious subject, of which scarce-

ly any thing can be known, and the little we can conjecture of it must arise from a knowledge of what passes in our own minds. How intensely interesting would it be to have before us the workings of such a mind as Newton's, whilst maturing his immortal system. We have a glimpse of such things in what is told of Kepler—of his shrewd guesses, tentative methods, and ultimate success in discovering by these means the two laws of the planetary motions which bear his name; and also in what is related of the cut and weighed paper proceedings of some of the geometers. The results, of course, appeared in systematic mood and scientific dress. The works of Newton gave evidence of certain secret and facile means, before the method of fluxions was announced or known. We have also, in the detail of the experiments which led Sir Humphry Davy to the discovery of the miners' safety lamp, an interesting instance of this mental process, at least of the general course of his thoughts. We are not to imagine that the analysis or synthesis, as brought forth to public view, is in its mental elaboration a direct and straightforward affair. Doubtless there are alternated or mingled methods of resolution and composition, of experiment, tentation, and verification, in a round of mixed proceedings; but from this seeming chaos of thought the plastic spirit of true philosophy evolves coherent forms of symmetry, of truth, and beauty. The heart of man is a secret thing; but the mind of man is yet more impenetrable. I would also wish to be understood as not contemning mathematical acquirements in the slightest degree, but as pleading for their use in opposition to their abuse, and as moderating only the overweening pretensions of their value and importance, both in an intellectual and useful point of view, in which the mere mathematician is apt to indulge.

It may be expected from me that I should apologise for assuming the censor in such sort. I beg, then, in justification and corroboration of my opinions, to quote the following sentiments, which have come under my notice since the preceding observations were written—in fact, the treatise in which they appear is just published: "In mathematics we go smoothly on, neither turning to the right hand nor to the left; there is, in fact, no alternative presented to the mind—we cannot do otherwise than give our assent to what is before us. There is no weighing, no balancing of collateral evidence, or consideration of circumstances, such as often clog and impede our progress in many of the other branches of knowledge. How often do we hear mathematicians bewail the difficulties they meet with when they wander from their own folds; and how often do we hear them give utterance to the pleasing but forlorn hope of seeing all knowledge reduced to mathematical certainty and precision?"—"If we examine mathematics in an intellectual point of view, there appears to be something of a mechanical turn in the acquisition of its truths; and it is by no means evident, that to excel in mathematical investigation, the more lofty and elevated of our mental powers are required to be brought into exercise. There is a fact, besides, established by the history of philosophy in all ages and countries, which pointedly bears out this opinion, namely, that we have daily instances of persons making themselves proficient in mathematical science at a very early age; but we never find that a person

becomes eminent in mental, moral, or political philosophy, till more advanced in life. This is a fact founded upon the natural course of the human mind, and clearly teaches us, that higher qualities of intellect are required to reason upon and comprehend questions on topics relating to human affairs, than are necessary in the solution of problems connected with the pure sciences."—[Blakey's System of Logic. 1834.]

There is another very important topic connected with this subject, which is, the hurtful influence which mathematical studies, or rather, which a taste for the abstract mathematical method, has had on general reasoning, and on the tone and manner in which investigations into things in general have been conducted—a taste, which, taking its origin in the mathematical predilections which succeed the downfall of the old scholastic methods, has, from the ease and convenience which it affords, for taking determinate but narrow and contracted views of things, and the flattering but fallacious assurances it fosters of clearness, decision, and certainty, infected the universal mind, and marred the philosophy of the age. The length of this article, already too extended for a single communication, precludes me from appending my observations on this topic; but they may, probably, form the subject of another letter, if you are of opinion, Mr. Editor, that such matters are not foreign to the scope and objects embraced by your highly useful and valuable miscellany.

I am, sir, yours, &c.

BENJ. CHEVERTON.

MODE OF PURIFYING PALM OIL.—To purify Palm Oil, and to whiten it comparatively for making soap. Take two parts of quick lime and three parts of the muriate of ammonia, the lime having been previously slacked with half its weight of water, and allowed to cool and reduced to a fine powder, and the muriate of ammonia having also been reduced to a fine powder, and then intimately blended with the powdered lime. The mixture is to be put into a still, or cast iron pan, having a close cover to it, and a tube leading from the head of the pan, or still, to near the bottom of the soap copper, which should contain equal quantities of water and palm oil. On fire being applied to the still, the ammoniacal gas will pass over into the soap copper; and as the water and oil combine, continue adding boiling water to the extent of treble the weight of palm oil in all. By this process the color of the palm oil will be almost instantaneously changed to a pale yellow. The boiling palm oil and water should, of course, be kept rapidly stirring while the gas is passing through. The ammonia, being an alkali, adds to the strength and detergency of the soap, while the peculiar smell imparted by it is so weak as scarcely to be susceptible after a few days' exposure to the atmosphere. —[London Mech. Mag.]

M. DUPIN has been so well pleased with his reception in England, that one of his colleagues, the Duke de Broglie, is about to follow his example, by paying his respects to the Lord Chancellor. Forthwith, of course, he will be taken to the Mechanics' Institution, and made an honorary member. The distinction will not, however, be so appropriately conferred as it was on M. Dupin, whose brother, Baron Chas. Dupin, is well known as the introducer of similar institutions into France.—[Ib.]

The Art of Wine Making—the Gervais Fermenting Apparatus Improved.

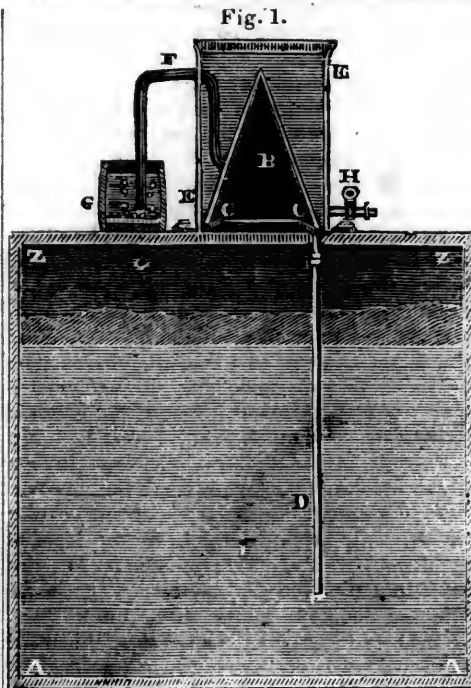
[From the London Mechanics' Magazine.]

Mr. Booth, whose treatise on the Art of Brewing we lately noticed,* has just produced another treatise on the kindred "Art of Wine-making;"† or, to speak more properly, a volume supplementary to the former. The general principles, and many of the manipulations, of the two arts are so similar, that the business of this new treatise consists mainly in pointing out those peculiarities by which the manufacture of wine differs from that of beer; and the two treatises are so intimately connected, that the one cannot be profitably perused without constant reference to the other. As Mr. Booth himself observes, "the four parts of the Art of Brewing and these two of Wine-making, with the Appendix on Cider and Perry, may be considered as one continued work, embracing a general system for the manufacture of vinous liquors."

Mr. Booth in his present work treats first of "Wine-making in Warm Countries," and next of "Wine-making in Cold Countries;" or in other words, of foreign and home-made wines in all their numerous varieties. He gives, under both these heads, a great deal of very useful (though not often very novel) information, derived from the most authentic sources, and interspersed with much shrewd observation and judicious advice. One of his best chapters relates to the much contested point, whether open or close tuns are best suited to the process of fermentation? The ancient practice of the wine provinces of France was to leave the tuns open, or, at least, to cover them very slightly; but at the beginning of the present century, a Mademoiselle Gervais introduced a close fermenting apparatus, (afterwards patented in Great Britain by Messrs. Deurbrouck and Nichols,) which having the good luck to be patronised by the celebrated Chaptal, has become all the fashion among our French neighbors. According to the partisans of this new method, it serves not only "to condense, and to return into the fermenting fluid, all the aqueous, spirituous, and balsamic vapors which are usually carried off with the carbonic acid gas, and thereby to enrich the wine, by preserving entire its spirit and perfume," but actually augments the quantity of wine obtained, by from 9 to 15 per cent. Mr. Booth does not altogether dispute these conclusions, but he insists that they are prodigiously exaggerated. He maintains that the increase of volume is "not above one in two hundred;" that "this increase is caused by the condensation of all the gas that is evolved during the whole progress of the fermentation;" and that the proportion of this condensation, which is spirituous, is probably "very small."

We shall leave Mr. Booth, however, to speak for himself. He commences very properly by describing what the Gervais apparatus is, and how it has been proposed by M. Dubrunfaut to free it of its more striking defects.

"Z Z, A, (see fig. 1,) is the perpendicular and central section of a fermenting-tun, with the apparatus affixed to the close head Z Z.



"B is a cone of tinued iron plate, communicating at bottom with the tun, by means of a hole in the cover Z Z.

"C C is a small channel extending round the interior base of the cone, being adapted to receive the condensed 'alcohol and essential oils;' from whence they are conducted, down the small pipe D, into the lower part of the liquor in the vat.

"E E is a cylinder of the same material as the cone which it surrounds, and containing cold water, for the purpose of condensing the vapors which rise into the cone during the fermentation.

"F is an egress pipe, communicating with the interior of the cone, its extremity being immersed to the depth of six inches, at least, below the surface of the water in the small tub G, from whence the incondensable gases are permitted to escape into the atmosphere.

"H is a cock to draw off the water from the reservoir E E, when it becomes warm, and requires to be replaced with cold water, as is the case in high fermentations.

"It is asserted by the French chemists, and conceded by Messrs. Deurbrouck and Nichols, the English patentees, that the vinous fermentation will not commence without the access of atmospheric air or of oxygen; but after it has once begun, the further exposure to the air is unnecessary; and the quantity contained in the empty space (left in the tun to prevent the head from rising into the cone) is, they say, perfectly sufficient to originate the fermentation: but, they add, 'as soon as carbonic acid is evolved from the fermenting gyle, the atmospheric air, being lighter, is driven out from the upper part of the working tun; and as no air is permitted to enter afterwards, all the subsequent carbonic acid gas emitted diminishes the quantity of oxygen contained in the gyle, by the oxygen uniting with the carbon as fast as it disunites from the saccharine matter during its decomposition, and thereby secures a soundness and peculiar mildness not to be produced by any other mode.'

"Never having seen the effects of fermentation in tuns, thus, as it were, hermetically sealed, we cannot personally join in their praise; but we apprehend that there is one

inherent defect which will always prevent their general adoption in the British brewery—we mean the tardiness of the progress of the fermentation. From fifteen to twenty days, which it is granted would be requisite for the fermentation of table beer, is a sufficient bar to its adoption. On this principle, we suppose that the Scotch ale brewers, who, even with open tuns, often take three or four weeks to a gyle, would require the whole of their brewing season for a single operation.

"It will be observed in the preceding description of the Gervais apparatus, that the extremity of the egress pipe F is immersed in water to the depth of six inches at least. These six inches impose an additional pressure upon the surface of the fermenting fluid, equivalent, at an average, to the sixty-fourth part of the whole weight of the atmosphere; and, in consequence, has a material effect in preventing the escape of the carbonic acid, thereby retarding the attenuation. 'In fact,' says M. Dubrunfaut, 'the gas, meeting with a powerful obstacle, which opposes its passage through this condensing apparatus, forces its way by other issues, which it finds in the pores of the wood, and the fissures of the lutes which are recommended to close the joints of the cover of the tun. The portion of the gas which thus escapes, by openings that can never be kept closed under such a pressure, subtracts the alcoholic vapors from the refrigerator, and is a fundamental error in the construction of the Gervais apparatus.' We may add, that had it even been perfect, it was not new: it was nothing more than a combination of two principles which had been long known—the condenser of Jean Baptiste Porto, a Neapolitan, which was described in a work on Distillation, published by him in 1609; and the hydraulic valve of M. D. Casbois, which was announced in a French Journal of Sciences and the Arts in 1783.

"It will naturally be asked, in this place, whether or not the rise in the barometer, to the extent of about half an inch, would not have the same effect on the vinous fermentation as the Gervais apparatus? We say that it would have more: for, in the case of an increased weight of the atmosphere, the pressure all around the tun would be equal to that upon the surface of the liquid. One marked difference would be, that there would be no exit through the pores or chinks of the tun; for these fissures would be equally pressed upon by the external atmosphere. We have been long aware that the variations of the barometer are indicative of alterations in fermentative processes of every kind; and we doubt not that a time will arrive when that instrument will be considered as a necessary appendage to the other instruments which are now consulted by the manufacturers of vinous liquors. Persons who have not attended to this particular subject, (and there are few who have,) can have no conception of the effects of atmospheric variations. Wine-making is confined to a certain season, and to countries where the variation of the barometer is comparatively small; it is in the regions of the north that those effects are more particularly worthy of observation. On this subject we have made many experiments; but what might be useful as suggestions to a scientific manufacturer, would be here out of place. As long as the mind remains doubtful of the facts,

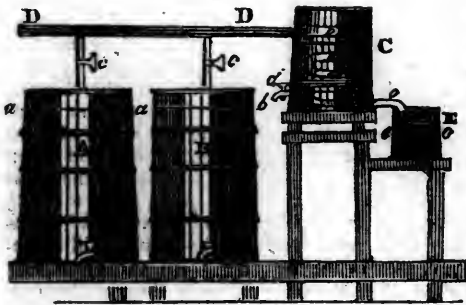
* See page 451, of this work.

† The Art of Wine-making in all its branches. By David Booth. To which is added an Appendix concerning Cider and Perry. London: F. J. Mason. 123 pp. 8vo.

they ought not to be given to the world as knowledge.

"The author last quoted has proposed a mode of close fermentation, which is free from the errors and absurdities that attach to that of Mademoiselle Gervais; and as it may be useful in the vinous fermentations of this country, and does not interfere with the English patent above mentioned, we take this opportunity of publishing a brief description of the process:

Fig. 2.



"A and B, in fig. 2, represent two of any number of fermenting tuns, which may be arranged and combined on the same principle. They are here re-printed as of the same size, and as placed on the same horizontal level; but these circumstances, though convenient, are not necessary. The lines *a* and *b* mark the surface of the *must*, or other fermentable liquid.

"D D is a pipe, communicating with each tun by means of branches, which are inserted through the close head, and which may be stopped at any time, by means of the stop-cocks *c* c.

"C is a cask or other vessel, filled with cold water, through which the pipe D D is continued in the form of a worm, o o o o o: this water may be drawn off when too warm by means of the cock *d*, when this refrigerator can be re-filled with cold water, through an opening in the head.

"E is a smaller vessel or tub, destined to receive the product of the condensation of the vapors arising from any or all of the fermenting tuns. Those vapors rising in the branch pipes *c* c, into the main D D, pass through the worm o o o o o, which is bent, when it leaves the refrigerator, into the tub E, reaching half-way to its bottom.

"It will be obvious, from this arrangement, that the condensable vapors which arise with the carbonic acid gas, will, by passing through the refrigerator, be collected at the bottom of the tub E in a fluid form, while the upper part of the tub will be filled with gas. Care must be taken to draw off portions of this fluid from time to time, (by means of a cock in the bottom of the tub, which is not here represented,) so that it may never rise above the level of the orifice of the worm; for were the fluid, for example, to rise to the level *ee*, it would, according to its gravity, form an hydraulic valve, which would cause an additional pressure upon the surface of the fermenting liquid, the prominent objection to the Gervais apparatus.

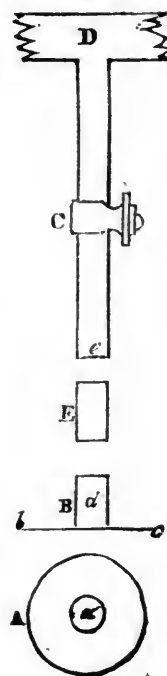
"On this plan, the complex apparatus for each tun is rendered unnecessary; for a single one of sufficient size will serve for any number of working tuns. The condensed liquid is not hereby returned to cool the fermenting mass; and the distiller, for whom we should suppose the practice well

adapted, might carry the liquid from the tub E directly to the still. It may, however, be returned into the mass by a long-stalked funnel; if desired. The worm gives a free passage to the vapors; since its lower extremity, being plunged only in carbonic acid gas, cannot be said to offer any obstruction. The liquid in the tun is then fermented solely under the simple pressure of the atmosphere; and the carbonic acid gas, finding an easy escape through the opening of the worm, no longer seeks to force a passage through the pores of the wood or the chinks of the tun.

"The gas, which, on account of its density, constantly fills the tub E, prevents all risk of absorption of atmospheric air as completely as is done by the hydrostatic valve of Gervais. When there is a range of tuns, one or more will be continually discharging carbonic acid gas; but where there is only a single tun, and that not in full operation, the accession of air could be equally well prevented, for it would only be necessary to fill the tub with water until the surface should rise two or three-tenths of an inch above the lower extremity of the worm, as shown by the line *ee*.

"When we want at any time to look at the state of a tun, we have only to shut the cock *c* (which shuts out all communication with the others), and, opening a plug-hole in the head, draw off what we require by means of the cock at the bottom. In the same manner we may charge and discharge the several tuns successively, without their interfering with one another. Each may be washed out by having a *man-hole* in the upper end; or it may even be taken away and re-placed by another, without retarding the operations of its neighbors. For the more easy performance of this latter purpose, M. Dubrunfaut recommends the following disposition of certain parts in the construction of the apparatus:

Fig. 3.



"Fig. 3 represents, on a larger scale than that of fig. 2, the pieces necessary for the purpose above mentioned.

"B is a tube and flange, seen sideways, of which A is the face, being a circular plate of the diameter of its section *b* c. This

piece is fixed by nailing the disc *b* c upon the head of the tun, in such a manner that the opening *a* corresponds with the hole which is made in the head of the tun, for the purpose of allowing the escape of the gas: the tube *d*, of which *a* is an extremity, being of the same diameter as the hole.

"The tube *d*, which is thus perpendicular to the head of the tun, is of the same diameter as the tube *c* of the piece C; and these two tubes, when the apparatus is finished, will be united at their orifices so as to form a single continued pipe. In order to close completely any little openings between their orifices, the cylinder E, the diameter of which is a little larger than that of the tubes *d* and *c*, is drawn over the junction, and its extremities are luted to those tubes so as to prevent all access of air or escape of gas. The piece C is previously united to the larger tube D, which here represents a part of D D, fig. 2. From this disposition of the parts, it is easy to see, that by shutting the cock of the piece C, and pushing upwards the moveable socket E, the tun may be completely disengaged, without affecting any other part of the general arrangement.

"We have dwelt the longer on this subject because of its probable adoption by the distiller and vinegar maker, for whom we should suppose the close fermentation to be better adapted than to the brewer, or even to the foreign wine-maker. The produce will be found to be very various, according to the heat of the fermentation and the quality of the fermenting fluid. At an average, perhaps, it may be estimated at about the two-hundredth part of the quantity of liquid that is fermented; and in quality, chiefly water mixed with a small portion of alcohol, or rather of the immediate materials of alcohol."—pp. 16-23.

On the adulteration of foreign wines, we have the following acute remarks:

"To the inhabitants of this country it is of much less importance to know how any particular species of foreign wine is manufactured, than to learn how to guard themselves from the effects of its adulteration. The following observations may, perhaps, account for an occasional accident, and at the same time may serve as a caution to the bottlers of wine in this country.

"We have already mentioned, that the bottled wines of the Continent (particularly champagne) undergo at least one or two *decantings* or *rackings* in the bottles before they are exported. A bin of wine is tried, to see whether or not it is fit for the foreign market. The practice is (especially in the wine of which we speak) to use very fine, that is, elastic corks; to push them half into the bottle; and to press the upper part over the neck, in a sort of girth or rim, which is kept down by means of twisted wire. This cover of the top of the bottle is re-covered with wax of a certain color, and what that color is depends on the substances with which the wax is mixed. If it be yellow, the coloring matter is orpiment; if it be green, the color is usually given by a mixture of orpiment and Prussian blue. Both these coloring matters are poisonous; for orpiment is sulphuret of arsenic, and Prussian blue is formed from one of the most instantaneous poisons—the prussic, or, as it is now termed, hydrocyanic acid.

"Let us suppose, then, that a bin of champagne is intended to be exported, or, if in a

British cellar, to be sent to a customer. A bottle is drawn for trial, and is found to be deficient in effervescence. This can be remedied by inducing a new fermentation; and we know that it is the practice to accelerate this desirable quality by means of the introduction of a syrup of sugar candy, mixed and purified with cream of tartar. This addition, which is put into the bottle in proportion to the taste of the customer, is certainly not deleterious. But the cork is drawn, the seal is broken, and a part, perhaps a few chips of the wax, is rubbed off, and enters into the bottle. If the color has been either green or yellow, arsenic also enters; and, unfortunately, the world is but too well acquainted with the consequences. We may also add, that in French cellars the wax has another object in view besides (what is generally thought) the exclusion of the atmospheric air. In that country there are numerous swarms of insects, who are ready to devour the corks, and penetrate to the liquid. As far as regards these insects, the poisonous quality of the coloring matter is not to be regretted."—p. 52.

A danger of a less formidable nature to be guarded against, is the substitution of certain home-made imitations for the genuine products of the continental vineyards:

"Of all the vinous liquids which are manufactured in this country, beer and ale, cider and perry, (and mead and mum, when not banished by excise regulations,) are the only kinds that can be called national. The juices of most of our native fruits possess too little *saccharum* to be fermented pure; and when malt wort, or honey, was formerly added, as sugar has been in late times, the compound was also flavored and colored with extraneous substances, so as to imitate one or other of the favorite wines of the Continent. This was more particularly attended to when the making of 'sweets,' or 'British wines,' became a trade. The imitation of foreign wines originated in fraud, and excise duties raised the imitators to the rank of authorised manufacturers. As long as these gentlemen were contented with the ordinary names of currant wine, gooseberry wine, &c. all was well; but we now see champagne, sherry, port, &c. in the bills of the British wine makers, and we have little doubt that some of these compounds occasionally find their way into the cellars of the 'dealers in foreign wines.' Champagne, in particular, is a very high priced article; and the British champagne, made from gooseberries, if properly made, and drunk when young, may impose upon three-fourths of the purchasers. Perry, also, particularly in mixture, is passed off for champagne, and is, perhaps, not much inferior to the real wine which it imitates. It is not so much the inferiority as the lie, which passes a cheaply made article for one that is more expensive, that constitutes the quackery and the crime of those ingenious imitators. If we can make a British wine equal to champagne, we have a right to do so; but we have no right to pass it off in trade as a foreign wine."—pp. 61, 62.

In the "Appendix concerning Cider and Perry," Mr. Booth represents the English manufacture of both these liquids to be in a very declining state. His observations on the subject are well deserving of attention:

"We have reason to believe that the superior sorts of perry, as well as of cider, though they may have the same names, are

not equal to what were sold for such forty or fifty years ago. Most of the trees that were famed for the excellence of their produce are either dying or dead. Mr. Marshall published his *Rural Economy of Gloucestershire* in 1789, at which period he laments the decay of the finest fruit trees. 'All the old fruits,' he says, 'which raised the fame of the liquors of this county (Herefordshire,) are now lost, or so far on the decline as to be deemed irrecoverable. The *red streak* is given up; the celebrated *stire apple* is going off; and the *squash pear*, which has probably furnished this country with more *champagne* than was ever imported into it, can no longer be got to flourish; the stocks canker and are unproductive.' The *squash pear* is described as remarkable for the tenderness of its flesh, which bursts, (or rather bursted,) if allowed to fall ripe from the tree; and hence the name.'—pp. 119, 120.

The pity is the greater, that our British perry is (or rather was) a species of wine particularly worthy of cultivation:

"Perry, when the manufacture has been successful, is much more similar than cider to the sweet wines of the grape. Without any mixture it has often been taken for the best quality of effervescing champagne. The juice, mixed with an equal quantity of a purified syrup of sugar or of honey, of about 25 lbs. gravity, (being allowed to finish its fermentation, so as to be bright before bottling,) is scarcely to be distinguished from a foreign wine of a superior species."—p. 121.

IRON BOAT ON A NEW PRINCIPLE.—Mr. David Napier, engineer, has fitted up an iron boat on a new principle, to sail on the Clyde. A large portion of the boat below the water line is formed into a condenser, and the water outside keeps it cool, so that little (if any) injection water is required. In this plan, the water pumped into the boiler will not be so salt as if more water were let into the condenser; and an air pump a little smaller than ordinary will work the engine.—[James Whitelaw, Glasgow, June 25.]

NEW LOCOMOTIVE ENGINE.—A new locomotive engine, from the foundry of Messrs. Geo. Forrest & Co., was tried on Monday on the railway. It made the journey from Liverpool to Manchester in 67 minutes, and brought back the first class train in 77 minutes. This powerful and rapid engine is intended for the Dublin and Kingstown Railway.—[Liverpool Chronicle, July 28.]

TRADE ON THE CANALS.—During the week ending on the 28th of September, the following, among other property, passed Utica east on the Erie Canal, viz.:

54,229	barrels of flour.
823	" ashes.
172	" provisions.
57,937	bushels of wheat.
25,517	" coarse grain.
33,914	gallons domestic spirits.
1,111,590	feet of lumber.
18,126	" timber.
361,700	staves.

Amount of tolls on clearances passing and issued at Utica, for the same period, \$37,788.62.

Railroad.—We learn that the Paterson Railroad received in August \$4,500, and in September 4,589. In September, the receipts were, for freight, \$2,000, and for passengers, \$2500. In August, for freight, \$1400, and passengers, \$3,000.

Railroad in Virginia.

ORANGE C. H., Va. October, 1834.

To the Editor of the Railroad Journal:

DEAR SIR,—I have noticed in the Virginia Herald a project for a railroad from Fredericksburg, or the Great Bend of the Potomac, to the Virginia Springs, through the Blue Ridge, &c. I look upon this scheme as both practicable and grand, as far as it goes. But one has only to open his eyes upon your new Railroad Map, which should be in the hands of every friend to internal improvement, in order to be convinced that if this railroad is continued on from the Virginia Springs to the ever navigable waters on the Great Bend of the Ohio at Guyandot, it at once opens the most superb highway that can possibly be constructed in the United States, to the great West. It unites the great South-west with the Atlantic in a much shorter distance than the great Erie canal; and when completed, will enable the farmers of the west to carry their corn, which now sells for 12½ cents a bushel, to the city of New-York in less than 48 hours. Besides, the public will be accommodated in carrying from the great valley of the Mississippi, and thence through Fredericksburg and Washington, Baltimore and Philadelphia, to your city, in a comparatively short period; whereas, to my knowledge, hundreds, if not thousands, have during the past season waited at Guyandot, day after day, for want of conveyance to the White Sulphur and the northern cities. All the travel from the South-west to Washington city, during the session of Congress, will of course fall into this track, the route being nearer and quicker than any other. The inhabitants of Kanawha are now ready to do much for the construction of this road, in order to give free transport to the millions of bushels of salt now manufactured annually at their works. A few days ago I saw a merchant from near the salt works on his way to Philadelphia and New-York to buy goods, which he said he should send home by way of Pittsburg or Wheeling, and that he must wait for rains, because the Ohio was quite too low at this time, and at the best it required four weeks at least. Were the railroad of which we have been speaking completed, it would require no more than 44 or 45 hours to transport the same goods from New-York. If I had time I might mention other advantages, but I only wish to call the attention of the public to this route, and I am sure that they will at once see those advantages, and save me the trouble of mentioning them. I am glad to learn that wood for railroads can now be made durable, as it will greatly lessen the expense of excavations and embankments. In the route above mentioned, there are but few streams to cross, and the gaps through the mountains render it comparatively a level grade. I remain, dear Sir, very respectfully, yours,

J. McADAM, JR.

STEAM COMMUNICATION WITH INDIA.—The House of Commons' Committee on Steam Communication with India have reported to the House that, in their opinion, the route by the Euphrates and the Persian Gulf is superior to every other proposed, for its "physical, commercial, and political advantages," and they recommend that a grant of £20,000, should be made by Parliament to defray the expense of giving it a fair trial. The distance from Bir, in the Persian Gulf, where this line would commence, to Scanderoon, in the Mediterranean, is stated to be much less than that between Suez and Alexandria. The Committee do not appear to have inquired at all into the merits of the route by the Cape of Good Hope. We are surprised at this, for whatever may be said in favor of either of the Mediterranean routes, as affording a quick, though not always sure, conveyance for letters, we think it is demonstrable that for goods, passengers and troops, the line by the Cape is that on which steam may be employed with the greatest advantage.

We alluded some time ago to a pamphlet, by the Messrs. Seward, C. E., in which this view of the subject is very ably advocated, and shall take an early opportunity of bringing it again more particularly under the attention of our readers.—[Lond. Mech. Mag.]

[From the Journal of Commerce.]

U. S. DISTRICT COURT.—JUDGE BETTS PRESIDING.
William Falconer vs Edward Clark. Scire Facias to repeal a Patent.

This patent was for an improvement in the manufacture of white lead and other metallic salts. The patent of the defendant was thus set forth; viz:—"I rest my claim to invention on the introduction or admittance of atmospheric air, containing oxygen, with the other agents or materials named, that is, the vapor of vinegar and carbonic acid generated by the combustion of fuel, or disengaged from chalk or carbonate of lime, either pure, or mixed with such irrelative matter as will not interfere with the process, or by whatever means or apparatus their introduction or admittance may be effected, into cisterns or apartments, appropriately supplied with metal lead, or with the metal to be acted upon."

The plaintiff insisted that this was in principle and effect the process of Montgolfier and Noble, and called John Steele, professor of chemistry, who said he had lectured in Scotland and in New York before the Mechanic's society, and had long devoted himself to the sciences as applied to the arts.

Into his Common Place Book of 1817, from some work of science at Glasgow, he copied Montgolfier's process, which was thus; viz:—He constructed a reverberatory furnace, in which was placed burning charcoal; the air that passed in was partly torned into carbonic acid gas, and partly passed the furnace undecomposed into a barrel, partly filled with vinegar, and created a vapor of it, which by a tube communicated with a rectangular case, in which was suspended sheets of lead, and into this case passed the vapor of vinegar, carbonic acid gas, and the oxygen not destroyed in passing the furnace. The case had an aperture to pass off the redundant gas. This was a spontaneous in reduction of oxygen, carbonic acid gas, and vapour of vinegar, into a cistern filled with sheets of lead, to convert them into white or carbonate of lead. See Tenard's Chemistry, and Annals de Chimie and Orfila. Noble's patent used, in a different way, the true agents to operate on sheets of the metal. See a specification in Repertory of Arts, vol. 13.

He says Clark's process is the same in principle and effect. The elemental materials the same, and they produce the same effect. From his knowledge of Chemistry, no doubt Montgolfier's plan would succeed—never knew it put in operation—heard of it once in use at Glasgow, and abandoned. Orfila Vol. 1, 1828, is read as follows, viz:—"Before knowing this process (Litharge) they made White Lead by submitting sheets of the metal to the action of vapor of vinegar, air and carbonic acid. The Lead oxydated and passed to a state of sub-acetate, which was then recomposed by the carbonic acid. This process, less advantageous than the first, is not yet altogether abandoned."

Plaintiff rests. Defendant calls Professor Latham W. Gray, who says that he has ascertained that oxygen is taken out of air that passes through the fire.—Presumes if air is a necessary agent, White Lead cannot be made by Montgolfier's process. In Clark's works at Saugerties, the same air goes through the furnace as in the process of Montgolfier, with an additional quantity at Clark's forced in. The great advantage of Clark's method is the forcing in atmospheric air.

Cross-examined.—Says Chemists don't pretend to fix the quantities of the agents. If Montgolfier's plan admitted sufficient air to go through the furnace, it would make White Lead. The difference between Clark and Montgolfier is—Clark has an apparatus to force in air. From Montgolfier's process, I think he intended a sufficient quantity of oxygen should pass the furnace to produce the desired effect; and of his three agents, oxygen was one. In Orfila's treatise I should, as a Chemist, know the agents must be confined, to operate.

James W. Macneven, for Plaintiff, says—He has long been Professor of Chemistry in the New-York State Medical College. I have concluded from Works of Science, Montgolfier's process has been put in practice; but I know not the fact. Atmospheric air there is not all decomposed in passing over the charcoal. I may say I am satisfied Montgolfier's plan was used in France. In it, there is a spontaneous supply of oxygen and carbonic acid gas.

William H. Elliott, M. D. has lectured on Chemis-

try, has known Montgolfier's system for many years. Oxygen is a part of it—thinks it would succeed.

Defendant calls Michael Casey, workman. Proves that Ripley at Saugerties draws his carbonic acid gas and oxygen over and through a furnace. The air was drawn in;—corrosion in 10 or 12 days.—The plan of Clark is a good one, and makes good Lead.

George S. Howland, for Plaintiff, says, he is connected with the Brooklyn Works. The plan of Litharge is used in France, and patronized by government; yet there are other plans. Generally in England and America the old pot method is preferred. It takes from 30 days to 3 months; and the longer the better, for a corrosion. We experimented on a plan like Clark's, and abandoned it.

William Cumberland, for Plaintiff. Atmospheric air or oxygen is considered a necessary agent. I never used it as a distinct one. I experimented and obtained a corrosion daily.

James Renwick, for Defendants, Professor in Columbia College, says he never heard or knew that Montgolfier's plan went into use.

Plaintiff insisted,—

That the same elemental materials to produce the same effect, having been known and used before the patent, that therefore, Clark was not the inventor, and his patent void.—

That whether the same plan was used or not, it was sufficient that it was well known and could have been put into successful operation, as was proved by Professor McNeven, Eliot and Steele.—

The patentee was in law presumed to know all matters described in books of science, and no ignorance in fact could excuse him.

It was proved that excellent white lead was made by Clark's patent.

The defendant insisted that a mere description of the mode, if not proved to have been put in use, would not repeal the patent.

The Judge delivered a very lucid and learned charge to the Jury.—He stated that they were to read the specification of the patentee, and from his summary, ascertain what he claimed as his invention. If this had been before published in works of art and science, the patentee was presumed to know it.—If they found that the invention claimed had been known before and described in authors upon the subject, although it might never have been used, the patent was void. But if they found the invention claimed, a new one, and the patentee the true inventor, the patent was valid.

The Jury found for the Complainants, on the ground that the defendant was not the true inventor, and also further found that the patent was not obtained surreptitiously, or upon false suggestions.—Mr. Clarke has appealed.

For Complainants, C. Walker.

For defendants, Staples, D. P. Hall and Patten.

THE FRENCH TREATY.—The Globe of Monday, gives the following abstract of the chief incidents connected with the forming of this treaty:—

The Convention was signed at Paris on the 4th of July, 1831; the ratifications were exchanged on the 2d of February, 1832, at Washington.

The French Chambers were in session to the 21st of April. The exchange of ratifications must have been known in Paris prior to the close of the session! The subject of the treaty was not presented.

The Chambers met again on the 19th of November, 1832. The session closed on the 25th of April, 1833. On the 6th of April, the Minister of Finance laid before the Chamber of Deputies the treaty with the United States, and a bill making the appropriations to execute it. The bill was read and referred to a committee. No action upon the subject during that session, which closed on the 25th April, 1833.

The next session opened the following day, 26th April, 1833. On the 11th June, the Minister of Finance presented a new bill. It was read and referred. Some incidental discussion took place on the 13th June, but nothing important was done.—The session closed on the 26th of the same month, no further notice being taken of the bill.

The next session began on the 23d December, 1833. On the 13th of January, 1834, the Minister of Finance again presented the bill. It was received, ordered to be printed, and referred to a committee. On the 10th of March, Mr. Jay presented, from the committee, a detailed report, recommending the adoption of the bill. The discussion commenced on the 28th of March. The bill was opposed—by a few of the speakers, because France should not have agreed to pay any thing to the United States; by others, because the administration had contracted to pay too much. The debate continued three days,

and on the 1st of April, the Chamber voted—344 members being present.

The votes in favor of the bill were	168
Against it	176

Majority against it	8
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The competent authority having refused the appropriations requisite, the United States would have taken it for granted the decision was final, and the President would necessarily have called upon Congress to decide upon the measures to be pursued.—To avert this consequence, the King of France sent a national vessel to his representative in this country. The vessel arrived before Congress adjourned, and the President made no communication to Congress. The People will understand that the assurances given to him by the Executive of France must have been full and satisfactory as to the intentions of the King, and his expectations of seeing soon redeemed by the new Deputies the faith of the Government which had been disregarded by those whose term of service had just expired. The French Chambers ordinarily meet in December. The King has the constitutional power to convoke them, and they do not assemble until called. If he does not assemble them unusually early, the question will stand as it now stands, at the meeting of Congress, and the final decision of the French Chambers will not be known here, until near the close of the session of Congress; that is, a few days before the 4th of March next.

It is greatly to be desired that the Chambers should assemble before the meeting of Congress, and that the decision of France should be communicated some time before the 4th of March, otherwise, provisional legislation, at all times to be resorted to with regret, may be found necessary to the character of the United States and the just claims of their citizens.

The President of Columbia College has been directed by the Board of Trustees to return their thanks to JOHN BOWRING, Esq. LL. D., of London, for his present to the Library of the College of the works of the late JEREMY BENTHAM, and also to Col. C. W. PASLEY, C. B., F. R. S., of the Royal Engineers, for a similar donation of his "Observations on the Standards of Measures, Weights and Money;" which acknowledgments have accordingly been communicated to those gentlemen respectively.

The President has also received from the Most Rev. THE ARCH BISHOP OF DUBLIN copies of various tracts and pamphlets published by his Grace within the last few years, and transmitted by him for the Library of the College; and from HENRY BEAUFAY, Esq. of South Lambeth, the first volume of a series of Nautical Experiments, by his father, the late Col. MARK BEAUFAY, F. R. S. &c., which publication is to be comprized in three volumes Royal Quarto, illustrated with Engravings by the first artists, and is not intended for sale, but to be distributed among such societies and individuals, as may feel an interest in its subjects. In pursuance of this liberal intention, the work has been presented to the College since the last meeting of the Trustees, and in the recess of the Board, the President loses no time in acknowledging this splendid donation, as well as the valuable gifts of Archbishop Whately.

The liberalizing influence of learning and letters, is very agreeably evinced in the recent presentations by the British Government in some instances, and by munificent individuals in others, of valuable records and publications, to literary institutions in our country.

A notice appeared in our columns a day or two since, from the President of Columbia College, acknowledging the receipt of several such presents—among them, that from Henry Beaufay, Esq. of Surry, England, embodying the nautical and hydraulic experiments, &c. of his father, Col. Mark Beaufay.—It gives us pleasure to state, as we are authorized to do, that a copy of this work has also been sent to, and received by, the Naval Lyceum at Brooklyn, and another for the use of the Navy Yard there.

The Albany Institute, too, as we perceive by the Albany Argus, has received a copy, as have some distinguished individuals among us. Mr. G. C. Verplanck, we know has, and there are others to whom the liberal Editor has transmitted this best record of a father's talents, and of a son's admiration and respect.

NEW-YORK AMERICAN.

OCTOBER 11—17, 1834.

LITERARY NOTICES.

THE AMERICAN LIBRARY, No. 2—by Samuel L. Knapp—New-York, CHARLES LOHMAN & Co.

This cheap weekly publication was, on the appearance of the first number, commended to our readers, as one specially deserving patronage from Americans, for it is devoted to illustrate their early history; this second number continues the biographies of the most distinguished early discoverers—the price only sixpence per number. The Editor would, we think, add to the value of his work, especially in the eyes of those who are fond of historical research, by giving the authorities, on which he relies, or from which he obtains his facts.

THE NORTH AMERICAN REVIEW, No. LXXXV—BOSTON, CHARLES BOWEN.—The first paper in this number is a curious one. It is a record of the origin and progress of periodical literature in this country. After reading the annexed extract, and then looking at things as they are, with newspapers, pamphlets, magazines, and reviews, so abundant as almost to defy enumeration, we may realize something of the "march of mind," about which so much has been said.

The first newspaper in these colonies, in fact began about the same time with the first Scottish Gazette, in the year 1704. It was called 'the Boston News Letter, published by authority,' and was issued every Monday, at a house, part of which is, or was lately standing, behind what was No. 56, Newbury street. The printer was Bartholomew Green, son of Samuel, whom we have mentioned as printer to the college; a person of consideration, and several years a deacon of the Old South Church. Among other subjects of commendation urged in his obituary, is his 'caution of publishing any thing offensive, light or hurtful.' The proprietor, however, for the first eighteen years, was John Campbell, a Scotchman by birth, the postmaster of the town, whose office, without supposing it to have exercised, in him, the sharp intuition of his countrywoman, the post-mistress of St. Roman's Well, naturally gave him the freest access to intelligence useful to his work. At the end of eighteen years it fell into the hands of Green, and by him and his successors was continued till the evacuation of Boston by the British troops in 1776, being in later years the organ of the Tory party, and the only paper continued in Boston through the siege.

William Brooker, being appointed Campbell's successor in the post office, resolved to turn his official advantage to similar account, and accordingly, Dec. 21st, 1719, set up the second newspaper in the colonies, called the Boston Gazette, employing James Franklin for his printer. In two or three months after, Brooker, in his turn, was superseded by Philip Musgrave, who accordingly coming into possession of the newspaper, gave the printing of it to Samuel Kneeland, a former apprentice of Green, who issued it for eight years from his printing house at the corner of Prison lane (now Court street) and Dorset's alley, an estate constantly occupied in this manner from the year 1718, till within the lifetime of the present generation.

At the end of this term, a new postmaster, coming into possession of the Gazette, naturally looked to his own line of patronage in the way of printing; and Kneeland, experiencing the common lot of dependants on the great, and thrown again upon his own resources by a like turn in the wheel to that on which he had risen, indemnified himself by setting up the New England Journal on his private account, with the benefit of his past experience, and the knowledge acquired, in his palmy days, of matters behind the veil of state. This journal was largely aided by such considerable men as Judge Danforth, and Mather Byles the elder, and took a leading part in the religious disputes of the time, on the side of Edwards and Whitefield. Its publication was carried on for fifteen years, at the end of which time it was united with the Gazette, under the name of the Boston Gazette, and Weekly Journal, and so continued to be published till 1752, when Kneeland, separating himself from a partner in the printing business, took another departure on the editorial voyage, with the name of the Boston Gazette, or Weekly Advertiser, containing, as its inscription read, 'the

freest advices, foreign and domestic.' It was published but two years, being one of the victims of the provincial stamp act.

Meanwhile, there had been a great episode in the newspaper history; great, as the event connects itself with an immortal name. The first number of the New England Courant, the third journal in Boston, which was continued but six years, was issued Aug. 17th 1721, by James Franklin, who, as was mentioned above, had been previously employed a short time in printing the Gazette. The two first papers had helped each other, for the News Letter languished till the Gazette was set up, and never languished after. But the profits of collision have a limit; and in order to get forward under the disadvantages of so undue a competition, as that of two other newspapers in such a village, it was needful to strike some new and bold stroke for popularity. Franklin took the obvious course of free and offensive comment on the respected men and opinions of the day; calculating, no doubt, that there were enough who would relish seeing their betters called in question, to secure to him a prompt patronage, and perhaps, if he looked further, persuading himself that having become a troublesome, and feared and so prosperous and important man, he might when ever the time was ripe, become a forbearing, and then a courted and trusted man at his leisure.—He was aided in his editorial labors by a society called by moderate people, the "Free-thinkers," and qualified by others with the less euphonious appellation of "the Hell-fire club." But the master spirit in the Courant's better days was Franklin's brother Benjamin, then a boy apprenticed in the office. The paper provoked the severe displeasure of the clergy and the government, which the latter did not fail to manifest in the processes of legislative and judicial action. All this it might have continued, with good management and a portion of the popular favor, to brave or evade, and thrive upon, but Franklin was indiscreet enough to quarrel with his brother; and with his elopement to Philadelphia, the glory departed from the Courant, and its weak life soon expired.—After Benjamin had abstracted himself, the Courant continued to be published in his name, as it had been for some time before,—though he was a minor,—in consequence of an order of the General Court, forbidding its publication on the part of James.

Four years after the Courant had come to its end, the Weekly Rehearsal was set on foot by the famous Jeremy Gridley, afterwards attorney general of Massachusetts Bay, then a young lawyer of brilliant promise. At the end of a year, he wearied of the work on which he had expended much classical lore, and the labor of weekly essays full of sense and entertainment; and it went into the hands of Thomas Fleet, an Englishman by birth, and a printer by trade, who had brought himself into trouble in London by his antipathy to the high church party, manifested in a studied affront to the procession in honor of Dr. Sacheverel. He then lived, as his posterity do now, at the corner of Washington street and Water street, a spot long distinguished by the sign of the Heart and Crown, and afterwards, when crowns went out of credit, by that of the Heart and Bible. Fleet was a humorist,—a man of talent and energy, and possessing uncommon resources, in his mind and experience, for his present undertaking. His satire was generally good-natured, and always free and copious. He fully preserved the latter strain, and somewhat abandoned the former, in an attack on Whitefield, then at the height of his popularity. For some unexplained reason, he changed the name of the Rehearsal, after printing it about two years, to that of the Boston Evening Post. This he continued thirteen years longer, to the time of his death, and it was undoubtedly much the best paper of its time. It was brought down by his two sons to the month of the Lexington battle.

Before the year 1750, only two newspapers, in addition to what have been mentioned, were established in Boston; the Weekly Post Boy in 1734, and the Independent Advertiser, in 1748. The first, which was continued about twenty years, was, like others before, established by a postmaster; that official, it would seem, in our ancient times, not being expected, more than an aspiring statesman in the modern, to be without a paper of his own. The latter, set up in 1748, was, through its short life of two years, of political importance; and among other leading names in the leading Whig circles, is said to have had Samuel Adams for one of its contributors.

The two first newspapers in the colonies, out of Boston, were the American Weekly Mercury, printed in Philadelphia by Andrew Bradford, begun December 22d, 1719, and the New-York Gazette by William Bradford, dated from Oct. 16th, 1728. Up to the

year 1750, besides the seven Boston papers, already spoken of, the whole number undertaken in British America was thirteen, viz: the Rhode-Island Gazette, begun in Newport in 1732; in New-York, the New-York Gazette, already mentioned, and three others; in Pennsylvania, the American Weekly Mercury, mentioned before, the Pennsylvania Gazette, purchased by Franklin in 1729, within a year after its establishment, and conducted by him for thirty years, and two others, one in German; the Maryland Gazette, published at Annapolis, and dating from 1728; the Virginia Gazette, from 1736; and two successive South Carolina Gazettes, at Charleston, from 1731 and 1734.

In the excited times, which followed the year 1750, the French war then about coming on, and afterwards the disputes which eventuated in the revolutionary struggle, the number of newspapers increased with comparative rapidity. We shall not undertake to follow their history further; but, before leaving this part of our subject, will select a few facts illustrative of similarity or difference between their remote and their recent relations to the community which they illuminated, and partially of the taste, resources, manners, and feelings of the times.

The first papers were commonly printed on a half sheet of pot paper. Occasionally, when there was a special press of matter, like what now calls forth the supplement, a whole sheet was used. Sometimes they were printed in folio, sometimes in quarto, no scrupulous regard being had to the convenience of binding. The News Letter introduced itself with an advertisement as follows.

'This News-Letter is to be continued weekly; and all persons who have any Houses, Lands, Tenements, Farms, Ships, Vessels, Goods, Wares or Merchandizes, &c., to be sold or let, or servants runaway, or goods stole or lost, may have the same inserted at a reasonable rate, from twelve pence to five shillings, and not to exceed, who may agree with Nicholas Boune for the same at his shop next door to Major Davis', apothecary in Boston near the old Meeting House. All persons in town and country may have said News-Letter weekly upon reasonable terms, agreeing with John Campbell, postmaster of New England, at Boston, for the same.'

There were only four or five post offices at this time in British America. There was one advertisement in the News Letter's first number, and two in the second.

Of the remaining articles in this number of the Review, we may speak hereafter.

THE PROTESTANT EPISCOPAL PULPIT, No. 10, vol. IV. New York, JOHN MOORE.—The number before us of this religious periodical contains a Sermon by the Rev. J. P. K. Henshaw, D.D., of St. Peter's Church, Baltimore, on the "Past State and Present Prospects of the Church." The publisher gives notice that he will, if adequately encouraged, supply the fifth volume of the Pulpit, at the low price of one dollar.

ITALY, WITH SKETCHES OF SPAIN AND PORTUGAL; by the author of *Vathek*; 2 vols. Philadelphia: Key & Biddle, for sale in New York by J. Wiley & Co.—The pampered child of fortune, England's wealthiest son, the luxurious, the highly educated, the solitary Beckford, here presents us with letters descriptive at a period long-gone-by, of the beauties, the fair landscapes, and other natural phenomena of Italy,—scenes which—as the preliminary advertisement, in referring to human institutions, well says—"while the 'old order of things,' with all its picturesque pomps and absurdities," has disappeared, it "is not in the power of revolutions or constitutions to alter, or destroy."

The singular being who now publishes, after the lapse of half a century, letters written in the heyday of youth and brilliant hopes, is known only by report to the present generation by the fantastic wonders of Fonthill Abbey. His eastern tale of *Vathek*, so highly praised by Lord Byron, has not, that we are aware, been re-published in this country. It struck us when we read it—many years ago—as quite as remarkable for its pure and idiomatic French, in which language it was written, as for its lively picture of Eastern manners.

It is among our agreeable impressions of past

days, to have wandered in company with Mr. Canning—then the British Ambassador at Lisbon—through the deserted halls, the doorless apartments and roofless galleries of the beautiful dwelling which Mr. Beckford had so picturesquely embosomed amid the exquisitely picturesque mountains of Cintra. It had long been untenanted. Its frescos had faded; and even in that lovely climate the damp had cast down the stuccoed ceilings, beneath which, in other days, the Wanderer had dwelt and revelled. All within was desolate; but without and around Nature was beautiful, magnificent, and bounteous as ever. The contrast was striking; and it recurs not the less strongly to memory now, from the reflection that the polished taste, the fine fancy, and the gentle courtesy, of the distinguished orator and statesman whose remarks we then—a traveller from a distant land—listened to with so much delight—are numbered too among the things that were.

But we are wandering from the matter before us. These "Sketches" are by a master hand; they evince throughout high refinement, a quick and admirable perception of the beautiful in art and in nature, and a mind rich in knowledge and instruction. Venice with her lagoons, her Rialto, and her bridge of Sighs—is, materially speaking, the same now as when Beckford saw her; but her population, her commerce, her nobles, her wealth, and her crimes—how shrunk away! Hear of Venice as it then was:

AUGUST 2, 1780.—Our route to Venice lay winding about the variegated plains I had surveyed from Mosolente; and after dining at Treviso, we came in two hours and a half to Mestre, between grand villas and gardens peopled with statues. Embarking our baggage at the last-mentioned place, we stepped into a gondola, whose every motion was very agreeable, after the jolts of a chaise. We were soon out of the canal of the Mestre, terminated by an isle which contains a cell dedicated to the Holy Virgin, peeping out of a thicket, whence spire up two tall cypresses. Its bells tingled as we passed along and dropped some paolis into a net tied at the end of a pole stretched out to us for that purpose.

As soon as we had doubled the cape of this diminutive island, an expanse of sea opened to our view, the domes and towers of Venice rising from its bosom. Now we began to distinguish Murano, St. Michele, St. Giorgio in Alga, and several other islands, detached from the grand cluster, which I hailed as old acquaintances; innumerable prints and drawings having long since made their shapes familiar. Still gliding forward, we every moment distinguished some new church or palace in the city, suffused with the rays of the setting sun, and reflected with all their glow of coloring from the surface of the waters.

The air was calm; the sky cloudless: a faint wind just breathing upon the deep, lightly bore its surface against the steps of a chapel in the island of San Seondo, and waved the veil before its portal, as we rode by and coasted the walls of its garden overhung with fig-trees and surmounted by spreading pines. The convent discovered itself through their branches, built in a style somewhat Morisco, and level with the sea, except where the garden intervenes.

We were now drawing very near the city, and a confused hum began to interrupt the evening stillness; gondolas were continually passing and repassing, and the entrance of the Canal Reggio, with all its stir and bustle, lay before us. Our gondoliers turned with much address through a crowd of boats and barges that blocked up the way, and rowed smoothly by the side of a broad pavement, covered with people in all dresses, and of all nations.

Leaving the Palazzo Pesaro, a noble structure with two rows of arcades and a superb rustic behind, we were soon landed before the Leon Bianco, which being situated in one of the broadest parts of the grand canal, commands a most striking assemblage of buildings. I have no terms to describe the variety of pillars, of pediments, of mouldings, and cornices, some Grecian, others Saracenic, that adorn these edifices, of which the pencil of Canaletti conveys so perfect an idea as to render all verbal description superfluous. At one end of this grand scene of perspective appears the Rialto; the sweep of the canal conceals the other.

The rooms of our hotel are spacious and cheerful; a lofty hall, or rather gallery, painted with

grotesque in a very good style, perfectly clean, floored with a marbled stucco, divides the house, and admits a refreshing current of air. Several windows near the ceiling look into this vast apartment, which serves in lieu of a court, and is rendered perfectly luminous by a glazed arcade, thrown open to catch breezes. Through it I passed to a balcony which impends over the canal, and is twined round with plants forming a green festoon springing from two large vases of orange trees placed at each end. Here I established myself to enjoy the cool, and observe, as well as the dusk would permit, the variety of figures shooting by in their gondolas.

As night approached, innumerable tapers glimmered through the awnings before the windows.—Every boat had its lantern, and the gondolas moving rapidly along were followed by tracks of light, which gleamed and played upon the waters. I was gazing at these dancing fires when the sounds of music were wafted along the canals, and as they grew louder and louder, an illuminated barge, filled with musicians, issued from the Rialto, and stopping under one of the palaces, began a sirenade, which stilled every clamor and suspended all conversation in the galleries and porticos; till, rowing slowly away, it was heard no more. The gondoliers catching the air, imitated its cadences, and were answered by others at a distance, whose voices, echoed by the arch of the bridge, acquired a plaintive and interesting tone. I retired to rest, full of the sound; and long after I was asleep, the melody seemed to vibrate in my ear.

AUGUST 3.—It was not five o'clock before I was aroused by a loud din of voices and splashing of water under my balcony. Looking out, I beheld the grand canal so entirely covered with fruits and vegetables, on rafts and in barges, that I could scarcely distinguish a wave. Loads of grapes, peaches, and melons, arrived, and disappeared in an instant, for every vessel was in motion; and the crowds of purchasers hurrying from boat to boat, formed a very lively picture. Amongst the multitudes, I remarked a good many whose dress and carriage announced something above the common rank; and upon inquiry I found they were noble Venetians, just come from their casinos, and met to refresh themselves with fruit, before they retired to sleep for the day.

Whilst I was observing them, the sun began to color the balustrades of the palaces, and the pure exhilarating air of the morning drawing me abroad, I procured a gondola, laid in my provision of bread and grapes, and was rowed under the Rialto, down the grand canal to the marble steps of S. Maria della Salute, erected by the senate in performance of a vow to the Holy Virgin, who begged off a terrible pestilence in 1630. The great bronze portal opened whilst I was standing on the steps which lead to it, and discovered the interior of the dome, where I expatiated in solitude; no mortal appearing except an old priest who trimmed the lamps and muttered a prayer before the high altar, still wrapped in shadows. The sun-beams began to strike against the windows of the cupolas, just as I left the church and was wafted across the waves to the spacious platform in front of St. Giorgio Maggiore, one of the most celebrated works of Palladio.

When my first transport was a little subsided, and I had examined the graceful design of each particular ornament, and united the just proportion and grand effect of the whole in my mind, I planted my umbrella on the margin of the sea, and viewed at my leisure the vast range of palaces, of porticos, of towers, opening on every side and extending out of sight. The doge's palace and the tall columns at the entrance of the place of St. Mark, form, together with the arcades of the public library, the lofty Campanile and the cupolas of the ducal church, one of the most striking groups of buildings that art can boast of.—To behold at one glance these stately fabrics, so illustrious in the records of former ages, before which, in the flourishing times of the republic, so many valiant chiefs and princes, have landed, loaded with oriental spoils, was a spectacle I had long and ardently desired. I thought of the days of Frederick Barbarossa, when looking up the piazza of St. Mark, along which he marched in solemn procession, to cast himself at the feet of Alexander the Third, and pay a tardy homage to St. Peter's successor. Here were no longer those splendid fleets that attended his progress; one solitary galleass was all I beheld, anchored opposite the palace of the doge, and surrounded by crowds of gondolas, whose sable hues contrasted strongly with its vermilion oars and shining ornaments. A party colored multitude was continually shifting from one side of the piazza to the other; whilst senators and magistrates in long black robes were already arriving to fill their respective offices.

I contemplated the busy scene from my peaceful platform, where nothing stirred but aged devotees creeping to their devotions, and, whilst I remained thus calm and tranquil, heard the distant buzz of the town. Fortunately some length of waves rolled between me and its tumults; so that I ate my grapes, and read Metastasio, undisturbed by officiousness or curiosity. When the sun became too powerful, I entered the nave.

The second volume relates to Portugal and Spain; and is not less striking than the first. Beckford's delight in the beauties of Cintra on this occasion, led him to his subsequent residence there.

VISITS AND SKETCHES AT HOME AND ABROAD, &c. &c.; by Mrs. JAMESON, author of the *Characteristics of Women*, &c., 2 vols. New York, *Harper & Brothers*.—The *Diary of an Ennuyée*,—which by the-by is republished in the second of these volumes,—was so well received by the public, though ushered forth and running its race of popularity anonymously, that Mrs. Jameson would have had no excuse, even if she had so desired, for refraining from further literary efforts. In the *Characteristics of Women*, which combine so much force of criticism, with so much delicacy of feeling and of taste, she well repaid and justified the favorable opinion which her anonymous work had called forth: and these *Sketches* will sustain the ordeal—not a light one,—of being tried, by what she has done before.

They are the result of a visit to Germany, not with any view to write a book, but really, as is explained in the prefatory notice, the enlarging and throwing into a sort of dramatic form, by introducing dialogues and interlocutors, the casual notes made for her own satisfaction during the tour. The spirit in which they are written seems to us up right and fair, and the style renders them very attractive.

We introduce our *Ennuyée*, not by any mean *ennuyante*, talking of *Schlegel* and *Madame de Staël*.

ALAD.—Instead of embarking in the steamboat we posted along the left bank of the Rhine, spending a few days at Bonn, at Godesberg, and at Ehrenbreitstein; but I should tell you, as you allow me to diverge, that on my second journey I owed much to residence of some weeks at Bonn. There I became acquainted with the celebrated *Schlegel*, or I should rather say, M. le Chevalier de *Schlegel*, for I believe his titles and his "starry honors" are not indifferently to him; and in truth he wears them very gracefully. I was rather surprised to find in this so fine and eloquent critic, this awful scholar, whose comprehensive mind has grasped the whole universe of art, a most agreeable, lively, social being. Of the judgments passed on him in his own country, know little and understand less; I am not deep in German literary polemics. To me he was the author of the lectures on "Dramatic Literature," the translator of *Shakspeare*, and, moreover, all that was amiable and polite: and was not this enough?

MEDON.—Enough for you, certainly; but I believe that at this time *Schlegel* would rather found fame on being one of the greatest oriental critics the age, than on being the interpreter of the beauties of *Calderon* and *Shakspeare*.

ALAD.—I believe so; but for my own part I would rather hear him talk of *Romeo and Juliet* and of *Madame de Staël*, than of *Ramayana*, *Blagvat-Oita*, or even the "eastern Con-tut-zee." This, of course, is only a proof of my own ignorance. Conversation may be compared to a lyre, seven chords—philosophy, art, poetry, politics, scandal, and the weather. There are some professors who, like *Paganini*, "can discourse most quaint music" upon one string only; and some can grasp the whole instrument, and with a master hand sound it from the top to the bottom of its compass. Now, *Schlegel* is one of the latter; he can play in the bass or caper in the treble; he can be a concert in himself. No man can trifle like him, like him, blend in a few hours converse the philosopher, poet, philosopher, and man of the world—no man narrates more gracefully, nor more fully illustrates a casual thought. He told me some interesting things. "Do you know" said he, "this morning, as I was looking at a beautiful edition of *Caroline*, bound in red morocco, the gift of *Madame de Staël*, 'do you know that I figure in that book?' I asked eagerly in what character? He had

guess. I guessed, playfully, the Comte d'Erfeuil. "No! no!" said he, laughing, "I am immortalized in the Prince Castle-Forte, the faithful, humble, unassuming friend of Corinne."

MEDON.—To any man but Schlegel such an immortality were worth a life. Nay, there is no man, though his fame extended to the ends of the earth, whom the pen of Madame de Stael could not honor.

ALDA.—He seemed to think so, and I liked him for the self complacency with which he twined her little myrtle leaf with his own palmy honors. Nor did he once refer to what I believe everybody knows, her obligations to him in her *De l'Allemagne*.

MEDON.—Apropos—do tell me what is the general opinion of that book among the Germans themselves.

ALDA.—I think they do not judge it fairly. Some speak of it as eloquent, but superficial; others denounce it altogether as a work full of mistakes, and flippant, presumptuous criticism: others again affect to speak of it, and even of Madame de Stael herself, as thing of another era, quite gone by and forgotten; this appeared to me too ridiculous. They forget, or do not know, that we know, that her *De l'Allemagne* was the first book which awakened in France and England a lively and general interest in German art and literature. It is now five-and-twenty years since it was published. The march of opinion, and criticism, and knowledge of every kind has been so rapid, that much has become old which then was new; but this does not detract from its merits. Once or twice I tried to convince my German friends that they were exceedingly ungrateful in abusing Madame de Stael, but it was all in vain: so I sat swelling with indignation to hear my idol traduced, and called—O profanation!—"cette Stael."

MEDON.—But do you think the Germans could at all appreciate or understand such a phenomenon as Madame de Stael must have appeared in those days? She whisked through their skies like a meteor before they could bring the telescope of their wits to a right focus for observation. How she must have made them open their eyes!—and see in the correspondence between Goethe and Schiller what they thought of her.

ALDA.—Yes, I know that with her lively egotism and Parisian volubility, she stunned Schiller and eased Goethe; but while our estimate of manner is relative, our estimate of character should be positive. Madame de Stael was in manner the French woman, accustomed to be the cynosure of a salon, but she was not ridiculous or egotistic in character.—She was, to use Schlegel's expression, "*femme grande et magnanime jusque dans les replis de son âme*." The best proof is the very spirit in which she viewed Germany, in spite of all her natural and national prejudices. To apply to your own expression, she went forth in the spirit of peace, and brought back, not only an olive leaf, but a whole tree, and it has flourished. She had a universal mind. I believe she never thought, and still less made any one ridiculous in her life.

We present next an educated woman herself, expressing her opinion of the German women.

MEDON.—You said, the other night, that you had formed any opinion as to the moral and social position of the women of Germany; but you must have brought away some general impressions of manner and character;—frankly, were they favorable or unfavorable?

ALDA.—Frankly, they were most favorable. Remember that I am not prepared with any general sweeping conclusions: I cannot assure you, from my own knowledge, that among my own sex the portion of virtue and happiness is greater in Germany than in England. On the contrary—

In every land
I saw, wherever light illumined,
Beauty and anguish walking hand in hand,
The downward slope to death.
In every land I thought that, more or less,
The stronger, sterner nature overbore
The softer, uncontrolled by gentleness,
And selfish evermore!

Why do you smile?

MEDON.—You amuse me with the perseverance which you ring the changes on your favorite in prose and in verse; and yet to adopt Voltaire's witty metaphor, we are the hammers and you anvils all the world over. But is that all? You must not have gone to Germany to verify that!

ALDA.—No, sir; it is not all. In the first place, I know I have a sufficient contempt for our English intolerance with regard to manners—

MEDON.—Why, yes; with reason. The influence of manners among our fashionable people, and the stress laid upon it as a distinction, have become

so vulgarized and abused, that I should be relieved even by a reaction which should throw us out of the insipidity of conventional manners into primeval rudeness.

ALDA.—No, no, no!—no extremes; but though so sensible to the ridicule of referring the social habits, opinions, customs of other nations, to the arbitrary standard of our own, still I could not help falling into comparisons; certain distinctions between the German and the English women struck me involuntarily. In the highest circles a stranger finds society much alike every where. A court ball—the *soirée* of an ambassador—a minister's dinner—present nearly the same physiognomy. It is in the second class of society, which is also every where, and in every sense, the best, that we behold the stamp of national character. I was not condemned to see my German friends always *en grande toilette*: I had better opportunities of judging and appreciating their domestic habits and manners than most travelers enjoy.

I thought the German women of a certain rank more natural than we are. The moral education of an English girl, is for the most part, negative; the whole system of duty is thus presented to the mind. It is not "this you must do," but always "you must not do this—you must not say that—you must not think so;" and if by some hardy, expanding nature the question be ventured, "Why?—the mamma or the governess is ready with the answer—"It is not the custom—it is not lady-like—it is ridiculous!"—But is it wrong?—why is it wrong?—and then comes answer, pat—"My dear, you must not argue—young ladies never argue."—"But, mamma, I was thinking—"—"My dear, you must not think—go write your Italian exercise;" and so on! The idea that certain passions, powers, tempers, feelings, interwoven with our being, by our almighty and all-wise Creator, are to be put down by the fiat of a governess, or the edict of fashion, is monstrous.—Those who educate us imagine that they have done every thing, if they have silenced controversy, if they have suppressed all external demonstration of an excess of temper or feeling; not knowing, or not reflecting, that unless our nature be self-governed and self directed by an appeal to those higher faculties which link us immediately with what is divine, their labor is lost.

Now, in Germany, the women are less educated to suit some particular fashion; the cultivation of the intellect, and the forming of the manners, do not so generally supersede the training of the moral sentiments—the affections—the impulses; the latter are not so habitually crushed or disguised; consequently the women appeared to me more natural, and to have more individual character.

MEDON.—But the English women pique themselves on being natural; at least they have the word continually in their mouths. Do you know that I once overheard a well-meaning mother instructing her daughter how to be natural? You laugh, but I assure you it is a simple fact. Now, I really do not object to natural insipidity, but I do object to conventional insipidity; I object to a rule of elegance which makes the negative the test of the natural. It seems hard that those who have hearts and souls must needs put them into a strait-waistcoat, in order to oblige those who choose to have none; and be guilty of the grossest affectation, to escape the imputation of being affected!

ALDA.—I think there is less of this among the Germans; more of the individual character is brought into the daily intercourse of society—more of the poetry of existence is brought to bear on the common realities of life. I saw a freshness of feeling—a genuine (not a taught) simplicity, which charmed me. Sometimes I have seen affectation, but it amused me; it consisted in the exaggeration of what is in itself good, not in the mean renunciation of our individuality—the immolation of our soul's truth to a mere fashion of behaviour. As Rochefoucauld called hypocrisy, (that last extreme of wickedness,) "*the homage which vice pays to virtue*;" so the nature de convention, that last and worst excess of affectation, is the homage which the artificial pays to the natural.

The German women are much more engrossed by the cares of housekeeping than women of a similar rank of life in England. They carry this too far in many instances, as we do the opposite extreme. In England, with our false, conventional refinement, we attach an idea of vulgarity to certain cares and duties in which there is nothing vulgar. To see the young and beautiful daughter of a lady of rank running about, busied in household matters, with the keys of the wine-cellar and the store-room suspended to her sash, would certainly surprise a young Englishwoman, who, meantime, is netting a purse, painting a

rose, or warbling some "*Dolce mio Bene*," or "*Soavi Palpit*," with the air of a nun at penance. The description of Werter's Charlotte, cutting bread and butter, has been an eternal subject of laughter among the English, among whom fine sentiment must be garnished out with something finer than itself; and no princess can be suffered to go mad, or even be in love, except in white satin. To any one who has lived in Germany, the union of sentiment and bread and butter, or of poetry with household cares, excites no laughter. The wife of a state minister once excused herself from going with me to a picture gallery, because on that day she was obliged to reckon up the household linen; she was one of the most charming, truly elegant, and accomplished women I ever met with. At another time, I remember that a very accomplished woman, who had herself figured in a court, could not do something or other—I forget what—because it was the "*grosse wasche*" (the great wash;) an event by-the-way, which I often found very mal-apropos, and which never failed to turn a German household upside-down. You must remember that I am not speaking of tradesmen and mechanics, but of people of my own, or even a superior, rank of life. It is true that I met with cases in which the women had, without necessity, sunk into mere domestic drudges—women whose souls were in their kitchen and their household stuff—whose talk was of dishes and of condiments; but then the same species of women in England would have been, instead of busy with the idea of being useful, frivolous and silly, without any idea at all.

MEDON.—And whether a woman put her soul into an apple tart or a new bonnet signifies little, if there be no capacity there for anything better. I hate mere fine ladies; but equally avoid those who seem born to "suckle fools and chronicle small beer." The accomplishments which embellish social life—the cultivation which raises you to a companionship with men—I cannot spare these to make mere nurses and housewives, as I conceive the generality of German aim to be, and which I have been told the opinions of the men approve.

ALDA.—As to what we term accomplishments, there was certainly much less exhibition and parade of them in society; they formed less an established and necessary part of education than with us; but, of really accomplished, well-informed women, believe me, I found no deficiency: if the inclination or the talent existed, means and opportunity were not wanting for mental culture of a very high species. I met with fewer women who drew badly, sang tolerably, or rather intolerably, scratched the harp, and quoted Metastasio; but I met with quite as many women who, without pretension, were finished musicians, painted like artists, possessed an extensive acquaintance with their own literature, and an uncommon knowledge of languages; and were, besides, very good housewives after the German fashion. More or less acquainted with the French language, was a matter of course, but English was preferred: every where I met with women who had cultivated with success, not our language merely, but our literature. Shakspeare, whether studied in English or in some of their excellent translations, I found to be a species of household god, whose very name was breathed with reverence, as if it were that of a supernatural being. Lord Byron, and Sir Walter Scott, and Campbell are familiar names.

At the close of the first volume is a charming paper on Fanny Kemble. The first part of it was intended to accompany sketches taken of her in various scenes in Juliet by I. Hayter, and then designed for publication. They have not however been published; but the notes, critical and explanatory, are here given, with some additional remarks of more recent origin.

SUMMARY.

American Academy of Arts, Barclay st.—There has been recently opened at the above establishment, an exhibition of considerable merit and novelty from the peculiar manner in which the paintings are exhibited. They consist of five views, as follows: 1st, The Interior of Trinity Chapel in Canterbury Cathedral, is a true specimen of Saxon Gothic Architecture; and having been built about 1300 years, has a certain claim to our admiration from its antiquity; and the exquisite manner in which it is painted: the long line of perspective, the transparent windows of stained glass, and its round columns, all conspire to

give this picture an air of perfect reality and illusion. 2d, The Painting of Captain Ross's Interview with the natives at the North Pole, conveys a perfect idea of the barrenness of that inhospitable climate and the singular appearance of the inhabitants of those frozen regions, painted from Capt. Ross's own drawings and under his own superintendence. 3d, The View of London is exceedingly minute in its detail, showing all the public Buildings, Churches and Bridges, &c., and to the inhabitants of this city highly interesting. 4th, The Destruction of the Temple and City of Jerusalem by that celebrated artist, Mr. West, is one of the many splendid Illustrations of Scripture History which he designed. 5th, The Kent Indian man on Fire, is one of those dreadfully appalling spectacles which happily do not often occur; but the artist has truly depicted it, and to us as a maritime people is a matter of peculiar attraction. In addition to the Paintings, there are four figures dressed in suits of ancient armor, one of which is 700 years old, of exceeding curious and rare workmanship and mechanism. Taking the exhibition as a whole it deserves extensive patronage.

MR. EUGENE ROBERTSON'S Exhibition at the Euterplan Hall, continues to attract, as we hear, many visitors.

It is one of optical illusions chiefly—Washington, Napoleon, and Lafayette, are evoked, the influence of dreams is typified, and strange and unearthly visions are, as it were, embodied.

The Exhibition will soon close, and those, therefore, desirous of seeing such sights, should improve the opportunity.

Burning of the Steamboat Cygnet.—On Tuesday night, at about 12 o'clock, the Steamboat Cygnet, lying at Janney's wharf in this town, was discovered to be on fire. The alarm was immediately given; but in a very short time the boat was completely enveloped in fire, and it was found impossible to save her. She burned to the water's edge.—[Alexandria Phenix.]

[From the Pittsburg Advocate of Monday last.]

DREADFUL EXPLOSION AND LOSS OF LIFE.—This morning about 5 o'clock, intelligence was brought to us of the explosion of the boilers of the Eagle Cotton Factory, in the borough of Allegheny, owned by Messrs Arbuckle & Avery. Hastening to the scene of calamity, never did we look upon a spectacle so full of horror. The extensive building is almost an entire ruin, a mass of stones, brick and rubbish. The building, and much of the costly and extensive machinery are utterly lost and destroyed; but the loss of the property is small compared with the loss of life, and the agony and misery which have resulted. So far as we could gather the circumstances, they are these. The boilers had been suffered through neglect or inattention to become heated before the water was let into them, which caused the heads to be blown out—and the concussion was so great that they rose from their beds, and passing out of the engine house, overturned a small office attached to the buildings, and were finally arrested by a large board pile in the rear of the building, which it completely shattered to pieces. A machinist, James Marlatt, a Frenchman, was killed instantaneously, and the First Engineer, Alexander Morrow, so badly scalded as to leave no hopes of his recovery. Two boys, named James Heming and Dodd, are missing, supposed to be lying dead amongst the rubbish, which is now being removed. Another boy killed, name not recollected. Three young women at work in the factory were very badly wounded, all of them having limbs broken.

It was a fortunate circumstance that the explosion occurred at an earlier hour than that at which most of the hands are accustomed to be at work—had it been an hour later, the disaster would have been very great; as it is, the extent of injury is not yet known, as several are missing, of whom it is not known whether they were on duty or not.

Commercial Bank of Buffalo.—This new institution, P. A. Barker, Esq. President, and Hamlet Scrantom, Esq. Cashier, has commenced operations. The new banking house is a splendid building, and all things are arranged in good taste.

NEW ORLEANS, September 29.—We have been informed by a gentleman who arrived yesterday from Natchez, that the Steamer Friend has been sunk by the Tom Jefferson running into her. Our informant was unable to give us the particulars.

The drought of the past summer had depressed many of the rivers to a lower point than has been known for many years past. The Susquehanna, at Harrisburg, has been three inches below the lowest water mark heretofore made—that is, in 1803.—The Ohio, at Cincinnati, was within six or eight inches of being as low as ever it was known to be.

CINCINNATI, OHIO, Sept. 28, 1834.—John Randolph once remarked on the floor of Congress, that "the Ohio River was frozen up one half the year, and dried up the other." This is not true; but the latter part of the assertion comes nearer the truth at this time, than for many years past. I think I have never seen the Ohio lower than at this time. It is said to be within six or eight inches as low as it has ever been known to be. At the time of the "flood" in February, 1832, the waters were some sixty-five feet higher than at this time; all the lower part of the city was inundated—that was the highest rise, in the memory of our oldest inhabitants, or on record.—Correspondence of the Baltimore Patriot.]

New Post Office.—A Post Office has been established at Hallett's Cove, L. I. to which a mail is sent from this city, every day except Sunday.

SUMATRA.—The bark Alasco has arrived at Boston from Sumatra, whence she sailed on the 27th May. Her commander, Capt. Briggs, states that of all the American vessels on the coast, two or three only would be able to obtain cargoes, the crop of pepper this season being short of the usual quantity, and the English ships having carried away more than their usual proportion.—[Courier.]

NORFOLK (VA.) FRIDAY, 10th.—Fire.—The large wooden dwelling house at the "Sycamores," was destroyed by fire this morning, between one and two o'clock. We have not learned the particulars. It was owned by Mr. Jonathan Bonney, and occupied by Mr. R. Doye, as a public house. We are informed that it was insured.

The North Star published at Whitehall says:

"The Collector at Champlain, (Gen. Thurber,) has been held to bail, in the sum of \$60,000, by virtue of a writ issued against him at Washington. The charges set forth are, converting the public property to his own use.

[From the Churchman.]

CONSECRATION OF THE FRENCH CHURCH.—The beautiful and costly edifice recently erected at the intersection of Franklin and Church streets, for the French Protestant Episcopal Church Du St. Esprit was consecrated by the Right Rev. B. T. Onderdonk, D. D., Bishop of the Diocese of New York, on Thursday the 9th instant.

The instrument of donation was presented to the Bishop by John Pintard, Esq., and was read by the Rev. Antoine Verren, Rector of the Church, and a translation of it was read by the Rev. F. L. Hawks, D. D., Rector of St. Thomas' Church, New York.—The sentence of consecration was read by the Rev. James Milnor, D. D., Rector of St. George's Church New York, and a translation of it by the Rector of the Church Du St. Esprit. Divine service was performed in the French language by the Rev. R. A. Henderson, Minister of the Swedish Churches in Pennsylvania, the lessons being read by the Rev. L. P. Bayard, Rector of St. Clement's Church New York. The sermon was preached also in the French language by the Rector of the Church.

The entire services were altogether satisfactory to a highly respectable and very numerous assemblage of hearers, and afforded a happy proof of the adaptation of our Liturgy to foreign languages, and of its peculiar impressiveness in the French language. The building, whose beauty harmonizes with the sublimity of the service for which it is intended, presents a pleasing proof of the regard of the present congregation for the memory and the language of their pious ancestors, and together they afford to a numerous and respectable class of residents and sojourners, in this "city of strangers," a means of "hearing in their own tongue the wonderful works of God."

Steamboat Monroe.—The new and elegant boat Monroe, Capt. Whittaker, from Monroe, M. T., came into our harbor on Wednesday last. She is decidedly one of the best models and neatly arranged boats on the lake, exhibiting great economy of room, and a simplicity and elegance of taste in her fixtures highly creditable to owners and builders; and furnishing another specimen of the growth and prosperity of the pretty town whose name she bears, and where she was built. She is 145 feet from stem

to stern, 9 feet 9 inches hold, breadth of beam 26 feet. She has 23 berths in her gent's cabin, 20 in her ladies' cabin and state rooms; 51 in her forward cabin, and 20 steerage, being 104 cabin berths furnished. She is propelled by a superior high pressure engine, built at Detroit, by Thomas Moore, and is to ply between this port and Detroit; Barker & Holt, agents.—[Buffalo Journal.]

Lobsters.—We have omitted to notice the fact that we some days since dined with our host of the Eagle Tavern, on fresh lobsters. They were presented by Capt. Hebbard, of the steamboat Victory, who brought several from New York, in fine order, alive and kicking, and as good as any we have eat. This proves the fact that this delicious shell fish may be furnished in our market without difficulty.—[Buffalo Journal.]

Mexico.—The New Orleans mail brings advices 10 days later from Mexico than we had before received. The Convoy of specie had arrived safely at Vera Cruz, with upwards of three millions of dollars, of which about \$600,000 was embarking on board the packet ship Congress, and brig Baron, both for this port; the former was to sail between the 18th and 20th ult., and the latter on the 15th. The country was quiet; and business in the interior reviving.

MELANCHOLY SHIPWRECK.—Seventeen lives lost.—We learn from the Eastport Sentinel of the 8th inst. that the schr. Sarah, Capt. THOMAS PEARCE, on her passage from Boston to that port, was wrecked on the 2d inst., during a gale and thick fog on the Machias Seal Island, and that seventeen of the persons on board perished. Much anxiety had existed at Eastport for several days in consequence of the non-arrival of the vessel. In the meantime news of her sailing from Boston, the names of the passengers on board, and reports of parts of the wreck having been seen, reached Eastport, and caused the greatest anguish among the friends of the unfortunate sufferers. On the evening of the 2d, (says the Sentinel,) the Pilot-Boat No. 2, Capt. Connelly, arrived with the survivors, six in number. Peter Goulding, Esq. of Perry, a Mr. Jeffries, of New Brunswick, the stewardess, and three seamen—all others, seventeen in number, perished! These were Captain Pearce and son, Mr. John Swett, the mate, Mr. Ebenezer Starboard, and Joseph S. Cony, of this town,—a son of Hon. J. C. Talbot, of East Machias, Mr. William Fowler, and Mr. Featherstunough, of Lubec, Mr. Wiggins, and a Mr. Smith, of St. John, Mr. Darling of St. Stephens, a seaman, two forward passengers, the cook, and two others, whose names are unknown.

And now, what an awful visitation of God is here! Four husbands and fathers gone forever! and at a moment, when those who knew them best and loved them most, waited to hear the long expected words—"the Sarah is coming!"—Four widows—and ten fatherless children here—perhaps as many more elsewhere! and bleeding hearts—these—these who shall number?

The bodies of Messrs. Talbot, Smith & Fowler, and of the cook, were found,—that of Mr. Fowler was bro't to Lubec—the others were buried upon Seal Island. Those of the crew saved, are John Boole, of Shelburne, N. S., George Kirkas, and George Stowell, both Englishmen. Of those lost, whose names are not given, we learn that two of the forward passengers were seamen belonging to the brig Elizabeth, Barty, of St. John, discharged in Boston, that the seaman was Robert Dyer, of Pleasant River, and that the cook's name was Collins Warwick, and that he belonged to Nova Scotia.

We learn also, that on Friday, three schooners and a brig were off the Seal Islands, picking up goods, and that signals of distress were made from the Lighthouse, which they must have seen, but to which they paid no attention. May those who controlled their movements, never have the mercy measured to them, that it seems they measured to the survivors of the Sarah! The Sarah's cargo was valuable and belonged mostly to the merchants in this town. Mr. Fowler, of Lubec, and Mr. Goulding, of Perry, however, had considerable, the latter about \$1100, no insurance. The amount insured by others, is unknown, but it is presumed less than half the value was covered.

Mr. Goulding and the Stewardess floated ashore upon the quarter deck. The seamen who were saved, jumped from the bows. Mr. Goulding was badly bruised.

Bills of indictment have been found against Matthias, alias Matthews, the pretended prophet, for obtaining money on false pretences. He will be arraigned this day, but probably not brought to trial unless he demands it, until the next General Sessions

By the English Opium Eater.

In the number of "Tate's Edinburgh Magazine," just published, there is an article on Mr. Coleridge, with the title which we have quoted, and from that we make the following extracts. The first describes the commencement of the acquaintance.

"I had received directions for finding out the house where Coleridge was visiting; and, in riding down a main street of Bridgewater, I noticed a gateway corresponding to the description given me. Under this was standing, and gazing about him, a man whom I shall describe. In height he might seem to be about five feet eight (he was, in reality, about an inch and a half taller, but his figure was of an order which drowns the height); his person was broad and full, and tended even to corpulence; his complexion was fair, though not what painters technically style fair, because it was associated with black hair; his eyes were large and soft in their expression; and it was from the peculiar appearance of haze or dreaminess which mixed with their light, that I recognized my object. This was Coleridge. I examined him steadily for a minute or more; and it struck me that he saw neither myself nor any other object in the street. He was in a deep reverie; for I had dismounted, made two or three trifling arrangements at an inn door, and advanced close to him, before he had apparently become conscious of my presence. The sound of my voice, announcing my own name, first awoke him; he started, and for a moment seemed at a loss to understand my purpose or his own situation; for he repeated rapidly a number of words which had no relation to either of us. There was no *mauvaise honte* in his manner, but simple perplexity, and an apparent difficulty in recovering his position amongst day-light realities. This little scene over, he received me with a kindness of manner so marked that it might be called gracious."

Coleridge led me to a drawing-room, rang the bell for refreshments, and omitted no point of a courteous reception. He told me that there would be a very large dinner party on that day, which might perhaps be disagreeable to a perfect stranger; but, if not, he could assure me of a most hospitable welcome from the family. I was too anxious to see him under all aspects, to think of declining this invitation. And these little points of business being settled, Coleridge, like some great river, the Orellana, or the St. Lawrence, that had been checked and fretted by rocks or thwarting islands, and suddenly recovers its volume of waters, and its mighty music—swept at once, as if returning to his natural business, into a continuous strain of eloquent dissertation, certainly the most novel, the most finely illustrated, and traversing the most spacious fields of thought, by transitions the most just and logical, that it was possible to conceive.

"For about three hours he had continued to talk, and in the course of this performance he had delivered many most striking aphorisms, embalming more weight of truth, and separately more deserving to be themselves embalmed, than any that are on record. In the midst of our conversation, if that can be called conversation which I so seldom sought to interrupt, and which did not often leave openings for contribution, the door opened and a lady entered. She was in person full, and rather below the common height; whilst her face showed, to my eye, some prettiness of rather a commonplace order. Coleridge turned, upon her entrance; his features, however, announced no particular complacency, and did not relax into a smile. In a frigid tone he said, whilst turning to me, "Mrs. Coleridge:" in some slight way he then presented me to her. I bowed; and the lady almost immediately retired. From this short but ungenial scene, I gathered, what I afterwards learned redundantly, that Coleridge's marriage had not been a very happy one."

"The gloom, however, and the weight of dejection which sat upon Coleridge's countenance and deportment, at this time, could not be accounted for by a disappointment (if such it were) to which time must, long ago, have reconciled him. Mrs. Coleridge, if not turning to him the more amiable aspects of her character, was, at any rate, a respectable partner. And the season of youth was now passed. They had been married about ten years; had had four children, of whom three survived; and the interests of a father were now replacing those of a husband. Yet never had I beheld so profound an expression of cheerless despondency. And the restless activity of Coleridge's mind in chasing abstract truths, and burying himself in the dark places of human speculation, seemed to me, in a great measure, an attempt to escape out of his own personal wretchedness. At dinner, when a very numerous party had assembled, he

knew that he was expected to talk, and exerted himself to meet the expectation. But he was evidently struggling with gloomy thoughts that prompted him to silence, and perhaps to solitude; he talked with effort, and passively resigned himself to the repeated misrepresentations of several amongst his hearers.—It must be to this period of Coleridge's life that Wordsworth refers in those exquisite 'Lines written in my pocket copy of the Castle of Indolence.' The passage which I mean comes after a description of Coleridge's countenance, and begins in some such terms as these:—

"A piteous light it was to see this man,
When he came back to us, a wither'd flow'r," &c.

Withered he was, indeed, and, to all appearance, blighted. At night he entered into a spontaneous explanation of this unhappy overclouding of his life, on occasion of my saying accidentally that a tooth-ache had obliged me to take a few drops of laudanum. At what time or on what motive he had commenced the use of opium, he did not say; but the peculiar emphasis of horror with which he warned me against forming a habit of the same kind, impressed upon my mind a feeling that he never hoped to liberate himself from the bondage."

"The fine saying of Addison is familiar to most readers—that Babylon in ruins is not so affecting a spectacle, or so solemn, as a human mind overthrown by lunacy. How much more awful, then, and more magnificent a wreck, when a mind so regal as that of Coleridge is overthrown, or threatened with overthrow, not by a visitation of Providence, but by the treachery of his own will, and the conspiracy as it were of himself against himself! Was it possible that this ruin had been caused or hurried forward by the dismal degradations of pecuniary difficulties? That was worth inquiring.—I will here mention briefly that I did inquire two days after; and in consequence of what I heard. I contrived that a particular service should be tendered to Mr. Coleridge, a week after, through the hands of Mr. Cottle, of Bristol, which might have the effect of liberating his mind a year or two, and thus rendering his great powers disposable to their natural uses. That service was accepted by Coleridge. To save him any feelings of distress all names were concealed; but in a letter written by him, about fifteen years after this time, I found that he had become aware of all the circumstances, perhaps through some indiscretion of Mr. Cottle. A more important question I never ascertained: viz. whether this service had the effect of seriously lightening his mind. For some succeeding years he did certainly appear to me released from that load of despondency which oppressed him on my first introduction. Grave, indeed, he continued to be, and at times absorbed in gloom; nor did I ever see him in a state of perfectly natural cheerfulness. But as he strove in vain, for many years, to wean himself from his captivity to opium, a healthy state of spirits could not be much expected. Perhaps, indeed, where the liver and other organs had, for so large a period in life, been subject to a continual morbid stimulation, it may be impossible for the system ever to recover a natural action. Torpor, I suppose, must result from continued artificial excitement; and perhaps upon a scale of corresponding duration.—Life, in such a case, may not offer a field of sufficient extent for unthreading the fatal links that have been wound about the machinery of health, and have crippled its natural play."

Anecdote of Mr. Coleridge's Father.—"Dining in a large party one day, the modest divine was suddenly shocked by perceiving some part, as he conceived, of his own snowy shirt emerging from a part of his habiliments, which we shall suppose to have been his waistcoat. It was not that; but for decorum we shall so call it. The strayed portion of his supposed tunic was admonished of its errors by a forcible thrust back into its proper home; but still another *limbus* persisted to emerge, or seemed to persist, and still another, until the learned gentleman absolutely perspired with the labor of re-establishing order. And, after all, he saw with anguish, that some arrears of the snowy indecorum still remained to reduce into obedience. To this remnant of rebellion he was proceeding to apply himself—strangely confounded, however, at the obstinacy of the insurrection—when the mistress of the house, rising to lead away the ladies from the table, and all parties naturally rising with her, it became suddenly apparent to every eye, that the worthy Orientalist had been most laboriously stowing away, into the capacious receptacles of his own habiliments, the snowy folds of a lady's gown, belonging to his next neighbor; and so voluminously, that a very small portion of it, indeed, remained for the lady's own use; the natural consequence of which was, of course, that the lady appeared almost inex-

tricably yoked to the learned theologian, and could not in any way effect her release, until after certain operations upon the Vicar's dress, and a continued refunding and rolling out of snowy mazes upon snowy mazes, in quantities which, at length, proved too much for the gravity of the company. Inextinguishable laughter, arose from all parties, except the erring and unhappy doctor, who, in dire perplexity, continued still refunding with all his might, until he had paid up the last arrears of his long debt, and thus put an end to a case of distress more memorable to himself and his parishioners than any "*quale-quare-quiddi-tire*" case that had ever perplexed his learning."

"In his childish days, and when he had become an orphan, S. T. Coleridge was removed to the heart of London, and placed on the great foundation of Christ's Hospital. He there found himself associated, as a school-fellow, with several boys destined to distinction in after life, and especially with one, who if not endowed with powers equally large and comprehensive, had, however, genius not less original or exquisite than his own—the inimitable Charles Lamb. But, in learning, Coleridge outstripped all competitors, and rose to be the Captain of the school. It is, indeed, a most memorable fact to be recorded of a boy, that, before completing his fifteenth year, he had translated the Greek Hymns of Sinesius into English Anacreonic verse. This was not a school-task, but a labor of love and choice; to appreciate which, it is necessary to recall the dark philosophy which constitutes the theme of Sinesius. Before leaving school, Coleridge had an opportunity of reading the sonnets of Bowles, which so powerfully impressed his poetic sensibility, that he made forty transcripts of them with his own pen, by way of presents to youthful friends. From Christ's Hospital, by the privilege of his station at school, he was transferred to Jesus College, Cambridge. It was here, no doubt, that his acquaintance began with the philosophic system of Hartley, for that eminent person had been a Jesus man. Friend, also, the mathematician, of heretical memory, belonged to that college, and was probably contemporary with Coleridge. What accident, or imprudence, carried him away from Cambridge before he had completed the usual period of study, or (I believe) taken his degree, I never heard. He had certainly won some distinction as a scholar, having obtained the prize for a Greek ode in Sapphic metre, of which the sentiments (as he observes himself,) were better than the Greek. Porson was accustomed, meanly enough, to ridicule the Greek *lexis* of this ode, which was to break a fly upon the wheel. The ode was clever enough for a boy; but to such skill in Greek as could have enabled him to compose with critical accuracy, Coleridge never made pretensions. He had, however, a far more philosophic insight into much of the structure of that language than Porson had, or could have comprehended."

"Not very long after this, Coleridge became acquainted with the two Wedgwoods, both of whom, admiring his fine powers, subscribed to send him into North Germany, where, at the University of Göttingen, he completed his education according to his own scheme. The most celebrated Professor whose lectures he attended, was the far famed Blumenbach, of whom he continued to speak through life with almost filial reverence."

"Returning to England, he attended Mr. Thomas Wedgwood, as a friend, throughout the afflicting and anomalous illness which brought him to the grave. It was supposed by medical men that the cause of Mr. Wedgwood's continued misery was a stricture of some part in the intestines (the colon, it was believed.) The external symptoms were torpor and defective irritability, together with everlasting restlessness. By way of some relief to this latter symptom, Mr. Wedgwood purchased a travelling carriage, and wandering up and down England, taking Coleridge as his companion. And, as a desperate attempt to rouse and irritate the decaying sensibility of his system, I have been assured by a surviving friend, that Mr. Wedgwood at one time opened a butcher's shop, conceiving that the affronts and disputes to which such a situation would expose him, might act beneficially upon his increasing torpor. This strange expedient served only to express the anguish which had now mastered his nature; it was soon abandoned; and this accomplished but miserable man soon sank under his sufferings.—What made the case more memorable was the combination of worldly prosperity which had settled upon this gentleman. He was rich, young, generally beloved, distinguished for his scientific attainments, publicly honored for patriotic services, and had before him, when he first fell ill, every prospect of a splendid and most useful career."

By the death of Mr. Wedgwood, Coleridge's ac-

ceded to a regular annuity of 75L which that gentleman had bequeathed to him. The other Mr. Wedgwood granted him an equal allowance. Now came his marriage, his connexion with politics and political journals, his residence in various parts of Somersetshire, and his consequent introduction to Mr. Wordsworth."

THE DREAM.

"Twas a dream," exclaimed young Blanch, starting from sleep upon the cold ground, where two bivouacked, on the night before the storming of Badajos. And can man sleep sound, methinks I hear the reader ask, in such circumstances as these? Yes, if the mind and body be as they ought, the soldier on his clay couch on the battle eve, and the sailor cradled on the surge, and rocked by the storm, enjoy a repose which luxury never knew, and which monarchs sigh for in vain.

I was then lying close beside Blanch, but had been awake some time before him; and, by the light of a fire which we had kindled previous to repose, I had been watching the face of the fair boy as it expressed the passing emotions of his mind, when lapsing through the mysterious changes of his dream.

At first, his still pale features exhibited the blessed calm of a pure and peaceful sleep. Anon, they became gently moved, like the moonlight lake by the passing breath of night, and at length were gradually lighted up with a smile so celestial, that I could fancy his spirit was basking in the beams of heaven.

The night-flame played with its wavering glare upon his face, whose beauty thus broke forth in fitful gleams, even as the faces of departed friends come back upon our slumbers in glimpses from the grave.

The sight of the sleeping youth reminded me of that most exquisite of Campbell's lyrics, "The Soldier's Dream." "Happy boy," thought I, "while the young frame is lying on the cold clay, thy spirit hath a sweet reprieve from the horrors of war, and, is even now, perchance, far away in thy own land, where the smiles of friends, and the carresses of thy little sister, receive thee back to thy father's hall, where there is joy for thy return, and where thy mother is weeping thy welcome home."

My soliloquy was suddenly broken, for Blanch awakened with a start, and looking round him with a wild and forlorn gaze, sobbed out, "Twas but a dream."

"It seems to have been a pleasant one, however, if I may judge from the regretful tone of your words on awakening," said I, not without a feeling of curiosity to know in what its happiness consisted.

"It was indeed," rejoined my friend, "but brief as it was blest—so it is soon told. I am now about that age when it is supposed we are most susceptible of the tender passion; yet I never have felt love for woman till this night, when such a being as seemed wanting to me in the waking world was given to me in sleep. Oh! she was so passing fair, and so seraph-like! Nay, smile not, because it was a dream. I, too, can smile at dreams, but in this instance, the form and features of the unknown were so distinctly delineated, and shadowed forth with such arbitrary truth, as never belonged to the formations of mere fancy, and can never be effaced from my brain. I do believe—nay, I feel certain, that such a being somewhere exists; and to see her with waking eyes, and find favor in her sight, I would willingly lay down my life."

I could not help smiling at this burst of boyish enthusiasm, and at what appeared to me the very mockery of imagination—by which the bewitched Blanch had become enamoured of the phantom of his own brain, and was incurably in love with a lady of a dream; but had I been the most incredulous and cruel interpreter of midnight mysteries, I could not have found in my heart to apply the rule of explaining by contraries these dark hints of the future, and boding ill to poor Blanch, because the vision of a beautiful girl had soothed his slumbers on the eve of storming a city—an event which took place on the following night.

Talk of wars—that is, of war in the open field—where man meets man on an equality, where the chances of death are much alike, where valor may avail, and where there is something like fair play—but the storming of strong holds is unmasked murder—and the sack of cities the revelry of the furies. That of Badajos was a festival for fiends. The eternal foe himself—the immortal enemy of man, might have gloated over it, and smiled at his own fair work; and if ever laughter was heard in hell, it was surely on that night of horror.

Bastions and parapets bristled with chevaux-de-frise of sharp-pointed irons—bayonets—sword-

blades, and every kind of dreadful obstruction, met our troops, as one by one they scaled walls of more than thirty feet high, and in succession were shot, bayoneted, and hurled back into the ditches below.

I have heard it said that Wellington himself appeared much agitated, as by the death-flames which illuminated the horrors of the night, he saw his troops foiled in their desperate and successive efforts against all superhuman obstacles—but that a lightning gleam of triumph flushed over his face, and an exclamation of "Thank God!" escaped him, when an aide-de-camp galloped up with this brief announcement—"My Lord, General Picton is in the castle with a thousand men."

I said he was enabled to see how matters went on by the death lights which illuminated the darkness—for, from beach and bastion, hand-grenades, blazing bombs, and all manner of combustibles, rolled down like a volcano torrent—while a tempest of shot and shell rung through the air, like the rushing of a mighty whirlwind—and when at length an entrance into the town was forced by our troops, over steel-hedged walls, and breaches vomiting floods of fire—mines ready to be sprung yawned beneath their trembling feet, and they swept along through the gloom, amid roaring of cannon, shouts of victory and vengeance, blast of bugles singing the charge, and shriek of the sacked city, all rending the midnight sky, like a chorus from hell.

The work of destruction was nearly over, when I found myself with a party of our men in one of the more retired streets, in passing along which we suddenly encountered some French soldiers in the act of quitting a large and noble-looking mansion, where the love of plunder had induced them to linger too long—for in an instant they were bayoneted by our troops against the walls. It was then that thinking I heard moaning within, I entered the house—a large but dimly lighted apartment lay before me into which I advanced, and by the flame of the glimmering lamp, beheld the body of a young lady stretched upon the floor, and that of a British officer extended by her side.

Approaching and holding the lamp to the face of the former I looked upon a creature lovely in death although her features bore the expression of recent agony; and her hair all clotted with blood, streamed down over her bosom, from which the warm current of her heart had gushed through a ghastly wound.

I then turned the lamp to the face of the officer, in whom, with a start of horror, I recognized my poor friend Blanch, steeped in blood, and though he still breathed, it was evident his wounds were mortal, and that his end was near.

In a short time, however, he opened his eyes, and gazing on my face, held out his hand in token of recognition. The only restorative which I had about me was a little brandy in a flask, which I applied to his lips, and in a few minutes he rallied so much as to be able to speak and thank me; and with his dying breath to explain the circumstances in which I found him. They were to the following effect:

After an entrance into the town had been effected, in rushing along the streets with a party of his regiment during the confusion of the scene and the darkness of the night, Blanch was separated from them, and after a long and fruitless search, found himself at the door of the house in which we then were. Hearing a noise within, he suspected that some of our soldiers might be plundering; with the view of preventing which, he entered, at the hazard of his life, and had just reached the room where he then lay, when a door at the opposite end of it flew open, and in breathless terror, as if flying from pursuit, a young Spanish lady rushed into the room. Upon seeing the stranger she made a sudden pause, during which, with mute amazement, he recognized in the fair girl before him, the living form of her whose shadowy similitude had appeared in his slumbers on the preceding night; but tenfold was that amazement increased, when, ere he could speak, she exclaimed, with wild energy, "Mysterious heaven! It is he—'tis he himself!—the very being of my dream, who appeared to me last night, and is now come to take me away from the horrors of this dreadful place!"

At that moment, and before he could reply, a party of the enemy who had been searching the house in quest of pillage, burst into the room, and the sight of a British officer on such an occasion, so exasperated the marauders, that setting up a savage yell, they flew upon him with their bayonets, and the poor Spanish girl, who threw herself between them and their victim, received her death-wound at the same moment with him she tried to save.

Blanch could say no more—his tale was told, and

his life was fast ebbing away—his speech faltered—his voice sunk into a whisper, and the signs of death were upon him. He motioned me to raise his head, which I had no sooner done than his eyes began to fix in the death glaze, and drawing in his breath for the last time, with a deep long sigh he expired.

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The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.
DEAN WALKER. a 30

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 24, 1833.
For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

Unprecedented Despatch.—The brig Cayuga, Capt. William Friebie, of 246 tons and rising 2000 barrels burthen, which was launched from the ship yard on Wednesday afternoon last, is now completely fitted and equipped for sea, with a full cargo on board, cleared at the Custom House, and bound on a voyage to Europe—all in the short space of six days, including Sunday and one rainy day, making in reality but four working days.—[Boston Patriot.]

A CHANCE FOR MEN "SWIFT OF FOOT."—Mr. John C. Stevens, of this city, in order to make good an opinion publicly expressed, that what in the way of pedestrian feats has been done in England could also be done here, and under the impression that ten miles have actually been accomplished within the hour in England, makes the following proposition in the Courier and Enquirer of this morning:

I will give \$500 to the first, \$300 to the second, and \$200 to him who shall be third in accomplishing the distance, (10 miles in the hour), on the day selected for the trial. If but one should start, he shall be entitled to the whole \$1,000, provided he does it within the hour. In order that those at a distance may have time to prepare for such a performance, I have selected the last ten days of April next, on some one of which, to make the trial.

The competitors may be "white, red or black, or of any intermediate color."

CHOICE WINES, &c.
The subscriber offers for sale, a large assortment of Wines consisting of

MADIRA—In pipes, hids. and quarter casks, of different qualities and brands, part received direct, and part via East Indies. superior old L. P. in hids. quarter casks, and half quarters. Also—in cases of 1, 2 and 3 dozen each, old and choice. **SHERRY WINE**—Pale and brown, in wood and glass, of different qualities, from 14s to 36s part of it imported by order. **PORT WINE**—In hids. and quarter casks. Also, in cases of 1 and 2 dozen each.

BLACK WINE—A large assortment, of various brands, qualities and vintages, in cases and hampers, some very old.

FRENCH WINES—Sparkling Champagne, of all the favorite brands, quarts and pints, with and without wax on the corks. Also, Pink Champagne.

Sauterne, Vin de Grave, Burgundy, Moselle and Muscat. Bordeaux Claret, Lalitte, Chateaux Margaux, Leoville, St. Estephe.

Low priced, in boxes and casks. **Marselles Madeira**, in quarter casks and Indian barrels. **Canary, Malmsay and Tenerife, &c. &c.**

BOTTLES—Wine, Porter and Claret, in hampers, one gross each. **Demijohns.**

HIBBARD'S PORTER—London Porter, Brown Stout, and Pale Ale, in cases of 7 dozen quarts, and 8 do. pints.

SCOTCH ALE—Younger & Co's Pale Ale, qts. and pints. **SALLAD OIL**—Bordeaux and Marselles, in boxes and baskets. **Olive, Capers and Anchovies.**

FRUIT—Bunch and Muscatel Raisins, E. L. Preserves and and Canton Ginger.

COFFEE, &c.—Old Java and Manilla, Souchong Tea, Refined White Sugars, &c.

Part of the above are entitled to debeatue, and will be sold in lots to suit purchasers. Orders received, and forwarded as directed. **ROBERT GRACIE,**
30 Broad street.

UTICA AND SCHENECTADY RAILROAD COMPANY.
PROPOSALS will be received until the last Monday of October next, at 12 o'clock at noon—

For grading about sixty-five miles of the Utica and Schenectady Railroad, between the Sand Ridge on Saunders' Flats in Schenectady, and the western boundary line of the town of Herkimer;

For the masonry within those limits, embracing the culverts, and the abutments and piers of the respective bridges; and

For the wooden superstructure of bridges across the Cayadutta Creek at Caughnawaga, the Garoga Creek at Palatine Church, the East Canada Creek at Manheim, the Gulph at Little Falls, and the West Canada Creek at Herkimer.

The line will be divided into sections of about one mile each, and prepared for examination, and maps, profiles and plans deposited for inspection with W. C. Young, the chief engineer, at Schenectady, ten days previous to the time above mentioned.

Blank forms of proposals will be furnished at an early day at the company's offices at Schenectady, Palatine, Little Falls and Utica.

The names of persons to whom contracts are awarded (who will not be permitted to sub-contract the same) will be made known, at Schenectady on the 29th day of October, when it will be required that the grading proceed without delay, wherever, and soon as titles to the lands are acquired by the company; that the culverts and small bridges be completed by the first of August next; that the residue of the masonry and the large bridges be finished by the 1st of October thereafter; and that the grading be completed during the year 1855. Contractors to furnish security for the faithful performance of their contracts.

The use of ardent spirits to be prohibited in constructing the road.

Proposals, post paid, to be endorsed "Proposals," and containing the names of the persons offered as securities, to be addressed to the undersigned at Schenectady, or deposited at the company's office at that place. September 4, 1854.

G. M. DAVISON, Commissioner
a-17 to 27 Utica and Schenectady Railroad Company.

RAILROAD AND CANAL MAP.
THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in Marble Paper covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the county.

Published at 35 Wall street, N. Y., by
D. K. MINOR & J. E. CHALLIS.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1853, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,
347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* * * Mr. Thorburn is also Agent for the following publications, to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANIC'S MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly: either or all of which may be seen, and obtained by those who wish them, by calling at 347 North Market street, Albany.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon Lake, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, {
January 29, 1853.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1853. A29 d RM&F

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested:—

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information: The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1853.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.
Germantown, February, 1853.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Germant. and Norrist. Railroad

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Colton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.
J. S. ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, inasmuch they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

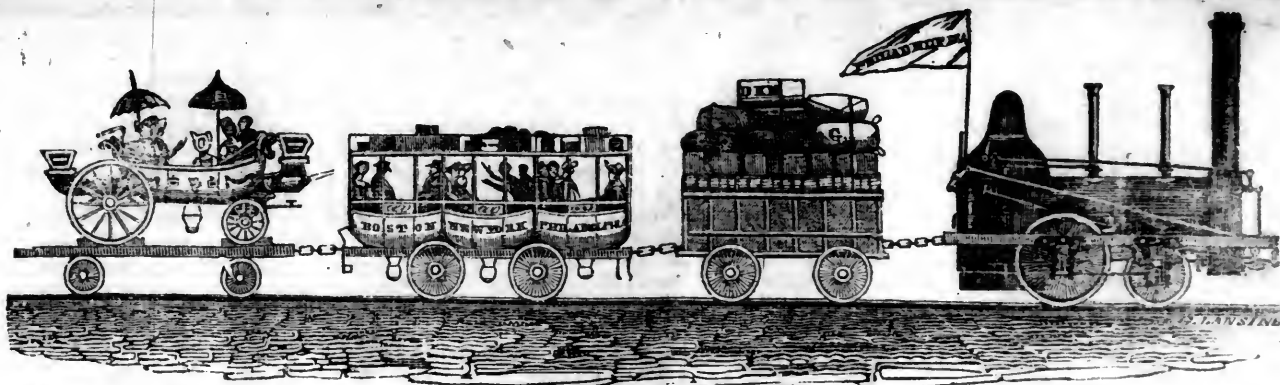
These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.
Baltimore, May 1st, 1853.

To Messrs Ewin and Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT NO. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, OCTOBER 25, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 25, 1834.

To our friend in Utica, we would express our acknowledgements for the communication of his friend in relation to steam carriages on common roads. It comes quite apropos to the pamphlet of Mr. Mills, which we finished last week; and as it affords a better reply to his numerous arguments, (for the reason of its high authority, Mr. Perkins,) we have concluded to dispense with the humble dissertation on the subject we had ourselves prepared.

We are gratified to learn that the Directors of the New-Jersey Railroad and Transportation Company and Paterson Railroad Company have concluded an agreement which will enable the latter Company to place their cars on the whole line to Jersey City in the course of a few days.

Gleanings from English Magazines.

The Stockton and Darlington Railway, which was the first opened in this country for general traffic, has actually multiplied the intercourse between these two towns forty-fold.

The shares of the Stockton and Darlington Railway represent 100% paid on each; they are now selling at 299l. 10s. each. The dividends of the Liverpool and Manchester Railway are limited by Act of Parliament to 10 per cent. (in consequence of the opposition of the great canal interests, against which it had to struggle for existence,) but notwithstanding this the 100l. shares are now quoted at 200l.

The Liverpool and Manchester Railway conveys now, on an average, about 1,200 passengers daily; which is triple the number ever

conveyed on the common road during the best days of the coaching system. The quantity of goods transported on this railway has also been constantly on the increase, and falls now little short of 200,000 tons per annum, though it has had to contend in this branch of its business with an unusually strong canal opposition.

That the value of property of every description in the vicinity of railways should have risen amazingly since their establishment, ceases under these circumstances to be matter of surprise. In the course of the evidence adduced before the House of Lords on the London and Birmingham Railway Bill, it was shown that almost immediately after the opening of the Liverpool and Manchester line, the value of the land adjacent to it had risen generally 50 per cent.; and that portions of ground at both extremities, similar to what the Railway Company had purchased for three pence per square yard, could not now be had for less than from three shillings to four shillings per yard, being an advance of full 1,400 per cent.!

From the same evidence it appeared that the Liverpool and Manchester Railway pays on an average one-fifth of the poor rates of all the parishes through which it passes.

Between Stockton and Darlington, the charges for carrying goods and passengers have been reduced more than one-half; between Liverpool and Manchester, about one-third.

On the Canterbury and Whitstable Railway—a bad line on a bad plan—the traffic has been increased nearly eight-fold within the short period of three years.

The last returns from the Edinburgh and Dalkeith Railway exhibit, in one brief year, an increase of nearly 100 per cent. in the number of passengers, and about 30 per cent. in goods. For 1832, the numbers were—Passengers, 91,814; goods, 61,000 tons. For 1833—Passengers, 160,000; 80,000 tons.

PARISIAN STEAM CARRIAGE.—Last week, Messrs. Dietz & Hermann made an experimental trip with a steam carriage of their construction on the road to Vincennes from Paris. This machine, carrying twenty persons, ran from the Barriere du Trone to the Castle of Vincennes, a distance of three quarters of a league, in 11 minutes. It afterwards took an omnibus in tow, in which, and upon the machine itself, there were 48 passengers, and went at the rate of three leagues an hour as far as Nugent. On its return, near the Castle of Vincennes, a tube burst, but it was quickly repaired, and the machine with the omnibus attached to it, and both laden with 53 passengers, reached the

Haymarket, Faubourg St. Antoine, in 12 minutes.

USE OF HOT WATER AT WALLINGTON, the seat of Sir John Trevelyan, in Northumberland—90 loads of coals, out of 220, were saved the first year. The value of these coals, including carriage, is about 6s. a ton. Instead of nine fires to four houses, there are now only two fires. The level system of circulating the water is adopted, and the work was executed by Mr. Cookson, iron-founder, of Newcastle.—[T. July 8, 1834.]

[Correspondence of the Journal of Commerce.]

SPOTTSYLVANIA CO., (Va.), Oct. 4th, 1834.
Having spent some time in the rich copper region of the Blue Ridge, I returned on the 4th, to the Gold mines of the United States Company in Spotsylvania Co. Here I found the miners engaged in raising ore from the shaft. As soon as the ore came into daylight, gold was distinctly seen on many of the rocks; and on beating them promiscuously into sand, and washing away the lighter particles, the result of pure metallic gold was still more beautiful and surprising. I descended into the shaft about 30 feet, and after passing along in a tunnel 100 feet, I came to the vein, which, by admeasurement, was found to be 21 inches in diameter, and dipping at an angle of about 60 degrees. I send you a common specimen of the vein, which was broken down in my presence, and which, if skillfully examined, will be found to contain from \$40 to \$50 per hundred weight or bushel. The whole expense of raising and working this ore is from 60 to 65 cents per hundred weight or bushel.—This Company is now fully organized, and in full operation, under a charter granted by the legislature of Virginia, Jan. 9, 1831. Their mining operations appear to be conducted with economy and skill, by Capt. Rau, an experienced German miner. The excellent water power, abundance of wood and timber upon their own lands, together with the richness of their ore, render the prospects of this Company uncommonly promising.

Separated only by the Rappahannock River are the Rappahannock Gold Mines, under the direction of Professor John Millington. These mines are the property of a Company in Philadelphia, and although not so extensive as those of the United States Company, still their ores are found to be rich in gold, and well worth working; as may be seen from the following extract of Mr. Millington's Report. "It may therefore be fairly inferred that if the experiment had been better and more accurately conducted, and made on a larger scale, each pound weight of average ore would have yielded one grain of gold, or at the rate of five pennyweights to the hundred pounds weight of ore, which is much more than the probable, or indeed possible cost of working the mines,—as we conceive that could in no case amount to so much as one dollar upon the hundred pounds weight."

I remain yours very respectfully,

F. SHEPHERD.

Steam Carriages on Common Roads.

UTICA, N. Y., Sept. 26, 1834.

To the Editor of the Railroad Journal:

DEAR SIR,—I take the liberty of sending you for publication, if you think proper, in the Railroad Journal, an extract from a letter just received from a friend in Europe, communicating information upon the important subjects of the explosion of steam boilers and the application of steam to locomotion on common roads. The remarks of the writer are deserving of the more attention, as they are subjects with which he is practically acquainted, and to which for the last few years he has devoted much study and observation. His interview with Mr. Perkins will be read with interest, not only from the high reputation which Mr. P. has acquired as an artist, but from the general success of his labors, in developing the powers and properties of steam, and in various other improvements in science and the arts.

With respect, yours, truly, E. F. J.

* * * * *
"PARIS, August 2, 1834."

"I made considerable inquiry (as you requested) with regard to the application of steam carriages to common roads while in England, but regret that I am not able to give you as favorable an account of the late improvements as you may possibly anticipate.

"You have probably seen the statement published in the London Times some months since, that a carriage, in operation near there, had passed the Royal Mail while ascending at full speed a hill of considerable elevation, and that it had travelled at the rate of 24 miles per hour on a level. You must not, however, conclude that the use of steam is driving the horses from the English turnpikes. The arbitrary coachman has not yet been compelled to abdicate his throne in favor of the more skilful engineer, who has been trained to load a safety valve in lieu of the cockney accomplishment of guiding by the rein or cracking the whip.

"The great weight which, notwithstanding the numerous improvements, is still found indispensable to an engine and boiler of any considerable power, renders it almost impossible to mount it upon wheels, and continue it in rapid motion for any length of time, on as irregular a surface as that of a common road, without serious injury. It must be considered likewise that the effect produced by a given power is small, compared with that upon a well constructed railway, owing to the greater resistance to be overcome, arising from the irregularity of the surface above mentioned.

"Mr. Church's patent steam carriage, constructed to ply between Birmingham and London, is one of the lightest in proportion to its strength, and I think of the best arrangement of any that I had an opportunity of seeing. It has two oscillating cylinders of 50 horse power each, and a small extra engine for supplying the boiler with water when the carriage is at rest. The whole machine weighs four tons, and performs admirably for a short distance, but is subject to the difficulty I have already mentioned. It is now, like all the others, laid up for repair.

"Mr. Ericsson (of whom you speak) has not as yet been able, I believe, to prove by actual experiment the advantages of his boiler for using air instead of water for generating power. I sent you from London a number of the Repository, containing the specification of his patent, and I have not learned that he has made any important improvement since.

"There is a great difference of opinion with regard to the ultimate success of steam carriages among the knowing ones in England. Mr. Church is very confident of success, and is expending very large sums in experimenting, while Mr. Perkins is of a different opinion. He thinks that very great improvements must yet

be made, not only in the boiler, but in the engine, before steam carriages can be applied with any advantage to common roads. He is now experimenting on a rotary steam engine invented by some lord, whose name I have forgotten, which he wishes to apply to the railroad carriage. You know what my views have been on the application of the rotary engine to locomotion for some time past. Pardon my vanity, but I do think the model I showed you some years since is much less liable to friction, and I know less complicated than his lordship's. The latter moves, however, under the hand of Mr. Perkins, but whether it will economize steam the most, is another question.

"Speaking of Mr. Perkins reminds me of a conversation I had with him a few days before leaving London, on the subject of steam boilers and explosions. He agrees with me in opinion that the theory of collapses is false, and that explosions only occur from the application of too great a pressure, (caused either by too great a reduction of water in the boiler, or by not using the steam as rapidly as it should be,) or from the combustion of a mixture of hydrogen and oxygen gases. He told me that he was perfectly convinced, from recent experiments, that if explosions did occur in the use of his high pressure boiler from the first two causes, no serious consequences would ensue. As a proof of this assertion, he produced several fragments of a boiler, which had been attached to his steam-gun, and which had exploded several times at a pressure of from 400 lbs. to 600 lbs. to the square inch, without injury to the engineer or any of the attendants, or without deranging any part of the machine, except the particular flue, or rather cylinder or tube, that gave way, and which in every case was repaired in one night and ready for action again the next morning.

"He also thinks he has discovered how the oxygen is supplied, which, combined with hydrogen, has produced, beyond a doubt, so many dreadful explosions of the low pressure boilers in our country. You are aware that the disbelievers in the theory of explosions by the combination of gases have founded their faith on the impossibility that any oxygen gas should exist in the boiler. They say that it is impossible for it to find its way there against the pressure of the steam, and that although hydrogen might be formed by the decomposition of the water, yet oxygen could not be. Mr. P. perfectly explains it. It is supplied by the force pump, which, in almost all the American steam-boats, is constructed in such a manner as to force in air when it is no longer able to supply water. The water being low, the iron is exposed to the action of the fire, soon becomes red hot, throws off hydrogen, and when a certain quantity of each is produced, the boiler is as certain to explode, as though, when thus heated, it were filled with gunpowder. This, too, explains the reason why the number of explosions in England are so few in proportion to those in the United States. It is not because they have more skilful engineers, or that they are more careful, but because their force pumps are immersed, almost universally, in water, (not from design, but by accident.) They therefore cannot force air into the boiler, although they may not supply it with water. The subject certainly deserves attention. If by using a boiler like that of Mr. Perkins', the risk of life occasioned by the ordinary explosions can be greatly or entirely diminished, and if, by immersing the force pump in water, the explosion of gases can be entirely prevented, the experiment should be fairly and fully tried.

"I intended to have given you, as well as I was able, a description of the Galley of Practical Arts, in which Mr. P.'s steam gun is placed, which discharges 36 balls per second, and where his press is deposited, with which he compresses water one-twelfth of its bulk. I wished also to speak of his late discovery of making ice at 4 cents per lb., by which he is enabled to produce it at sea to supply the place of fresh water, and to undersell the Boston

merchant who ships it to the south, but must defer it to another opportunity, and will close by saying that I leave here to-day in a small paid Diligence, with the prospect of being stopped to show my passport every few miles: the police being particularly strict since Don Carlos passed them so rapidly the other day.

"Yours, as ever, W——."

To the Editor of the New York American.

I have been much interested in the facts detailed in the enclosed letter, which I received a few days since, from the Engineer who has charge of a new locomotive Steam Engine, which has been at work for three or four months on the Lancaster, Pa. Railroad.

Considering that the engine has the adhesion of but one pair of wheels, and the proportionally small amount of weight on those wheels, for the work done; together with the length of time she has been at work without the loss of a day, on a road so unfavorable for steam power; I believe the performance is unequalled in the history of the locomotive engine; and presume its publication may interest some of your readers.

Should your opinion coincide with my own in this respect, you are at liberty to publish it in your paper. I am, very respectfully, your obedient servant. E. L. MILLER.

New York, October 17th, 1834.

Lancaster, September 30th, 1834.

DEAR SIR:—The following statement, I believe, comprises most of the facts you requested relative to the performance of the locomotive Steam Engine, of which I have charge, and now at work on the Pennsylvania State Road.

Knowing the interest you feel in the merits of these facts, I have thought it best to communicate to you the character of the road; which is one of the most unfavorable in the country, for the locomotive Engine, having been originally located for horse power only.

From Philadelphia to Lancaster, a distance of 70 miles, the whole surface of it is very undulating.—Some of the ascents are 45 feet per mile, and the average range is near 30 feet per mile, in addition to which, curves of from 450 feet, to 850 feet radius, frequently occur in the worst ascents.—Indeed, the road is almost made up of curves, so much so, that the engine is frequently entering a curve to the right, while her train is yet coming out of a curve to the left 1.34 miles being the longest continued straight line, in the whole 70 miles. The Engine with the exception of the wheels is a duplicate of the engine called the "E. L. Miller," constructed for you by Mr. Baldwin, of Philadelphia, for the Charleston Road, and I think, considering the character of this road, performs equally well. She has now been in operation more than three months, and has been mostly employed in conveying iron for the road; running to Lancaster, 70 miles one day, and returning the next, with promiscuous freight.—Her usual load of freight is 35 tons.

In one instance she carried up 14 cars, with 40 tons of iron, and an extra car load of wood, making with the tender 16 cars; a gross weight, including engine, of about 75 tons. The cars are those first built for the road, without springs, and in very bad order: average speed, with these loads, twelve to fourteen miles per hour.

As yet, she has not lost a day, and has needed very little repairs. She blows off steam at the top of the 45 feet grades, after ascending them with the heaviest loads; and has less than 700 lbs. on her heaviest or driving wheels.

Your plan of increasing the adhesion of the driving wheels, answers perfectly; indeed we could not get along on our heaviest grades without it. Instead of the levers on the Charleston engine, we use the screw on this, which is more convenient; and with good cars, and the rail in good order, we have no doubt of being able to carry 50 tons of freight up our 45 feet grades. Respectfully yours, E. C. WHITING.

E. L. MILLER, Esq. New-York.

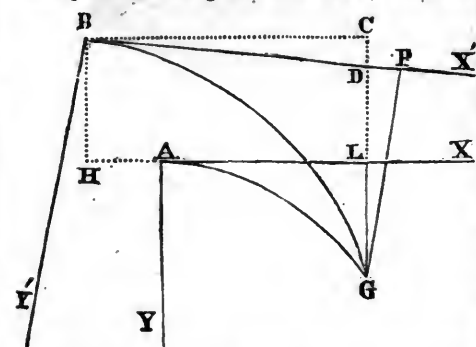
P. S.—I understand that the commissioners of this road have contracted with Mr. Baldwin for as many engines of this kind, as he can construct for several months. About three weeks since, he put in operation on this road, a second engine of the same kind, which works finely. He has a third engine for the Trenton road, ready to put in operation next week; and two more for this road in his shop well under way. Yours as above, E. C. W.

On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points. By J. S. VAN DE GRAAFF. Continued from page 644. [For the American Railroad Journal.]

21. If the point designated for the required curve to meet does not coincide with the extremity of the n th chain in the given curve, as in the last article it is supposed, but varies a small distance to the right or left, yet, if the curves are long, the best method will always be to compute the value of T' as though the curve sought were intended to pass through the point contemplated in (XIX.); and then the requisite small variation in the computed value of T' , to meet the case proposed, may be subsequently determined by very simple methods, to be hereafter explained.

22. Let two curves be under consideration having different origins, and tangent lines; and let one of those curves be given, and a point designated therein, through which the other curve is required to pass. Take a system of rectangular co-ordinate axes, corresponding with the given origin, and tangent line, of the given curve, and let the co-ordinates of that point which is designated for the required curve to meet, be x, y ; the value of these co-ordinates being computed by means of (VII.) if the given curve be already laid in the field, but determined by means of a system of rectangular lines when that curve has not been actually laid. Let the co-ordinates of the new origin, taken with reference to the axes of x, y , and determined either by computation or by means of a system of rectangular lines, be denoted by α, β ; α being supposed to coincide with the axis of x . And lastly, take z to denote the given inclination of the tangents at the origins of the two curves. From those data it is then proposed to find the modulus of curvature of the required curve, such that it may pass through the designated point.

Take a new system of rectangular co-ordinate axes, corresponding with the origin and tangent line of the required curve; and agreeably to these, let x', y' represent the new co-ordinates of the point designated in the given curve. It is then very obvious that the required modulus of curvature will be immediately derived from (XI.), when the new co-ordinates x', y' become known. The value of those co-ordinates must therefore be sought agreeably to the known methods of analytical geometry, for the transformation of co-ordinates. Let A be the origin, and G the designated point, in the given curve AG ; and take



the point B for the new origin of the required curve BG , and AX, AY , and BX', BY' , for the two given systems of rectangular co-ordinate axes; the two tangent lines coinciding with AX and BX' respectively. Let such lines be drawn as appear obvious upon the figure, and the following values will then obtain: $x = AL, y = LG, \alpha = AH, \beta = HB, x' = BP, y' = PG$, and $z = \angle CBD = \angle LGP$.

By plane trigonometry $CD = x + \alpha \cdot \tan. z$; and consequently $DG = y + \beta - x + \alpha \cdot \tan. z$; but again by plane trigonometry, $PG = DG \cdot \cos. z$. Hence, $PG = y + \beta \cdot \cos. z - x + \alpha$.

$\sin. z$. In like manner it will be found that $BP = y + \beta \cdot \sin. z + x + \alpha \cdot \cos. z$. The values of the new co-ordinates will therefore be expressed as follows:

$$x' = y + \beta \cdot \sin. z + x + \alpha \cdot \cos. z$$

$$y' = y + \beta \cdot \cos. z - x + \alpha \cdot \sin. z. \quad (XXI.)$$

Such are the formulas to be used in the field, when a new system of co-ordinates must be computed; they are the well known expressions given by most authors for the transformation of rectangular co-ordinates, and they only here stand transposed in such a manner as will best suit the engineer's purpose in the present inquiry.

It may be observed, that the value of the angle z need never be obtained by a measurement with the instrument; for it may always be easily computed from the manner in which the two origins, at A and B , have been obtained.

The value of the new co-ordinates having been found, the required modulus of curvature may be easily computed by means of (XI.) as before remarked. But a direct formula will be more convenient for use; and in order to obtain such a formula, let each of (XXI.) be squared, and the result will give $x'^2 + y'^2 = y + \beta^2 + x + \alpha^2$. Hence denoting the required modulus of curvature by T' , the following formula will be immediately derived from (XI.)

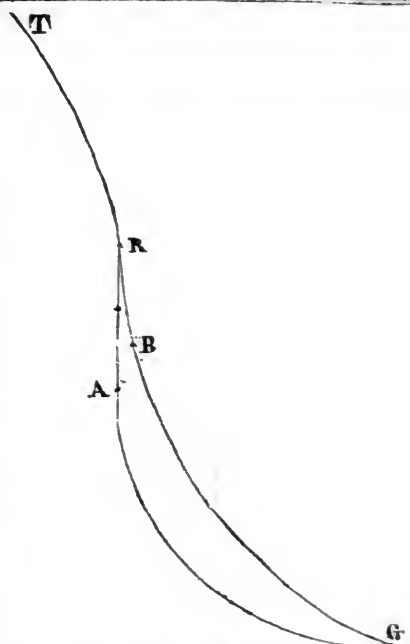
$$\sin. T' = \frac{y + \beta \cdot \cos. z - x + \alpha \cdot \sin. z}{y + \beta^2 + x + \alpha^2}. \quad (XXII.)$$

The theorem thus obtained, expressing the value of T' , has a very good form for numerical computations, and when skillfully applied, it will frequently save much labor in the field, which would be otherwise required when certain alterations are proposed in a line once computed, or accurately traced. And although the co-ordinates α, β , and the angle z , which expresses the inclination of the axis of x , and of x' , to each other, will change their signs under different circumstances in the field, yet, to those who are familiar with the use of algebraic formulas, this cannot be a source of any embarrassment. For it has only to be observed that the hypothesis here assumed is, that α is accounted positive when its direction is immediately opposite to the direction of x ; and β is, in like manner, accounted positive when its direction is immediately opposite to the direction of y . And either α or β must, in consequence, have its sign reversed in (XXI.) or (XXII.), when the circumstances in the field are such as to give either of them the same direction with its respective co-ordinate axis.

The angle z is to be accounted negative, or which is the same thing, the quantity $\sin. z$ must have its sign reversed,* in the two following cases: I. When β is positive, and the two tangents diverge in advance. II. When β is negative, and the two tangents converge in advance. In all other cases the formulas (XXI.) and (XXII.) will retain their present forms, as far as the angle z is concerned.

In order to show one case in which an application of (XXII.) will be extremely convenient in practice, let TRS be a curve already laid in the field upon such ground as ought to be selected, and let SA be a short tangent intervening between the given curve TRS , and a certain reversed curve AG , necessary to pass a designated point G . Having traced a system of rectangular lines from the given origin A , and terminating in the designated point G , let the modulus of curvature be computed by means of (XI.) which would trace the curve AG , and let the direction of that curve, at the point G , be examined agreeably to the method explained in Article 16. Now, supposing this curvature is found more abrupt than is thought to be judicious, the only method of alteration will be to take the curve TRS off into a tangent a little sooner, as for instance at the station R , and

* Note.—Agreeably to the principles of trigonometry, when an arc becomes negative, the Sine becomes negative also; but the Cosine does not change its sign.



then a new origin will be obtained at B , in the new tangent RB , for the required curve BG , which is the very case under consideration in the present article. The inclination of the two tangents RB and SA , will be known at once from (IV.); and the co-ordinates of the new origin B may be easily computed by methods to be hereafter explained. By repeating a calculation from (XXII.) for several points in the given curve TRS , it will be easy to select a proper point R , at which to terminate the given curve TR , in order to lay a short tangent RB in such a position as to meet the necessary conditions imposed by the reversed curve BG . Other cases will be hereafter mentioned, in which an application of (XXII.) will be required; but, in the first place, the following examples are here given, amply to illustrate the various mutations of that formula, under the different circumstances occurring in practice.

Example 1. Let figures 1 and 2 exhibit the relative positions of the origins and tangent lines in two different instances occurring in the field; A being the primitive origin in both

Fig. 1.

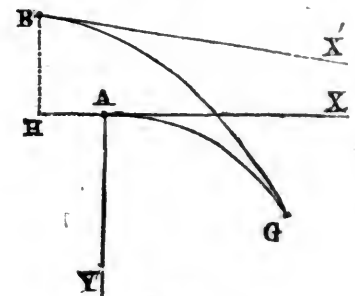
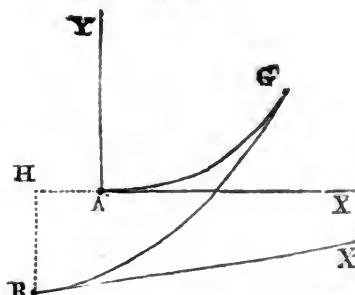


Fig. 2.



figures. Suppose a system of rectangular lines to be traced from the origin A , and terminating in the designated point G , and let the resulting equations give, $x = 17$ chains, $y = 12$ chains, agreeably to the principles explained in Art. 16. Take also the co-ordinates AH

and HB, of the *new origin*, equal to 3 and 2 chains respectively, and let the inclination of the new tangent BX' be 10° , converging in advance.

In this case, either figure being under consideration in the field, the following values will obtain, viz.: $\alpha = +3$, $\beta = +2$, and $z = +10^\circ$. Hence,

$$\begin{aligned} \text{Sin. } T' &= \frac{12+2 \cdot \text{Cos. } 10^\circ - 17+3 \cdot \text{Sin. } 10^\circ}{12+2 \cdot 1 + 17+3 \cdot 1} \\ &= \frac{14 \cdot \text{Cos. } 10^\circ - 20 \cdot \text{Sin. } 10^\circ}{196+400} \\ &= \frac{14 \times .98481 - 20 \times .17365}{596} \\ &= \frac{13.787734 - 3.47300}{596} = \frac{10.314734}{596} \end{aligned}$$

$= .01731$; or, $T' = 0^\circ 59\frac{1}{2}'$ = modulus of curvature necessary to trace a curve from the *new origin* B to the designated point G.

Example 2. Let the relative positions of the *origins* in two other instances be the same as in figures example 1; and suppose the two tangents to *diverge* in advance.

Here, retaining the same quantities given in the first example, the signs which appertain equally to fig. 1 and fig. 2, are the following, viz.: $\alpha = +3$, $\beta = +2$, and $z = -10^\circ$. And, therefore, in this case,

$$\begin{aligned} \text{Sin. } T' &= \frac{12+2 \cdot \text{Cos. } 10^\circ + 17+3 \cdot \text{Sin. } 10^\circ}{12+2 \cdot 1 + 17+3 \cdot 1} \\ &= \frac{13.787734 + 3.47300}{596} = \frac{17.260734}{596} = .02896; \end{aligned}$$

or, $T' = 1^\circ 39\frac{1}{2}'$ = modulus of curvature required.

AGRICULTURAL PULVERIZER; B. F. Stickney, Vistula, Monroe County, Michigan Territory, March 1.—There is a striking resemblance between this machine and that patented by Mr. Jas. D. Woodside, on the 28th of July, 1832: the main difference being in making the part which is to pulverise the ground in the form of cultivator teeth, and allowing them to fall back by means of a hinge joint close to the roller, whilst in Mr. Woodside's machine they are permanent teeth, or spikes. The roller around which the cutters, or hoes, are fixed, receives its motion by gearing from wheels which roll upon the ground, and there is a lever to raise or depress the roller as in the former machine. It is also proposed to place spikes or pins on the faces of the wheels which run upon the ground, should the friction not be sufficient to drive the roller with its cutters. There is no claim made.

We have alluded to Mr. Woodside's patent, but find that our notice of it was accidentally omitted in its proper place; but as this instrument is now coming into use, we design, at an early day, to place the specification of it, with a cut, before our readers.—[Journal of Franklin Institute.]

MILL FOR CRACKING OR GRINDING CORN OR OTHER GRAIN; Benjamin Hinkley, Fayette, Kennebec County, Maine, March 10.—The corn to be broken is put into a hopper having a longitudinal slot in the bottom of it, against which revolves a steel roller, about two and a half inches in diameter, and twelve inches long; the face of this roller is cut like a rasp or grater. A flat plate of wrought iron stands along the cylinder, their distance apart being adjusted by screws; and between these the grain descends when the roller is turned. To give the proper motion there is a cog wheel, pinion, and fly wheel, fixed in the usual manner. The claim is to "the particular form of the solid steel cylinder shaft, and the indented, or rasping, surface made upon the grinding part of the same; and the flat surface of iron, and the manner of screwing and gauging the same to and from the cylinder."

The similarity between this machine and that of Webber Furbish, will be apparent to any one.—[Ib.]

WHEELS FOR CARRIAGES OF ALL KINDS; Henry Beebe, Haverstraw, Rockland County, New-York, March 12.—This wheel is to be made with a rim and spokes of wrought iron, and a hub of cast iron. The rim for a four feet six wheel, it is proposed to make of iron five-sixteenths thick, and one and three-eighths wide. After this is formed into a hoop, holes are to be bored in it to correspond with the number and size of the spokes; these latter are tapped and have nuts on their outer ends, the screw slides freely within the holes in the rim, which are smooth. When the hub is to be cast, it is moulded in such a way that the bore to receive the axle may have an enlarged opening in the centre, for the sake of lightness, and to contain oil, &c. The spokes, surrounded by the rim, are laid in the flask, so that the cast metal shall embrace their inner ends. When cast, the wheel is placed upon an axle and turned round, to try if the rim is true; to make it so, the nuts are tightened up against it, and when true, the projecting ends of the spokes are removed and heated tire put on. The claim is to "the whole of the machine, or wheel, above described, when taken together, and the mode and manner of constructing the same, particularly the principle of constructing the hub upon the iron or steel spokes. But no claim is made for the mode of making the hub, the spoke, the rim, or the tire, or any of the parts of this machine, or wheel, taken separately." The hubs of wheels have often been cast upon wrought iron spokes; it would seem,

therefore that the *particular principle* claimed is not new. We doubt the goodness of the whole wheel, and particularly the durability of the connexion between the cast iron hub and wrought iron spokes.—[Ib.]

EXTRICATING HORSES FROM CARRIAGES; O. R. Broyles, Anderson Court House, Pendleton District, South Carolina, March 17.—In this apparatus the windlasses to which the leathers of the singletrees are attached are made capable of revolving, so as to present their reversed sides to the horses, and so constructed as the singletrees will, in that case, be detached, and the horses liberated. They are ordinarily held in their places by two levers, connected together by a rope at their extreme ends, but according to the present mode their connection is destroyed, and the horses freed by pulling a line which passes from them to the carriage. The plan appears to be relied on as altogether new, no claim being made to any part of it. The particular arrangement described may probably be original, but there are others bearing some analogy to it, equally simple, and operating equally well, which have been introduced, but have never gone into extended use. The fact is, that whilst we laugh at the sailor who objects to a cork jacket, or other life-preserver, because he is apprehensive that it may invite the catastrophe against which it is to guard, most of us neglect those precautions that are intended to protect us against *possible* danger only.—[Ib.]



The Doric Fire-Place for burning Anthracite or Bituminous Coal.

We have seen a contrivance for burning anthracite, and indeed any other kind of coal, that should combine the advantages both of an open grate and of a close stove, without subjecting the room to the inconveniences of either. The enormous loss of heat at which coal is burnt in the common open grate has been heart-sickening to those of us who have to pay for our coal, and to earn the money that we pay; for in a common open grate, where a column of air is constantly poured out of the room, up chimney, with nothing to re-place it but fresh cold air pressing through every crack, by door or window, at least three quarters of the heat that is generated by the combustion of the coal is lost to the room; and then, if, in order to avoid this sacrifice of cash and comfort, we have recourse to a close stove,

our room may, indeed, be heated, but it is very inadequately ventilated; and while the air is heated, it is also vitiated by the iron plates of the stove, (often raised to a red heat,) over which it passes.

In the Doric Fire-place, the evils, both of the open grate and of the close stove, are avoided, and the chief advantages of both are secured.

We say nothing of the form or style of this article, for in regard to that every one must be allowed to decide according to his own taste. We may however remark, that it has our vote, for it presents a classic front; and if the ladies will look at it with a touching remembrance of all the "toil and trouble" that the brightening up of their brasses now gives them, we are sure we shall have their votes also in favor of the simplicity of the Doric Fire-place.

The following is a statement of its utility:

It secures the safe and entire combustion of the coal ;

It saves the heat produced by that combustion, and converts it to use by diffusing it equally and pleasantly through the room ;

It secures the room from the evil of a smoking chimney, without recourse to the bad alternative of an open door or window ;

It combines, and in itself unites, all the principal advantages of both the usual modes of communicating heat by radiation, as in common fire-places, and by transmission, as in close stoves—securing the benefits of both without the evils of either. It warms while it ventilates the room. It is so far portable that it can be set into a common fire-place, and again removed from it without injury to the jambs, so that it may be used by a tenant without becoming a fixture. Its construction or arrangement of parts is such that the iron plates are indestructible by the heat, and will therefore last indefinitely.

Any person desirous of seeing the Doric Fire-Place can be gratified by calling at No. 1, Chester Buildings, corner of Broadway and Dey street.—[Mechanics Magazine.]

Essay on the Indian Summer, read at a meeting of the Maryland Academy of Sciences, by one of its Members, Baltimore, Dec. 16, 1833. [From Silliman's Journal.]

The following pages contain a few observations on that peculiar and periodical appearance of the atmosphere, usually termed Indian summer ; in this essay, the writer has made a feeble attempt to explain some of the more prominent causes concerned in its production—and to offer views explanatory of the attending phenomena—such as the smoky and reddish aspect of the sky, the increased temperature, &c. &c.

Attention was directed to this investigation, in consequence of the verbal notice taken by one of the members of this Academy, of a paragraph contained in a late number of the American Journal of Science, and which requested of some one of the correspondents of that valuable work, an explanation of the causes of this occurrence. The subject at once presented itself to the mind, as one of much interest ; and indeed excited astonishment, that hitherto no written or satisfactory explanation has been made of a phenomenon, which, from its regular appearance, obvious character, and marked duration, has become familiar to almost every inhabitant of this country. The total silence of books, and consequent want of reference, is a sufficient apology for many imperfections—the writer was left to draw conclusions wholly from his own reflections, on the more prominent and attending facts, and of which there is no other record than memory.

The term Indian summer has been applied to that obscure and hazy condition of the atmosphere which usually occurs towards the last of November, attended with a peculiar redness of the sky—an absence of rain—and we might add, an obviously increased temperature ; which latter fact is in some degree significant of its name ; probably the appellation of Indian is derived from the circumstance of this period of the year being selected by the aborigines of the country as their hunting season, to which it is highly conducive, not only on account of the plenty and perfection of the game, but also in consequence of the haziness or obscurity of the air, which favors a near and unsuspected approach to the ob-

ject of pursuit. The New-England tradition is, that the term Indian summer is derived from the prevalence of the south-west wind at that time—and which the Indians, supposed to be sent as a peculiar favor from their good deity Coutantowit, supposed to reside in that quarter.

Having stated that the Indian summer appears usually in the month of November, we do not, however, wish to be understood that a haziness or obscurity of the air occurs in that month only, and that its duration is confined, and peculiar to, a few days in the latter part of the autumnal season—on the contrary, common observation, (as well as minute reference to meteorological tables,) proves that it is by no means uncommon in the month of October, and is frequently mistaken then for the true Indian summer, by persons unacquainted with the proper period of its accession. This is a fact which we wish borne in mind,—as it enables us to account for one of the general laws on which the phenomenon is dependent, but which would not apply, were we erroneously to confine the prevalence of a hazy atmosphere to a few days at the commencement of winter. It is true that at this period there is usually a longer and more closely connected exhibition of character, and to which, (as before observed,) the term Indian summer is correctly applied—but were we to see no analogy in the general aspect of the fall season, we should be forced to search wholly among local causes, for the explanation of a fact, in which a regular and extended variation of temperature, (dependent on the sun's annual declination,) is obviously concerned as a leading or predisposing cause.

The regular yearly changes of temperature greatly affect the transparency of the atmosphere, and give it, at certain seasons, a peculiar appearance ; for instance, during the spring, when the temperature of the air is evidently on the increase, its capacity for moisture increases faster than the additions which are made to its humidity by evaporation or moderately moist winds ; whereas, during the autumn, the temperature is as rapidly on the decline, and the capacity of the air to contain moisture being on the decrease, a slight addition to its humidity produces hazy or foggy weather. This autumnal obscurity of the atmosphere would prevail more generally here, (as it does in England and the northern shores of Europe,) were it not for the frequency of our north-westerly winds, which from their dryness are always attended with a cloudless sky. Having ascertained that the annual variation of temperature is one of the great predisposing causes of the phenomenon before us, we shall proceed to trace out other auxiliary causes. A second prominent cause, which we therefore notice, is the prevalence of peculiar winds ; for the translations of large portions of the atmosphere from one parallel to another must always be regarded as one of the most powerful causes by which the transparency of the air is affected ; and, as before observed, a north-westerly wind, (from obvious causes,) brings with it a smaller supply of moisture than belongs to the mean hygrometric condition of the air in this region, and is hence always attended with a transparent atmosphere, so the very reverse is occasioned by easterly and southerly winds which obscure and thicken the air. The humid effects of particular winds are however greatly modified by local circumstances—a celebrated naturalist remarks, "that the sky of

Xalappa in New Spain, which is beautiful and serene in summer, assumes a gloomy appearance from the month of December to the month of February ; whenever the north winds blow at Vera Cruz, the inhabitants of Xalappa are enveloped in a dense fog, and the thermometer then descends to 45 or 50 degrees ;" (on our coast the haze is produced by a warm current from the south, hence the thermometer rises with us instead of falling.) So at Lima, in Peru, the cloudy state of the air begins about the middle of July, and continues to the end of November, the wind blowing chiefly from the south and south-east. The third cause which we shall notice as concerned in the production of the Indian summer is the elevation and depression of atmospherical strata ; this effect is sometimes produced by electrical agencies, by elevation and conformation of country, but more generally and extensively than either by changes of temperature at the earth's surface, for it is a well known fact, that the air, being a diaphanous body, can receive no direct heat from the solar rays, but becomes warmed only by the contact of its lower stratum with the earth's surface, which portion when rarified ascends and gives place to a cooler descending one : this remains below, until its thermal condition is again altered, when it re-ascends, thus establishing a constant circulation and perfect admixture of the different strata of air. That electrical agencies are concerned in the elevation and depression of atmospherical strata, there can be no doubt, but we are aware that the immediate and more extensive operation of this cause is in tropical latitudes. Thus Humboldt, in his personal narrative, remarks, "that the rainy season takes place within the tropical regions, when the causes which concur to produce a mixture of the atmospherical strata operate with the fullest effect ; for instance, when the sun approaches the zenith of any particular parallel, the trade winds become less regular, the temperature increases, and the causes which contribute to the humidity of the atmosphere act with fullest vigor. The superincumbent columns of air are soon saturated with vapor, the production of which is accompanied by a great accumulation of electricity in the higher regions of the air ; at length an intermixture of the strata begins to take place, produced chiefly, it would appear, by electrical explosions ; the precipitation of the condensed vapor commences, and proceeds, (especially during the day,) with scarcely any intermission. The rain now descends in vast sheets ; the rivers, raised above their ordinary level, can no longer be confined within their banks ; and the supply they receive from the clouds exceeding the discharge by their channels, they spread far and wide over the adjacent fields, and exhibit on every hand a dreary expanse of muddy and discolored waters. This state of things undergoes little alteration until the sun returns to the signs of the other hemisphere ; at that period the aerial currents from the homonymous pole are renewed, and the air which flows from it being very far from the point of saturation, the rains cease, and the sky resumes its former clearness and serenity."

[To be continued.]

CORN FOR HOGS.—Those who have not the conveniences for cracking or boiling their hard corn, can easily provide ways and means to give it a slight fermentation.

Improvement of the Barometer.

[From the American Journal of Science and Art.]

To Prof. SILLIMAN:

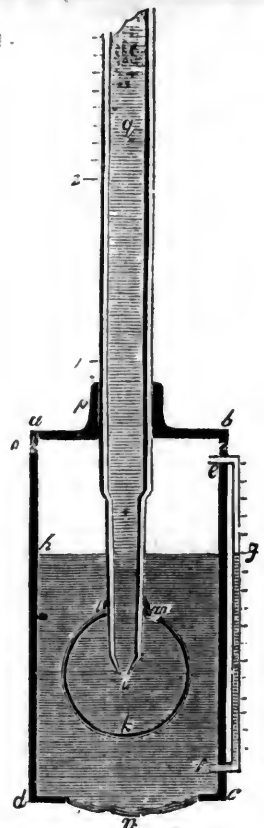
Dear Sir,—In the frequent use of the portable barometer, I have often experienced much inconvenience from air entering the tube, at times when perhaps great precision was necessary, not only for ascertaining the altitude, but likewise for weighing the atmosphere, which is sometimes intimately connected with other experiments, then under a course of investigation.

Although one of the most simple in form, the barometer is probably one of the most difficult instruments to construct. The frequent breaking of the tubes, while undergoing the great heat which is necessary to exhaust the air, requires more patient care for this tedious process than most men are able or willing to devote; and yet, without this process, and that well and effectually performed, the air must be diffused through the mercurial column, or escape to the top, where it destroys the vacuum, in which case the instrument is not suitable for the purpose intended, and does not deserve the name of barometer. The manufacturer who would allow such an instrument to pass from his hands to the world, is guilty of a great misdemeanor, and deserves the censure of all good men; for such imperfections have prevented the barometer from attaining the rank which it deserves in the estimation of the world. It is an insult to the memory of Torricelli, who will yet be ranked among the greatest benefactors of mankind.

It is to be regretted that so many imperfect or deranged instruments are in use. It destroys all confidence in the barometer, and I know some persons who deride its well known properties of predicting winds, and even treat the idea as *chimerical*. But such men could not have possessed a perfect instrument, or have devoted a proper attention to the observations, as thousands can testify to its efficient warnings; when, by suitable and timely preparations for the predicted hurricane, property and lives have been saved from the devastating elements, which would otherwise have involved the whole in ruin.

Although in the construction and repairing of my barometer I was generally fortunate in clearing the tube entirely of air, yet, in use, I think I never kept it one year in that perfect condition. This repeated derangement and consequent expenditure of time, patience, and money, led me first to inquire the cause, which I soon learned, and then undertook to invent something which should effectually prevent the evil. I soon succeeded, even beyond my most sanguine expectations, so as even to render the instrument perfectly secure against all accidents, except breaking, to which *all* instruments are subject. With this security I have not encumbered the barometer with any thing on the outside, but the whole is confined to the cistern, thereby retaining the instrument in the most portable form.

The annexed engraving represents a vertical half section of the barometer. *a b c* and *d* is the cistern, two inches long and one inch in diameter. *e* and *f* is a glass tube, open at both ends, and let into the cistern above and below zero, which in the barometer is always changing its position. The original zero is marked on this tube at *g*, with decimal parts of the inch, extending above and below, to be deducted from, or



added to, the height of the mercurial column in the large tube. *h* is zero, which, when made on a level with the ocean, stood $\frac{3}{4}$ of an inch from the top of the cistern, which immerses the top of the globe $\frac{3}{4}$ of an inch in mercury. The $\frac{3}{4}$ of an inch between original zero and the top of the cistern, leaves sufficient space for the column, in high altitudes, to fall: a circumstance which has never been properly attended to in constructing barometers; although probably no other barometer will admit of so much space, without endangering the instrument. *i* is the end of the tube, with the column drawn to a small point, which answers precisely the same purpose as the contraction in M. Gay Lussac's "improved marine portable barometer." But in this case the contraction at the bottom of the tube possesses other advantages than merely to prevent the sudden rise and fall of the mercury; for by placing the contraction at the bottom, we can draw the end of the tube to a small point, which renders the column less liable to admit air, either from a concussion or inverting its position.

This improvement alone I deemed of sufficient importance to justify the construction of a new barometer, and was actually prosecuting it, when an idea of the globe suggested itself to me.

In all the portable barometers that I have seen, the end of the tube is cut or broken off in a careless manner, which as often leaves it *concave* as *convex*, and it must be apparent to every one who will examine the subject, that bubbles of air striking the *concave* end of a straight tube are more likely to enter the column than to roll off.

k is the globe, $\frac{3}{4}$ of an inch in diameter, fixed firmly on the tube at *l*, and has a very small aperture at *m*, the only place where the mercury inside can communicate with that in the cistern. The globe is of cast steel, with which mercury is known to come in perfect contact; consequently the atmospheric pressure cannot force the air through

this aperture, nor through the bottom of the tube. By examining this arrangement, you will perceive the impracticability of even forcing the atmosphere through the globe, much less the possibility of its being driven there by inverting and re-inverting the instrument, or by any jar or concussion which it may receive while in use or being transported.

Even admitting air to be placed in the globe, it is apparent that it would find its way out by the aperture one hundred times oftener than it could possibly enter the tube.

n is the leather bag through which the atmosphere communicates its influence to the whole interior of the cistern and column. Leather is the most in use, although there are other methods to admit the atmospheric pressure, in forms of the instrument, which are perhaps not so portable; although, for general use, a short tube, with a stop-cock or plug inserted in the top of the cistern, is probably the best.

o represents a screw joint of the cistern, where it is separated while attaching the globe to the tube; for the tube being connected with the cistern at *p*, would render it impracticable to fasten the globe without this separation. I mention these minutiae, because those who undertake to make a barometer on this plan may otherwise be subject to the same perplexities which I experienced in the construction of mine.

I did not succeed in obtaining a globe, until the third person made the attempt, and produced it from a solid piece of steel. If made in two parts, it would necessarily be joined with solder, on which the mercury would act too powerfully.

The screw joint at *o* may appear simple and useless, but the want of it occasioned a delay of many days, and caused the breaking of several tubes, while trying to fasten the globe. The person employed on this part, twice threatened to abandon the work as impracticable, when fortunately the idea occurred to me of disconnecting the cistern in that part to afford ample space to work at *p*.

q is the mercurial column, $\frac{1}{4}$ of an inch in diameter, except the part inside of the cistern, which is diminished in order to leave the more vacant space for the column to fall in high altitudes, and likewise to lessen the large orifice in the globe through which the tube enters.

Other proportions than those here given may serve equally well to construct a barometer on this principle, but these are the dimensions of the one which I have now completed, and for distinction will call the *Globe Portable Barometer*. It has been inspected by several scientific gentlemen, who, at my request, exposed it to all the causes which usually derange barometers, such as jarring, shaking, concussions, inverting and re-inverting its positions, without causing the least perceptible derangement. I invite all, who are so inclined, to call and see it; and to those who desire to make one, I will cheerfully give any information in my power to aid them in its construction.

Since the invention of the barometer by Torricelli, many learned men have devoted their attention to the improvement of this valuable instrument, and among the most useful is probably M. Gay Lussac's "Improved Marine Portable Barometer," wherein, at a certain point, the column of mercu-

ry is contracted to prevent the sudden rise and fall of the mercury by the undulating motion of the ship, while the remainder of the column retains sufficient diameter to avoid a very sensible effect from the temperature of the atmosphere. But this, as well as other forms of the barometer, whether secured by the screw and cushion pressing on the bottom, or by the stop-cock as employed by Mr. J. F. Daniels, is liable, by sudden turning or concussion, to admit air into the tube; for although the cushion and stop-cock renders the instrument portable, it never can be employed as a barometer, until the entire column is open from the hermetical seal to the cistern or atmosphere below. It is in this situation, (the only one of practical use,) that the instrument is deranged. *First*, by suddenly inverting and re-inverting the position, so that, (while passing from the bottom to the top of the cistern,) the air strikes the end of the mercurial column, and must rise in the tube, because it is lighter. *Secondly*, by a concussion which it receives every few minutes while in use, either from the motion of the ship, the carriage, the shrubbery on a mountain, or the unavoidable contact with the car and cords in a balloon; for by observing the mercury in a glass cistern, you will perceive that a concussion causes a motion like the sea waves, which mounting on one side frequently leaves the end of the tube exposed to the atmosphere, which here strikes the base of the column, and rises in the tube by its comparative weight. *Thirdly*, it is asserted that the barometer, in a course of years, will have accumulated air above the column, even if during all that time it should have been suspended in a room, without any jar or concussion to communicate the least motion; and the two most probable causes assigned are, first that the air enters through the pores of the tube, and secondly, that mercury never comes into perfect contact with glass; the latter is the most probable cause, from which it is inferred that the air in the cistern is by the atmospheric pressure forced down in extremely minute particles between the mercury and the tube, where it acquires the additional impetus of its own comparative specific gravity, and rises between the mercury and internal surface of the tube to the top of the column. As a preventive to the latter derangement, it has been suggested, and I believe practised by some, to fit closely on the bottom of the tube a ring of platinum, or any other substance with which mercury comes in perfect contact, although without sufficient action to cause, for years, any perceptible diminution.

From the important purposes to which the barometer is adapted, it may well be supposed to have enlisted the attention of the most scientific men in all countries, and, indeed, for some of its uses it is invaluable, and probably no instrument will ever be invented with any proportion of its combined properties. For although by a number of instruments we can weigh the atmospheric pressure, yet even if the instruments would give the precise weight, the time occupied to obtain the result would render useless the object for which the trial was made, as the wind or calm would have actually arrived which was predicted by the state of the atmosphere when the barometrical observation was made.

A gentleman commanding one of the

New-York and Havre packets, for whose scientific knowledge I entertain a high regard, told me, "that when the ship was moving with much velocity, even the barometer could not indicate the current of air," for, said he, "the ship will have moved beyond the influence of the wind, which was indicated when the barometrical observation was taken." The remark is worthy of consideration, and the want of a due attention to it is probably one of the causes which has aided to retard the more general use of this instrument among mariners. But by far the greatest cause which has prevented the universal use of the barometer, is the difficulty of procuring a good one, and the still greater difficulty of retaining it in perfect condition. It is not always easy to procure a workman competent to construct one, and when such a man is found, he is not able to devote that attention which is necessary to its adjustment, and to the boiling of the mercury in the tube, lest he should not meet the views of his customers, who are in the habit of purchasing at too low a price.

We may measure mountains by observed angles, but those who have tried the various methods give a decided preference to the barometer, which, in some cases, is the only instrument by which we can ascertain their altitude. For the cyanometer never can be used with accuracy, while sight differs with different men, or while the coloring matters for the blue tints differ so much in consequence of the soil or matter which produce them, and are so subject to change by exposure to the various climates. In the account of his travels and philosophic researches, Baron Humboldt has in many instances given us the degrees exhibited by the cyanometer, but for any satisfaction to the world, or benefit to science, he may as well have spared himself that trouble, for allowing all men to see alike, who, on being told that the cyanometer exhibited 10 or 60, has any conception of the height? We have nothing to which we can refer for accurate comparison, either impressions on the brain, or unalterable blue colors portrayed in cyanometrical form.

Being at Paris in July, 1828, I applied to some of the most reputable philosophical instrument makers for a cyanometer, but not one of them had any knowledge of it, or even knew there was such an instrument. I then called on Messrs. Gay Lussac, Cuvier, and Biot, for information respecting it. The last named gentleman was absent from the capital, which deprived me of the pleasure and information I should have derived from a conversation with him. M. Gay Lussac told me, "that he considered the instrument of very little utility, and that it was found only in the works of M. Saussure, a young gentleman of extensive scientific acquirements, who with an inventive genius combined an untiring zeal for knowledge. He travelled extensively, and it was during his passage over the Alps, where, from the blue color of the heavens, an idea occurred to him of constructing an instrument with degrees and altitudes marked to each of the blue shades, which should correspond to those in the heavens." And, continued the sage philosopher, "Saussure is dead, and those only who have been at great heights, and retain a recollection of the color, are capable of making a cyanometer."

With the information I derived from him,

and my subsequent experience of these colors, I constructed such an instrument; and after repeated trials, comparing it with the barometer, at various altitudes, I found it could not be relied on for accuracy.

Many men who have devoted their attention to the subject I believe are convinced, that both the cold and darkness increase as we recede from the earth; and I have no hesitation in saying, that beyond the earth's atmosphere it is as much darker than night as any thing we can conceive; and although this darkness may increase in regular progression from the earth, still, from causes before related, I do not believe that any instrument can be found as a substitute for the barometer in measuring high altitudes.

At my fifth ascent with a balloon, from New-York, in May, 1833, I was compelled, in consequence of a high wind which prevailed, to unmoor without any philosophical instruments, except the cyanometer, which I had fortunately placed in my pocket-book. From causes which were stated in the public journals, the balloon was uncontrollable for some minutes, (a part of which time it was ascending with nearly the rapidity of an arrow,) although immediately on leaving the earth I opened the valve, which is near the top, and through which the gas would soon have escaped, but for the rapid upward motion, which caused so much resistance or pressure from the atmosphere as to retard the escape of the gas until thirty or forty minutes, when the aerostat was poised in air, and I had reached a greater altitude than I have before or since attained. Here for the last time I tried the cyanometer, which, for any utility, I might as well have left below with the barometer. The heavens were many shades darker than the blue tints to which I had affixed an approximate degree and altitude on my cyanometer, and so uncertain is sight, that when I had selected a corresponding shade on the cyanometer, in one instant the heavens would appear too light and the next moment too dark. I resolved then to abandon all further experiments with an instrument which promised to be of so little use; and if it was not to confirm M. Gay Lussac's remarks, and prove the superiority of the barometer, I should not have considered the experiments with the cyanometer worth communicating to the world.

I am aware that, among scientific men, there is an unbelief of the fact that *intensity of darkness increases as we recede from the earth*, but I do not consider it my duty here to enter upon a proof of the assertion, or attempt to explain the cause which produced it. I should infringe on your pages with a work which I do not feel competent to perform, and will leave that for more able pens than mine. The world may expect to have soon a rich intellectual treat on that subject from a gentleman in Baltimore, whose scientific acquirements, added to his profound reasonings and lucid mind, I am satisfied, (from personal acquaintance,) render him in all respects competent to perform the task.

My object in this communication is to explain the principles of my improvement in the barometer, to point out its *advantages* over all others, and induce the world, through your widely circulating Journal, to use the *globe* in all cases where the instrument is required to be *portable*. If science can be improved, and mankind receive a benefit

from this effort, it will afford me much pleasure to have contributed a mite to so noble a cause.

CHAS. F. DURANT.

Jersey City, 18th July, 1834.

FOREIGN INTELLIGENCE.

ONE DAY LATER FROM EUROPE.—By the packet ship Sovereign, Capt. Griswold, there are London papers to the 7th inclusive.

Don Miguel, after stopping two days at Milan, proceeded to Parma.

GOTTENBURG, AUG. 25.—The cholera has raged dreadfully here from the 26th of July to the 21st of August. Out of a population of 23,000 souls 9,800 have fallen victims to it: among whom are many of the higher classes. Of the Jews only one woman and her son have died. All business is suspended. The few workmen that remained were employed in removing the dead bodies. The great mortality among the poorer classes is ascribed to unwholesome provisions, and irregular modes of life.

The rain, which has so long been wished for, having fallen, the air is purified, and the cholera appears to abate. No goods have been shipped, as all the ship owners and crews have fled.

GOTTENBURG, AUG. 27.—According to accounts from Inkeping, 250 persons had died, and 400 patients remained. At Uddevalla there have been 66 deaths out of 167 patients: at Krunstad 38 out of 104; at Marshaer 15 out of 40; at Kongelf 7 out of 19. The number of deaths here may be reckoned at 2,200; but the disorder is manifestly abating.

STOCKHOLM, AUG. 26.—His Majesty yesterday held an extraordinary Council on measures against the cholera. Unhappily there is no doubt of its having broken out here, and it is probable that the capital will be declared infected before the day is ended. The first known cases were the day before yesterday, 15 in number; 10 of the patients were sent to the hospital, of whom two died on the way, and two after they arrived.

In the interior of the kingdom the cholera is spreading, and has appeared at Stronstad, on the Norwegian frontiers. Count Roun writes from Gottenburg that the citizens had granted \$30,000 to the cholera hospital.

LATER STILL.—We have, by the Mariposa, papers to the 11th ult. inclusive, from London, for which we are indebted to the Captain.

The Times of the 11th, says—"We have by express the Paris papers of Tuesday, (9th inst.) The intelligence they bring from the frontier continues vague and not very satisfactory. It states that Don Carlos had gone to Biscay, and that Rodil is pursuing him. Rodil had taken great pains to remain master of the entire valley of the Bastera."

The measures of the Spanish Ministry respecting foreign loans made to Ferdinand, are exciting much interest in France, where chiefly the loans were effected. A petition was presented by the bondholders on the 6th September to the King of the French, and it is apprehended that the measure of the Spanish ministry, which is no other than a refusal to recognize those loans, might lead to an interruption of the good understanding between the people of France and Spain.

A Court Martial had been held on the officers of the Castor frigate, for running down the Chameleon cutter in the Channel, which resulted in the dismissal from the service of Lieut. J. J. McCleverty, who was the officer of the watch, for not "keeping a proper look-out on board the Castor." The other officers were all acquitted.

Efforts had been made, without success, to weigh the Chameleon. The bodies of the crew had been found, and generally in a sadly mutilated state.

LATER FROM EUROPE.—By the Orpheus, from Liverpool, we have papers from that port of 16th, and from London, of 15th ult.

There is little of moment in these papers.

Advices from Madrid are to the 5th. The Spanish Cortes had, after a long discussion declared by a vote of 57 to 55 to abolish the censure of the press. Hereafter the press is to be free;—this is one of the most important measures ever adopted, and will in its effects be productive of immense benefits. All was going on well in Portugal.

France was quiet.

[From the London Morning Herald, of Sept. 15.]

We have received by express, the Paris papers of

Saturday and Sunday, together with letters from our correspondents in Constantinople, Madrid, Bayonne, and Paris.

The intelligence that has reached us from Spain by this conveyance is important. The *Journal de Paris* of Friday night last, contained a bulletin, a copy of which will be found subjoined. This document proves that the Queen's officers and troops in the Basque provinces were as actively occupied as ever by the insurgents, but no engagement had yet taken place between those belligerents. El Pastor had moved on Biscay, Rodil had left Tolosa for Azcoytia, Don Carlos was at Orsco. Our Bayonne letter, dated 9th inst., conveys to us some details of the proceedings of both parties, which show that neither had the slightest idea of withdrawing from the contest. Don Carlos was continuing to confer on deserving individuals the decorations of the Royal Orders of Spain with as much gravity and apparent sense of security as if seated in the Escorial. He had—with a view to expose the positive intervention of the French—forwarded to the Emperor of Russia the original letter of General Harispe to General Rodil, which had been intercepted by Zumalacarreguy at Locumberry some weeks since, and attested copies of it to the other Members of the Holy Alliance.

PARIS, September 13th.—The Bourse has been undated during this day, with reports of the dissolution of the Spanish Ministry, said to have been received here by a courier who left Madrid on the 9th instant.

Although nothing is more likely to be the fact than that such an event has taken place, I am inclined to believe that the report is premature—at least it is quite impossible that a courier could have reached here in four days, as in the most tranquil times, and by the most direct road, the journey between Madrid and Paris was never made in less than 102 hours.—Up to a late hour of this forenoon, the French Government had not received from the Spanish capital despatches of a later date than are your own private letters, which I transmit herewith—the 5th inst.

On the subject of the Spanish debt, it may not be out of place to observe here that on Thursday last a deputation of the French creditors of Spain had an interview with Admiral de Rigny (Minister for Foreign Affairs,) at his hotel in Paris, and were informed by him that the French Ambassador in Madrid, was doing all in his power to prevent the meditated breach of faith with the French creditors.

Our private letter from Constantinople, is dated the 19th ult. The Sultan, it will be seen, had abandoned his hopes of re-possessing the former provinces of Syria, and had desisted from his intention to support the insurrection against Mehemet Ali, solely from want of means.

The Parisian public is at this moment attracted to the Royal Library, to examine the manuscript autograph memoirs of Cardinal de Retz, which have been found amongst the papers of the late Count Real.—[Galignani.]

A curious anecdote is related of the cause of Mr. Rothschild's recent heavy loss by the fall of Spanish stocks. Mr. Toreno, the present Minister of Finance in Spain, was exiled by Ferdinand VII. for having been President of the Cortes in 1823. He resided in Paris for a long time, and having become very much reduced in his circumstances, applied to Mr. Rothschild for a loan of twenty thousand francs, which was refused. When Toreno, a short time since, was placed at the head of the Spanish department of finances, Mr. Rothschild proposed to him a financial operation, by which he, Mr. R. would have realized several millions: Toreno not only rejected it, but knowing that Rothschild was a large holder of Spanish stocks, proposed to the government the scheme of bankruptcy which has had the effect of suddenly depressing Spanish funds to such a degree as to cause a loss to Mr. Rothschild of twenty millions of francs.

Curious Coincidence.—When the Kent East India man was on fire in the Bay of Biscay, the second in command, the present Lieutenant-Colonel McGregor, when all hope of relief had expired, wrote a letter describing their situation, which he enclosed in a bottle, and committed to the deep. Soon after his providential escape, and return to England, he was appointed to the command of the 93d Highlanders, then stationed at Barbadoes, to which place he proceeded immediately. Before his arrival, or soon after it, the identical bottle was picked up by one of the men of the 93d on the coast of the island, and its contents brought to the very man who had written them.

Statistics of Greece.—According to the last cen-

sus the entire population of Greece amounts to only 811,185 souls. In that kingdom there are 116 towns, and 2,146 villages, exclusive of those of the isles of the Archipelago, of which 33 only are inhabited.

Important Medical Discovery.—Two physicians, at Göttingen, have, it is declared, lately discovered that the oxyhydrat of iron is an infallible antidote against arsenical poison. As the oxyhydrat of iron is perfectly innocuous, this discovery is peculiarly interesting.

MEMS. FOR WINE-DRINKERS.

(From Busby's Journal of a visit to the principal vineyards of Spain and France.)

MANUFACTURE OF CLARET.—The finest Clarets of Bordeaux are mixed with a portion of the finest red wine of Hermitage, and four-fifths of the quantity of the latter which is produced are thus employed. The wine is racked off the lees in spring, and sulphured. A very small piece of sulphured match is burnt in the casks intended for the white wine; the red wine requires a greater portion. These matches are purchased from persons who make a business in preparing them. They are slips of paper, about one inch and a half broad, and, when coated on both sides with sulphur, are about the thickness of a sixpence. A piece of one inch and a half square is sufficient for a cask of white wine containing fifty gallons.

DESCRIPTION OF THE CELEBRATED HERMITAGE VINEYARDS.—The hill of Hermitage is so called from an ancient hermitage, the ruins of which are still in existence near its top. It was inhabited by hermits till within the last 100 years. The hill, though of considerable height, is not of great extent; the whole front, which looks to the south may contain 300 acres, but of this, though the whole is under vines, the lower part is too rich to yield those of the best quality, and a part near the top is too cold to bring it produce to perfect maturity. Even of the middle region the whole extent does not produce the finest wines. M. Machon, the gentleman whose property we were traversing, pointed out to me the direction in which a belt of calcareous soil crossed the ordinary granitic soil of the mountain, and he said it requires the grapes of these different soils to be mixed in order to produce the finest quality of Hermitage. I took home a portion of the soil which he pointed out as calcareous, and the degree of effervescence which took place on my pouring vinegar upon it indicated the presence of a considerable portion of lime. It is probably to this peculiarity that the wine of Hermitage owes its superiority, for, to all appearance, many of the neighboring hills on both sides of the Rhone present situations equally favorable, although the wine produced even upon the best of them never rises to above half the value of the former, and in general not to the fourth of their value. A good deal may also be attributable to the selection of plants. The best red wines of Hermitage are made exclusively from one variety, and the white wines from two varieties; but in the district generally a much greater number of varieties are cultivated. The Red Grape is named the Cyras. The white varieties are the Rousette Marsan. The former yields by itself a dry and spirituous wine, which easily affects the head; the plant produces indifferently—the latter yields a sweeter wine—they are mixed together to produce the best white Hermitage.

MODE OF PREPARING CHAMPAGNE WINE.—The very eminent wine house of Messrs. Ruinart and Son, of Rheims, are agents for Herrie, Farquhar and Co's notes. Having called upon them to cash one of these, M. Ruinart, junr., conducted me over the wine cellars, which are very extensive, and all subterranean, consisting of three under-ground stores, one beneath another, all mined out of the lime stone rock. The wine, which has received the last attention which it requires, and is ready for expediting to the consumer, is packed in large square masses, bottle above bottle, and side by side, with no other precaution to keep them steady than a lath passing along beneath the necks of one layer and the butts of the next layer above. They generally send the wine to the consumer at the age of three and four years, but after the first winter it is all put in bottle. The stock, therefore, appears immense, and indeed it is very large; for not only are different qualities required, but also different descriptions, to suit the varying tastes of their customers in England, America, and Russia, to which countries Messrs. Ruinart make their chief exports. A gentleman, with whom I travelled, told me that he could buy very good sound Champagne at Chalons for two francs a bottle, and

was then going to purchase 100 bottles at that price, but respectable wine merchants never send any to England under three francs a bottle. What is sent to England is more spirituous, and froths more strongly than what is sold for domestic consumption. The greatest and most minute attentions are necessary in preparing Champagne. The casks in which it ferments, after running from the press, are previously sulphured to prevent the fermentation from proceeding to too great a length. It is twice clarified during the winter, and in the month of March, before the return of spring has renewed the fermentation, it is bottled off. When in this state, the bottles are placed in frames, diagonally, with their heads downwards. The lees are thus collected in the neck of the bottle, but they do not consider it necessary to uncork the bottles as soon as the wine is perfectly clear, nor is it considered that there is any danger of the wine spoiling, if the return of warm weather should cause a recommencement of the fermentation, and remix the lees through the wine. On the contrary, they sometimes allow the lees to ripen, as they term it, longer than usual. The wine, in general, remains in this state, till the following winter; each bottle is then placed in a frame and carefully uncorked. The contents of the neck of the bottle are emptied. It is filled up from another bottle of the same wine, and, being recorked, only requires age to give it all the perfection it is capable of. It of course often happens, that the wine has either undergone less than the usual fermentation, or, being stronger than usual, requires a greater fermentation before being put into bottles; and it consequently happens that the fermentation in the bottles is greater than they can bear, and that a large proportion of them burst during the first summer. The floors of the wine cellars are all covered with grooves, sloping to a gutter, by which the wine that has burst the bottles is conveyed to a cistern in the floor, and, as there is the most perfect cleanliness observed, a part of the wine is thus sometimes saved.

[From the London Literary Gazette.]
A TALE OF THE SEA.

"Sam L.—was a lad of a temper as joyous and as kind as ever was wedded to a daring spirit. He was not of that class called nobly born: his name had shed no lustre on his dawning fortunes; so, if recorded, it could add no interest to his story. His honest ambition was 'to build, not boss'; the credit of a name which he derived from a humble house; and, poor lad! he died too young to reap the glories to which his warm heart aspired. It is inscribed only on a small stone raised, in a foreign land, by the affections and esteem of his messmate, who

'Still, through the wild waves as they sweep,
With watchless eyes and dauntless men,
Their steady course of honor keep'

and they loved him well, because they had known him nearly. At nineteen, he had passed for a lieutenant; and by that fortune which sometimes forms a young seaman's early fame, he was placed in command of a clipping privateer schooner, made prize of by the frigate on board of which he served. She had been captured on an enemy's coast, and his orders were to join in her the admiral's flag, which was flying some fifty or sixty leagues off on the station; and few who have not felt can know the joy of a stripling's heart who finds himself sole master of a separate command, and knows that he has skill and resources for it. For two days nothing happened to vary the ordinary log of a beating passage in light winds. The third day was a thick fog; and, as it cleared up towards evening, with a rising breeze, a stranger was seen to windward under three topsails; and what could he do but trim sails to reconnoitre? 'Tis true, he had no orders but to proceed with due diligence to his station; but to go about and stand on for an hour on the other tack, and so edge a little nearer the stranger, would by no means take him out of his course; and who is there but knows that one of a seaman's first duties in war-time is, when not under orders positively to the contrary, to gain all intelligence of a suspicious looking sail? He had not gone upon the starboard tack above half an hour, before he saw another large sail, hull down, on his lee bow; and the last sunbeam was now red in the west. It was plain that he could not hope to bring either of the ships within distance before dark to shew colors; but they made more sail, and the headmost bore up a little as to near him. He now tacked again, and feeling that he had no right to run into strange company at night, he kept a point or two free under easy sail, in a parallel to the course she was steering, trusting to a good sailing craft, and a commanding breeze, and a good look-out withal. As it

became dark, he tried his night signals. For awhile there was no reply; and then the headmost ship shewed lights: but her answer was unintelligible to him. The code of night signals in the British navy was, at that time, imperfect, and subject to many mistakes. At daybreak they were both on his weather quarter, the nearest about three miles off; but two more large ships shewed their lofty sails on the horizon. It was a clear morning; and the leading frigate—for frigate the two first were—now signaled him; but her flag spoke a language as foreign to him as that of her lights had been the night before. Both had the ensign of England streaming from the peak; but it was most improbable that an English squadron should be cruising on that part of the coast; and now his private code was tried in vain; and something there was in the cut of the sails, but more in the way of handling them, which almost convinced him that they were foreigners. The moment was an anxious one; but it was to Sam one more of mortification than anxiety for the fate of the charge intrusted to him. He had a good clean craft beneath his foot, and let the weather but keep moderate, and not too much sea, come what would, he had reason to believe that, holding a steady luff, the schooner might yet weather upon their square sails, so as to get to windward of them without passing within gun-shot; but he knew that his duty was not to risk his prize when nothing was to be gained; and little to be sure was to be gained by working up to overhaul two strange frigates, and two other ships of war, proud though he was of his command, in a schooner mounting eight twelve pound carronades and a long traversing gun amid ships. So now shaking out the last reef from his foresail, he prepared to carry on, and a regular and eager chase began. For a time, he believed he was increasing his distance from the leading ship. At all events, he stood nearer the wind, and she was not perceptibly fore-reaching on him; and her consort was evidently dropping fast astern. But alas! the clouds rose black as thunder on the horizon, the white horses came speeding along with them in the distance, it had already begun to blow strong, and the wind was gradually drawing more aft and bringing the pursuer nearly on his beam. The vessel groaned and staggered under the pressure of sail; the sea curled high over her lee, and sheets of spray at every pitch came flying over all. Suddenly the headmost frigate, which was now gaining rapidly on him to within long gun-shot range, hauled down the colors she had worn, and hoisted a different ensign at her peak. It was the one which, at that moment, Sam could least have wished to see; it was that of a gallant nation, between which and England long may it be before again a cannon shall speak in anger. A gush of white smoke issued from her bow; and, before the sound of the threatening message could be heard, a shot came skinning over the tops of the waves right ahead, of the schooner. Presently another, which passed over her, between her masts, but struck nothing. 'Now point the long traversing gun, and cast loose the weather carronades, against closer work; for here's what tells us she's within distance already of our midship challenger.' Something might be brought down by it which might slacken the frigate's pace, and save the little vessel yet: so up went the union; and as the schooner lurched, Sam himself, with a ready hand to the lock lanyard, quick answering to a ready eye, fired the first shot in reply, and jumping up on the slide, saw it strike right under the frigate's cutwater. 'Give it her again, my hearts!' The second shot parted. 'Well done, long Bess!' bel- lowed the mate, the glass to his eye; 'splinters near the fore-castle!' Again!—when an eighteen pound ball came in from one of the enemy's bow chasers, struck a timber head, and two men lay in blood upon the deck: the one a mangled corpse, the other with a leg knocked sheer from under him. 'Luff her up a bit!' cried Sam, still firmly looking at the advancing ship, whose bow now towed high above the water. 'Starboard the helm! Now watch your time, men; stand by for a broadside!' Six of the schooner's eight carronades had been run out to windward; and, as she luffed up to bring them to bear upon her adversary, the fire of the whole weather side was given at once. Her slight frame heeled from the explosion of her own guns, and she quivered from the centre to the mast-head: and, hurrah down came the frigate's driver; but, in an instant after, as her helm went down, and her head sails shook in the wind, the red muzzles of the whole tier, to her quarter guns, appeared, and a tremendous broadside from her main deckers followed, as she luffed and came up to deliver it. The schooner's counter was torn up to the very bulwarks: three men were, as it were, blown away before the blast of the artillery, and a

splinter striking the young commander near the chest, broke his left shoulder, and dashed him down against the side. The gallant youth sprang up: his arm hung mangled, and the blood gushing forth from his month, showed what had been the violence of the blow; but his courageous eye, unclouded yet by pain, lit up with matchless energy. 'Stand to it, my hearts, my darlings!' he shouted; but the whole mischief now appeared. As the wounded boy staggered once more to the weather bulwark, to hold on, he looked up. The crippled mainmast reeled.—'Lower away! lower away!—ease off the fore-sheet, and put her right before it? For a few moments the fight was silenced. All hands were busy aft in getting up a preventer shroud and fishing the mainmast; and, as she was falling off, another broadside came from the frigate's quarter deck. The havoc was not so great as before; but an unlucky shot, ranging forward under the bows, severed the bobstay. The powerless bowsprit could no longer stay the foremast, as it swayed forward and aft with the send of the sea. 'Get out a tackle forward!—up with the helm! Hard! But it was too late! The weakened mainmast, now deprived of all support, broke short off where the shot had entered. It fell with a tremendous crash: the deck, forward and to leeward was overwhelmed with a mass of confused ruin; and the vessel was left rolling on the swell, a defenceless wreck. 'Will you strike, sir?' whispered the mate: 'see your men lying about—and—' 'Never!' exclaimed Sam, in the last excitement of a dauntless heart: 'not I! Haul in the ensign that's towing there alongside, and send a hand,' pointing upwards, 'to stop it to that stump there.' I suppose,' continued he, in a lower tone—'I suppose they'll have it down without us soon. I see she's lowering a quarter-boat. We have but to wait for them now!' He sat down on a carronade slide. His face was deadly pale.—Suddenly rising, he drew his hanger from its sheath, and, with a strong blow, broke it in two, across the carronade. His father had given it to him at parting. On its blade was engraved a powerful talisman—'England expects every man to do his duty!' As the first boat (for two were lowered and manned) pulled up under the stern, he flung the pieces into the deep, and again sunk upon the deck, his face resting down- wards on his right arm as he lay. 'Mr. L.—, sir,' said the mate 'they're alongside. Look up, sir. Come, sir, don't be ashamed; you've fought her well, and they won't make much of the prize, at any rate. Oh, Mr. L.—, I hope you're not much hurt, sir. All's over now!' He raised his brave young officer in his arms. Yes, all was over, indeed! He never spoke again, nor did his eyes ever more uncloze, to see his darling first command in the hands of another! But a gallant enemy did honor to his memory, and to his remains. All nations have brave men: and so,

"God rest his soul!
Sith 'twill no better be—
We trust we have, in this our land,
Five hundred good as he."

THE RAINBOW.—BY FELICIA HEMANS.

"I do set my bow in the cloud, and it shall be a token of a covenant between me and the earth."—GEN. ix. 13.

Soft falls the mild reviving shower
From summer's changeful skies;
And rain drops bend each trembling flow'r,
They tinge with richer dyes.

Soon shall their genial influence call
A thousand buds to day,
Which, waning but that balmy fall,
In hidden beauty lay.

E'en now full many a blossom's bell
With fragrance fills the shade;
And verdure clothes each grassy dell,
In brighter tints arrayed.

But mark that arch of varied hue
From heaven to earth is bowed:
Haste! ere it vanish, haste to view,
The rainbow in the cloud!

How bright its glory! there behold
The emerald's verdant rays;
The topaz blends its hue of gold
With the deep ruby's blaze.

Yet not alone to charm thy sight
Was given the vision fair:
Gaze on that arch of colored light,
And read God's mercy there.

It tells us that the mighty deep,
Fast by the Eternal chain'd,
No more o'er earth's domain shall sweep,
Awful and unrestrain'd.

It tells that seasons, heat and cold,
Fix'd by his sovereign will,
Shall, in their course, bid man behold
Seed time and harvest still.

That still the flower shall deck the field,
When vernal zephyrs blow,
That still the vine its fruit shall yield,
When autumn sunbeams glow.

Then, child of that fair earth, which yet
Smiles with each charm endow'd,
Bless thou his name, whose mercy set
The rainbow in the cloud.

NEW-YORK AMERICAN.

OCTOBER 18—25, 1834.

LITERARY NOTICES.

THE DISTICT SCHOOL; by J. ORVILLE TAYLOR, 1 vol. New York: HARPER & BROTHERS.—This admirable volume, of which we have before spoken more than once, is now out. It is very creditably published by the Harpers, and we again commend it to general circulation.

Its aims, its execution, and the interest which the community at large have in becoming acquainted with it, are all so well set forth in the annexed preface,—written at the request of the author for the work by JOHN DUEK, Esq.—as to supersede any remarks of our own, and sanction the transferring to our columns of the whole of that

PREFACE.—It is to parents and teachers, and in a measure to legislators, that this work is addressed; and on the minds of those who will read it with the necessary attention it cannot fail to make a most salutary impression. The title is modest and unpretending; the style though eminently clear and forcible, plain and unlabored; but the subjects of which it treats, and well and ably treated, are of the very highest importance,—far more important than the topics which are usually discussed in our halls of legislation, and which, dignified by the eloquence of statesmen, and exaggerated by the arts of popular declaimers, have sometimes fixed the attention and agitated the passions, of the whole community. The reflections of the author are evidently the combined result of experience and extensive and accurate observation; and he writes with that earnest simplicity which is the never-failing proof of sincerity, and which, it may be hoped, will transfer to the minds of his readers a portion of his own generous and disinterested zeal,—his zeal in the cause of public improvement and general happiness,—the cause to which he has consecrated his talents, his attainments, and his future life.

Entertaining this sense of the value of his work, I have felt it a duty to comply with the request of the author by contributing this brief preface; nor have I been unwilling, I confess, to connect my name with a publication which, should its circulation be as extensive as it may, and ought to be, will perhaps mark an era in the history of public instruction.

To enforce the duty and necessity of extending to all the benefits of education, in the full and true sense of the term,—to expose the defects of the system of primary instruction which now prevails,—and to suggest some of the appropriate remedies, is the design of the work. On some of the subordinate topics of discussion, differences of opinion may and will exist; but all who are competent to judge, and will give their due attention to the facts which this book discloses, must unite in the conclusion, that our present system of popular education is radically defective. It is on this point chiefly that the public mind requires to be disabused; it is in relation to this that there exists—I speak especially of this State—a very general delusion. We are told that under the fostering patronage of the government, more than half a million of children are taught in our common schools,—our pride, as citizens of the Empire State, is gratified and we content ourselves with the general statement, omitting to enquire, into the character and value of the instruction which is thus imparted; we know not, for we care not to know, that it is in truth so imperfect and scanty as hardly to deserve the name even of elementary—that it is unconnected with any thing resembling moral discipline or the formation of character,—that the teachers, inexperienced, transitory, snatched up for the occasion, are paid by salaries which hardly exceed the wages of the menial servant or the common laborer,—and that, as a necessary consequence, ignorant and disqualified, they are perhaps even overpaid by the pittance which they receive. Yet it is in such schools and by such instructors that thirty-eight out of forty of the children of the nation are, as we phrase it, educated. We have lived in a pleasing delusion; but it is time we should awake. It is time that we should cease to boast of the superior intelligence of the American people, as compared with that of the population of the Old World; we must no longer refer to our common schools as furnishing at once the evidence and explanation of the asserted fact; it cannot be concealed, and ought not to be denied, that under one of the most arbitrary governments of Europe, (despotic in its form, but in its present administration most en-

lightened and paternal,) the children of all, even of the meanest peasant in the kingdom, are receiving, in their village and parish schools, more varied and solid, and in every sense valuable, instruction, than any of our schools, I had almost said academies, are accustomed or competent to furnish! The fact is certain: what reflections must it suggest to the minds of Americans who truly honor and love their country and its institutions!*

It is to parents and teachers, as already stated, that the exhortations of the author are principally directed, and it is from their voluntary exertions that he seems to expect that reform, the necessity of which he has so clearly established. He admits that the school systems in active operation in many of the States are wisely organized: and that in many (meaning to include our own) "all that legislation can do has already been done." From this last opinion I am compelled to state my entire dissent. Looking to the models of Germany and France, no "system of public instruction" has yet been organized in any of the States, and in none has the appropriate work of legislation been more than commenced. I do not hesitate to avow the belief, that without regulations far more extensive than have yet been introduced,—a control far more enlightened and constant than has yet been exercised,—and fiscal aid far more ample than has yet been afforded, it is vain to expect that the character of our common schools can be truly and permanently improved. It is conceded by all that nothing can be done without competent teachers, and such teachers, in the number and of the qualifications required, we can never have, unless they are properly trained, and properly examined, and watched, and controlled, and, above all, properly rewarded.

Neither the districts, nor the towns, generally speaking, are willing or even able to select or reward such teachers, and still less to prepare them for their functions, and direct them in their labors. If good is to be done, we must bring our minds as soon as possible to the confession of the truth, that the education of the people, to be effectual, must here as elsewhere, to a great extent, be the work of the State; and that an expense, of which all should feel the necessity, and all will share the benefit, must, in a just proportion, be borne by all.

It is true that the public mind must be prepared for legislative action, and the belief of the value of that education which alone merits the name must be far more pervading & serious than it now is before legislatures will have the inclination or courage to act.

The dissemination of this book, and of the truths which it contains, will tend thus to prepare the public mind, to produce the right state of feeling and of thought; for assuredly it will not be read in vain by parents who are such in heart and in conscience, not in name merely.

There are some truths which it may be painful to confess, yet are most necessary to be known. To the reflecting and the candid it will not seem extravagant to say that the chief source of the evils, the disorders, the crimes which afflict society, is to be found in the heartless indifference of the higher classes, the rich, the educated, the refined, towards the comfort and well-being of those they term or deem their inferiors; and their consequent neglect of the intellectual and moral improvement of those who always have been, and it would seem by the order of Providence, always must be the most numerous class—those who depend on their daily labor for their daily support. It is this neglect, the alienation it produces, the ignorance it perpetuates, the vices it fosters, which leave marked the broad line of separation, on the one side of which are the few, indolent, disdainful proud, on the other the many, restless, envious, discontented. It is this which keeps the minds of the multitude in a constant state of irritation, and which when the base demagogue seeks to array the poor against the rich, collects the crowd of his willing auditors, and arms him with his dreaded power. It is this which caused the atrocities of the French Revolution, and which deepens and darkens the cloud that now hangs over England. It is this neglect—the grand crime of civilized and Christian society, which, in every country, sooner or later, and in none

* The admirable report of M. Cousin to the French government, "On the State of Public Instruction in Prussia," the publication of which has excited so lively an interest in Europe as well as in France, has been lately translated by Mrs. Austin, the authoress of the very best translation in the English language,—that of "The Tour of a German Prince." This report, together with the admirable preface of Mrs. Austin, ought without delay to be republished in this country.

more certainly than in our own, if continued, is destined to meet a fearful retribution. Here most emphatically it is true, that the people must be raised to the level of their rights and duties, must be made the safe depositaries of the power which they possess, or in the history of other republics we may read our own fate—first, lawless anarchy—next, the calm which fear and the bayonet produce—the calm of military despotism.

How then are these evils to be prevented?—this fate to be averted? I answer, all that is odious, all that is dangerous in the distinctions which the free acquisition and the lawful enjoyment of property must always create, will soon vanish, and all classes be united in the enduring bonds of sympathy and gratitude, when the rich (I include all who have the leisure or means to bestow) shall understand and feel that it is their paramount duty to improve the physical and elevate the moral condition of their fellow-beings, or, to express nearly the whole in one word, —to educate the poor.

Let those on whom the burthen ought to fall willingly assume—cheerfully sustain it, and there will be no further obstacle to the action of the Legislature, no further difficulty in organizing a system effectual, permanent, universal.

All that has been done in Prussia, and is about to be done in France, may be done here, and neither the patriot, the philanthropist, nor the Christian can desire more.

BELGIUM AND WESTERN GERMANY IN 1833, &c. &c.; by Mrs. Trollope, author of *Domestic Manners of the Americans*: 1 vol., 8vo. Philadelphia: Carey, Lea & Blanchard.—If, the author of this new tour puts, as she would seem to do, her claims to patronage for her books, on "the Domestic Manners of the Americans," we Americans may truly say, that we acknowledge her merits, though she may have intended none, from her aforesaid work. With much that was bad in purpose and in spirit, exaggerated in tone, and frequently mistaken, if not false, in fact, there is in the pages of the "the Domestic Manners" a great deal of wholesome truth and well merited satire. This, we know, is not very palatable doctrine, but we think it sound, and are sure that our national vanity, and sensitiveness to foreign opinions, need checking.

Of the Belgium, &c. we have little to say. It is pleasantly written; somewhat less than usual in the true *John Bull* style of finding nothing abroad as good as at home; and not purporting in a rapid summer tour to give absolutely a full insight into the Belgian and German character. We annex the concluding pages of the volume—epigrammatic enough—yet being testimony to one great truth, we so much desire to enforce in our own land, that popular education, as conducted and understood in Germany, is the only enduring source of power and content.

I have other reasons, still, for wishing my countrymen to visit Germany. I doubt whether there be any place on earth where at this moment so much precious wisdom is to be found;—and it is taught, too, in a manner the least unpalatable; for Germany follows not the custom of these latter days, but is more given to practice than to preach.

France, for nearly half a century, has been making herself heard among the nations; proclaiming aloud that she will give them such a lesson in political science, as shall render perfect the condition of man. There are some who still love to listen to her; but more, perhaps, who think she has yet to learn the mystery she is so anxious to teach.

For about the same period, America has been lifting up her voice to the self same tune—and there are some, too, who still listen to her. But, while the discordant accents of her motley race declare "Thrones, Dominations, Princedoms," to be pernicious excrescences, there is a general feeling among the sober-minded, that she is talking of she knows not what.

Spain—proud Spain—reels to and fro; and staggers like a drunken man; and is at her wit's end.—She is tossed, as a buoy upon the waves, indicative of shoals and rocks, and wreck; but she has no light to lead any into port.

"Sad and sunken Italy, the plunderers' common prey," has neither power to give, nor to take counsel. Gigantic Russia shines afar off—a thing to wonder at, rather than understand.

And England—England, who has stood unscathed,

while the whirlwind raged around her—how fares she in this "piping time of peace?" Truly, she is much in the state of lady Teazle's reputation—ill of a plethora. She has been triumphant—but the thought of it makes her sick. She has been free—but would mend her condition. She has drained wealth from the four quarters of the earth—but she would change all this. She must make alterations, grow slender, and cease to be sleek and contented, that she may be in the fashion.

And what has confederated Germany been doing the while? Storm and tempest have beat against her; but, true to herself, she has only risen stronger from the blast. The flood of war has swept over, but could not overwhelm her; and though nations, which bore not one half her burden in the struggle, are beat down to rise not again,

"She tricks her beams, and with new spangled ore
Flames in the forehead of the morning sky."

And why is this? Let us visit her well ordered cities—let us look at the peaceful industry of her fields:—and, though we shall perhaps find her talking and writing less upon government than most other nations, we may gain a lesson that shall help us at our need.

Yet Germany, too, is seeking to ameliorate the condition of man, and is foremost in the race of intellectual improvement. Let us visit her, and see what ard the means she takes to ensure it. She turns not her strength to uproot and overthrow all that man, in his social state, has hitherto held sacred; nor does she labor to force Nature from her course, in order to make level that which the Creator has decreed shall rise and fall in ceaseless inequality;—but, with steady power, she pursues the only scheme by which man may hope to benefit his species. She gives her people knowledge, and suffers not either ignorance or tumult to banish "the sage called Discipline" from the land.

A VISIT TO TEXAS. 1 vol. GOODRICH & WILEY, New York.—We know not who this traveller is, but his journal is a plain, straight-forward, unpretending one; and as it reveals a system of humbug on the part of "the Galveston Bay and Texas Land Company," we may do good service by copying the annexed statements:

On my return to Brazoria I found two gentlemen had arrived from San Felipe during our absence, and, with a wish to obtain all possible information concerning the nature of the land I had purchased, and particularly the title which I held, I sought them out. I was gratified to find that one of them was a gentleman to whom I had a letter of introduction, and from whom I had expected to derive the information I desired on arriving at San Felipe, whither I had designed to proceed, as I knew he had been there to make inquiries for himself, being interested like me in a purchase of the Galveston Bay and Texas Land Company. I soon ascertained from him that my worst fears were too well founded, and that my hopes were all fallacious. He had already renounced his own expectations, and lamented his disappointments.

I had now some painful and mortifying reflections to make after the receipt of the information I had obtained in relation to the principal object of my voyage. I found that my confidence in the names of a few respectable individuals appended to the advertisements of a company, had betrayed me into much disappointment, as well as some pecuniary loss. Although I could not doubt that men of honesty, on learning the state of the case, would be forward to repay me the money which I now saw that I had paid them for nothing, I could not look for an adequate remuneration for my travelling expenses, or the interruption of my business.

On an examination of the subject, with the facts now before me, I found such was the situation of things, that I derived no advantage whatever from the payment of money I had made, having not a foot of land, nor any claim to offer, superior to that of any other man who might come into Texas from a foreign country. I might easily obtain a quarter of a league of unappropriated land, on condition of professing the Roman Catholic religion, becoming a citizen of the Republic of Mexico, and residing on the soil for six years, receiving the title from the government; but not otherwise; and this was a standing offer to any person who might choose to accept it. In case of marriage, either before or after the contract, the amount was to be quadrupled. The government had never conferred on any individual or company the title to any extensive tract of land, or authority to stipulate for any thing beyond, or contrary to these conditions.

Maps of Texas published in the United States indeed represent the territory as almost covered with what are generally denominated Grants or Colonies: but they are neither one nor the other in the common meaning of the terms. I had been extremely misled on this important subject.

The Mexican Congress in 1824, passed a general law to encourage emigration, which they recommended as the basis of laws to be passed by the several states. The object of the plan was, to admit Roman Catholics of good character willing to become citizens of the country, but to exclude others. Such laws were passed by the States, and, among others, by that of Coahuila and Texas. Under this system the agency of contractors was engaged, who are called empresarios, or undertakers. To them were assigned the tracts improperly called grants or colonies, into which they were to introduce certain numbers of settlers, on specified terms. These were generally as follows: that if the assigned number were introduced, of the character and description required by law, within a special term of a few years, and became permanent settlers, without expense to the government, the empresarios should receive five square leagues of land for every hundred families introduced. The settlers, after proving their "religious" character, as it is called, (that is, furnishing evidence that they are Roman Catholics,) and after signing their contracts, &c, according to law, and paying certain charges, were to receive from the government a clear title: a single man to a quarter of a square league, and a married man to a whole square league.

Thus the settlers had not to purchase a title of the agent or empresarios, nor was the latter authorized or enabled to confer upon the settlers, either for money or for nothing, any advantage or benefit whatever, beyond those offered by the government, as just stated, to any applicants who would comply with the fixed conditions. It might be more convenient for strangers to obtain information through agents or empresarios; but they were not expected to obtain them under more or less favorable terms than if they made direct application to the state government through the proper authority. Settlers were not in fact, prevented from applying to which they might choose: for even in the tracts marked off on the maps to different individuals, the government exercise the right of settling as many as they please, and in terms claim the surplus after the stipulated number of settlers shall have been located, and the empresarios remunerated with the tracts. In some of them are also comprehended tracts conferred upon officers of the army, generally eleven miles square, and with titles vested, though they are still for the most part unoccupied.

Now, through ignorance of these circumstances I had been led into a foolish bargain, from which a plain statement like that I have here made would have saved me, if it had been made in season. Had the facts been distinctly published in the U. States, they would also have prevented many occurrences, much more to be regretted than the mere loss of time and money, which I had suffered. This statement I have now here brought before the public: so that if any one hereafter makes a wild goose chase of the kind, he may not, like me, be able to plead entire ignorance of the case.

In a subsequent part of the volume, the writer adds, "that on his return to New York, he got neither remuneration nor sympathy from the Trustees of the Land Company, for his fruitless expenses and disappointments."

We were quite amused with our traveller's adventures with his "white mustang," the little wild horse of the country, and at the tricks and knowing character of those animals. Take the following as an instance. The "white mustang," at a moment when it was urgent for his master to proceed on his journey, seemed very ill—refused to eat, and, to all appearance, was going to die. Thinking, however, his horse might as well die on the road as in the pasture, the traveller resolved to push on.—The sequel is thus naively told:

We took our departure accordingly; and I had much difficulty in getting my horse out of the town. In a short time, however, he began to cheer up, and gradually quickened his pace until his strength and spirits were quite restored, and he travelled remarkably well. However strange it may seem, there was every appearance that the whole affair had been a mere trick of the wily brute; and my opinion was confirmed by several inhabitants to whom I after-

wards recounted the story. They told me that the sagacity and duplicity of the mustang is well known among them, and that he is capable of almost any thing, which ingenuity or malice can invent. So ungrateful a return for all my kindness and care, under such vexatious circumstances, and aggravated by such persevering imposture, added to my previous dislike of the animal which had been guilty of it.

THE WORKS OF MRS. SHERWOOD, Vol. VI. HARPER and BROTHERS, N. Y.—Another volume of this handsome, uniform stereotype edition of Mrs. Sherwood's works is here before us; and claiming, like all before it, by its contents and its mechanical finish, the support of the reading public.

THE AMERICAN MUSICAL JOURNAL, No. I. Vol. I. N. Y., JAS. DUNN.—We have looked over this first number of a new and much needed periodical with satisfaction. It is well done as to selections and original matter, and as to the mechanical but not unimportant parts of paper, type, &c.

The purpose is in a monthly 4to, of 24 pp. letter press, and eight pp. of music, to furnish choice pieces of music and criticisms, biography, anecdotes and narratives of remarkable musical performances, composers and performers.

Among the selected articles in this first number, is a very interesting memoir of *Handel*, and an account (abridged) of the late Musical Festival at Westminster Hall. Among the original matter, is a general review of musical performances in New York during the past year—not forgetting the single combat between *Gambati* and *Norton*, a matter treated in the right tone; and by which, by the bye, it is stated that each party pocketed \$530.

It was a more profitable and pleasant "duello" to the parties than is usual in such cases.

We are glad to see this well got up Journal, and commend it to our musical readers.

CECIL HYDE, 2 Vols. Philad., CAREY, LEE and BLANCHARD.—Without the spirit, the knowledge, or the pathos that belongs to *Pelham*, this novel dwells upon scenes of as tax morality. It is made up of incidents purporting to be familiar in the high life of England; but which it will neither profit the taste, the understanding, or the principles, of American readers to become familiar with. Wherefore we pass by *Cecil Hyde* without further notice, and recommend others to do likewise.

POEMS, TRANSLATED FROM THE FRENCH OF MADAME DE LA MOTHE GUION; by WM. COWPER, Esq. &c. &c. 1 vol. New York: MAHLON DAY.—This is a republication from a little book that appeared more than thirty years ago in England, and presents the author of 'The Task' in the light of a successful translator of some religious French *Cantiques*. There are some original pieces, also, of Cowper's, and the whole is concluded by what is called "A Wreath of Forget-me-nots," or translations from a German religious poem, by M. Yearly.

We conclude our Review to-day with the following unpublished poem by *Cynthia Taggart*, whose genius and whose afflictions have before interested our readers:

THOUGHTS ON AFFLICTION.

"Heaven sends misfortunes; why should we repine?
Can we escape the chastisement divine?
By fretful mourning through each trying hour,
Can we divest Omnipotence of power?
Be patient, and adore that Sovereign God,
Who rules the nations with an iron rod;
Breaking the flinty breast and stubborn will,
His grand designs of mercy to fulfil;
That we our guilt may own, and feel our need,
Bow to Jehovah, and for mercy plead.
His mercy's sovereign breath restores the soul,
And His own presence makes the sufferer whole.
Then why repine, or fretfully desire
To live in ease, and like the fool expire.
Beneath eternal vengeance, who can dwell?
And who but dreads the burning lake of Hell?
Are our hands strong; or can our hearts endure
The day of wrath that hastens and is sure?
Omnipotence no sinner then can give;
The great Redeemer's thou wilt not receive,
The soul-keen anguish must forever bear,
No respite, no reprieve, no pardon there.
Though here we suffer, yet we can enjoy
A moment's respite, and our thoughts employ

On themes that may relieve: but ever there—
Unuttered woe and infinite despair.

TEXAS.—We annex a statement from the trustees of the Galveston Bay and Texas Land Company, in reply to the extract published in last Saturday's Review from the book called "A Visit to Texas." We have also seen a copy of the certificate referred to, which no one certainly could understand as conveying any title to land, or any other advantage, than that of a permission to settle on the lands in question, after fulfilling the requirements of the Mexican law:

To the Editor of the American:

SIR: We send you a card for publication, in answer to the statements in extracts in your paper, from a book entitled "A Visit to Texas," and we request you to insert it. We will be responsible for its contents. Very respectfully yours, &c.

ANTHONY DEY,
G. W. CURTIS.

P. S. The other Trustee, Gen. Sumner, resides in Boston, or he would also sign this request.

A CARD.—In reply to the author of a book called "A Visit to Texas," so far as he has made imputations against the Galveston Bay and Texas Land Company and their Trustees, the public are referred to the certificate given by the Trustees, to this person, (if he had any) and to all others holding the same; and it will be seen that it purports no sale of land, but a permission to enter the Colonies, and acquire land according to law. The law is exhibited in a pamphlet published by the Trustees, and could have been seen by all, previous to an embarkation for Texas. That this person was met by a military force to resist his occupation of the lands, was a misfortune to him, and a deep one to the Company; and is not attributable to them. This was a violation of right, the result of the arbitrary and military government then existing in Mexico; and was a state of things not likely to exist again.

All obstacles to settlement are now removed, and any person holding the scrip of the Company can obtain lands according to the tenor of the same. But the law in favor of Empresarios is clear, that no one can receive title within their boundaries without their consent; and this law can be seen on application at the Office of the Company.

The Trustees know not who is the author of the book, but will test the truth of his statements in relation to them by a legal inquiry.

All persons feeling an interest in these lands, can obtain information of the most satisfactory character relative to the title at the Office of the Company, No. 65 Cedar street, New York.

We also publish, in an editorial column—though in fact it is an advertisement—a notice from an authentic source, of Texas, its soil, climate, produce, &c., which may interest some of our readers.

[FOR THE NEW YORK AMERICAN.]
TEXAS.

This interesting country, at the present moment, attracts so much attention, and calls forth so many inquiries, that we are assured we shall render an acceptable service to the public in presenting the following information, derived from a source of accurate personal knowledge.

Under the Spanish dominion, Texas was a separate province, occupied by three military posts; La Bahia, St. Antonio de Bexar, and Nacogdoches; and settlements of Mexicans were formed around each, which grew into a considerable town at Bexar, of about 3000, and at Nacogdoches and La Bahia into villages of about 500 and 300 inhabitants. This number has not increased, and forms at present nearly the amount of the Mexican and Spanish population in Texas; an addition of 1000 would include the whole.

The country at large, in all its beauty and fertility, was left unoccupied, except by the wild horse, the deer, and the buffalo; all of which, amidst luxuriant natural pastures, have multiplied to an extent almost incredible. An intelligent trader among the Indians in the interior regions of that country, upon being asked, how many buffalo he had seen in one herd? replied, one million—meaning literally what he said; but it may be restricted to a declaration, that they could not be counted. The deer are still more numerous, and that noble animal, the horse, roves the country in gregarious masses, with all the pride and majesty of his ancestors. The progress of population has not diminished the number of either, but only limited their range.

Texas was but little known to our countrymen, until seen by the gallant bands who entered it, in aid of the patriot cause at different periods of the Mexican struggle for independence. They saw a country equal to France in extent, intersected with numerous rivers running hundreds of miles into the interior, producing in its various climate and soil, all the commercial staples of the whole American continent. They brought home this knowledge, and gave an account of its beauty, fertility and salubrity; and many were tempted to seek an abode there, in spite of the prohibition of the then existing laws.

Foremost in this enterprise was Moses Austin, who, about twelve years since, obtained from the Commandant at Bexar, permission to introduce settlers, repaired to the United States to procure them; but dying on the route, left his son, Col. Stephen F. Austin, the fulfilment of his undertaking. On this gentleman's arrival at Bexar, he found the Commandant indisposed to comply with his engagements; and the revolution being accomplished, and a new order of things established, he determined to proceed to the city of Mexico, and there renew the proposal of introducing settlers into Texas. The result was the passage of a general colonization law, authorizing particular districts of country to be assigned to contractors who would undertake to populate the country. This law laid the foundation of a system which was made more liberal and extended by that of the State of Coahuila and Texas; under which were made the grants which have been the subject of so much enterprise.

Austin was the first to begin colonizing, and laid the foundation of the extensive settlements now existing in Texas. But others soon followed; and Zavala, Burnet & Vehlen were equally successful in their application for lands. They selected the district of country immediately on the boundary line of the United States, lying between the Sabine to the East, the St. Jacinto and Navaste to the West, and the Gulf of Mexico on the South, running North about 300 miles. Austin's settlement is contiguous, and lies on the western line of Vehlen & Burnet's, and embraces the rivers Brassos and Colorado. Grants have been made to others in different sections of the country more remote from our borders and all of good land. But the settlements from the Sabine to the Colorado being continued and nearer to us are better known, and can be described with more certainty.

Texas in general is a prairie country, having all the streams skirted by timber. This is more particularly its character after passing the Trinity, and as you advance to the northwest, the prairies are of vast extent. But in the grants of Zavala, Burnet and Vehlen there is less of prairie and more of woodland. They abound in beautiful natural meadows of dimensions from one to five hundred and a thousand acres, producing a luxuriant herbage at all seasons, but have a large proportion of woodland without under growth, affording fine pasturage and presenting the aspect of splendid lawns and parks prepared with the taste and labor of high cultivation.

On some of the rivers, the Brassos for instance, are dense forests, but they are never found on the highlands.

The mildness of the climate is such that no provision is made for horses, cattle, hogs, nor for any stock on a farm; Nature's ample store is sufficient throughout the year, and at all seasons they fatten on the natural pastures; of course they multiply rapidly, and Texas may be called the paradise of animals of the inferior order; and to man it is the land of promise.

That splendid plant, the Indian Corn, grows throughout in perfect majesty, almost scorning the aid of the hand of man. From the gulf to an average distance of 70 miles, the country is level and forms the sugar district. At this point, about the latitude of 30 degrees, the surface becomes undulating and wheat, rye and oats can be raised; and one degree further north produces abundant harvests. Cotton is cultivated from the gulf to the Red river and yields largely, with a staple uniformly good; and near the gulf in length and fineness of staple, approaches the Sea Island Cotton. This is the great crop of Texas, and even at this period equals 10,000 bales. Sugar has for many years been made on the Trinity, within Vehlen's grant, and the cane ripens several inches higher than in Louisiana. Tobacco grows luxuriantly every where, and may become an important article of export. The grape is universal throughout the country and in great variety and sweetness. In Vehlen's grant an attempt has been made to cultivate the native vines, and the experiment has shown that wine of the best quality can be made from them, and we may promise ourselves at a future day, to have American wines from this country rivaling those of Europe.

But there is one remarkable character which it possesses over the country within the same latitudes in the United States. It is without swamps or marshes. Whatever insalubrity you find, arises from the inundations of the Spring season, and of course is confined to the rivers; and this ceases when you go about the flat country.

A country so inviting is of course rapidly settling, and it is estimated to have at this time a population of 3,000 Anglo-Americans. The Law of the 6th April 1830, which prohibited the citizens of the United States from entering the country as colonists being repealed, they are now going in and receiving titles to the finest lands in the world, at prices so low as to enable the poorest to acquire a large farm.—And a further inducement to emigrate to this delightful region is held out by the law now in operation forming Texas into a separate Judicial District, with a Judge of ability, a native of the United States; and an organization of courts similar to our own. The proceedings are required to be in the English language, and the right of trial by Jury secured in all cases civil or criminal. By another law it is declared that no man shall be molested on account of his religious or political opinions; thereby securing the rights of conscience and religious freedom. These two liberal laws were passed at the last session of the State legislature, and the first by the federal Congress, and approved by President St. Anna; showing fully the friendly feelings entertained towards Texas by the State and national authorities.

All is now quiet throughout the republic. Texas is never affected by the political changes and commotions in Mexico. The agitated wave is calmed before it reaches a shore so distant from the places where the storms arise. The disturbances which took place two years ago from outrages committed by the military have all subsided, and quiet long since restored. At present there is not a Mexican soldier in Texas, and it is more than probable that none will ever be sent there; certainly not beyond what may be necessary to protect the revenue.

The population of Texas is remarkably good for a border country. You cannot expect to find there the refinement and courtesy of older communities; but the virtue of hospitality is no where more manifest. Those who imagine that Texas is without the higher requisites for social intercourse are greatly mistaken. From the Sabine to the Colorado, and from the Nacogdoches road to the gulf, embracing the colonies of Austin and those of Zavala and Vehlen, good farms are opened, comfortable houses erected, many of them large and commodious, and inhabited by as intelligent and respectable families as any country can afford. Many villages have sprung up, exhibiting a growing commerce with its universal attendants, refinement and luxury. But this early and rapid advancement of Texas will not seem strange when we reflect that 2,000 Americans are there occupying a fertile soil under a genial climate, and with their accustomed energy and enterprise are developing the resources of one of nature's favored regions.

It may be well to add, that the mode of acquiring lands in the different colonies is simple, and the titles made secure and in fee. The assignment of lands has been to persons called Empresarios, (contractors) who stipulate to introduce a certain number of families within a given time, and no person can within this period acquire lands in the district of the Empresario without his consent. This consent is obtained by a certificate stating the family received and the quantity of land allowed them, which is presented to a commissioner appointed by the Government for making titles, who immediately orders a survey, and upon its return, makes a deed to the settler and the title passes direct from the State to him. The law allows a married man to have not exceeding a Sitio, equal to 4428 English acres; and a single man, with one fourth that quantity, with a privilege of extending it to a Sitio when he gets married; and a foreigner marrying a Mexican woman is entitled to one third more. On receiving the deed from the Commissioner the colonist takes an oath to support the constitution and laws of the country, by which two acts he becomes a citizen. There is no tax on land nor on any other property, and the emigrants are allowed to introduce all articles for their own use free of duty.

TEXAS.

THE undersigned, Attorneys and Trustees of Lorenzo de Zavala, Joseph Vehlen and David S. Burnet, and their associates, called "THE GALVESTON BAY AND TEXAS LAND COMPANY," formed for the purpose of colonizing the lands assigned to those Empresarios, give notice, that full preparation is made for the reception of all persons who wish to emigrate to Texas, and settle within their grants.

The grants embrace a large district of country lying on the

borders of the United States, between the latitudes of 30 and 33 degrees; and the salubrity of the climate, and fertility of the soil, allow of the cultivation of the vine, sugar cane, cotton, wheat, Indian corn, &c. &c., and their universal natural pastures afford ample subsistence for cattle and other stock at all seasons of the year.

The approach to the country is either by sea to Galveston Bay, or by the Mississippi and the Red River to Natchitoches, and thence by land fifty miles to the Sabine river, which is the dividing line of the United States and of the company lands. There is a good road from the ferry on the Sabine to Nacogdoches, 60 miles, through a well settled country; and the whole distance from New York may be performed in fifteen days.

The law of the 6th April 1830, which prohibited the citizens of the United States from colonizing in Texas, has been repealed, and the people of all countries, of good moral character, will now be admitted into the grants which the undersigned represent, without exception.

By a law of the last session of the Legislature, Texas has been organized into a separate judicial district; the right of trial by jury is secured in all cases civil and criminal; the proceedings of the courts are required to be in the English language, and a judge of ability, formerly an American citizen, has been appointed, who is now in the exercise of his office.

Captain Archibald Hotchkiss has been appointed the Agent of the Empresarios. He resides at Nacogdoches, a central point to these grants, and has there opened an office for the reception of colonists.

Major George A. Nixon, who has been appointed Commissary of the Government for making titles to the lands, also resides and keeps his office at Nacogdoches.

According to law, no person can settle in any Empresario contract without the consent of the Empresarios, and this consent is an indispensable prerequisite to obtain a title from the commissioner of the government. The scrip, or certificates of admission into the colony, which have already been issued, convey this consent, and the holders thereof will now receive title agreeably thereto for the quantity of land allowed by law, which does not exceed a sitio, or a quarter of a Mexican township for a colonist with a family, and a fourth part of that quantity for a single man; and by the 10th article of the law of the State of Coahuila and Texas, passed the 26th March, 1834, it is declared that no person shall be molested on account of his religious or political opinions, provided he does not disturb the public order; and by the same law, a foreigner holding land, and taking the oath to support the constitution and laws, becomes a colonist and a naturalized citizen.

The Trustees have in their possession documents to be shown to all persons, setting forth the fulness of their title; and will furnish those who are disposed to emigrate, and are not already provided, with scrip, or certificates of admission.

The Trustees will soon have agents stationed at New Orleans, Natchitoches, and Anshabuc, on Galveston Bay, to facilitate emigrants in their journey to the lands of the company; and as soon as they are appointed notice will be given.

For further information, apply at the office of Company, No. 63 Cedar street, New York, or to William H. Sumner, Boston.

A. DEY, } Attorneys
W. H. SUMNER, }
GEORGE CURTIS, } Trustees.

New York, 30th Sept. 1834.

At a meeting of the Directors of the Galveston Bay and Texas Land Company, held on the 30th September, 1834—present John Haggerty, George Griswold, Stephen Whitney, and Charles A. Clinton,—the report of the agent of the company, recently returned from Mexico, having been read and considered, it was, on motion,

Resolved, that the foregoing advertisement of the existing state of the Company affairs in Texas be published for general information in such newspapers in the United States, as the Trustees think expedient. By order,

WM. M. WILLSON, Sec'y.

TEXAS.—The subscriber, having entire confidence in the title to the Lands of the Galveston Bay and Texas Land Company, of which he is Trustee, will guarantee, if required, all scrip which he may sell on his own account; and will contract for colonists to be put on the lands. Apply (post paid) at the Office of the Company, No. 63 Cedar street, New York. oct3 1m A. DEY.

SUMMARY.

ARRIVAL EXTRAORDINARY.—The Chinese lady with small feet, from three to four inches in length, arrived lately in the Superior, from Canton. She will, we are informed, be ready to see company next week.

Three blooded horses, (Chateau Margaux, Claret, and a brood mare) imported in the Hark Away, from Liverpool, by Messrs. Avery, Merritt and others, were landed safely from the ship, and arrived at Petersburg on Saturday evening.

We are requested to say, that passengers for New Brunswick, will leave New York in the steamboat Independence, at 6 o'clock, A. M. until further notice—to commence on Monday 20 inst. The 10 o'clock boat proceeds only as far as South Amboy.

[From the Pensacola Gazette, Oct. 4.]

NAVAL.—The United States Sloop of War Fal-mouth, and the Schooner Experiment, dropped down to the Navy Yard on Wednesday last. The former will proceed to sea as soon as she shall have shipped the necessary provisions for a cruise.

Garrison of Key West, F. }
Sept. 21, 1834. }

To the Editor of the Pensacola Gazette.

SIR:—C. A. Thompson, late a passed Midshipman of the Navy, passed through the garrison early this morning, his actions were such as to create the belief that he was deranged. Two of the non-commissioned officers went in pursuit and found him in the edge of the woods just expiring.

Please insert this for the information of his friends. Very Respectfully T. PAJON, Lt. U. S. Army, Commanding.

The Catholic Archbishop of Baltimore, the Right Reverend James Whitefield, died in that city on Sunday last.

He was by birth an Englishman. It is said of him, by the Baltimore American, that "his fortune was considerable, and it was generously consecrated to the purposes of religion. The Cathedral experienced his liberality, and the beautiful edifice of St. James's in our city, is a lasting monument of his munificence. Of him may be said, what can be said of few—he entered the career of honors in wealth, and left it poor."

Consecration.—The Church of Epiphany, located at the N. W. corner of Chestnut and Schuylkill Eighth streets, Philadelphia, was consecrated in a solemn and appropriate manner on Saturday last.—This is a beautiful edifice, and being the only church in Chestnut street, and with one exception, the only one in Philadelphia, west of Broad street, promises to succeed beyond the most sanguine expectations of the enterprising gentlemen who were instrumental in building it. Its location immediately opposite Colonnade Row, and in a section that is rapidly improving, will materially tend to its success. The pastor, too, the Rev. Dr. Tyng, is one of the most eminent and popular of the Protestant Episcopal clergymen of that city. We are glad to learn that the congregation is already large, and it will, no doubt, rapidly increase.

Falling in of a Church.—The Lynchburgh Virginian says, that at about 9 o'clock on Sunday morning, a few weeks since, the second Presbyterian Church in that town, the basement story of which is brick, and the upper part of wood work, suddenly parted at the top of the walls, and the rafters, joists, &c. fell in with a dreadful crash, and strewed the whole interior with fragments of the ruins. The building is of very recent erection, and had given no indications of its frailty. Divine Service had been held in the church on the evening previous to the catastrophe; and it is fearful to contemplate the calamity that would have resulted, had the building fallen an hour or two later, as the Holy Sacrament of the Communion was appointed for that day.

THE COTTON CROP.—Clayton & Burritt's annual statement of the cotton crop, appears in their Shipping and Commercial list of Saturday. They make the whole crop,

	Bales.
From Gulf of Mexico,	641,435
Atlantic,	563,959
Total,	1,205,394
Exported,	1,027,429
Consumed,	196,935

This crop has proved to be 134,956 bales larger than that of the previous year which was itself more than 30,000 bales larger than any previous crop.

The consumption in this country appears, from the statement, to have been about the same with the previous year, the whole increase having been exported. Yet so great has been the increase of cotton manufacturing abroad, that the stocks remaining on hand at the end of 1834, will probably be a good deal less than were at the end of 1833.—[Journal of Commerce.]

BUSTS FREE.—Orders have been received from the Treasury department, based on the decision at Boston, directing that all leaden busts should be given up to the importers, and no further questions asked.—The fine arts will suffer dreadfully by this decision. Busts of Jackson, Van Buren, and all the great men, cast with such accuracy as, with a label attached, to be recognized by every body, whether acquaintances or not, will now be put into the melting pot, and under the hammer by thousands, and ignominiously treated as mere pig lead. This is as it should be. Whenever principles are settled by a suit, the government should cease its litigation. Instead of this, however, we have, in many cases, the same principles tried over and over. The iron case which was tried last week and decided in favor of the claimant, was as much like one before decided, as one bean is like another. The iron was bought of the same manufacturer, at the same price, and imported and entered in exactly the same way. We are glad to learn that since this second decision, an order has come from the Treasury to prosecute that point no farther. If the Secretary of the Treasury will look into affairs in this district, he will find a considerable number of old cases which were formerly prosecuted for no good purpose and in which great wrong has been done to individuals, and will continue to be done until the legal decisions upon them shall be honorably complied with.—[Jour. of Com.]

OFFICIAL.—Organization of the Marine Corps under the Act of Congress of the 30th June, 1834.

One Colonel.—Archibald Henderson.

One Lieutenant Colonel.—R. D. Wainwright.

Four Majors.—Samuel Miller, Lieutenant Colonel by Brevet. John M. Gamble, Lieutenant Colonel by Brevet. Samuel E. Watson, Lieutenant Colonel by Brevet. William H. Freeman, Lieutenant Colonel by Brevet.

Thirteen Captains.—Charles R. Broom, Paymaster and Lieutenant Colonel by Brevet, Levi Twiggs, John Harris, Thomas A. Linton, James Edelin, Parke G. Howle, Adjutant and Inspector. Elijah J. Weed, Quarter Master, William W. Dulany, Thomas S. English, George W. Walker, Ward Marston, Charles C. Tupper, A. A. Nicholson.

Twenty First Lieutenants.—James McCauley, Captain by Brevet; Benjamin Macomber, Captain by Brevet; A. N. Brevoort, Captain by Brevet; Andrew Ross, Richard Douglass, Job G. Williams, Alvin Edson, Horatio N. Crabb, Henry B. Tyler, Joseph L. C. Hardy, George F. Lindsay, Landon N. Carter, John O. Reynolds, Henry W. Fowler, Francis C. Hall, Thomas L. C. Watkins, F. N. Armistead, George H. Territt, William E. Stark, and Nathaniel S. Waldron.

Twenty Second Lieutenants.—William Lang, Jacob Zelin, Jr., Thomas M. W. Young, George W. Robbins, D. D. Baker, Archibald H. Gillespie, Geo. W. McLean, Benjamin E. Brooke, Edgar Irving, Jabez C. Rich, Thomas Theodore Sloan, Addison Garland, John Still, Louis F. Whitney, Frederick B. McNeill, John T. Sprague, Edward B. Grayson, Edward Lloyd West, Robert C. Caldwell, and John P. Dieterich.

Navy Department, Oct. 18, 1834.

[From the Oxford Republican.]

SERIOUS STAGE ACCIDENT.—The Catskill stage, while on its way to this place, and when near Unadilla, on the night of the 10th inst., met with a deplorable disaster. The horses took fright at some bloody cloths about a butcher's wagon which had been left standing by the side of the road—suddenly starting and precipitated themselves and the stage, which was loaded with passengers, down a deep declivity, by which one of the horses was killed, the coach crushed to pieces, and those within it more or less injured. Among them, we regret to learn, was Rev. Mr. Bush, of this village, whose collar bone was broken, and Mr. Cyrus A. Bacon, of Owego, and formerly a resident here, who was severely bruised about the head. Mr. Bush was removed to Unadilla, where he still remains. The rest of the passengers who were sufferers by the catastrophe were enabled to proceed on their several destinations.

The steamboat Nimrod broke her crank on Sunday, near West Point, on her way down from Albany, having on board more than 300 passengers.

Signals were made to the Albany, then a few miles astern, to come along side and take off the passengers, but they were either unobserved or unheeded.

After the arrival of the Albany that evening, the Union steamboat was despatched, to bring down the Nimrod's passengers, and returned with them next morning.

The Steamboat Union in going up on Tuesday to Albany, in place of the Nimrod, broke her shackle bar off Yonkers. She was towed down that evening by the Champion.

We learn from the Wabash Courier, that the Elephant attached to the menagerie, while it remained in Coventry, Indiana, killed a man instantaneously, for having several times offered it tobacco. He had been warned to desist by the keepers; but did not regard their admonitions.

The same paper states that the Rhinoceros belonging to that company, died in Vermillion County, in that state, on the 26th ultimo. It was about three years old, one third grown; and in a very thriving condition.

Wm. Prince & Sons, proprietors of the Linnæan Garden and Nurseries at Flushing, have requested us to state that their new catalogues of Trees, Plants, and Seeds, with reduced prices will be sent gratis to every applicant throughout the United States, and elsewhere; and they ask the favor of all editors of newspapers to announce the fact, believing it will also be satisfactory intelligence to their subscribers.

[From the *Dunfries and Galloway Courier* of July 30.]

PAUL JONES—ARBIGLAND—AND LIEUT. PINCKHAM.

Towards the close of summer, 1831, the author of the following sketch received a note from a gentleman of the name of Pinckham, requesting an interview, and stating, among other things, that as an officer of the American Navy, he had obtained leave of absence for 12 months—the whole of which period, the inward and outward passage deducted, he intended to devote to the exploration of England and Scotland. A printed furlough, signed and sealed, according to the forms of the United States, the applicant was polite enough to inclose in his letter—to show, as he properly enough said, that he was “no impostor,” but on the contrary a genuine representative, not certainly of a Royal but still of a most respectable and splendid Naval Service. The interview sought was of course granted, and from the first it was not difficult to learn that my friend, in crossing the Atlantic, had been chiefly influenced by a burning desire to visit the land of Scott and Burns, as well as the birth place of Paul Jones, whose memory he venerated to the point of idolatry, not only as a brother sailor and adopted citizen of America, but above all as the first man who dared to hoist the flag of Independence on the gigantic waters of the new world.

The vessel in which Mr. Pinckham embarked touched at Cork, and from that point our pilgrim wandered, in pedestrian guise, over a great part of Ireland, noting and treasuring many things for future cogitation. On this and some other occasions his outfit was the simplest that can be well imagined.—Perfect freedom and lightness were the great requisites the American studied; and hence his faded suit of blue uniform, knapsack containing a change of linen, materials for writing, and a few books and mathematical instruments. During his run through Ireland, he found much to admire: the vale of Avoca inspired his Muse, and he was equally charmed with the Lakes of Killarney, and the numerous intervening spots so graphically depicted in the following couplet:

“The stalwart mountains league to bulwark in
One little Eden from a world of sin.”

From Dublin he found his way to Liverpool, and from the Mersey to the Nith. The captain of the trader in which he sailed discovered that he was a sailor, and on that ground, with true fraternal feelings, sternly refused to accept a single farthing in the name of passage money—an instance of generosity which Mr. Pinckham had never experienced in his own country, and one to which he frequently resorted as not only demanding a suitable return (afterwards made) on his part, but as in the highest degree honorable to the Scottish character. Towards the venerable relict of Robert Burns the stranger cherished feelings of the greatest respect, and having learnt that I might be useful to him in procuring an introduction, he applied to me by letter as has just been stated; and hence the accident by which I came in contact with an American tar of the right sort—a gentleman of probity, talent, and taste, whose appearance, mind, and manners, I shall not speedily forget.

At the period of which I speak Mr. Pinckham was not only prodigiously stout, but beyond all comparison the most weather-beaten man I ever beheld. Indeed I question whether Capt. Ross himself was a whit more so when he first arrived from the North Pole, and but rarely, if ever, has old Neptune had a fitter representative. His age might be thirty-two or a little beyond—his height five feet ten or eleven inches; and then such a chest, neck, and shoulders! Limbs more muscular I have never seen. A single glance riveted attention and convinced you that the owner was indeed a Hercules whom it would be dangerous to tamper with in a dark night and on a lonely road. Captain Brown rendered Dandy Dinmont especial service during his tussle with the gypsies, and though both are described as powerful men I question whether either of them would have had any thing to boast of in a melée with the brawny American. Agile as powerful, his movements were totally unimpaired by fat: from the crown of the head to the sole of the foot he was one compact compound of bone and muscle, nerves of steel, and sinews of iron; and my impression was and still is, that Pinckham, had he chosen to turn his attention to a calling so disreputable, would have proved an overmatch for all the prize-fighters in England.—There is something truly spirit stirring in contemplating a noble specimen of manhood, and in Mr. Pinckham's presence I confess I felt as a dwarf at least ought to feel when confronted with a giant.

From the description thus given of Mr. Pinckham's outer man, it may be supposed, by some that his

Dirk Hatterracks in person bore some resemblance to the commander of the Black Prince in rudeness of manner and recklessness of character. But never was inference more unfounded. Gentler manners or a softer heart I have rarely, if ever, seen exemplified. During all my intercourse with him I never heard an oath escape his lips, or the slightest boast as to the perils he had braved, or the honors he had won. To me it appeared that his mind, if any thing, was over sentimental; and no one could have supposed, *a priori*, that a soul so refined lodged in a frame so masculine and weather beaten. Indeed, so far as I could judge, the stranger was a man of much sensibility, and had not only a fine eye for natural scenery, but was feelingly alive to the sublime, the picturesque, and the beautiful, whether as witnessed in the works of nature or reflected on canvass and through the medium of books. During his first visit to Dumfries my family happened to be located on the coast for the benefit of air, exercise, and bathing; and as I was thus somewhat lonely, I occasionally invited him to tea or supper. On these occasions the conversation turned chiefly on British and American literature, and more particularly the poets and bellettristes writers of both countries. In this department of knowledge, he was quite at home, quoted readily and aptly, and although his taste leaned to the sentimental, evinced in all his remarks, critical acumen and sound discrimination. Sometimes, too, we talked of politics, and glanced cursorily at the Republican Institutions of America and the monarchy of Britain. And here I found my friend remarkably reasonable in his views and feelings. However warmly attached to the land of his nativity, he was not one of those who in their zeal denounce everything that is anti-American, and with difficulty admit that any good thing can exist on this side of the Atlantic.—On the contrary, he acknowledged that he had seen many things in Britain which challenged his warmest approbation, and repeatedly said that the spirit of partisanship was in itself an evil, and that great good might accrue to the whole human family, were mankind, in place of yielding to the feelings of Nationality, dispassionate enough to address themselves to the profitable task of comparing notes and of taking lessons from one another. Mr. Pinckham, I may further mention, frequently regretted that his education had been defective, and expressed so strong a desire to improve himself by every means within his reach, that I have no doubt whatever he will yet figure as an author himself, and add considerably to the stores of trans-Atlantic literature. During his sojourn in Dumfries he led a most active life, and in fact, never was a moment idle, except when cogitating with pipe in hand, in the snug parlor of his little inn; and on these occasions he reminded me of a sonnet written by Old Ralph, or Ebenezer Erskine, the burthen of which is,

“Thus think, and smoke Tobacco.”

During the day he made pedestrian excursions to the country, and carefully inspected every spot venerable from antiquity, or endeared by classic association:—Friars' Carse Hermitage, where Burns penned one of his finest moral effusions—Ellisland, where he resided, farmed, and composed, almost at a single sitting, “Tam O'Shanter,” and “Mary in Heaven,” Lincluden, which he loved and immortalized, with the opposite banks, along which he walked and pondered towards nightfall, while contributing so many lyrics to Thompson's Miscellany—were each and all visited in turn by the curious American; and even now when far away, if I may judge from his enthusiasm, are treasured and recalled as some of the “greenest spots in memory's waste.” On other occasions he visited Newabbey, Bruce's Castle at Lochmaben, and Cearnaverock on the Solway, of which Gross weened so highly, that his drawing of its figures as the front piece to the Antiquities of Scotland—

Cearnaverock: by the Solway's side,
Great were thy pristine power and pride—
When half the warriors of the land
Woke when a Maxwell gave command:

At all the places mentioned the American executed drawings, and collected relics. On inspecting some of the latter I had considerable difficulty in preserving my gravity—so different is the domestic from the far-away feeling—and when I remonstrated against any farther accumulation, on the ground that they would render the wallet too heavy, he playfully said that nature had anticipated his new vocation, and moulded his shoulders tolerably well for the burden. Among other things, he told me that his father had commanded, for a number of years, a South Sea Whaler; that his mother, for a few seasons, accompanied him in some of his protracted voyages, and that in this

way, he had not only been born, but cradled on the deep. But this arrangement was of brief duration; the domestic duties and care of her family soon conspired to keep the good matron at home; and, on one occasion, when his father traded to Britain, he brought home a copy of Burns' Poems, in compliment to his wife, who was of Scottish extraction. The good woman prized the gift highly, and young Pinckham was equally delighted. The possession of such a treasure threw an unknown charm over his existence, and the most thrilling moments of his life were those which he passed in perusing and re-perusing the Works of the Ayrshire Ploughman, until nearly the whole of them clung to his memory, and had become as familiar to the memory as a household word.

At length my friend, after having seen every thing noticeable in Dumfriesshire, called to take leave.—During every interview he had won my friendship more and more; and I confess a tear dimmed my eye as I cordially grasped his proffered hand, and reflected that ere long half the convex world would roll between us. On this occasion he tendered an address, which he said would find him in any part of America, and at the same time warmly invited me to visit the new world, and recommend intending emigrants to his notice. To accept such an invitation would be to me the highest gratification, but I fear the day of accomplishment is so distant as to be hopeless, although I have no doubt whatever, that the good Lieutenant spoke sincerely, and would realize, barring impossibilities, his promise of meeting me in any part of the United States, even if a thousand miles should intervene.

About six weeks subsequent to the period of which I am speaking, and while I was preparing to attend a horticultural society dinner, I received, not without surprise, a note from Lieutenant Pinckham, stating that he had returned to Dumfries, and wished to consult me upon an affair, which, to him at least, was of great importance. As my time did not admit of this, I, in a brief reply to this communication, invited him to attend the dinner as my guest, and before long had the pleasure of seeing him enter the room. In the course of the evening allusion was made to the stranger—a compliment which he acknowledged with his accustomed modesty, and with a degree of eloquence which at once pleased and surprised the party. Next day we entered on business, and before many minutes had elapsed I learnt the true secret of his re-appearance on the banks of the Nith.

On bidding adieu to Dumfries, as he believed forever, the stranger bent his steps in the direction of Arbigland, a beautiful estate on the Galloway banks of the Solway Frith, and distant from Dumfries about fourteen miles. Nothing can be finer than the situation of Arbigland, with the sea in front, and Criffel in the rear, a very high mountain of solid granite, and the weather-glass of the country for many miles around—

“When Criffel he puts on his hat,
Scree soon hears word o' that.”

From the top many wonders may be described, such as Goatfell, in the island of Arran, the whole length and breadth of the Isle of Man, many distant places in England, with other phenomena, strikingly illustrative of the principles of trigonometry. Skiddaw, Helvellyn, and Saddleback tower right in front, and when sun-lit and furrowed into mile-long shadows, seem to be nodding recognition to their brother mountain that bulwarks so imposingly the Scottish strand. Arbigland is admirably wooded and sheltered, and commands the most delightful view of the coast of Cumberland—distant in a direct line little more than a dozen miles. Every sail that passes can be recognized; behind the lawns is a sheltered bay in which vessels frequently anchor for safety; from the shelving nature of the ground the tide rarely recedes so as to leave an unsightly waste of sand; and on some occasions in summer tall masts may be seen all but interlaced with the towering branches of living trees. Timber thrives charmingly, even where over-looking the deep green waters that ripple round its roots; and it would be difficult to name a spot where flowers, even of the rarest sorts, attain the same size, and possess equal richness of that tint and gracefulness of odour. The adjoining estate of Cavens, the property of Mr. Oswald of Auchencruive, is equally favored in this respect; violets and wild hyacinths spring up in myriads, and at the proper season it is impossible to visit either spot without recalling the well known passage—

“Like the sweet south
Fresh breathing o'er a bank of violets,
Stealing and giving odour.”

Shakespeare, on alluding to the Castle of Macbeth, and the instincts of the Martlet, says most beautifully—

"This Castle has a pleasant seat: the air
Nimbly and sweetly recommends itself
Unto our gentle senses."

—this guest of summer

The temple hunting Martlet, doth approve
By his loved mansionry, that the Heaven's breath
Smells woefully here; no juicy fledge,
Buttress, nor coigne of vantage, but this bird
Hath made his pendant bed and procreant cradle.
Where they most breed and haunt I have observed
The air is delicate."

But powerful as are the instincts of the swallow-
tribe they are perhaps surpassed by those of the star-
ling, and it is impossible to pay a higher compliment
to the climate of the parish of Kirkbeam than to say
that starlings, though migratory in other places, re-
main stationary at Carvens and Arbigland during the
greater part of the year, and build in the woods in
considerable numbers. The young when fledged are
highly prized, and bring handsome prices on account
of their musical and speaking powers. Nor is Arbi-
gland, amidst much that charms the eye and glad-
dens the heart, by the happy intemixture of wood-
ed mountain, and marine scenery, altogether want-
ing in classic association. It was here that Paul
Jones was born, and that Allan Cunningham first
saw the fair one whom he afterwards married.—
It was here, too, that the late Dr. Edward Milligan
grew to man's estate, studied with all the ardor of a
Joseph Scaliger, and hewed for himself a path to emi-
nence, amidst obstacles as formidable as the corn-
pact granite of his native Criffel. The father of
John Paul was gardener at Arbigland, and the pre-
sent proprietor, D. H. Craik, Esq., when a boy, some-
times accompanied him in a ramble to the mountains,
and when tired was carried on the future admiral's
back. Caresthorpe, a small adjoining seaport, forms
part of Mr. Craik's estate, and in all probability it
was by seeing ships and conversing with cabin boys,
that the man whose name has been so much renown-
ed, abjured all thoughts of his father's trade, and
betook himself in the merchant service to a sea-
faring life. Even when very young he exhibited
many proofs of decision of character, and of that
power which a strong mind exercises over weak
ones. His playmates were drilled to the strictest
subordination, taught to manoeuvre their cock-boats
secundum artem, and mimic the turmoil of a na-
val battle, while the future hero stood on some emi-
nence and sonorously gave the word of command.—
All this of course happened many years ago, and
when Mr. Pinckham visited Arbigland, the cot-
tage in which his adopted countryman was born,
was roofless and a ruin—a spectacle which affect-
ed him even to tears. Having made a drawing
of it, he withdrew slowly, and not without cast-
ing many a wishful look behind, until at length
some undefinable feeling shaped itself into a de-
termination to repair, if permitted, at his own ex-
pense, a ruin so interesting. Still there were many
difficulties in the way. Of the proprietor he knew
nothing, and durst not introduce himself, and even
had he been bold enough to do so, he considered it
the reverse of probable that Mr. Craik would listen
favorably to the singular request of a weather-beaten
stranger. Under these impressions he prosecuted
his journey, visited the land of Burns, Glasgow,
Greenock, Loch Lomond, Loch Katrine, and the
western Highlands, and was in good hopes all the
while that the romantic wish he had formed would
in the end wear off.

From Stirling he embarked on a steamer for Edin-
burgh, and found much to admire in "the City of Pa-
laes." But as his time was limited he again bent his
steps southward, and threaded, as was his custom,
in pedestrian guise, the classic vales of the Tweed
and the Yarrow. With Melrose and Dryburgh he was
greatly delighted; while, on the other hand, he ex-
perienced the keenest disappointment when he dis-
covered that the waving broom of Cowdenknows,
which his imagination had painted so long and yel-
low, exists only in ballad history, and has long been
displaced by fertile crops of wheat, oats and barley.
Arrived at Abbotsford, he addressed a note to its
illustrious owner, who was then in very delicate
health, intimated his profession, his object in wan-
dering so far from home, and requested an interview
"were it only for a minute." But kind and indul-
gent as Sir Walter was, he found it necessary to
deny the boon craved—a refusal which preyed on
Pinckham's spirits, and to which he often reverted in
terms approaching to bitterness and anger. In this we
considered him somewhat unreasonable; it is true he
had travelled far, and might be pardoned in craving a
passing glance of the most illustrious man of his
day; but thousands on thousands have cherished sim-
ilar feelings, and literary enthusiasm seems to have
blinded my friend from the fact that public curiosity
is one of the heaviest penalties that attaches to
greatness. Of the Eutrick Shepherd he had often

heard, and was well acquainted with his poetical
works; but before he reached Altrive Lake the day
was so far spent that he requested a knot of persons
he overtook on the road, to direct him to some ca-
baret where he might lodge for the night. But
there was no such place at hand excepting one; pre-
viously engaged; and as he was too modest to in-
trude on Mr. Hogg at such an hour, he entered a
small plantation, selected the driest spot he could find,
hoisted and laid flat his umbrella as a protection to his
head, and stretched himself at rest with the greatest
sang froid—his bed the cold earth, and his curtains a
leafy screen and the open sky. To ordinary men
the consequences of such an experiment would
have been a terrible cold, asthma, or consumption;
but the Lieutenant is so far from being an ordinary
man, that in as far as physical strength goes he
might have figured as henchman to the hardy chief-
tain of whom Sir Walter Scott tells the following
story. During a winter hunting excursion old Sir
Ewen Cameron of Lochiel, was overtaken by night,
lost his way, and having no cover to flee to, was
compelled to call a halt and desire his tail to rest
as they best could till the following morning.—
Snow covered the ground; but as this was nothing
in the days of thews and sinews of iron, highlander
after highlander wrapped themselves in their
plaids, and slept more soundly on a heathery couch
than bilious citizens sleep on beds of down. Among
the party there happened to be a young man, grand-
son to the chieftain, who, with the view that his
head might lie higher than his feet, was observed
rolling a quantity of snow together. But the wrath
of Sir Ewen was roused by what he conceived to
be a system of degenerate luxury, and rising from
his lair, and kicking the frozen snow ball from the
head it supported, he exclaimed, *Out upon thee, art
thou become so effeminate as to require a pillow?*—
Mr. Pinckham, however, escaped the snow, and tired
as he had been with the fatigues of the day, enjoyed
the most profound repose until the song of birds, the
bleating of sheep, and the busy hum of industry awak-
ened him to the enjoyment of the scenery of a sweet
pastoral valley, arrayed in all the matron graces of
autumn. Previously it had been too late, and now it
was too early, to wait upon the shepherd; but it was
easy to while away the time by strolling as far as
St. Mary's Loch—a sheet of water, beautiful in it-
self, which has long been married to immortal verse
in the writings of both Scott and Hogg. At a fitting
hour Mr. Pinckham met the author of the Queen's
Wake, and apologized for the unshaven chin, and
general dishabille, by stating that he had been in
camp and not in quarters, and that camp not one of
the most comfortable. Our old friend may have his fail-
ings, like other men, but inhospitality is not one of
them, and again and again he expressed his regret
that the stranger had not come to him at once, in
place "o'lyin' out-by'e like the gipsy bodies, and
wi' far fewer haps than they carry in their creels."
A splendid Scottish breakfast followed, to which the
Yarrow lent its aid in the shape of trout caught by
the Shepherd's own hand; and after much conversa-
tion mine host was so much pleased with his guest
that he gave him a lengthened convoy and the bene-
fit of a half hour's crack on a sunny knoe over-
looking the Loch of the Lowes, and its sister St. Ma-
ry's. These, and other facts, I learnt from my
friend when he arrived in Dumfries; and now the
great thing was to put matters in train for the exe-
cution of the romantic project he had formed. An in-
troduction to Mr. Craik was immediately procured;
but twice he had the misfortune to miss the proper
opportunity of presenting it personally. But his
enthusiasm, so far from being damped, rose with the
occasion; and though he himself thought the scheme
romantic, and had hoped that lengthened travel
would banish the impression, he candidly confessed
that it had deepened every foot he trode. On the
third occasion, he saw the proprietor of Arbigland,
was favorably received, and constrained to pass the
day under his roof. From the first that gentleman
had determined to grant the sailor's request; but
the conversation for a long time ran on Paul Jones,
America, and many other subjects, and the poor
Lieutenant was beginning to despair, when, as by
accident, allusion was made to the nature of his
errand. Mr. Craik at once said that he was wel-
come to do what he pleased with the cottage,
and but rarely have words more welcome and en-
couraging fallen upon mortal ear.

Mr. Pinckham was quite overjoyed, returned to
town a happy man, and next morning deposited with
the writer twenty-five sovereigns to be employed in
the repairing the cot in which Paul Jones was born,
so as to render it habitable. This, considering the
mode in which he travelled, and the economy he
found it necessary to practice, was unquestionably a

great stretch of generosity—to say nothing of the
hundred and odd Scottish miles he had travelled out
of his way to give, if possible, a palpable form to his
enthusiasm. As the season was then far advanced
operations were delayed till the following spring,
when estimates were received, and the house repair-
ed in the most tasteful manner. And it is due to Mr.
Craik to say that he by no means squared the ex-
penditure by the sum received, but on the contrary
gave freely from his own purse. The site of the cot-
tage is a glade in a thriving wood on the shores of
the Solway, with a green in front, fancifully railed in,
and tastefully ornamented with evergreens, flowers,
and flowering shrubs. Inside and out it is a trim cot-
tage which may vie with similar buildings in England,
and as the walls are whitened annually with the
finest lime, it is become a sort of landmark to nearly
every sail that enters the Solway. The widow of a
fisherman who died under highly distressing circum-
stances, and who owes much to the humanity of Mr.
Craik, tenants it rent free, and will probably close
her eyes under its honored roof; and as this fact is
generally known, almost every tar in passing the
spot, doffs his bonnet in token of gratitude, and says
"God bless the kind Lieutenant Pinckham."

TOWNSEND & DUFFEE, of Palmyra, *Manu-
facturers of Railroad Rope*, having removed their establish-
ment to Hudson, under the name of *Duffee, May & Co.* offer to
supply Rope of any required length (without splice) for in-
clined planes of Railroads at the shortest notice, and deliver
them in any of the principal cities in the United States. As to
the quality of Rope, the public are referred to J. B. Jervis, Eng.
M. & H. R. R. Co., Albany; or James Archibald, Engineer
Hudson and Delaware Canal and Railroad Company, Carbondale,
Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, }
January 29, 1833.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in
the county of Rensselaer, and state of New-York, has invented
and put in operation a Machine for making Wrought Nails
with square points. This machine will make about sixty six
nails, and about forty lod nails in a minute, and in the same
proportion larger sizes, even to spikes for ships. The nail is
hammered and comes from the machine completely heated to
redness, that its capacity for being clenched is good and sure.
One horse power is sufficient to drive one machine, and may
easily be applied where such power for driving machinery is in
operation. Said Fairman will make, vend and warrant ma-
chines as above, to any persons who may apply for them as soon
as they may be made, and on the most reasonable terms. He
also desires to sell one half of his patent right for the use of said
machines throughout the United States. Any person desiring
further information, or to purchase, will please to call at the
machine shop of Mr. John Humphrey, in the village of Lan-
singburgh.—August 15, 1833. A29 if RM&F

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in
his profession, warranted equal, if not superior, in principles of
construction, and workmanship to any imported or manu-
factured in the United States; several of which are entirely new:
among which are an Improved Compass, with a Telescope at-
tached, by which angles can be taken with or without the use
of the needle, with perfect accuracy—also, a Railroad Goniom-
eter, with two Telescopes—and a Levelling Instrument, with a
Goniometer attached, particularly adapted to Railroad pur-
poses.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street,
Philadelphia.

The following recommendations are respectfully submitted
to Engineers, Surveyors, and others interested.

Baltimore, 1832.
In reply to thy inquiries respecting the Instruments manu-
factured by thee, now in use on the Baltimore and Ohio Rail-
road. I cheerfully furnish thee with the following information.
The whole number of Levels now in possession of the depart-
ment of construction of thy make is seven. The whole num-
ber of the "Improved Compass" is eight. These are all ex-
clusive of the number in the service of the Engineer and Gra-
duation Department.

Both Levels and Compasses are in good repair. They have
in fact needed but little repairs, except from accidents to which
all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses
have been preferred by my assistants generally, to any others
in use, and the Improved Compass is superior to any other de-
scription of Goniometer that we have yet tried in laying the rails
on this Road.

This instrument, more recently improved with a reversing
telescope, in place of the vane sights, leaves the engineer
scarcely anything to desire in the formation or convenience of
the Compass. It is indeed the most completely adapted to later-
al angles of any simple and cheap instrument that I have yet
seen, and I cannot but believe it will be preferred to all others
now in use for laying off rails—and in fact, when known, I think
it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction
of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr.
Young's "Patent Improved Compass," I can safely say I be-
lieve it to be much superior to any other instrument of the kind,
now in use, and as such most cheerfully recommend it to En-
gineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J.
Young, of Philadelphia, in which he has combined the proper-
ties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for lay-
ing out Railroads, and can recommend them to the notice of En-
gineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Germant. and Norrist. Railroad

ml ly

[From the Boston Courier.]

ELLA OF GARVELOCH,

ONE OF MISS MARTINEAU'S MOST INTERESTING AND BEST DEFINED CHARACTERS.

Methinks, 'e'en now I see thee,
Sweet denizen of yon rude isle,
Far, far away upon the emerald sea;
How firm, in majesty, thy form,
How bright, 'mid ocean's wildest storm,
Thy love enkindled smile!

There, as the coral flower?
Sublimely reared beneath the sunless deep,
Urged by affection's holy power,
Calmly thy duteous sacrifice was done,
Meekly thy wreath of heavenly glory won,
As infant's placid sleep.

Not for the world's behest
Did the bright curlew's plumes adorn thy hair,
But to wake joy within a gentle breast,
Where the spirit's light burned dim and low;
And the course of thought moved sad and slow,
While love was fervent there.

Gladly didst thou look out,
Upon the Stern—his lone loved eye,
And wert glad at every merry shout
He joyous echoed to the wailing cry
Of the swift wild-fowl, circling by,
With startling minstrelsy,

Oh! there is beauty in a life
Of truth, unmarred by passion's shock,
Unstained with worldly strife,
And yet of sinewy virtue—pure and free:
And such was thine, blest daughter of the sea,
The humble Garveloch!

H. T. T.

UTICA AND SCHENECTADY RAILROAD COMPANY.

PROPOSALS will be received until the last Monday of October next, at 12 o'clock at noon—

For grading about sixty-five miles of the Utica and Schenectady Railroad, between the Sand Ridge on Sanders' Flats in Schenectady, and the western boundary line of the town of Herkimer;

For the masonry within those limits, embracing the culverts, and the abutments and piers of the respective bridges; and

For the wooden superstructure of bridges across the Cayadutta Creek at Caughnawaga, the Garoga Creek at Palatine Church, the East Canada Creek at Manheim, the Gulph at Little Falls, and the West Canada Creek at Herkimer.

The line will be divided into sections of about one mile each, and prepared for examination, and maps, profiles and plans deposited for inspection with W. C. Young, the chief engineer, at Schenectady, ten days previous to the time above mentioned. Blank forms of proposals will be furnished at an early day at the company's offices at Schenectady, Palatine, Little Falls and Utica.

The names of persons to whom contracts are awarded (who will not be permitted to sub-contract the same) will be made known, at Schenectady on the 25th day of October, when it will be required that the grading proceed without delay, wherever, and as soon as titles to the lands are acquired by the company; that the culverts and small bridges be completed by the first of August next; that the residue of the masonry and the large bridges be finished by the 1st of October thereafter; and that the grading be completed during the year 1855. Contractors to furnish security for the faithful performance of their contracts.

The use of ardent spirits to be prohibited in constructing the road.

Proposals, post paid, to be endorsed "Proposals," and containing the names of the persons offered as securities, to be addressed to the undersigned at Schenectady, or deposited at the company's office at that place. September 4, 1854.

G. M. DAVISON, Commissioner

s-17 to 27 Utica and Schenectady Railroad Company.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersunk heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are furnished with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy N. Y. July, 1851.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1853, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber, not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBUEN,

347 N. Market st. (opposite Post Office).

* Mr. Thorburn is also Agent for the following publications, to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANIC'S MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly: either or all of which may be seen, and obtained by those who wish them, by calling at 347 North Market street, Albany.

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.

Published at 35 Wall street, N. Y., by

D. K. MINOR & J. E. CHALLIS.

A12 tr

SURVEYOR'S INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

J31 6t

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y.

sept. 13 ly

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in length of 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. 1/2 do.	
40 do. 1 1/2 do. 1/2 do.	
800 do. 2 do. 1/2 do.	
500 do. 3/4 do. 1/2 do.	
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rails of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 2 1/2, 2 3/4, 3, 3 1/2, 3 3/4, and 3 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

d1meowr

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.

DEAN WALKER. a 30

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine-wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company

WILLIAM NORRIS, Secretary.

December 2d, 1853.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

J 25 17

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Not's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTTE, at the sign of the Quadrant, No. 55 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1853.

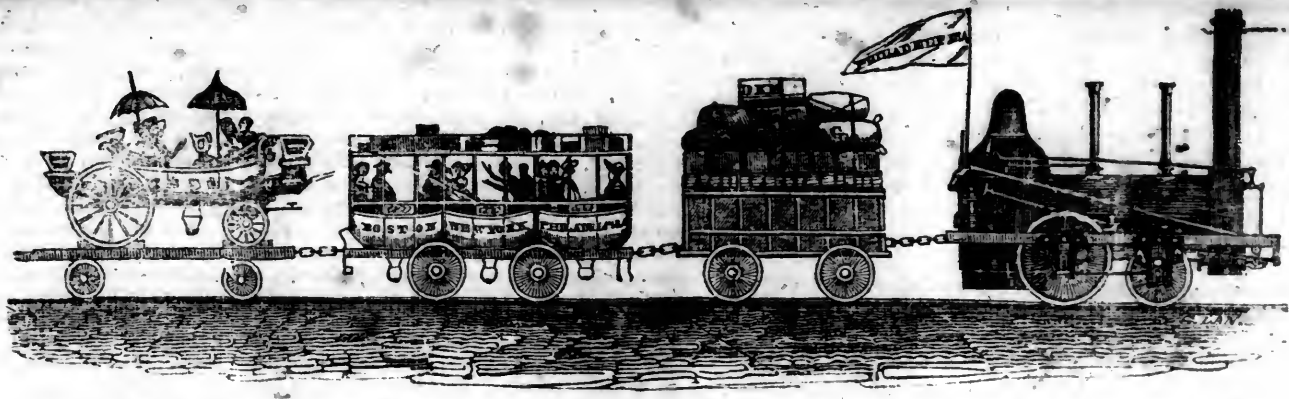
To Messrs Ewing and Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, NOVEMBER 1, 1834.

[VOLUME III.—No. 43.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 1, 1834.

BALTIMORE AND OHIO RAILROAD.—The gross receipts on the finished portion of this road for the year ending 1st October, from tolls on passengers and merchandize, were \$205,436. The items were 94,844 passengers, paying \$89,181, and 561,121 tons of merchandize, paying \$116,255.

TRENTON AND PHILADELPHIA ROAD.—We understand that the whole line of the splendid Railroad between Philadelphia and Trenton will open for the first time early next week. This road is about thirty miles in length, and is one of the best constructed and most direct and level in the country—so much so, that it is calculated that the whole distance may be travelled, on extraordinary occasions, in about one hour. The usual time will in all probability be about an hour and a half.

A depot is in preparation in Kensington, where omnibuses from all parts of the city will arrive at, and depart from, with passengers.

From the forthcoming number of the "Mechanics' Magazine and Register of Inventions and Improvements."

It is with great pleasure that we insert the following from our esteemed friend, and we solicit the attention of all who are engaged in the construction of railroads to its contents.

We have no room this week for remarks, but shall recur shortly to the subject; in the mean time shall be happy to learn the opinion of some of our scientific correspondents.—[Ed. M. M.]

To the Editor of the Mechanics' Magazine:

My dear Sir,—Agreeably to your request,

I now give you the particulars of my patent for the application of caoutchouc, or Indian rubber, in solution, to ropes used on the inclined planes of railroads, and shafts of mines.

My specification states that the ropes as now used on the inclined planes of railroads, by being exposed to the weather, are liable to decay and become rotten, as well as to great expansion and contraction, and that I propose to prevent such decay and variation in length, by covering said ropes, or the separate strands of which such ropes are composed, before being spun into ropes, or when so spun, but before being used, with caoutchouc, or India rubber, dissolved in the purified naphtha of coal tar, in Barbadoes tar, in petroleum, in sulphuric ether, in spirits of turpentine, or in such other substance as possesses the power or property of dissolving caoutchouc or India rubber, and permitting it to dry into its hard state without being clammy.

In announcing my improvement to the public, through the medium of your valuable journal, *Mechanics' Magazine*, and *Railroad Journal*, I trust to your kindness to offer such remarks on its utility to parties interested in railroads with inclined planes already made, as well as those now making, that, by its adoption, an immense annual expenditure for ropes would be saved, and the dread of their breaking entirely done away with, thereby affording perfect security to passengers in passing inclined planes. Even the knowledge and conviction of that security may be the cause of constructing railroads with inclined planes in mountainous districts, where, without it, it would be looked on as impracticable. Yours, truly,

PATRICK MACKIE, M. D.

29th October, 1834.

All communications may be addressed to you, or to your humble servant at the Albany Hotel, No. 31 Courtlandt st., New-York.

[Correspondence of the Journal of Commerce: RATTLESNAKE GOLD MINES, Safford Co., Va., Oct. 7, 1834.]

The following is a geological description of the gold regions of Virginia.

In passing from tide water to the Blue Ridge, the whole country is undulating, consisting of hills of moderate elevation, intersected with vallies or ravines of moderate depth. The soil for the most part

is composed of bright red clay, highly colored with the oxide of iron, and formed from the decomposition of vertical laminae of Talcoose slate or schist. As you approach the metaliferous veins, this red clay becomes intermixed with fragments of quartz, comminuted by the action of the atmosphere, and mechanically spread upon the surface for some distance by the action of the rains and ploughing, and the like, from year to year. At the distance of sometimes a few inches and sometimes a few feet below the surface of this bright red soil, is found the talc or talcoose slate, generally of a greenish grey color, soapy to the touch, and of a greasy lustre. This rock is the *Talkschiefer* of Germany, and is commonly known throughout the world in gold mining districts, as gold slate, or as the slate peculiar to gold regions. It is composed of magnesia from 30 to 40 per cent., siliceous from 50 to 60 per cent., and oxide of iron, allumina and sulphur, in small and variable proportions. The leaves or laminae of this slate are vertical, and often intermixed with iron pyrites, containing gold in a foliated form, very much like thick gold leaf. These iron pyrites are generally richer in gold when found in the slate along side of a quartz vein. The quartz veins are vertical walls of white flint containing oxide of iron and frequently iron pyrites and specular oxide of iron beautifully crystallized.

The diameter of the quartz veins varies from the fourth part of an inch to six or eight feet. All these veins are found between and parallel to the layers of slate, and extend longitudinally in a direction 41 1-2 degrees North East. Sometimes the gold is found in quartz veins in large masses, and sometimes distributed through the same in fine grains, and hidden, as it were, by the oxide of iron. Frequently specimens of this kind are rich when no gold is externally visible. Sometimes the large or main vein is found to be rich, and then again the gold is absent from it altogether. In such cases the gold is generally found in parallel thread veins frequently at some distance from the large or principal vein. Sometimes these veins dip like coal strata, and pass under rivers and rise again; and again they are cut asunder by streams, and the rocks of the vein broken or ground to sand, by attritions, the gold washed down the stream in grains and overspread with gravel. As these grains of gold are indestructible, they are not unfrequently carried by currents and floods down into secondary regions, where they assist in forming new sandstone, conglomerate and the like. These deposits of gold are often very rich, and much of the gold of Virginia is obtained by carefully washing the sand found at the bottom of the gravel in the streams and low grounds.

Other metals are usually associated with the gold in the veins and in the slate. I have never failed to find a greater or less portion of silver. I have also in some instances, found copper and blende, antimony and galena. In many instances the sulphuret of iron or hepatic pyrites may be said to be the dwelling place of the gold.

This whole gold region is based upon granite, and evidently belongs to that formation which Professor Blumenbach denominates the second class of primitive rocks. As yet I have not discovered that they contain any organic remains.

Very respectfully yours,

F. SHEPHERD.

[From a Correspondent of N. Y. American.]

NEW YORK AND ERIE RAILROAD.—The success of this important work may now be considered as certain. I met a few days since at Binghamton, with Judge Wright, who was then on his return from Lake Erie, where he had been to examine the route for the termination of the Railroad. He informed me that he had ascertained that the level of the lake may be attained without difficulty at about midway, between the villages of Dunkirk and Portland, and will probably be continued to each. The route of the western division is found to be highly favorable; passing up the Genesee; thence to or near Angelica, in Allegany county. The eastern section is still more favorable, if possible, I am also informed, than heretofore reported. I learned from Mr. Seymour, that its most sanguine friends will be disappointed in this part of the route, as but one, and possibly not even one, stationary power will be necessary to reach the Hudson River. The survey is now nearly completed to the river; and the maps and estimates will probably be ready at an early period of the session of the Legislature, when we shall expect to see a liberal spirit evinced by those whose duty it is to foster and develop alike the resources of every part of the State.

Now is the time, I think, to call another Convention upon the subject. Sufficient information may be laid laid before it to enable it to act understandingly as well as efficiently. It should be held on the line, say at Binghamton, or Oswego; and measures adopted to insure a full representation from the city and all those counties interested in its success. It would doubtless be well attended.

CHENANGO CANAL.—The Canal Commissioners met at Binghamton on the 14th instant to decide upon the termination of the Canal. Several routes were surveyed, and of course had their advocates; but the decision was a judicious one,—passing through the centre of the village to the point where the two rivers unite.

Account of a Visit to Mexico.

XALAPA, U. S. MEXICO, June 28, 1834.

To the Editor of the Mechanics' Magazine:

DEAR SIR,—You will recollect that we sailed from New-York on the 21st ult. for Vera Cruz. Nothing worthy of note occurred until the 2d of June, at which time we came into contact with a *water spout*, lat. 29° 3' north, long. 74° west from Greenwich. The cabin passengers were below at breakfast. The second mate, who had charge on deck, gave us a sudden alarm, by hastily reporting at the cabin gangway, "A water-spout off the weather-bow, sir!" Those of us who were aware of the dangerous consequences of coming in contact with one of these aerial missiles of destruction, immediately arose from our seats and ascended on deck. Here we beheld a meteor, grand and beautiful indeed. It approached us in all its elemental grandeur, towering to the clouds, and looking down to scorn the power of man. Its distance from us, at this period, might have been about two miles, and, as the breeze was very light, we were completely exposed to its effects in case it should make towards us. It was watched attentively for a few minutes, when it was observed to settle very much, and, it was supposed, had broken. It was also judged that its course was such that it would not strike us in case of its renewal. We were shortly convinced of our error. The passengers were scarcely re-seated at the breakfast table, when the second officer again reported, "It is making for us, sir!" The captain immediately went upon deck, and in an instant after cried out at the top of his voice, "All hands on deck; passengers on deck to lend a hand!" I have said the wind was light; moreover, it was a leading wind, and previous to our seeing the water-spout, we had every sail set that could be

made to draw. On the first call to deck, the studding-sails were taken in, so that at the last call by the captain, we had all other sails set, from royals downwards. On our reaching the deck the dreadful missile was not more than 100 fathoms from us. It had renewed its former height and magnitude, and came booming on at our devoted craft with a loud rushing noise, in all its terrific grandeur, threatening us with instantaneous destruction. To clue up sails was impossible, therefore every thing was "let fly," sheets, halyards, &c. All was now done that could be done. The state of suspense and intense anxiety for a few moments is more easily conceived than described. Some were at prayer, audibly or otherwise, and all were motionless. It came upon us midship, the first contact heeling the vessel to the leeward. When about half over, the vessel righted, and when it left us it gave us a heel to the windward. Not a sail was rent nor a spar carried away. Not a man was injured, neither did a drop of water fall on deck.

Previous to the water-spout reaching us it was thin—in fact, was easily seen through; but after it had passed it, seemed to increase in density and opacity; hence, agreeably to the best received theory, it is probable that the water-spout, at the time it struck the vessel, had not been in its renewed state (before alluded to) a sufficient time to have become mechanically charged with water, otherwise it would have burst upon us and inundated, if it had not destroyed us. The diameter of the spout at the bottom was about forty feet, and it was very attentively and closely observed as it approached. That it had all the characteristics of a whirlwind is certain, and the spray which was thrown off *tangentially* from its exterior, showed most conclusively that it gyrated in a *spiral* form, its motion being upward, thus raising water upon principles somewhat resembling those of Archimedes' screw. Its revolution was against the sun—i. e., from right to left. I do not mean to have it understood that I am by any means convinced that the water in these meteors is always raised; it may, and probably does, sometimes descend from the clouds. When the water is raised mechanically from the ocean, it will be salt; when it descends from the clouds it will be fresh; but we have so few authentic accounts of their *bursting on the ocean*, that I am inclined to the belief that they are neither more nor less than whirlwinds raising sea-water the same as they raise objects upon the land.

This spout was first seen at half past 7 A. M., and at this time the barometer was one-eighth of an inch lower, than it was an hour before. Just previous to our contact, the barometer had fallen an additional eighth of an inch, and immediately after the spout had passed us it was the same. An hour after the last observation, the barometer had ascended to the same height which it had previous to the appearance of the spout.

The aspect of the heavens was cloudy, somewhat broken, but having little motion. Some of the clouds were more elevated than others, the cumulo-stratus and nimbus of Howard. No rain had fallen during the morning.

The following statement will exhibit at one view the states of the barometer and thermometer during the interval of time included in the above account, viz.:

	Barom. Inches.	Ther.
At half past 6 A. M. - - -	29.75	71°
When the water-spout was first seen, at half past 7 A. M., 25- to 30 minutes before striking us, - - - - -	29.625	70.5°
Just previous to the spout's stri- king us - - - - -	29.5	—
Immediately after do. do. - - -	29.5	70°
One hour after the last observa- tion, - - - - -	29.75	71°

In the third observation the thermometer was not noted for want of time.

The above is only a slight additional proof of

the immense value which the barometer has for purposes of practical navigation. It is true that experience and prudence in commanders of vessels often preserve them in dangerous circumstances by taking the necessary precautions, but this is no reason why every additional security should not be given to the lives and property of our seamen and merchants. Every vessel which traverses the ocean should have an accurate barometer, which should be carefully and punctually attended to, and registered in the log book.

Our passage through, or rather across, the gulf or bay of Mexico, was tedious and unpleasant, a remark that will apply to the whole passage from New-York to Vera Cruz; the weather being very warm, and our accommodations on board very much limited. I have heard the splendor and beauty of the tropical skies extolled so much and so often, that I took it for granted I was to have a feast of vision which would in some degree compensate for the inconveniences of an imprisonment of many days upon the domains of Neptune. But, alas, disappointment came. There is infinitely more splendor and elasticity (if I may be allowed the expression) in our northern skies, particularly in a clear November night. It is true, we see some stars in tropical climes which are not visible to us at home; but there is a lassitude, a certain je ne scais quoi, that takes away all the zest for me.

On the 18th of June, we entered the harbor of Vera Cruz, very much to our gratification. I believe few persons could be found who would not prefer terra firma to the deceitful and treacherous gulf of Mexico. After having undergone an inspection by the visiting surgeon, and he having ascertained that there were no cases of cholera among us, the Vera Cruzans being very apprehensive of another visit from this Protean disease, we were permitted to land. Some of us had been unwell for a few days previous, owing to our having been becalmed and exposed to excessive heat for some days in the gulf. We were moreover informed that there were cases of vomito in the city, and therefore determined to remain on board a day or two, until we should become in a slight degree, at least, acclimated.

At sunrise the next morning, a scene, novel and very interesting to an American, presented itself to our view. The atmosphere was unusually clear and transparent, and a gentle sea breeze gave it a wholesome and grateful feeling. Directly in front of us lay the antique and ruinous looking city of Vera Cruz, with its gorgeous domes, and structures of various appearances, and architecture, mostly partaking of the Moorish style. In our rear lay the castle of San Juan de Ulua; on our left the mountain of San Martin, reaching to the clouds, with other mountains; and islands and bays of greater or less extent. In some of these bays, at a distance of from one to three miles, many fishing boats were to be seen, the crews of which seemed to be busily employed in their avocation. In a south-westerly direction the Orizaba, 17,400 feet in height, rose in all its majesty, its snow-capped summit poisoning its everlasting congelation far above the access of man. The rays of the rising sun were reflected from this peak in the softest roseate hues conceivable.

At the expiration of two days on board, we landed at the Mole, and, having passed the custom house without difficulty, took up our abode at a very neat and comfortable house, kept by Mr. Wm. Fulton, an American, whose politeness and attention are well calculated to insure custom, and give general satisfaction.

Vera Cruz is a regularly laid out city, its streets running at right angles to each other, and most of them are of a spacious width; some of the cross streets are, however, narrow and filthy; in fact much could not be said in praise of the cleanliness of any part of the city which we saw. The number of dead, and, of course, putrifying animals, and other filth, which lie in different parts of the city, would vitiate and

render the atmosphere unhealthy in a much higher latitude. The streets are well paved and have wide side walks, which are formed of a cement made with lime, sand, and shells, which acquires a peculiar hardness, and is very durable. I do not know that any particular proportion of these substances is required, and am inclined to believe the judgment of the maker is the guide. The houses of this city have all of them flat roofs, and are covered with cement; particular pains are taken to keep them perfectly clean, in order to preserve the purity of the rain water, which runs from them into large cisterns.

The public buildings of Vera Cruz consist of a palace, in which are the Government House, prison, &c., a Custom House, several churches, one or two convents, a theatre, hospitals, barracks, and some few others of minor importance. The public square, or plaza, is sufficiently spacious, but far from being elegant or attractive in any particular. It has on the north side the Palace, an ordinary looking building; on the east, the Cathedral, an old building of mixed architecture, principally Moorish; on the south and west, ranges of buildings having dwellings above and shops under the piazzas or "portales" below. The dwellings are generally commodious, having large, high, and airy apartments. Some of them are elegant, having towers or turrets on their roofs, admirably adapted for enjoying the sea breeze, a luxury inappreciable in latitude 19° 11' north.

The increasing prevalence of that dreaded disease and scourge of this place, the vomito,* (a disease differing somewhat from the yellow fever of the United States and Havana,) and the oppressive heat and danger of exposing ourselves to the sun, compelled us to limit our excursions and examinations more than we desired. During the time we remained in the city, the average height of the barometer was 29.96 inches, and that of the thermometer, in the shade, 87°. The thermometer is often at this elevation in midsummer in New-York, but the heat of the sun is not near so oppressive as at Vera Cruz. In the cool of the evening, however, we sometimes ventured upon a ramble. The great place of resort for the Vera Cruzans, (the "Battery" of Vera Cruz,) is the Mole, which is now in a very dilapidated and decaying condition. It is said that its repair has been in contemplation for a long time. One thing is certain—if not soon repaired, it will be totally destroyed. But the climate of Mexico in these parts is admirably adapted to the production of procrastination among its inhabitants: "Manana," (to-morrow,) is the word with them. The Mole, as it is, is invaluable to the citizens of Vera Cruz, it being a place to which they resort for enjoying the sea breeze, social chit-chat, and the burning of tobacco, which both sexes are in the habit of doing in their mouths.

The public walk, "Alameda," lies in a southeasterly direction from the city, commencing at the eastern gate and extending about a third of a mile in an easterly direction. This, at some former period, must have been a beautiful, spacious, and shady promenade. Some few of the trees which were planted in rows on each side, are still standing. The way between these rows is well paved, and stone seats of a neat construction and appearance are placed along, at intervals, on the sides, for the accommodation of the promenaders.

The defence of Vera Cruz, in a military point of view, is very strong. The principal fortification is the castle of San Juan de Ullica. This is situated on an island to the northward of the town, distant about half a mile. It appears to be the well constructed work of skilful and competent engineers. It has a fine armament of cannon, mortars, &c., immense tanks for holding water, and can garrison 3000 men.

* The remedy most relied upon and universally used for this disease, is large doses of lime or lemon juice and sweet oil, repeated until an operation is produced.

It is a quadrangular fort, with four bastion fronts, one of which, the south-western, is bounded by the water of the harbor, having a depth of five fathoms close to the wall. On this front, large ring bolts are inserted and secured in the wall for the purpose of mooring shipping, to protect it from the violence of the northerly, violent hurricanes peculiar to the gulf of Mexico. The other three fronts are bounded partly by the water of the harbor, and partly by a deep and wide ditch or moat covered by a glacis. This work is said to have cost about thirty-five millions of dollars! Report says that the King of Spain, when informed of its cost, went to his palace window, in Spain, to look at it, observing, that a fort which cost so much ought to be visible from all quarters of the globe. A similar work in the United States would cost about \$600,000.

The population of Vera Cruz does not probably exceed five thousand souls at the present time. The former population is said to have been from 13 to 15,000, when it had a flourishing commerce. The causes which have contributed to this retrogression are various and evident: 1st, The unsettled and insecure state of its commerce during the first and succeeding revolutions and internal commotions, which have existed in a greater or less degree for the last fifteen years; 2d, The insalubrity of the climate is so great, that foreigners and others will not risk an exposure in it without comparative inducements, and no other inducement can generally exist than that of acquiring wealth, and since the accomplishment of this is almost entirely dependent upon a flourishing commerce, it follows that whatever is detrimental to this branch of human industry, is also detrimental to the prosperity of the city. Since the establishment of the present form of government, the duties are so onerous as to crush what ought to have been supported and fostered, and the immoral tendency of smuggling is thereby introduced. But it may be urged in reply, that the expenses of a newly formed government of a young nation, which has just thrown off the yoke of bondage, must be borne and obtained in such a way that the people may be least sensible of it. This may be true; but if the people are not sufficiently intelligent to know what most promotes their prosperity, they are hardly fit for a republican form of government. The ruinous effects of the retrogression of commerce upon this city cannot escape the casual glance of the stranger.

The harbor of Vera Cruz is objectionable on many accounts, but it might be greatly improved. Vessels are now obliged to discharge by means of lighters or launches, and they are much exposed to the hurricanes called northerly, which come in with great violence from the north and west. The construction of a breakwater from the westernmost point of the reef, about half a mile to the northward of the castle, could easily be effected, and would render the harbor comparatively secure and safe.

The soil in the vicinity is mostly sand and unproductive, consequently vegetables bear a very high price. The market, however, is tolerably good.

This place will always be memorable in the history of this country, it being the spot upon which that celebrated conqueror and most extraordinary man, Cortez, landed with his army in 1519.

On the 24th June we left Vera Cruz on our journey for the city of Mexico. Our road for the day lay partly over a level sand beach, and partly through bushes and hillocks of sand. It was excessively warm, the thermometer being at 102° in the shade, the sun nearly vertical, no breeze, and the reflection from a loose sand striking into our faces, was very annoying. Add to this, we could proceed in a moderate walk only, and were obliged to stop at the end of every five or six rods to allow our horses to rest. For the last three miles of this day's journey, the vegetation on each side of us was luxuriant, and in all its tropical beauty. The

trees were, many of them, of a good size, and all clothed in verdure. Large and excellent limes were hanging from branches frequent on both sides of us, and many of the trees were nearly invisible, being covered with a lichen or moss, resembling the mistletoe, the fibres of which hung from the tops of the trees reaching the ground. The color of the lichen was whitish yellow. Shrubs and flowers of variegated hues also adorned our path. But the almost insupportable heat was a tremendous drawback to our pleasures. We arrived at Santa Fe a little before dusk, having passed over, for this day's journey, a distance of about nine miles.

Here a new scene presented itself to our view. A large company of "Arrieros" (muleteers) had already unpacked their mules, and were encamped for the night on each side of the road. On one side their cooking fires were arranged in a row under large shady trees. At each of these fires an Indian was busily engaged in preparing maize or Indian corn, for the purpose of making a kind of cake called "tortilla." These cakes are made by first crushing and then baking the corn, in the following manner: A flat stone (generally porphyry) about 15 inches wide, and 20 inches long, is placed in an inclined position by means of two legs at one end, the other end resting upon the ground. This stone is called "metate." A stone pin or roller, of a semi-cylindrical shape, about 18 inches long, serves in the hand to crush the corn upon the metate, the corn being frequently moistened with water. This roller is called the "mano," or pestle. When the corn is completely crushed, so as to form a kind of paste, it is made into flat cakes between the hands, and baked on grating over the fire. These are tortillas, very inferior to our hoe-cakes.

On the other side of the road, in the front line, were the pack-saddles of the mules standing next to each other, in a perfect order of arrangement, each saddle being as well known by the arrieros as the men in the ranks of a military company are known to the captain. The second line was formed of the tents, or rather roofs, under which the arrieros sleep. This shelter is merely a coarse piece of sackcloth. The next line was formed by the bales and packages of goods which they were to transport to Mexico. These were properly and carefully protected from the effects of rain by a covering of mats, which were secured by ropes on each side, fastened to wooden pins, driven into the ground, and extending the mats in such a manner as to form pent-roofs, similar to the fly of a tent. Behind these the mules, about 250 in number, feeding at several long troughs, formed the last line.

Some of the muleteers were attending to the mules; others had taken to their tents; and others were dancing, singing, gambling, drinking, and flirting with the girls. These arrieros have the universal character of being the most honest and industrious class of people of the Mexican Republic. An instance of dishonesty seldom occurs among them. Yet they are a wild looking jovial race, resembling nothing in our country. My next will be dated from Mexico. J. P.

IMPROVEMENT IN RAILWAYS.—It has been resolved to make trial, on the Birmingham railway, of slabs of slate fixed in a bed of concrete, as a substitute for the usual stone sleepers. We have since been informed that, in an experiment previously made on the premises of Messrs. Cottam and Hallen, in the presence of the engineer and several of the directors of the Company, it was found, by the hydraulic press, that a cubic inch of slate will sustain a pressure of three tons and a half, and that consequently slate of an inch and a half thick is more than equal to any pressure which it can be required to support on a railway. The saving in expense, if slate is ultimately adopted, will be at least one half.—[Engl. pap.]

MISCELLANIES, Foreign and Domestic.—The following notices are translated from Berzelius's last yearly report on the Progress of Science, by Dr. Lewis Feuchtwanger, of New-York.—[American Journal of Science and Arts.]

1. A new ore of Antimony has been discovered in the Hartz mountains by Zinken, which resembles zinkenite, and appears to be also a subantimonio-sulphuret of sulphuret of lead with sulphuret of silver.

2. A new *Tenanthite* has been examined by Hemming from a newly opened mine in Cornwall, which consists of

Arsenic	11.5
Copper	48.4
Iron	14.2
Sulphur	21.8
Silex and Gangue	5.

3. *Vanadate of Lead*.—Johnson discovered some species of vanadate of oxide of lead at Wanlockhead in Scotland; one species occurs on calamine in form of warts, and as large as a pin's head. It is of a dirty white, and appears to be dew of a pale red powder, has a resinous fracture, and specific gravity of about 7. The other is black, and looks like earthy manganese; a third has not yet been described, but Johnston has sent specimens to the Collection of the Royal Swedish Academy. It is regularly crystallized, and appears to be a bi-vanadate of the oxide of lead.

4. *Plumbacalcite* has been described by Johnson as a mineral found at Wanlockhead in Scotland; it consists of carbonate of lime and carbonate of lead; it is crystallized in the primitive rhomboid of the calcareous spar; it occurs both transparent and opaque, and consists of 92.2 carbonate of lime, 7.8 carbonate of lead. By heat the carbonic acid is evolved, and the mineral assumes a reddish color. This mineral offers an interesting proof of the isomorphism of oxide of lead with a rhomboid of carbonate of lime.

5. *Pelokonite*.—Richter describes an uncrystallized mineral, occurring in Chili, with malachite and copper-green under the above name, (from *pelos* brown, and *konis* powder.) It contains phosphoric acid and the oxides of iron, manganese, and copper; it has a blackish blue color, gives a liver brown streak of a conchoidal fracture and weak lustre; its specific gravity is between 2.5 and 2.57.

6. *Wolchouskoit*.—Kammerer described a new mineral from Siberia, which is amorphous, bluish green opaque, and of conchoidal fracture; its touch is greasy, gives a bluish green streak, and adheres slightly to the tongue; consists of silica, alumina, oxide of chrome, and water.

7. *Worthite*.—This new mineral has been described by Hess, and found in a scapolitic boulder from the neighborhood of Petersburg. It is colorless, crystalline foliated, of specific gravity of about 3.0; harder than quartz, infusible before the blow-pipe, and dissolves with difficulty and with effervescence: in soda it becomes transparent, and yields water by heating in a tube: it becomes dark blue with nitrate of cobalt. Hess found it composed of Silica 40.58

Alumina	53.80
Magnesia	1.00
Water	4.63

The formula is $AAq + SS$.

8. *Pyrargillite*.—Nordensköld discovered

and analyzed two new minerals from Finland, the one he calls by the above name from its character of diffusing a clayey smell by heat. It is partly black, light, and lustrous, like the Lordawallite, and partly bluish granular or red, and without lustre; it seldom occurs pure in uncrystallized masses, the form of which approaches to a four-sided prism, with truncated angles; sometimes it is traversed with chlorite, so as to appear sparkling by polishing; its specific gravity is 2.505; its hardness 3.5; it is decomposed completely by muriatic acid; it occurs in granite, and it consists of

Silica	43.93
Alumina	28.93
Protoxide of Iron	5.30
Magnesia with some Protoxide of Manganese }	2.90
Potassa	1.05
Soda	1.85
Water	15.47
Loss	0.58
Formula. F }	
M }	
Mg } $S^3 + 4AS + Aq$	
N }	
K }	

9. *Amphodelite*.—This is the other mineral discovered by the above author from the lime quarries of Lozo, in Finland; its crystallized form bears much analogy to that of felspar; it is clear reddish, resembles in fracture scapolite, with two passages, which form an angle of $95^\circ 9'$; its hardness is 4.5, and its specific gravity 2.798; it consists of

Silica	45.80
Alumina	35.45
Lime	10.15
Magnesia	5.05
Protoxide of Iron	1.70
Moisture and Loss	1.85

Its Formula, C } $S + 3AS$.
Mg }

There are a few more minerals described which seem to require a thorough examination in order to establish their claims to be called new, as for instance *Skugisan* and *Monophan*, belonging to the family of the zeolites, and noticed by Breithaupt.

The Mengite from Siberia, and the Monticellite from Vesuvius, and noticed by Brooke and Berzelius from Galloro near Rome, a kind of anhydrous zeolite, which is difficult to fuse, and becomes gelatinous with muriatic acid; it is noticed by Necker De Saussure.

In regard to the Xanthite, described in a former number of this Journal, which occurs in Orange County, N. Y., and consists of Silica 32.708

Lime	36.308
Alumina	12.280
Oxide of Iron	12.000
Protoxide of Manganese	3.680
Moisture	0.600
Loss	24.24

Berzelius observes, that if this analysis approaches to accuracy, and if a small part of the oxide of iron is contained in the mineral as a protoxide, the formula would

be $2 \left\{ \begin{array}{l} C \\ Mg \\ F \end{array} \right\} S + \frac{A^2}{F^2} S$.

10. *Ozokerite*, a new combustible Mineral.—This mineral occurs at Slaui, Moldavian District, near the Karpathes, and has been

called by Glocker, *Ozokerite* (*ὄζον* to smell, *κeros* wax); it is of a talcose structure, the color between green and brown, of the specific gravity 0.955 to 0.970; it may be kneaded between the fingers, melts into a clear mass in the flame of a candle, is soluble neither in alcohol nor water, even when boiling, and but slowly so in ether and spirits of turpentine. This mineral may serve as an excellent material for lamps or tapers, burning like wax, with soft clear flame, and diffusing on its being extinguished an agreeable odor. Specimens are shortly expected from the locality.

11. *Platinum in France*.—A specimen of platinum has been exhibited before the academy at Paris, which has been extracted in combination with silver from galena, and which contains 0.00022 of Platinum; and since 1100 lbs. of the galena are daily produced from the mines, the daily produce of platinum will be 1 lb. 4 oz. 4 drams and 28 grains. The mines of Cohfolens and Aloue Depart. of Choraute are the localities for this platinum.

Essay on the Indian Summer, read at a meeting of the Maryland Academy of Sciences, by one of its Members, Baltimore, Dec. 16, 1833. [From Silliman's Journal.]

(Continued from page 661.)

From this detail of facts, it appears to us highly probable that electrical causes are negatively concerned in the production of the Indian summer; for instance, as during the warmer months they act vigorously by producing an intermixture of the different currents or strata of air; so, on the contrary, at the approach of winter, they act with diminished energy, and hence suffer portions of air, differing greatly in their temperature and humidity, to remain for a length of time without flowing into each other. We might mention evaporation as one of the causes concerned in the production of haze or clouds, but as it is dependent on, and influenced by, existing temperatures, we shall, in summing up our arguments, show how far the mean hygrometric condition of the air is effected by the annual change of temperature, as also by particular winds, and by the local conformation and geographical position of the adjacent country. Having now noticed the more prominent causes concerned in the production of the phenomena of the Indian summer, we proceed to explain, as far as possible, their mode and extent of operation.

The first important conclusion that we draw from the above details is, that the formation of haze or clouds, viewing the subject in its most general outline, must depend essentially on a reduction of atmospherical temperature, which brings the water contained in the air to a visible sub-vaporous state, constituting haze, or to an actual liquid condition, (minutely divided,) forming clouds. We believe further, that this visible alteration, or increased density, is confined chiefly or wholly to the lower stratum of air, and is immediately referable to partial and slow currents of moist winds from a southerly or south-easterly direction, (as meteorological records confirm,) and that these moist winds usually follow cool dry westerly or northerly ones, which having prevailed extensively both in the higher and lower regions of the atmosphere, have lowered its temperature and reduced its absolute quantity of moisture. Now, if we suppose this moist and warm current of air, (extend

ing perhaps in height some hundreds or even thousands of feet above the earth's surface,) to come into contact with a cool dry northerly one, the obvious result would be a reduction of temperature, attended with hazy or cloudy formation; while the superior stratum of air being altogether westerly or northerly, would remain dry and cloudless, which is, in fact, the precise condition of things during the Indian summer.

It might be asked whether those partial currents do not occur in the spring and summer season, and if so, why not give rise to the same phenomena? The reply would be, that the general tendency to foggy or cloudy weather is obviously less at those seasons than in the fall, from the existence of a cause which we mentioned in the early part of this paper, viz., that the mean temperature of the air being on the increase during the spring and summer seasons, (from the more direct action of the solar rays on the earth's surface,) its capacity to receive moisture and contain it invisibly is also augmented. Hence, an easterly wind will not produce rain, nor indeed sensibly affect the transparency of the air, until it has continued for such a length of time as to bring a great excess of moisture; when the solar heat becoming also obstructed, a further reduction of temperature and consequent precipitation occurs. And again, two other very important agents concur to prevent these phenomena from appearing in warm weather: we allude to the excessive heat at the earth's surface acting on the lower stratum of air, and the vigorous movement of electrical agencies on the higher regions, both of which causes concur to produce a constant and steady admixture of the atmospherical strata; the former, by rarifying the lower stratum and causing it to ascend; the latter by exploding and destroying large portions above, and reducing the temperatures of others, which as rapidly descend, and it is this activity of circulation among the currents of air during warm weather, that prevents the formation and continuance of a hazy or foggy atmosphere.

In confirmation, we may remark, that during the cold summer of 1816, when of course both these causes were acting with a diminished force, there was a very constant haziness of the air, so much so, that the sun could be viewed with the naked eye until 9 or 10 o'clock in the morning. A celebrated traveller in the south relates a fact which will convey some idea of the actual condition in which we suppose the lower stratum of air to exist during the prevalence of hazy weather; he remarks "that over the ocean the sky exhibits a paler blue than over the land; when from the summit of the Andes the eye is directed towards the great South Sea, a haziness uniformly spread to about 10,000 feet in height is observed to cover as with a thin veil the surface of the ocean—this appearance takes place in a season when the atmosphere viewed from the coast, or at sea, appears pure, and transparent; the existence of the opaque vapor is announced only to mariners by the little intensity of the azure color of the sky." Here it is evident that a slight additional density in this lower stratum would intercept a large portion of solar light, and give a turbid or hazy appearance to the general atmosphere.

By a very careful reference to Capt. Brantz' meteorological tables, we find, that in a very few instances, he notes hazy weather

co-existing with a northerly wind—this fact, however, does not militate against the view we have offered, viz., that hazy weather is the result of a southerly or easterly current, supervening to a cool northerly one—for it is evident the same result would be produced if the differing portions of air only come in contact—with this qualification, that the superior dryness and force of a northerly wind would give a much shorter duration to the existence of haze, the continuance of which would be incompatible with a dry westerly or northerly wind.

We shall now proceed in a very general manner to inquire, why the Indian summer makes its appearance more particularly at the close of autumn. This part of our subject, by no means void of difficulty, appears capable of solution in the following manner. It is well known that a constant and general wind prevails within the tropics, moving round the earth from east to west, called the trade wind; observation also confirms that without the tropics, both north and south, the prevailing winds are westerly: the object of which appears to be a restoration of the equilibrium, which is disturbed by the trade winds—this westerly or north-westerly current, (for it would be oblique in our parallel,) being often counteracted during the summer by opposite winds, (brought into existence by local causes—and the direct action of the solar heat on our continent during the summer, and early part of the fall,) comes to act again with renewed force, during the first cold weather of autumn, and continues at intervals until it has, as it were, more than fulfilled its intention, and is hence usually succeeded again in November and the early part of December, by what may be termed a southern re-action—at which period the phenomenon of the Indian summer occurs, being at the precise time when the general predisposition of the air to form haze or fogs is at its maximum.

It appears to us also, that the existence and duration of the Indian summer in this country has an important connection with the extensive forests and uncultivated lands, peculiar to America, and it is worthy of remark, that according to the recollection of our older inhabitants, its former duration was often three or four weeks, whereas its present continuance is short and uncertain, seldom exceeding ten or fifteen days. It appears further, that this decline has been somewhat regular, keeping pace with, and evidently influenced by, the gradual uncovering of the country. Humboldt states, that plains abounding with trees are usually characterized by a foggy atmosphere. This is particularly the case with Brazil and Guiana, and the great central basin of South America, which receives the waters of the Amazon. In the middle of a continent overspread with forests, and watered by equatorial rains, the humidity is nearly the same as on the ocean.

The temperature of the atmosphere diminishes at an average of one degree for every three hundred feet, hence the humidity is greatest in the lower regions. The hygrometric condition of the air also varies, (of course,) with different elevations of country, the more elevated possessing the drier atmosphere. Again, in tropical latitudes the clouds form at a greater height above the earth's surface, because the point of condensation or congelation is confined to those cold elevated regions, whereas in the temperate zones, (and especially in the fall season, when the mean

temperature of the air is but a few degrees above the point of deposition,) fogs and clouds form near the earth's surface—all these facts, if closely examined, corroborate the views we have been trying to establish—but which we confess are too imperfectly and theoretically founded.

One of the most remarkable phenomena of the Indian summer is the peculiar redness of the sky, which in our opinion is explained on the principle that the white beam of light being unfolded in its passage through the foggy stratum near the earth's surface, its more delicate rays are either reflected back, or absorbed, while the stronger rays of red and orange all penetrate to the earth's surface, and by their excess tinge surrounding objects with their own color, and especially the lower atmosphere, which reflects and refracts them in every possible direction: much on the principle that, to the eye of a person who has descended to a great depth in a diving bell, every thing appears reddish, because nothing but red rays can penetrate the dense medium which is interposed between him and the sun. Again this redness of the air, together with the mechanical irritation produced by the denseness of the aerial vapor, excites a painful affection of the eyes—this sensation, connected with the smoky appearance of the sky, induces great numbers of the inhabitants of this country to believe that the Indian summer consists of a smoky state of the air, produced by burning the vegetable decidua which are collected together in the fall season for this purpose, or, as some will have it, the firing of the neighboring mountains. This appearance of actual smoke is however an optical illusion, produced by the foggy appearance of the air, and which seems to find confirmation by the great irritation of the visual organs, effected by the excess of red rays, &c.

The increased temperature which accompanies the existence of this hazy weather is referable to several causes, viz.

1st. The prevailing wind, which, being from a southerly direction, is usually warm.

2d. The heat radiated from the earth's surface is immediately returned, (on a well known principle,) being reflected back by the haze of the atmosphere, while lastly the temperature is further increased by the condensation of both air and moisture during the formation of the foggy stratum.

We have now hastily explained, or rather touched upon the leading phenomena of the Indian summer, but acknowledge to have written on this subject rather with a view to elicit further inquiry from others than to establish any theory of our own; every phenomenon connected with the earth's atmosphere is highly deserving of our most earnest investigation, for daily observation confirms, that not only the health, but also the moral qualities of our species, are greatly under the control of its influences. We hope therefore to see this subject taken up by some one whose time and opportunity are less restricted than our own, and whose superior knowledge of the laws which direct and govern our atmosphere shall enable him to place it on more sure and elevated ground.

COMMERCE OF THE WEST.—We have this morning a letter from Buffalo, dated Oct. 23d, from which we make the following extract—"Seventy-two vessels were in our harbor this morning, bound to the west—each vessel averages about 400 barrels bulk, making at least in the whole 25,000 barrels. Our warehouses are still full of goods, and the wharves are crowded. Boats from the east are constantly arriving."—(Commercial Adv.)

Animal Mechanics, or Proofs of Design in the Animal Frame. Part II., showing the Application of the Living Forces. [From the Library of Useful Knowledge.]

(Continued from page 616.)

OF SENSIBILITY.—Under this head are comprehended, not any sentiment or feeling of the mind, but the sensations of the body.

We form our notions of sensibility from that of the skin; and it is no doubt necessary that we should do so. It is in constant communication with things around us, and affected by their qualities; it affords us information, which corrects the notions received from the other organs of sense, and it excites our attention to preserve our bodies from injury. We are so familiar with the painful effects of injuries upon the surface, that there is nobody who does not imagine that the deeper the injury the more dreadful the pain. But, on the contrary, it is a well established fact, that to such irritants as would give the skin pain, the internal parts are totally insensible. And it is equally certain, that though the nerves, the instruments of sensation, are incapable of producing any perception without the brain, yet the brain itself, the part which is the seat of intellect, and to which every impression must be referred before we become conscious of it, is itself as insensible as leather. These considerations show us, that sensibility to pain is not a necessary result of life, and they naturally lead to the inquiry for what purpose is sensibility bestowed, and how is it distributed in the body?

We have first to show that the skin has sensibilities exactly suited to the functions it has to perform. Science no doubt informs us, that warmth and cold are only relative degrees of heat; to the skin they are distinct sensations, and excite in different ways both the mind and the bodily functions. Cold braces and animates to exertion, whilst the warmth, which is pleasant to us, is genial to all the operations of the animal economy. Their alternations are the most constant sources of our enjoyment, and at the same time conduce to exertion and to health. All this, however, belongs to the skin exclusively; parts internal, although peculiarly sensible to their proper stimulus, give no indication of sensibility to heat; if there be internal sensibilities of heat, they are morbid and deceptive. Molten lead would produce pain and death, being poured into the interior of the body, but the sensation of burning is a property of the surface only. It is the excess of that particular sensation, which is calculated, like the other endowments of the skin, to suit the medium in which we live, and to force us to the regulation of the temperature necessary to preserve life.

Touch, or the sensibility to bodies pressed upon the skin, is likewise a distinct and appropriate sense. The sensibility of the skin to pricking, cutting, or tearing, is also in curious contrast with the sensibility of the solid internal textures, as bone, cartilage, and ligament. We have arrived at the full comprehension of this subject very slowly. Disagreeable experiments have been made, but the following is as interesting as it was innocently performed. A man who had his finger torn off, so as to hang by the tendon only, came to a pupil of Dr. Hunter. "I shall now see," said the surgeon, "whether this man has any sensibility in his tendon." He laid a cord along the finger, and, blind-

folding the patient, cut across the tendon. "Tell me," he asked, "what I have cut across?" "Why, you have cut across the cord, to be sure," was the answer. By such experiments it became very manifest, that bone, gristle, and ligament, were insensible to pricking, cutting, and burning. Were they therefore insensible? The reader will answer—Surely, it is a matter proved. But before we finally decide, let us take this into consideration,—that the sensibilities of the body differ in kind as well as in degree; and every part has its peculiar kind, as well as its degree; and every part has its kind of sensibility with reference to its function, and also with reference to its protection from violence. If the membranes between the bones of our great joints, or the cords which knit the bones, were sensible in the same manner and degree with the skin, we should be incapable of motion, and screwed to our seats, as the man appears to be who has a violent attack of acute rheumatism.

But although these bones and cartilages, or gristles, and ligaments, be not sensible as the skin, or the surface of the eye, they possess that which is suited to their condition, which permits their free use, and yet limits that too free exercise which would be injurious to their textures, or raise inflammation in them. The ligaments and tendons, then, which are insensible to pricking, cutting, and burning, are sensible, nevertheless, to stretching and tearing! It is remarkable that such men as Drs. Hunter and Haller, the luminaries of their science, should have held the opinion that the bone and the membrane which covers it (the *periosteum*), the gristles or cartilages, the ligaments of joints, and the tendons of muscles, were insensible parts, and yet be in daily attendance on those who suffer the pain of a sprained ankle, where there are no parts to suffer but those enumerated, and where the pain, excessive in degree, was felt in the instant of the sprain. These considerations explain to us that pain is the safeguard of the body. This capacity of conveying painful impressions to the mind is not given superfluously to all parts; on the contrary, the safe exercise and the enjoyment of every part is permitted without alloy, and only the excess restrained.

This subject is finely illustrated by the apparent insensibility of the heart. The observation of the admirable Harvey, the discoverer of the circulation of the blood, is to this effect. A noble youth, of the family of Montgomery, from a fall and consequent abscess on the side of the chest, had the interior marvellously exposed, so that after his cure, on his return from his travels, the heart and lungs were still visible, and could be handled; which, when it was communicated to Charles I., he expressed a desire that Harvey should be permitted to see the youth and examine his heart. "When," says Harvey, "I had paid my respects to this young nobleman, and conveyed to him the king's request, he made no concealment, but exposed the left side of his breast, when I saw a cavity into which I could introduce my fingers and thumb; astonished with the novelty, again and again I explored the wound, and first marvelling at the extraordinary nature of the cure, I set about the examination of the heart. Taking it in one hand, and placing the finger of the other on the pulse at the wrist, I satisfied myself that it was indeed the heart which I grasped. I then

brought him to the king that he might behold and touch so extraordinary a thing, and that he might perceive, as I did, that unless when we touched the outer skin, or when he saw our fingers in the cavity, this young nobleman knew not that we touched the heart!" Other observations confirm this great authority, and the heart is declared insensible. And yet the opinions of mankind must not be lightly condemned. Not only does every emotion of the mind affect the heart, but every change in the condition of the body is attended with a corresponding change in the heart: motion during health—the influence of disease—every passing thought, will influence it. Here is the distinction manifested. The sensibility of the skin is for a purpose, and so is the sensibility of the heart. Whilst the skin informs us of the qualities of the external world, and guards us against injury from without, the heart, insensible to touch, is yet alive to every variation in the constitutional powers, and subject to change from every internal influence.

There is in the several organs of the body, as it were, a distinct life; that is, they possess sensibility, the grand endowment of life, necessary to their condition, and adapted to their appropriate stimulus. The impressions made upon them will sometimes rouse them into activity, or call muscles into action which are necessary to their functions or for their protection; and this oftentimes without reference to the mind at all, and consequently without our consciousness.

Perhaps we have the most agreeable example of this in the eye. That organ has been selected in the Preliminary Discourse of the Objects and Pleasures of Science, as showing how mechanical advantage is taken in the arrangement of the muscles to produce velocity of movement in guarding the eye. But this fine mechanism would be lost if the excitement depended on our will,—if there were not a sensibility appropriated to the action, and an influence quicker than thought. It is not by feeling the pain of the offensive body, or by estimating its dangers, and acting on the conviction, that we close the eye to avoid injuries. This would be an operation all too slow for the intended purpose; and, therefore, the muscles, possessing these extraordinary provisions, are put in relation with a sensibility more admirable still. So when a light foreign body touches the eye-lashes, they give alarm, and cause a motion, both of the eye-lids and eye-ball, quicker than thought. The eye-lashes, seated on the tender extremities of sensitive nerves, preserve the eye in two ways—by guarding its interior from the lateral light, and by exciting the motion of the eye-lids, even before the offensive body can touch the eye's surface.

We may take another illustration to show how sensibility, one of the endowments of the living part, is adapted to the mechanical organization, and with an appropriation more admirable than the mechanism. When we speak of the sensibility of the skin, it is still possible to misconceive its nature, and to suppose it accident merely; but in the instance to be adduced, the sensibility is different, and it is put in connection with a hundred muscles; without this high and peculiar sensibility, and its multiplied relations to muscles, independent of volition, the mechanism we are about to describe would be quite useless.

The top of the wind-pipe is called the *larynx*, and consists of five elastic cartilages. These do not merely keep the sides of the wind-pipe apart, and the passage for the breath free, but they perform offices important to the economy both of body and mind; they are an essential part of the instrument of voice; they at the same time guard the lungs from injury.

Fig. 24.



The *thyroid* cartilage is the largest of the cartilages of the larynx, it is that we feel projecting on the fore part of the throat, called the *pomum adami*, (A.) It is a protection to the fine apparatus behind it, and indeed this is the reason of its name, (*scutiform*, like a shield.) Within the thyroid stand the *arytenoid* cartilages, (B.) This cartilage is of an irregular triangular form. It is socketed or articulated on the cartilage below, and is perfectly moveable. To the corner which projects forwards the ligament

Fig. 25.



(B) is fixed, and to its other sides five little muscles are attached; these muscles, by moving the cartilage, draw and vary the position of the ligament. It is these cartilages and this ligament, which, vibrating in the stream of air, give the tremor, and vocalize the breath; the tones so produced are articulated in speech.

This is a subject far from being exhausted in our philosophical works, and may call for observation afterwards;* but at present we may look on these ligaments, not as the *cordæ vocales*, but in another of their offices—forming the slit which opens and shuts in breathing, for the protection of the lungs. But here it is pertinent to remark, that in the structure of an animal body one organ is made subservient to several functions, without interference in the performance of any of them. This is especially true of the larynx. It is one of those uses only, and the least important, that we have at present to observe.

The ligaments being invested with the lining coat, or membrane of the wind-pipe, draw it into the form of a slit like the till of a shop counter, and this is the chink of the glottis (*rima glottidis*.) This slit opens and closes with every inspiration, moving as we see the nostrils do in breathing. But the most admirable thing of all is the acute sen-

sibility given to this part; and to no other, so that the lightest husk, or seed, or smallest fly, drawn in with the breath, and touching the margin of the chink; is caught there by the rapid action of the muscles and consequent closing of the aperture. Now, were the provision for the protection of the lungs to be only thus far perfect, there would be an effectual means of preventing the intrusion of foreign matter into the delicate cells of the lungs, but not for its expulsion from the entrance which it had reached. Accordingly, although the sensibility of the glottis is put in operation with the shutting of the chink, it also animates another class of muscles, viz. all those which, seated on the chest, compress it, and force out the air in coughing; and these combining in one powerful and simultaneous effort, whilst the glottis is closed, overcome that constriction, and propel the breath through the contracted pipe with an explosive force, which brushes off the offending body. There is one thing more necessary to this most important though familiar action—the lungs are never empty of air: in breathing we do not fully expel the air; if we did, there would be a period of danger occurring 17 times in a minute, for in the first part of each inspiration, something might be drawn into the wind-pipe which would suffocate. But by this provision of air retained in the lungs more than necessary to respiration, and which it is possible to expel by a more forcible expiration, there is always a possibility of coughing and expelling the offensive thing at any point of time in the act of inspiration.

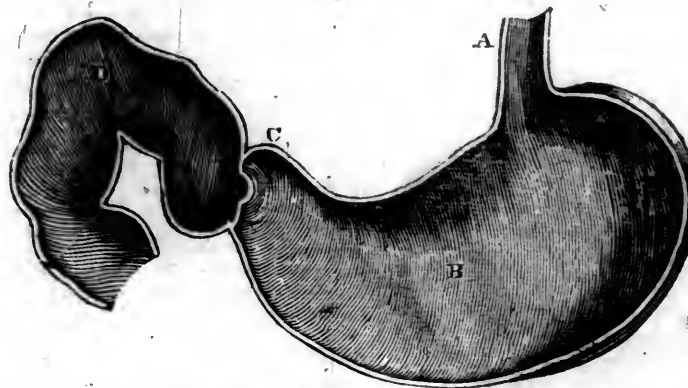
The sensibility seated in a spot of the throat so beneficently, does not extend into the wind-pipe; for we cannot more admire the per-

fect adaptation of this living property, than the circumstance of its never being bestowed in a superfluous degree, nor extended where it is not absolutely required. Just as the sensibility of the skin protects the parts beneath, so in the same manner does the sensibility of the top of the wind-pipe protect all the interior of the tube, and the lungs themselves, without the necessity of this property of irritability extending through the whole continuous surface.

The simple act of sneezing affords a very curious instance of the mutual adaptation of muscular activity and the governing sensibility. The sensation which gives rise to this convulsive act is seated in the membrane of the interior of the nostrils, and we are not surprised with the difference of sensation from that in the throat which excites coughing. But is it not a very curious thing to find some twenty muscles thrown out of the action excited by irritation of the nose; and as many excited which were not in the class of those influenced in coughing; and for the very obvious purpose of shutting the passage by the mouth, or at least forcibly driving the air through the nostrils? No act of the will could so successfully propel the air through the nose in such a way as to remove the offensive and irritating particles from the membrane of the nose, and clear those passages.

These last examples of an appropriate sensibility might introduce us to an acquaintance with those internal sensibilities which govern the actions of parts quite removed from the influence of the will; but the description of them may be deemed unnecessary. We shall just hint at the guard which nature has placed on the lower ori-

Fig. 26.



fice of the stomach, to check the passage which the appetites of hunger and thirst may have given at the upper orifice (A) to aliments not easy of digestion. This lower orifice (C) is encircled with a muscular ring; the ring is in the keeping of a watchful guard. If we are employing the language of metaphor, it is of ancient use. The Greeks called this orifice *pylorus*, which signifies a porter,* and his office is this: When the stomach has received the food, it lies towards the left extremity, or is slightly agitated there. When the digestive process is accomplished, the stomach urges the food towards the lower orifice. If the matter be bland and natural, it passes, and no sensation is experienced. But if crude and undigested matter be presented, opposition is of-

fered to its passage, and a contention is begun which happily terminates in the food being thrown again to the left extremity of the stomach, to be submitted to a more perfect operation of the digestive powers seated there. It is during this unnatural retrograde movement of the food that men are made sensible of having a stomach. Yet the sensations, how unpleasant soever, are not to be regarded as a punishment, but rather as a call on reason to aid the instinctive powers, and to guard against disease by preventing impure matter from being admitted into the portion of the intestinal canal which absorbs, and would thus carry, those impurities into the blood to engender disease.

Such are a few examples of the variety in the sensibilities of the animal frame; guarding us against external influences when they would threaten destruction to the framework, and adjusting the operations of inter-

* For a full description of the Vocal Organs, together with engravings illustrative of the same, the reader is referred to page 117, vol. iii. of this Magazine.

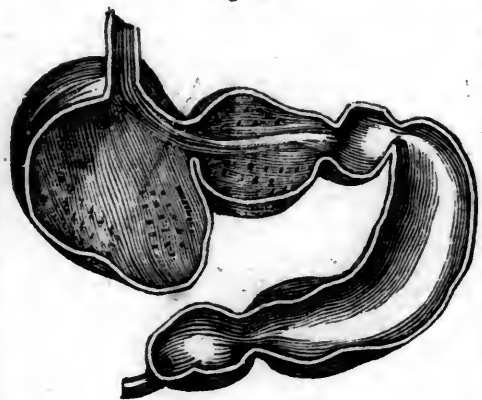
* The upper orifice was called by them *œsophagus*, as it were the purveyor, from two words signifying to bring food

nal parts too complicated and too remotely situated for the superintendence of reason.

Medical authors, without being empirics, do, notwithstanding, take great advantage of our ignorance. We can all of us take warning from the sensations experienced in the process of digestion, and there can be no harm in giving every man a confidence in the sensibility of his stomach, and in its indications of healthy or disturbed functions. We have the best proof of what we wish to inculcate in the action of the ruminating stomach. A cow swallows the gross herbage, and fills its large first stomach. When it chews the cud, the stomach, by its action, rolls up the grass into distinct pellets, or balls, with as much regard to the office of its being rejected into the mouth, as we do in masticating for swallowing. When the ball is brought into the mouth and chewed, it is again swallowed; but in descending into the lower part of the gullet, a muscle draws close the aperture by which it passed into the large stomach in the first instance, and it is now ushered into a second stomach, and so successively onwards to that stomach in which the digestion is performed. The curious muscular apparatus by which this is accomplished needs not to be described; but surely, the sensibility which directs it, which, kept apart altogether from the will, is yet in its results so like the operations of reason, presents a subject of just admiration.

The elastic structure of the camel's foot, the provision around its eyes for ridding them of offensive particles, the power of closing its nostrils against the clouds of sand, and its endurance of fatigue, would not enable it to pass the desert, unless there were provisions for the lodgement of water in its stomach, and unless this apparatus were animated by peculiar sensibilities; for there

Fig. 27.



are muscles to retain the fluid in the cells of its stomach, only permitting it to ooze out according to the necessities of the animal; and there is a muscle, represented in the figure above, which pulls up the one or the other of the orifices of the different stomachs, to receive the food from the lower end of the gullet, according to its condition, whether to be deposited merely as in a store, or to be submitted to the operation of digestion.

The surprising thing in all this is not so much the mechanical provision as the governing sensibility. What, for example, should in the first place impel the grossest food, when collected, into the first stomach? What should, in the next place, and after rumination and mastication in the mouth, carry it into the third stomach; since wa-

ter is carried into neither of these, but into the cells of the second stomach?

Yet, after all, this only brings us back to a sense of the operations of our own bodies. The act of swallowing, the propulsion of the food into the gullet, and the temporary closing of the wind-pipe at such a time, is just as surprising. This latter operation is never deranged but by the interference of the will. If the individual attempts to speak, that is, to govern these parts by the will, when they should be left to these instinctive operations, or if terror, or some such mental excitement, prevail at the moment of swallowing, then the morsel may stick in the throat.

All this shows how perfect the operations of nature are, and how well it is provided that the vital motions should be withdrawn from the control of reason, and even of volition, and subjected to a more uniform and certain law.

But the point to which we would carry the reader is this, that though there are the proper sensibilities of the body, with reference to perception or consciousness, yet there are others no less curious, which control the internal operations of the economy; and that the mechanical provisions are but a type of what is promised to him who will look into the sensibilities of the body for the proof of power and contrivance.

Now, the human stomach, though not so complicated in its apparatus of macerating and digesting *vata*, is possessed of a no less wonderful degree of governing sensibility, which may be trusted as surely as the most skilful physiologist.

ROTTEN STONE.—This useful article, of so much importance to the workers in metals, and in house-keeping, where knives, forks, and brasses are, to be kept in proper condition, is found in West Springfield in this State, and also in South Hadley. The importation of rotten stone might be wholly dispensed with, were any pains taken to introduce the native polishing dust into the market.—[American Magazine.]

[From Niles' Weekly Register.]

THE DRY ROT.

H. Niles, Esq., Baltimore.

DEAR SIR:—I send you, herewith, copy of a communication that I caused to be placed in the Navy Department at Washington last winter, which I wish you to publish in your useful Register for the benefit of those who may see proper to make use of it, and oblige, dear Sir, your obedient servant,

WM. PATTERSON.

Baltimore, 18th October, 1834.

DRY ROT.—The Dry Rot in Ships of War and Merchant Vessels has long been a subject of serious and anxious concern. Many plans for their preservation from this evil have been suggested and tried without success. Having, for a long series of years, had considerable experience as a constructor, owner, and employer of Merchant Vessels; and, believing that I have succeeded, at least I have succeeded to my own satisfaction, in preserving ships of this description as long as they are likely to be useful or profitable—and I therefore feel prompted to unfold my plans and my experience to the Navy Department.

In order that those plans and that experience may be better understood, I shall commence with my situation and observations in early life.

In the year 1766, at a very early age, I was placed in the counting house of a shipping merchant in Philadelphia, which city was, at that time, celebrated, perhaps, beyond any other place in America, for fine vessels. My employers were largely engaged in the shipping business—they built a ship or vessel every year or two: here I had a favorable opportunity of seeing and becoming familiar with the building, equipping and employing of merchant sea vessels. Owing to these circumstances, I acquired so great an attachment and fondness for vessels that they have

adhered to me through a long life. Then, as now, the speedy decay of ships was a matter of serious consideration, and every scheme for their preservation that was suggested, was tried, but without answering any useful purpose. Some merchants, in building vessels, slowing their frames, when raised, to remain for a length of time on the stocks, exposed to the weather; others smeared the timbers with fish oil; and others again used oil and paint; all of these experiments were attended with little or no success. In one instance, I knew the frame of a vessel to be plyed with fish oil throughout an entire summer; and, in the fall of the year, when she was about to be finished, it was discovered that the oil had penetrated the timbers more than a quarter or half of an inch: this proved to be little or no protection, and the experiment was abandoned. In another instance, I knew of a very fine vessel built (for a Charleston packet) with so much care that she required no caulking nor repairs for four years; at the end of that time, when she was carried into dock to be caulked, she was found to be so totally destroyed by the dry rot as to be unworthy of repair, and was broken up. Her rapid decay was attributed to the unusual care which had been taken of her whilst running.

Some few, even at that early period, made use of salt; but a great prejudice existed against this mode, owing to the belief that it corroded the iron fastenings (copper was not then used in fastening our vessels), and the apprehension that the dampness in a salted vessel might be injurious to the cargo.

I became a ship owner in the year 1773, and one of my first considerations was, how should I preserve that description of property from speedy decay? Observing that timber, when sunk deep in swamps or in the water, lasted for ages, I concluded that exclusion from the air and saturating the pores of the wood with moisture, must be the true secret for its preservation. Reflecting on this circumstance, and perceiving that the wooden floors of ware houses used for the storage of Bay salt, were always damp in moist weather, I was led to the conclusion that Bay salt, properly applied, must have the effect of preserving timber. Under this impression, I adopted the following plan with all the vessels I have built from that time till the present, (a period of more than sixty years, as I am still a ship owner;) while building, when the bends and bottom planks are on, and before delling, I have caused three sets of stoppers to be placed fore and aft between all the timbers, to keep the salt in its place. The first tier of stoppers are placed at the floor heads, the second immediately below the lower deck beams, and the third between decks just above the air streak, common in all double decked vessels. Air streaks are left above the first and second tiers of stoppers, for the purpose of adding more salt as the previous supplies of that article settle or are dissolved. Just before finishing the ceiling of the vessel, the salt is filled in among all of the timbers, from the lowest tier of stoppers to the upper deck—taking care that the salt in the upper tier is well rammed down, (if wetted so much the better,) for, after the plank-shears are laid and secured in their places, the salt cannot be re-placed without incurring too much trouble and expense.

Having experienced great difficulty in preserving large timbers, (especially transoms) above light water mark, I have, of late years, had such pieces bored through the centre with an auger of two inches or two inches and an half in diameter:—these holes are filled with wetted salt, and then plugged at both ends before placing the timbers in the vessel.

In the forward and after parts of the vessel, where the timbers are so close together that salt cannot be introduced among them, I have found it necessary to incase the timber and confine the salt in this way. In one instance I had all of the knees and the steps of the masts, in a fine ship, boxed in and filled with salt: this answered a very good purpose, but it is too troublesome in merchant vessels.

I have not only sailed my vessels in the manner pointed out above, in the first instance, but I have had them examined carefully every two or three years, and where the salt has wasted or settled, a fresh supply has been added.

In all my experience, I have never found a defective timber in vessels thus prepared, and thus taken care of, and I am persuaded that the dry rot may be entirely prevented by adopting the above precautions. As a proof of the good effects of the above mode, I will add, that I have two vessels now running, which are perfectly sound and trust-worthy; one of them is 31 years old, and the other 25, and the only repairs that have been given to their hulls,

were the renewal of the waist planks of both, and the quarter deck of one of them. This was not owing to the decay of the plank, but to the circumstance of its being fastened with iron; the corrosion of the iron caused openings where it passed through the wood: had copper fastenings been used, the decays would not have happened. I think all vessels of war ought to be secured with copper fastenings, and no iron ought to be used when it can possibly be avoided.

I have seldom used the live oak in the construction of vessels, as it is hard to work, and too heavy for merchant ships: I greatly prefer the timber of our bay—white oak, locust, cedar, and yellow pine. I use the white oak for the frames and for plank from the keel up to and including the bends. From the bends to the upper deck, I form the frame of locust and red cedar, an equal number of pieces of either kind, alternately distributed. The sides, quick-work, decks, upper beams, and calins, are formed of the heart of yellow pine. Latterly, I have fastened the sides and decks with copper.

My vessels have generally been employed on long voyages, to the East Indies and South America; and, to guard against delay and accidents on such voyages, I have fitted them out in the following manner: They are copper fastened—then sheathed with yellow pine boards one inch in thickness, put on with copper nail $\frac{1}{2}$ of two inches or two inches and a half in length; a layer of strong paper, dipped in tar, is placed between the pine boards and the bottom of the vessel; and another layer of paper, prepared in like manner, is placed between the pine boards and the copper. The copper sheathing that I use weighs from 28 to 32 ounces the square foot. In this way the vessel may be said to have five bottoms—two of wood, two of paper, and one of copper. They are so tight that it is necessary to have cocks, through which water may be introduced into the hold to keep the vessel sweet. An additional advantage is, that they may be run with safety two or three years longer than they could do, if they were coppered on a single bottom of wood.

One of my vessels ran seventeen years and wore out three sets of sheathing copper before I removed the pine boards; fearing that the main bottom might require some attention in consequence of the decay of the oakum, I stripped off the sheathing boards, and discovered, to my surprise, that the bottom and seams were in perfectly good order—indeed it appears as if the water had never penetrated to the main bottom, and that the sheathing of wood might have remained on with safety for many years longer.

The year before the breaking out of the late war with Great Britain, I commenced building a fine vessel, and had her frame raised, her bends on, and bottom planked, when I determined to proceed no further. I erected a shed over the vessel, under which she remained four years before I concluded to finish her. All possible care was taken of her, yet some of the large pieces of timber were found defective, especially the transoms—timbers 18 inches square were found to be entirely destroyed by dry rot, although the interior exhibited no symptoms of unsoundness. It was owing to this circumstance that I resorted to the above recited plan of boring the large timbers and filling the holes with salt.

For the preservation of vessels of war, the method which I have pointed out, and which I have pursued, would be of great consequence: it would save millions annually to those governments; which, from choice, or from necessity, keep fleets in commission.

The only difficulty in the way of its introduction arises from the prejudice against the use of salt, under the impression that it causes too great a degree of moisture in the places allotted for the accommodation of the officers and crews. I have experienced no inconvenience in this respect, when the cabins are lined with dry boards, attached to the inner ceiling. Nor have I in any instance found that any danger has happened to the cargoes, in consequence of the moisture.

To overcome any inconvenience that might be apprehended, it is only necessary to prepare the accommodations for the officers and men in ships of war, by fastening strips of plank an inch thick up and down, to the sides of which strips a sheathing of dry boards can be attached. This will effectually prevent the escape of the moisture. The northern and eastern fronts of our country houses are sometimes secured in this manner—from north east storms.

I have mentioned bay salt as the only kind that ought to be used for the preservation of vessels, owing to its quality of giving in moist weather—dry

stoved salt does not possess this quality, and is therefore unsuitable.

I have had some experience with fast sailing vessels, vulgarly called *Baltimore clippers*, and I have witnessed their rise and progress in two wars.—Some of them have performed wonders—it is only necessary to say that they require great care and judgement in their construction and equipment, and that they should be commanded by men trained in their management.

WILLIAM PATTERSON.

Baltimore, 26th February, 1834.

THE VOICE OF THE MECHANICS.—The following speech, delivered some weeks ago by Mr. Van Winkle, at the Mechanics' Meeting in Brooklyn, will show what are the sentiments of real mechanics on the subject of the oppressions they are now subjected to by the system of State Prison Monopoly.

Mr. Chairman:—I rise, by request, to offer a few remarks on the interesting, absorbing subject, that has called us together this evening. I know not whether the remarks I am about to make will be considered obtrusive; I can only say that I hope not. Most of those present have, no doubt, had an opportunity of reading the Address and Resolutions of the Delegates to the Utica Convention in August last. I doubt not it is satisfactory to all classes of citizens, as well others as mechanics. How could it be otherwise? since it details harmony and good feeling, the sure prelude of ultimate success in a righteous cause.

Mr. Chairman, the genius of our government repels oppression and injustice; and, let me ask, sir, what can be conceived more unjust and oppressive than to establish a system which, in the language of Mr. Jefferson, "corrupts large portions of citizens, and makes them pay the price?" Is this not literally true as respects the State Prison Monopoly in its bearings on mechanics? Its destructive effects are felt in every workshop in the country;—nay, directly or indirectly, by every class of community. The merchant, the farmer, the professional man—all—all feel its injurious effects, for all have a deep interest at stake in the moral purity of the mechanics; for in their intercourse with society, all classes come, in business or otherwise, in daily contact with mechanics. All are, therefore, interested to prevent the mechanics from becoming depressed in character and feelings, or demoralized in their habits. They have the numerical force, and hence the power, to make themselves respected among their fellow men; and where that power is constitutionally, calmly—yet determinedly exercised, it augurs well for the amelioration of society in general, and will be hailed as a new era in the moral and political world.

Who, more than mechanics, contribute to the comforts of society, or to the advancement of the arts and sciences? Who, more than they, stood forth in the front ranks at the times that have been emphatically called "the times that tried men's souls?" Who did more, whether in the tented field, or hard-fought battles—in long-suffering and determined purposes, to gain our liberty and independence from British thralldom, or in the senate and legislative halls, to secure to our country the proud appellation of "a free and independent nation?" To enumerate all, would be an arduous—to discriminate, might be considered an invidious task. I will simply ask, where was our Franklin, our Sherman, our Rittenhouse, our Green, besides thousands of others, not perhaps, as conspicuous in the page of history, but, nevertheless, as useful and efficient as any class can boast. And can it be, for a moment, supposed that a class of men who claim such members, can submit, without a struggle, to be injured, degraded, and rendered despicable by a system so unjust and so odious to themselves and their children, as this present State Prison system? Forbid it, Justice! forbid it, common sense!

We have, Mr. Chairman, in the pursuit of our rights, to contend with a foe subtle and persevering, for the speculator on the necessities of honest men is reckless and insatiate in the pursuit of his ends. No arts will be left untried—no subterfuge or pervariation, however preposterous in appearance to the honest and ingenuous mind, will be left unassayed to throw doubt and suspicion on the motives that have actuated us in taking the stand we have. At one time we will be represented as wishing to establish a new political party; at another, to raise up a party exclusively of mechanics; and again, at another, of colluding with one or the other of the two great political parties that at present agitate this country.

Fellow mechanics! let their misrepresentations pass for all they are worth; but let us strictly ad-

here to the principle upon which we commenced and have persevered in, which is, to consider the object of obtaining relief from a corrupting and destructive grievance to us, as paramount to all party considerations. Let us convince all, that, as citizens, we know our rights, and will resolutely persevere in seeking, until we obtain and secure them for ourselves and those who are to succeed us in our avocations. Let us be resolved not to leave to our children the miserable heritage of competing for that heritage with felons.

There are still, I am sorry to say, those who think that the representations of Mechanics, as respects the injuries they receive from this system, are exaggerated. The want of investigation is the only reason I can assign for this. Is it possible that any man of reflection, the least acquainted with business, can doubt on this subject? Surely, no merchant can. If there is a merchant who hears me, (and I have no doubt there are many,) I would propound this simple query to him. If there were \$100,000 worth of an article on sale in this market, (say 100,000 pounds of tea, at a dollar per pound,) and 10,000 pounds were smuggled into the market, and sold for 30 cents per pound, what effect would this have on the price of the quantity previously in the market? Would there not be a serious depreciation? Would it not be ruinous to many? If a circumstance like this would be injurious to the merchant, how much more is it to the mechanic, who suffers from legalized smuggling from Sing Sing and Auburn Prisons? The merchant can execute an order for the article he has on hand in a day, and hence his loss may comparatively be on a deduction of price, but trifling; but the mechanic requires time to execute orders. While he has his hands employed to accomplish his contract, the market becomes glutted with the article he has contracted to furnish at a price below his first cost; and this caused by convict labor. He completes his order. He looks around for another contract to keep his business progressing, and his workmen in employ; but alas! he finds that the man who has perhaps robbed him, or his neighbor, has superseded him by authority, working at 75 per cent. less than the regular mechanic, can hire his workmen. What is the necessary consequence? His journeymen must be discharged: his apprentices be idle. What a prospect for young mechanics nearly out of their apprenticeship! Idle, disheartened at the prospect ahead, they are too apt to become the dupes of experienced villains, whose knowledge of mechanics has been obtained in the prison, and whose morals, had before, have been confirmed there. This is no idle imagining: witness the reiterated crimes and convictions of a large portion of the present tenants of our prisons, the daily calendar of our criminal courts, and the testimony of experienced officers presiding over them. Is this not a serious evil to mechanics, and through them to the whole community? And should not the whole community be aroused to check this monstrous—this growing evil?

This system has grown up in our age; let not the next age be cursed with it, nor let the reproach be cast upon us by the unborn thousands who are to come after us. Behold! this our fathers left us! We must, with one accord, demand speedy redress.

In short, Mr. Chairman, we must dispute every inch of ground with those harpies, alias contractors, agents, abettors, &c., of State Prison Monopoly, and continue to do so, until the last ballot box is presented to us for our suffrage. We must meet them at every corner, and on every point.

We have been asked—and the question will be reiterated in the legislative hall—what would you have done with the convicts? Let us sternly reply—it is the right of freemen to complain of grievances, and the duty of legislators to find means of redress.

The fathers of our revolution when they found aggression succeeded by aggression, did not stop to calculate what kind of government they would establish after achieving the independence of their country. No! they buckled on their armor, and tugged through a seven years' war, and relied on the wisdom of their countrymen, and a righteous Providence, to guide them in their subsequent course. Were they disappointed? Did they act indiscreetly? No: events proved they were correct. They fought—they conquered—and what an inheritance did they leave to their children! They formed a government that secured blessings to their descendants, and is the theme of praise and admiration throughout the civilized world. Let not, then, the stigma rest on this age, that our legislators know not what to do. If there are those who will not, or those who cannot, we must endeavor to send to our Legislature those who both can and will redress our wrongs.

NEW-YORK AMERICAN.

OCTOBER 25—31, 1834.

LITERARY NOTICES.

THE CONNEXION OF THE PHYSICAL SCIENCES—BY MRS. SOMERVILLE, 1vol. Phil. KEY & BIDDLE.

Man can no longer boast of having the domain of science to himself. Mrs. Somerville, Miss Martineau, and others, have boldly and successfully explored those paths heretofore denied to, or avoided by, women; and in the lessons they teach us of astronomy, of political economy, and now in the volume before us, of the connexion between all the physical sciences—they prove their title to the rank of competent masters. For a book, however, of general utility—and such a one might be made, we apprehend, on this subject—the volume before us assumes too great familiarity with, and progress in, science, on the part of readers. It is not intelligible to those who have only a passing knowledge of the general laws and phenomena of physical science.

THE HISTORY OF ENGLAND, FROM THE EARLIEST TIMES TO THE YEAR 1588; by SIR JAS. MACKINTOSH, 1 vol. 8vo.: CAREY, LEA & BLANCHARD.—Death interrupted the eloquent writer of this history's era he had yet completed the volume now published. It was continued; and the work will be completed, it is promised, by those who, having possessed themselves thoroughly of the spirit in which Mackintosh had entered upon the work, have also possessed themselves of all the materials and notes prepared by him.

The edition we have now before us is in a handsome well printed 8vo., with double columns. A previous edition in 12mo., was, as our readers were at the time apprized, issued some time ago by the same publishers as a part of their re-publication of Dr. Lardner's Cyclopædia, for which work this history was originally undertaken by Sir Jas. Mackintosh.

THE SOUTHERN LITERARY MESSENGER, No. II. Richmond, (Va.) T. W. WHITE.—We like this second number, and are pleased to learn, that the public liked the first so well as to give encouragement to the proprietor to persevere. We, however, would prefer this periodical in a monthly, rather than in a semi-weekly form; and such we suspect would be the general view of those who desire to preserve their numbers.

There is variety and talent in both the prose and poetical contents. Too much space, however, is perhaps given to the extract from the Pilgrims of the Rhine, now no longer a new book.

The annexed letter from Mr. Wirt, written not a great while before his lamented death, will be eagerly read. It was written, as is stated, under the following circumstances:

"A young gentleman who is about to leave the walls of a University, and looks to the law as his profession, who is not related to or connected with Mr. Wirt, nor even acquainted with him, and knows him only as an ornament to his profession and his country is induced by the high estimate he has formed of his character, and the great confidence that might be reposed in any advice that he would give, to ask at his hand some instruction as to the course of study best to be pursued." Mr. Wirt replied thus:

Baltimore, December 20, 1833.

MY DEAR SIR: Your letter, dated "University of —, December 12," was received on yesterday morning—and although it finds me extremely busy in preparing for the Supreme Court of the United States, I am so much pleased with its spirit, that I cannot reconcile it to myself to let it pass unanswered. If I were ever so well qualified to advise you, to which I do not pretend, but little good could be done by a single letter, and I have not time for more.—Knowing nothing of the peculiarities of your mental character, I can give no advice adapted to your peculiar case. I am persuaded that education may be so directed by a sagacious and skilful teacher, as to

prune and repress those faculties of the pupil which are too prone to luxuriance, and to train and invigorate those which are disproportionately weak or slow; so as to create a just balance among the powers, and enable the mind to act with the highest effect of which it is capable. But it requires a previous acquaintance with the student, to ascertain the natural condition of his various powers, in order to know which requires the spur and which the rein. In some minds imagination overpowers and smoothes all the other faculties: in others, reason, like a sturdy oak, throws all the rest into a sickly shade.—Some men have a morbid passion for the study of poetry—others, of mathematics, &c. &c. All this may be corrected by discipline, so far as it may be judicious to correct it. But the physician must understand the disease, and become acquainted with all the idiosyncracies of the patient, before he can prescribe. I have no advantage of this kind with regard to you; and to prescribe by conjecture, would require me to conjecture every possible case that *maybe* yours, and to prescribe for each, which would call for a ponderous volume instead of a letter. I believe that in all sound minds the germ of all the faculties exists, and may, by skilful management be wooed into expansion; but they exist naturally, in different degrees of health and strength, and as this matter is generally left to the impulses of nature in each individual, the healthiest and strongest germs get the start—give impulse and direction to the efforts of each mind—stamp its character and shape its destiny. As education, therefore, now stands among us, each man must be his own preceptor in this respect, and by turning his eyes upon himself, and describing the comparative action of his own powers, discover which of them requires most tone—which, if any, less. We must take care, however, not to make an erroneous estimate of the relative value of the faculties, and thus commit the sad mistake of cultivating the showy at the expense of the solid. With these preliminary remarks, by way of explaining why I cannot be more particular in regard to your case, permit me, instead of chalking out a course of study by furnishing you with lists of books and the order in which they should be read, (and no list of books and course of study would be equally proper for all minds,) to close this letter with a few general remarks.

If your spirit be as stout and pure as your letter indicates, you require little advice beyond that which you will find within the walls of your University. A brave and pure spirit is worth more than *half the battle*, not only in preparing for life, but in all its conflicts. *Take it for granted, that there is no excellence without great labor.* No mere aspirations for eminence, however ardent, will do the business. Wishing, and sighing, and imagining, and dreaming of greatness, will never make you great. If you would get to the mountain's top on which the temple of fame stands, it will not do to *stand still*, looking, admiring, and wishing you were there. You must pick up your loins, and go to work with all the indomitable energy of Hannibal scaling the Alps.—Laborious study, and diligent observation of the world, are both indispensable to the attainment of eminence. By the former, you must make yourself master of all that is known of science and letters: by the latter, you must know *man*, at large, and particularly the character and genius of your own countrymen. You must cultivate assiduously the habits of *reading, thinking, and observing.* Understand your own language, grammatically, critically, thoroughly: learning its origin, or rather various origins, which you may learn from Johnson's and Webster's prefaces to their large dictionaries. Learn all that is delicate and beautiful, as well as strong, in the language, and master all its stores of opulence. You will find a rich mine of instruction in the splendid language of Burke. His diction is frequently magnificent; sometimes too gorgeous, I think, for a chaste and correct taste; but he will show you all the wealth of your language. You must, by ardent study and practice, acquire for yourself a *mastery* of the language, and be able both to speak and to write it, promptly, easily, elegantly, and with that variety of style which different subjects, different hearers, and different readers, are continually requiring.—You must have such a command of it as to be able to adapt yourself, with intuitive quickness and ease, to every situation in which you may chance to be placed—and you will find no great difficulty in this, if you have the *copula verborum* and a correct taste.—With this study of the language you must take care to unite the habits already mentioned—the diligent observation, of all that is passing around you, and *active, close, and useful thinking.* If you have access to Franklin's works,

read them carefully, particularly his third volume, and you will know what I mean by the *habits of observing and thinking.* We cannot all be *Franklins*, it is true; but, by imitating his mental habits and unwearied industry, we may reach an eminence we should never otherwise attain. Nor would he have been the Franklin he was, if he had permitted himself to be discouraged by the reflection that we cannot all be *Newtons*. It is our business to make the most of our own talents and opportunities, and instead of discouraging ourselves by comparisons and imaginary impossibilities, to believe all things possible, as indeed almost all things are, to a spirit bravely and firmly resolved. Franklin was a fine model of a *practical man* as contradistinguished from a *visionary theorist*, as men of genius are very apt to be.—He was great in that greatest of all good qualities, *sound, strong, common sense.* A mere book-worm is a miserable driveller; and a mere genius, a thing of gossamer, fit only for the winds to sport with. Direct your intellectual efforts principally to the cultivation of the strong masculine qualities of the mind? Learn (I repeat it) to *think—think deeply, comprehensively, powerfully*—and learn the simple nervous language which is appropriate to that kind of thinking. Read the legal and political arguments of Chief Justice Marshall, and those of Alexander Hamilton, which are coming out. Read them, *study them*; and observe with what an omnipotent sweep of thought they range over the whole field of every subject they take in hand—and *that* with a scythe so ample, and so keen, that not a straw is left standing behind them. Brace yourself up to these great efforts. Strike for this giant character of mind, and leave prettiness and frivolity for triflers. There is nothing in your letter that suggests the necessity of this admonition; I make it merely with reference to that tendency to efflorescence which I have occasionally heard charged to Southern genius. It is perfectly consistent with these herculean habits of thinking, to be a laborious student, and to know all that books can teach. This extensive acquisition is necessary, not only to teach you how far science has advanced in every direction, and where the *terra incognita* begins, into which genius is to direct its future discoveries, but to teach you also the strength and the weakness of the human intellect—how far it is permitted us to go, and where the penetration of man is forced, by its own impotence and the nature of the subject, to give up the pursuit;—and when you have mastered all the past, conquests of science, you will understand what Socrates meant by saying, that he knew only enough to be sure that he knew *nothing—nothing*, compared with that *illimitable tract* that lies beyond the reach of our faculties. You must never be satisfied with the surface of things: probe them to the bottom, and let nothing go till you understand it as thoroughly as your powers will enable you. Seize the moment of excited curiosity on any subject to solve your doubts; for if you let it pass, the desire may never return, and you may remain in ignorance. The habits which I have been recommending are not merely for college, but for life. Franklin's habits of constant and deep excogitation clung to him to his latest hour. Form these habits now; learn all that may be learned at your University, and bring all your acquisitions and your habits to the study of the law, which you say is to be your profession;—and when you come to this study, come resolved to master it—not to play in its shallows, but to sound its depths. There is no knowing what a mind greatly and firmly resolved, may achieve in this department of science, as well as every other. Resolve to be the first lawyer of your age, in the depth, extent, variety, and accuracy of your legal learning. Master the science of pleading—master Coke upon Littleton—and Coke's and Plowden's Reports—master Fearne on Contingent Remainders and Executory Devises, till you can sport and play familiarly with its most subtle distinctions. Lay your foundation deep, and broad, and strong, and you will find the superstructure comparatively light work. It is not by shrinking from the difficult parts of the science, but by courting them, grappling with them, and overcoming them; that a man rises to professional greatness. There is a deal of learning that is dry, dark, cold, revolting—but it is an old feudal castle, in perfect preservation, which the legal architect, who aspires to the first honors of his profession, will delight to explore, and learn all the uses to which its various parts used to be put: and he will the better understand, enjoy and relish the progressive improvements of the science in modern times. You must be a *master* in every branch of the science that belongs to your profession; the law of nature and of nations, the civil law, the law merchant,

the maritime law, &c., the chart and outline of all which you will see in Blackstone's Commentaries. Thus covered with the panoply of professional learning, a master of the pleadings, practice and cases, and at the same time a great constitutional and philosophic lawyer, you must keep way also, with the march of general science. Do you think this requiring too much? Look at Brougham, and see what man can do if well armed and well resolved. With a load of professional duties that would of themselves, have been appalling to the most of our countrymen, he stood nevertheless, at the head of his party in the House of Commons, and, at the same time, set in motion and superintended various primary schools and various periodical works, the most instructive and useful that ever issued from the British press, to which he furnished, with his own pen some of the most masterly contributions, and yet found time not only to keep pace with the progress of the arts and sciences, but to keep at the head of those whose peculiar and exclusive occupations these arts and sciences were. There is a model of industry and usefulness worthy of all your emulation. You must, indeed, be a great lawyer! but it will not do to be a mere lawyer—more especially as you are very properly turning your mind, also, to the political service of your country, and to the study and practice of eloquence. You must, therefore, be a political lawyer and historian; thoroughly versed in the constitution, and laws of your country, and fully acquainted with all its statistics, and the history of all the leading measures which have distinguished the several administrations. You must study the debates in Congress, and observe what have been the actual effects upon the country of the various measures that have been the most strenuously contested in their origin. You must be a master of the science of political economy, and especially of *financiering*, of which so few of our young countrymen know any thing. The habit of observing all that is passing, and thinking closely and deeply upon them, demands preeminently an attention to the political course of your country. But it is time to close this letter. You ask for instructions adapted to improvement in eloquence. This is a subject for a treatise, not for a letter. Cicero, however, has summed up the whole art in a few words; it is *apte, distincte, ornate, dicere*—to speak to the purpose—to speak clearly and distinctly—to speak gracefully—to be able to speak to the purpose, you must understand your subject and all that belongs to it—and then your thoughts and method must be clear in themselves and clearly and distinctly enunciated;—and lastly, your voice, style, delivery and gesture, must be graceful and delightfully impressive. In relation to this subject, I would strenuously advise you to two things: Compose much, and often, and carefully with reference to this same rule of "*apte, distincte, ornate*," and let your conversation have reference to the same objects. I do not mean that you should be elaborate and formal in your ordinary conversation. Let it be perfectly simple and natural, but always in good time, (to speak as the musician,) and well enunciated.

With regard to the style of eloquence that you shall adopt, that must depend very much on your own taste and genius. You are not disposed, I presume, to be an humble imitator of any man? If you are, you may bid farewell to the hope of eminence in this walk. None are mere imitators to whom Nature has given original powers. The ape alone is content with mere imitations. If Nature has bestowed such a portion of the spirit of oratory as can advance you to a high rank in this walk, your manner will be your own. In what style of eloquence you are best fitted to excel, you, yourself, if destined to excellence, are the best judge. I can only tell you that the florid and Asiatic style is not the taste of the age. The strong, and even the rugged and abrupt, are far more successful. Bold propositions, boldly and briefly expressed—pithy sentences—nervous common sense—strong phrases—the *feliciter audax* both in language and conception—well compacted periods—sudden and strong masses of light—an apt adage in English or Latin—a keen sarcasm—a merciless personality—a mortal thrust—these are the beauties and deformities that now make a speaker the most interesting. A gentleman and a Christian will conform to the reigning taste so far only as his principles and habits of decorum will permit. The florid and Asiatic was never a good style either for a European or an American taste. We require that a man should speak to the purpose and come to the point—that he should instruct and convince. To do this, his mind must move with great strength and power: reason should be manifestly his master; faculty—argument should predominate throughout; but these great points ac-

cured, wit and fancy may cast their lights around his path, provided the wit be courteous as well as brilliant, and the fancy chaste and modest. But they must be kept well in the back ground, for they are dangerous allies: and a man had better be without them, than to show them in front, or to show them too often.

But I am wearying you, my dear sir, as well as myself. If these few imperfect hints, on subjects so extended and diversified, can be of any service to you, I shall be gratified. They may, at least, convince you that your letter has interested me in your behalf, and that I shall be happy to hear of your future fame and prosperity. I offer you my respects, and tender the compliments of the season.

WM. WINT.

How beautiful—how wise—how characteristic of the great and pure man who wrote it—is this letter. Alas! that his eloquent lips are closed—who so well teaches the road to eloquence, and that pure character removed from among us, when so few are left of public men to supply his place.

MOTHER'S MAGAZINE.—Edited by MRS. WHITTLESEY, and published New York, 146 Nassau street.—Of this work a friend says "although modest and unobtrusive it has already gained many friends and does in reality possess high claims to public notice. It has reached the ninth number of its second year—has upwards of 6,000 subscribers, and is republished in England by two presses. We think that mothers should become acquainted with this truly valuable work—it deserves well at their hands."

THE SELECT JOURNAL OF FOREIGN PERIODICAL LITERATURE.—No. VIII.—Boston, CHS. BOWEN.—This is truly a capital number, and well justifies its title of *Select Journal*.—The first article from the Foreign Quarterly Review on the Life and Character of *Duplessis Mornay*, does justice to one of the ablest and purest public men that ever lived—and whom the great renown of his great associate Sully has somewhat overshadowed. To Protestants, particularly, this notice of one who stood firmly to his faith, when his King deciding that "Paris was well worth a mass," changed his—is particularly interesting.

The second article from the Edinburgh Review, and the pen of Macaulay, is an admirable view of the Life and Career of William Pitt, Earl of Chatham. It does justice to his merits, and judges impartially his defects, his inconsistencies, his overbearing and intolerant love of power. It must startle the surviving members of the Pitt Club in England, to hear the son of Chatham, the anti-Gallican Champion, treated as he is in this paper, "as the most profuse and incapable of War Ministers."

But we have not time to dwell on each paper in this number. Passing to the Critical Notices, we extract from one on the late work of the eloquent *Abbé de La Mennais*, entitled "the Words of a Believer," the following rhythmical fragment, on the pains of Exile.

"May God guide the poor exile. He goes wandering over the earth.

"I have passed through various countries: their inhabitants have seen me, and I have seen them; but we have not known each other. The exile is every where alone.

"When at the decline of day I saw the smoke of some cottage rise from the bosom of a valley, I said, 'Happy is he who returns at evening to his fire-side and gets himself among those he loves!' The exile is every where alone.

"Whence come those clouds driven by the storm? It drives me along like them. But what matters it? The exile is every where alone.

"Those trees are noble, those flowers are beautiful; but they are not the flowers nor the trees of my country; to me they say nothing. The exile is every where alone.

"That stream flows gently over the meadow, but its murmur is not that which my childhood heard.—To me it recalls no remembrances. The exile is every where alone.

"Those songs are sweet; but the sorrows and the joys which they awake are not my sorrows nor my joys. The exile is every where alone.

"I have been asked, 'Why weepst thou?' but when I have told, no one wept; for no one understood me. The exile is every where alone.

"I have seen old men surrounded by children, as the olive by its branches, but none of these old men called me his son, none of those children called me his brother. The exile is every where alone.

"I have seen young girls smile, with a smile as pure as the dawn, on him they had chosen for a husband; but not one smiled on me. The exile is every where alone.

"I have seen young men, heart to heart, embrace each other as if they wished to have only one existence; but not one pressed my hand. The exile is every where alone.

"There are friends, wives, fathers, brothers, only in our own country. The exile is every where alone.

"Poor exile! cease to lament, every one is banished like thyself, every one beholds father mother, wife, friend, pass away and vanish.

"Our country is not here below; man seeks for it here in vain, that which he mistakes for it is only a resting-place for a night.

"God guide the poor exile! He goes wandering over the earth."

NOVELLETS OF A TRAVELLER. Edited by H. J. NOTT. 2 vols. New York: Harper & Brothers.—The least clever and agreeable part of this book is the commencement,—the Biography of *Thomas Singularity*, Journeyman Printer. Its tone and taste are bad, and its humor elaborate. In the tales and sketches, however, there is more freedom of style, more incident and interesting adventure. The Andalusian Rope-dancer is among the best, in our judgment; though to say truth, so far as Andalusia is concerned, it might have been written in New York or Charleston, without ever having crossed "the waste of waters;" for it lacks that vivid description of scenery, which impresses the reader at once with the conviction, that the author writes from the eye, and not from fancy.

PICTURES OF PRIVATE LIFE. Second Series; by SARAH STICKNEY. Philadelphia: Key & Biddle.—If it be a just criticism, which we are not however prepared to admit, on the first series of these pictures, that the religious sentiments they contain are not sufficiently decided, none such can be advanced against the two pictures which make up this volume. Doing good and fulfilling our duty in obedience "to the will of God," is the prominent motive of action, illustrated with delightful talent, in the story of the Misanthrope. The character of Agnes Forrester is charming, and in a great degree original, though we are sure not without a parallel,—we had almost said many a parallel, but that the circumstances under which her character is developed cannot often occur—in real life. The sacrifice of woman's love and dearest earthly hopes to the conviction that the man of her choice takes such views of his duties, obligations and destiny, as are utterly irreconcilable with her own sense of right,—and the overcoming of that fond illusion so natural and so tempting to woman, that love for her may accomplish a reform in the beloved object which all the higher motives of duty to God and man failed of effecting,—are the leading points illustrated, and powerfully illustrated, in the story of the Misanthrope. We commend these Pictures to our readers.

FOREIGN INTELLIGENCE.

LATER INTELLIGENCE FROM EUROPE.—We announced briefly yesterday the arrival of the *Hannibal* from London, with papers to the 26th. We now present some extracts. The remarkable item of intelligence by this ship, is the adoption by the Spanish Cortes, of a bill of rights, which will be found in our columns. It is, we fear, in advance of the intelligence and political knowledge of the nation, and therefore, not likely to be of any great practical benefit at present.

The great Dinner at Edinburgh to Earl Grey, was given on the 15th. No hall in the city was thought

adequate to the company that would assemble on the occasion, so that a building was erected for the express purpose, on the Calton Hill, and so designed as at once to accommodate the largest number, and to render the voice of the speakers audible throughout the whole circuit. It was a very splendid affair. The number present was about 2000.

The Emperor Nicholas is said to have responded to the demand of the Porte for assistance against Mehemet Ali, that his engagement to offer him aid, was only in cases where he was attacked, and not where he was the aggressor.

Another fire had occurred in Moscow by which 200 houses had been destroyed.

THE CHOLERA prevails with great fatality in many parts of Europe and particularly in Sweden. Up to the 19th of September there had been 3179 cases and 1276 deaths of that disease in Stockholm, containing a population of less than 80,000.

LONDON, SATURDAY, SEPT. 20.—The Paris papers are received. The Moniteur gives the following official intelligence received by the French Government from the Bayonne: "A telegraphic despatch of the 16th states, that the Guipuscoans had attempted an attack on Tolosa, but without success.—They were on the 15th in the direction of the passage of Oyarzun. Zumalacarréguy was marching against him with Lorenzo and Figueira. The Junta is at Etchalar. Don Carlos has remained at Biscay." The attacks of the Carlists against Bégara, Viana, and Tolosa, indicate a change in their position. Tolosa is an important place, and has a strong garrison; some particulars respecting the attack upon it are, therefore, extremely desirable.

Arana, formerly the companion in arms of Rodil, in Peru, was shot by him, in Bilbao, on the 16th instant, together with the Major Domo of the Marquis de Valespina, and the Secretary of the Junta (Des los Aganos). They are entrapped by the Spanish frigate Pearl. Rodil has burnt the Duke of Granada's palace to the ground, in revenge for the Dukes of Granada having celebrated Don Carlos' return.

In the Chamber of Procuradores, on the 9th inst. General Burton addressed himself to the President of the Council of Ministers, in the hope that he would communicate to the Chambers the real state of affairs respecting the Civil War in the Northern Provinces.

M. Martinez de la Rosa replied:

"In the northern provinces, more than 40,000 men are on foot, of which number 20,000 are destined to guard the fortified towns, the coasts, and other parts. In the immense plains of Castile are 15,000 men, so that we cannot charge them with inactivity. What we want is the means, the pecuniary resources for greater exertion. The real plan of the war should be to occupy all the military points with sufficient forces, and thus to contract the space in which the insurgents act, to force them to lay down their arms. But for this purpose numbers are required; and the equipment, the arming, and the support of the troops, form the largest items in governmental expenses.—We are compelled to regulate our movements by the state of our funds, and we have the consciousness of having discharged our duty."

Spanish Bill of Rights.—The following is the Petition, as approved in the Estate, and read to the Queen on the 11th inst.:

"Petition on the Fundamental Rights of the Spaniards, as approved by the Estate of Procuradores at its last sittings.

The Procuradores of the kingdom pray your Majesty that you will be pleased to sanction as fundamental rights those which are contained in the following articles:

Article 1. The law protects and consolidates individual liberty.

2 All Spaniards may publish their thoughts by means of the press, without previous censorship; but subject to the laws which repress abuses.

3 No Spaniard can be prosecuted, impressed, arrested, or removed from his dwelling place, except under the circumstances provided for, in the manner prescribed by the law.

4 The law has no retroactive effect, and no Spaniard shall be tried by commissions, but by the tribunals by law established prior to the perpetration of the offence. The same rule applies to civil transactions.

5 The house of no Spaniard can be violated, except under the circumstances which are or may be ordained by law.

6 All Spaniards are equal before the law.

7 Spaniards are equally admissible to all public employments, and all are equally bound to take upon themselves the burden of public service.

8 All Spaniards are bound to pay the taxes voted by the Cortes.

9 Property is inviolable, but is nevertheless subject—

"1. To the obligation of being ceded to the State when so required for any object of public utility, a competent indemnification being always previously awarded by the judgment of impartial men.

2. To penalties imposed by law, and to damages in virtue of sentences legally pronounced—confiscation of property is abolished."

10 The authority of a public functionary who commits any aggression on individual liberty or personal security or property, is responsible conformably to law.

11 The Secretaries of State are responsible for infractions of the fundamental laws, and for the crimes of treason and official extortion.

12 A national guard shall be established for the preservation of public order and the maintenance of the laws. Its organization to be the subject of a law."

The Madrid Correspondent of the Morning Herald, dated the 11th instant, represents the enhanced fears of the French Ambassador, (M. De Rayneval) that a new crisis would occur from the hourly increasing strength of the Democratic party. He, M. De Rayneval stated further, that the insurrection in the Northern Provinces was beginning to cause serious alarm to the Government, and mentioned a report that a rising had taken place in Galicia; that portions of Aragon and Catalonia were in revolt, and that the Urban Guard of Barcelona had refused to march. He concludes by availing that the Treasury was completely exhausted.

The Spanish Ministers have ordered a quantity of waste lands throughout the kingdom to be sold.

A conspiracy has been discovered in the neighborhood of Malaga, and several districts round Carthagena, where an attempt at insurrection was made, and 500 Carlists turned out.

[From the Messenger.]

PARIS, SEPT. 18.—The Renouveau makes the following reflections on the report of the majority of the Finance Committee to the Chamber of Procuradores:

"A declaration for the possibility of Spain to pay all its debts, the homage paid to the Revolutionary principle by annihilating the Royal Loans, and recognize those of the Cortes. There is in this report more than a bankruptcy—there is an entire revolution. The men who are the authors of this report have calculated all the effects of it, and seem determined not to make any concession. We are assured that the Secretary of the Committee has written to Paris—'Though the French Government were to fall on its knees before us, we never will acknowledge the loans contracted since the year 1823 by Ferdinand VII.'"

A French Journal is going to be published at Madrid under the title of *Courier du Nord*. The Royal License has been given to M. Morat.

His Majesty's brig Espoir, arrived at Falmouth, on Wednesday, from Lisbon, whence she sailed on the 8th. The Minister of Finance has made his report, in which very flattering prospects to the trade of Portugal are held out, and it is upon the whole calculated to inspire confidence. The critical state of the Regent's health has, of necessity, given greater urgency to the consideration of the young Queen's marriage, which now becomes a question of the first importance.

This subject is accordingly attracting great attention, and was at the date of these accounts under deliberation in the Council, where it was expected that the matter would be immediately concluded with the young Duke of Leuchtenberg, the Emperor's brother, whose pretensions appear to have received more general favor than any other candidate for the honor of Donna Maria's hand.

The protest of Don Miguel against the treaty which he signed previously to his leaving Portugal, is held to be an authentic document; and consequently no payment will be made to him on account of the pension to which he would have been entitled if he had performed his part of the treaty.

LATER FROM EUROPE.—By the packet ship *Independence*, Capt. Nye, from Liverpool, there are papers of the 23d, from London.

The Spanish "bill of rights" had received the sanction of the Cortes, and only waited for that of

the Queen, which it will not be deemed prudent to withhold.

The guerilla warfare between the partisans of Don Carlos and the Queen, assumes no more certainty, or decisive character, than heretofore.

The report of the Finance Committee still engages much attention in the French papers, and when the grounds of the decision are considered, that report will be found a very remarkable document. A short extract which we published from the *Renouveau* of Saturday, was sufficient to direct public attention to the main principles of the resolution adopted by the majority of the committee. They do not enter into the financial ability of Spain to pay the debt, but they deny its validity; they do not, by refusing to pay the loans contracted by Ferdinand, confess to an act of bankruptcy; they proudly say they never borrowed the money, that they do not owe it, and, therefore, that they will not pay it.—[*Courier*.]

[From the Alexandria Phenix.]

LATEST FROM THE WEST INDIES.—Dreadful Hurricane at Dominica.—By the Brig *Edward*, Capt. D. B. Smith, arrived at this port from Barbadoes, whence she sailed on the 5th, we have received files of Barbadoes papers to that date.

The Islands generally continued quiet, but the laborers were very lazy, and not inclined to work when they could avoid it.

These papers give us an account of a most dreadful and destructive hurricane, which occurred on the night of the 20th September, on the Island of Dominica. The work on two-thirds of the principal sugar estates were levelled to the ground, the canes blown flat to the earth, and in many instances buried in the mud and blown from the soil; every description of provisions aboveground completely swept away, and the face of the country, which exhibited before the utmost luxuriance of vegetation, changed to the appearance of a general conflagration having passed over it. There are not 50,000 feet of lumber in the island, nor 100,000 shingles. Every vessel that was in the roads at the time shared the same fate, viz: the sloops *Dolphin* and *Antelope*, and a small sloop from Montserrat. An American schooner was driven on shore, bottom up, on the south end of the Island, and opposite to Martinique. The offices, barracks and Hospital at Morne Bruce, are mostly blown down, and those standing, in such a dilapidated state as to make them unsafe to occupy. Every building on the garrison has either been crushed to ruins or has suffered considerably—the spacious Hospital, lately built on an improved plan, has been partly unroofed, and the Barrack Master's and Adjutant's offices have been entirely destroyed, and it was with great difficulty that the troops escaped without loss of life. The left side of the Government House was blown down, and the other parts of the building partially damaged. The office of the Auxiliary Commissioners of Compensation, adjoining those premises, has been materially injured, and a great many of their original documents destroyed.—The new Commissariat building—the Custom-House, the Court-House—Market-House—the Jail, and the Protestant Church, and almost every other building in town, have suffered considerable injury from the effects of the hurricane. The Mercantile Houses of Messrs. Thomas Laing & Co., Messrs. James Garraway & Co., and Thomas W. Doyle, Esq. on account of their proximity to sea, have also experienced most heavy losses.

Throughout the whole island, and on every estate, the most dreadful destruction took place, the full account of which would fill a column.

The northern part of Martinique has suffered severely, and many vessels have been lost. St. Pierre did not escape, and considerable loss has been sustained at Fort Royal.

Great fears were entertained that the people of Dominica would suffer for the want of food, and measures were taken at Barbadoes and elsewhere to send supplies to the suffering inhabitants.

All accounts go to show that this has been one of the most destructive hurricanes ever experienced in the West Indies.

SUMMARY.

LITERARY NOTICE.—It is with satisfaction we announce that John P. Haven, 148 Nassau street, has in press, and will publish soon, *A Sketch of Chinese History, ancient and modern*; comprising a retrospect of the foreign intercourse and trade with China, illustrated by a new and corrected map of the Empire, by the Rev. CHARLES GUTZLAF, now and for many

years past a resident in that country. A handsome portrait of Gutzlaff will accompany the work.

Those who read *Gutzlaff's* first publication, will look eagerly for that now promised.

The Chinese Lady will be exhibited at house No. 8 Park place, as soon as the necessary Furniture is landed from the Washington.—[Jour. Com.]

[P. We are requested to say that passengers for Philadelphia will leave New York in the Rail Road Line on Monday, 27th inst. at 7 o'clock, A. M.—The 6 and 10 o'clock line, after this date, will be discontinued for the season.

Steamboat Novelty Sunk.—This boat, while coming down from Albany, on Thursday night, in tow of the steamboat Oliver Ellsworth, struck a hammock on the Overslaugh amidship, and broke her back, and at high tide the water is about four feet in her cabin. The N. had a quantity of Nott's stoves on freight, but no passengers. She remained in the above situation on Saturday when the De Witt Clinton passed, but it is probable that she will be raised soon. The O. E. was without her tow-boats, having been chartered to bring the Novelty to this city—but when approaching the Overslaugh, it is supposed that she found she could not carry her over it, and intended to return with her to Albany—while winding to do so, the Novelty struck as above stated.]

[From the *Newbern Spectator*, of Oct. 19.]

A gentleman informs us that eight families of his acquaintance, in an adjoining county, are making active preparation to emigrate to the West. Poor Carolina! dearly loved as you are by your sons, the strong ties of affection must yield to the apathy and mismanagement which portend nothing but poverty and ruin.

The new Cotton crop begins to come in more rapidly. About one hundred bales have been sold within the week, at from 11 3/4 to 13 cents.

[From the *Nashville Republican* of 14th inst.]

THE HERMITAGE BURNED.—Yesterday evening about 4 o'clock, the roof of the Hermitage was discovered to be on fire, and attempts to arrest the progress of the flames proving unavailing, the entire edifice, with the exception of the room attached to the northern end, and used as a dining room, was in a few hours consumed. The valuable furniture in the lower story was fortunately saved, though much broken and otherwise injured in getting it out. That in the second story was, we understand, chiefly destroyed. The fire is supposed to have been communicated to the roof by the falling of a spark from one of the chimneys; and there being at the time a light breeze from the North West, the progress of the flames was proportionably rapid. The numerous and valuable private papers of the President were probably all preserved.

We need not add that the event has occasioned to this community deep and universal regret.

PERILOUS BALLOON ASCENSION IN CHARLESTON S. C.—The Charleston Courier of 23d instant, (Thursday last) states that a Mr. Elliott of Baltimore ascended from Charleston on the afternoon of 22nd, and was borne forthwith out to sea. Intense anxiety was felt for his safety, which in a Postscript is thus announced.

POSTSCRIPT.—12 O'CLOCK, MIDNIGHT.—We are happy to have it in our power to say, that Mr. ELLIOTT, the AERONAUT, has just reached the city. He informs us that he ascended to the height of between 3 1/2 and 4 miles, and was in the air about one hour and three quarters, having been unable to descend earlier on account of some difficulty in opening the valve of the Balloon. When he descended, it was perfectly dark, and he alighted in the water, 10 or 12 miles out side of the Bar, where he remained about half an hour, supported by the Balloon, when a skiff from the pilot boat *Cora*, Capt. ALBERT, came to his relief, extricated him from his very perilous situation, and took him on board the boat, from which he was taken, in the vicinity of Sullivan's Island, by the steam boat *Etewan*, Captain SASSARD, which boat (much to the credit of Capt. S. and several gentlemen who took a very warm interest in the fate of the fearless Aeronaut) had been dispatched to his assistance at a late hour of the night. Much anxiety was felt by our citizens, for Mr. ELLIOTT's safety, and we feel assured that his safe return will be hailed with high gratification. We understand that it is his intention to make another ascension, and we hope that the

liberality of our citizens on the present occasion, will warrant him in repeating the dangerous experiment. We are glad to announce that the Balloon was saved, having sustained but slight injury.

The Editor of the St. Louis Republican, says it is very evident that a "searching operation" is going on somewhere in the Post Office Department, for he had just received several papers dated in December 1833—only ten months old!

Lighting.—Mr. Randall, pilot of the steamboat Michigan, was instantly killed by lightning, at St. Louis, Mo. on the 8th instant. The unfortunate man was standing in the street at the time, near the Missouri Hotel.—[Courier.]

QUEBEC, FRIDAY, OCT. 17.—We experienced today one of the DARK days which occur every two or three years, about the fall of the year. It was perhaps more remarkably dark than any for a number of years past. The atmosphere was almost perfectly calm, and the thermometer at about 50 degrees of Fahrenheit. There was very little haze in the southern hemisphere; but particularly over head, and to the north, the sky was nearly obscured by thick clouds of a dark color, in motion from west to east, which, as they grow less dense, gave the whole air a dark orange tinge. From half past 2 to 5 o'clock, it was necessary to light candles to transact any ordinary business, and there was not more light than exactly at the first dawn of day. About four o'clock, the dark orange of the atmosphere began to assume a white straw color. There had been some rain in the interval, and the thermometer had fallen four or five degrees, but rose again to fifty. The clouds over head moved more rapidly, but still from west to east while a haze prevailed along the earth, with the same dead calm, and occasional rain. A light breeze sprang up from the south west, and light began to increase, until it resumed its usual force on a cloudy day, at a quarter past five.

It seems difficult to account for these appearances. The whole upper strata only of the atmosphere are suddenly much condensed, and surcharged with vapor and smoke, while along the earth itself you can see the distant mountains. It is also remarkable that when such days occur while snow lies on the ground, it is found covered with a kind of dust or ashes; and hence they are supposed to be produced, in some measure, by the smoke of fires driven eastward, and occupying a fixed spot during the calm weather.

We learn that the President of the United States has appointed Henry D. Gilpin, Esq. (at present District Attorney for the Eastern District of Pennsylvania) Governor of the Territory of Michigan—in the stead of Gen. Porter, Esq., deceased.—[U. S. Gaz.]

MASSACRE.—A letter from Batavia (East Indies) dated April 23d, announces the death of Captain Philip F. Livingston, formerly an officer of the U. S. Navy, by the hand of violence, together with six other persons on board his Ship, the *Matilda* of Batavia, bound from that port to some other place in the East, with a cargo of salt, and \$250,000 in specie belonging to the Dutch government. The murderers succeeded in their object, which was to get possession of the money, and having scuttled the vessel, which soon after sunk, they landed on a neighboring shore. Captain Livingston was a son of Judge William Livingston, of Kings county,—was born at Flatbush, L. I., and was about 48 years of age. The *Matilda* was owned by Messrs. Payne, Sticker & Co., of Batavia.

Jewish Literature.—That any one who has studied the poetry, history, and philosophy of the Hebrews, even merely as specimens of composition, should lightly esteem them, is impossible. In lyric flow and fire, in crushing force, in majesty that seems still to echo the awful sounds once heard beneath the thundering clouds of Sinai, the poetry of the ancient Scriptures is the most superb that ever burned within the breast of man. The picturesque simplicity of their narrative gives an equal charm to the historical books. Vigour, beauty, sententiousness, variety, enrich and adorn the ethical parts of the collection. Nor is that seeming artlessness, which constitutes a principal charm of these writings, either naturally incompatible with the observance of certain rules, or actually uncontrolled by such as denote an intimate acquaintance with the management of style.—[From an Article on Literature, by Sir D. K. Sandford, in "Popular Encyclopædia."]

The Germans.—The Germans are only copyists in

manners, and often very bad copyists; but they are at least a moral people; and their national literature, which is rich, because it contains quantities of pure gold, though mixed up with masses of dross, has generally a moral and religious tendency; and of this their manners must always, to a certain extent, bear the impress. German women, too, are in general highly educated and accomplished; and young unmarried women mix in society, which thus acquires that tone of elegance their presence can alone confer. I shall give you a lecture on German literature before you enter upon your travels; at present I can only warn you against believing any thing that the Germans themselves, or English liberals and reviewers, tell you on the subject. Credit not one word of what they say about *der Meister*, as they call Goethe; and never open one of his books unless you want a good nap. *Faust*, distinguished for nothing but very bad taste, is but a dressing up of some fifty old tales, stories, and dramas, on the same subject; it is constantly appealed to as something very fine; but you never hear passages quoted from memory, nor does it contain a single one worth recollecting. We have a *Faust* in English, either by Marlow, Haywood, or one of the other old masters, that is worth all the German *Fausts* a hundred times over. Schiller is the only national poet of Germany; and high as he deservedly ranks, he is still very much overrated. Herder, indeed, is the only writer of eminence that is not overrated.—[Frazer's Magazine.]

Turkish Manufactures.—The government has dedicated to the encouragement of industry, its first moments of tranquillity. A manufactory of *fez* (red woollen caps worn by the Turks) has been working at Constantinople for the last 18 months. The supply of these caps, at least of the qualities for the use of the Government, was obtained from the manufactories of Tunis. The French and the Italians never could attain the perfection of the Tunisians. At the request of the Sultan, the Bey sent over a number of workmen, and manufacturing was done at Constantinople under the direction of Eumer Lufti, but he soon perceived that the men worked unwillingly, and did all in their power to frustrate his endeavors, well aware that his country was about to lose its monopoly. They were, in consequence, soon discharged; but the first notions having been learned by natives who were placed with them at the beginning, and Eumer Lufti having paid the greatest attention to the whole process, 4500 caps are now made monthly, and no doubt in a short time the quantity will be 15,000 in the like time. These caps, not inferior to those from Tunis, especially in respect to the solidity and colour, things extremely difficult to arrive at, stand the government in much less, notwithstanding the great expense attendant upon the setting to work a new establishment. Too much praise cannot be given to Eumer Lufti for his ability and perseverance. This manufactory will be very useful as a means of employment to the poor classes. The government has some idea of establishing a woollen cloth manufactory, which would have been a source of great economy, but the project has been abandoned.—[Ottoman Monitor.]

Mortality in Paris.—The general report of the labors of the Council of Salubrity for 1829, has just been sent to the Academy. The chapter relative to the mortality in Paris gives the following results:—In the course of the year, 1148 males and 1448 females died of pulmonary consumption. It is from the age of 10 to 50 that this disease is most destructive. It is to be remarked that nearly one fourth more females than males died from this disease, and the proportion is greater still in 1827 and 1828. Inflammation of the chest, which may be said to be the pulmonary consumption of old people, destroyed 957 males and 1132 females. Only 194 males died from aneurism of the heart, while 396 females died. This difference is attributed by the Council of Salubrity, in a great measure, to the injurious pressure of stays. Schirrus has destroyed 419 females, and only 105 males. Inflammation of the stomach has been fatal to 840 males and 1103 females; inflammation of the bowels, to 1171 males, and 1103 females: those who died from those two latter diseases have been principally under seven years of age. Of convulsions, 664 boys, and 746 girls have died, generally before attaining their fifth year. Inflammation of the lungs has destroyed 863 males and 872 females. Apoplexy counts 542 males and 424 female victims, almost all between 30 and 85 years of age. Four hundred and nine females died of inflammation of the peritoneum, and only 125 males; the females who died from this disease were generally between the age of 20 and 35; the males from 25 to 45.

Extract of a letter to the Editor, dated Rochester, Monday, October 20, 7 P. M.

FIRE AT ROCHESTER.—I arrived here at five this afternoon from Bath. At half past six I heard the alarm fire bell, and on going into the street I saw the flames issuing from a large new four story brick store No. — Exchange street, occupied by Messrs. E. F. & A. G. Brown, wholesale grocers. The engines were on the ground in a very few minutes, but for want of long ladders they were unable to play into the interior of the third and fourth stories, in consequence of which the building and most of its contents were entirely destroyed. The fire commenced, I believe, in the third story, and but for the want of long ladders in time, might have been extinguished with partial damage. No other building was injured, except the one adjoining on the south, the roof of which was demolished by the falling of the gable end and chimnies. Several persons were in great danger, at the time the heavy front cornice fell and slid down on the ladders to the pavement. I am as yet unable to ascertain if any are seriously injured.

I have witnessed many an appalling fire in New York, but have never yet seen one of a single building so brilliant. The upper stories were filled with light goods, wooden ware, &c. &c. There were one or two explosions, probably of spirits or small parcels of powder, which for a moment seemed to check the firemen; but they returned again in a few minutes to the charge. The falling of the immense brick wall upon the frail shingle roof of the adjoining building, upon which were several firemen with a hose and pipe, was indeed a moment of intense feeling and interest. It seemed impossible that all could escape. One universal shudder went through the crowd which thronged the street. For a moment all was silence; when one man was seen a moment after to arise from the roof near that part which went down, and make his way on to the next building. "Is any one hurt," ran through the crowd. No one could answer. It is believed that all escaped.

The property was insured I understand for \$10,000—the loss probably much greater.

Accident.—The Steamboat Erie, on her passage down from Albany yesterday, when near Newburg, broke one of her shafts with other damage. She reached the city with one wheel.—[ibid.]

Destructive Fire.—The large Store-houses on the wharf at Rhinebeck, Dutchess county, New York, owned by Capt. Bergh, and M. T. Schryver, Esq. containing large quantities of grain and goods, were totally destroyed by fire yesterday at 11 o'clock, A. M. Fire supposed to have been communicated by sparks from the chimney of a Steamboat, in stopping at the wharf. Loss about \$10,000.—[Daily Adv.]

Animal Sagacity.—About 3 o'clock on Thursday morning, a grocery store in Grand street, between Eldridge and Allen, took fire inside, a clerk, and large watch dog sleeping therein. The clerk would inevitably have been burnt to death, or suffocated but for the sagacity of the dog, who jumped upon his bed, put his paws upon his body, and pulled him by the shoulder, until he aroused him from his almost death slumbers. He then rushed out of the store, followed by the dog, and the arrival of help soon extinguished the fire—but for the dog all would probably have perished.

Shipwreck.—The fine packet schooner Norfolk, Osborn, from Norfolk for New York, went ashore at Great Egg Harbor on Sunday morning last, about 6 o'clock, and will be lost. Cargo supposed worth about \$7000, partly landed. The materials and cargo saved will be sold on Monday, 27th inst., unless otherwise ordered by the persons interested.

A Luxury.—We were yesterday permitted to examine a segar, presented by the commander of an English ship to the master of one of our wharfen, just returned from the Pacific, as a memorial of the imitative power of our eastern brethren. This segar was taken from a large parcel which the Briton had purchased of the Yankee, with intent to solace himself occasionally with a glorious puff of the pure Indian weed; and the disappointment of Mr. Bull's nose, so sharply bent on being regaled with the true Virginia fragrance, at perceiving an odor exceedingly unlike that of the anticipated tobacco, may be readily imagined. Like the sample now shown us, his whole stock of smoke tubes consisted of segar shaped rolls of oak leaves and skunk cabbage, without even a pinch of snuff intermixed, to give them a taint.—[Nantucket Enquirer.]

John Swift, Esq., was on Tuesday, unanimously re-elected Mayor of Philadelphia by the Common Council of that city.—[Jour. Com.]

Prince Puckler Muskau.—It appears by the last foreign papers, that this Prince, who has been for some time expected to arrive in this country, has been engaged in a duel. The Prince engaged a surgeon at Liege, to whom, on their way to the battle ground he explained as follows:—"In one of my romances I made use of the ordinary means of giving interest to the scenes of my drama, and represented my hero as giving himself up to violent passions, and all those irregularities which are their inevitable consequences. I gave him a name chosen at venture, for you know in every fiction the principal actor must necessarily be invested with one. By one of those strange perversities of chance which cannot be foreseen, there happened to be in the north a person of great consideration bearing precisely the same name, and into whose hands my work fell. He took what was a mere production of my imagination for an intended and outrageous personal insult. I was then at Paris. Severe complaints were made to the diplomatic agents there, which at length reached me. I gave every possible explanation in my power; but they were not sufficient to satisfy the susceptibility of the party offended, and a reparation by way of arms was demanded and granted. For this purpose we are now on our way to A—, where I shall see my adversary for the first and probably for the only time in my life." They at length arrived at the place of rendezvous. The adversary was beforehand with him. He was a man of noble carriage, and of a serious but prepossessing exterior. All the conditions of the meeting had been regulated beforehand. The combatants were kept at a distance, and only approached in order to exchange shots. Not a word, not a look, established the smallest communication between them. At the given signal they advanced towards each other, and at the instant which had been previously agreed on, the two pistols were simultaneously discharged. One of the champions was wounded in the throat—it was the Prince's adversary—he immediately received the eager attentions which his wound required—fortunately it was slight. A declaration previously agreed on, and expressing reciprocal satisfaction, was immediately exchanged, and the parties separated with the cold and silent ceremonial which had prevailed throughout the meeting. The noble duellists, each of whom had travelled more than one hundred leagues, in conformity with a ridiculous custom which is called a point of honor, returned to their respective homes, one to Paris, the other to Berlin, doubtless not a little pleased to find themselves alive after this little trial at mutual destruction."

M. Armand Carrel, the proscribed editor of the National at Paris, on his escape to Southampton, in England, being asked for his passport, replied that he had none. When he told his name, the authorities and bystanders declared it was a sufficient passport for him all over England.—[Star.]

A ship for the conveyance of three hundred young women from Dublin and Cork to Sydney, New South Wales, will sail from Dublin as soon as possible. This ship has been taken up by the government in London, and the selection of females has been confined to committees appointed for that purpose in Dublin and Cork. J. D. Pinnock, Esq. of the Colonial office, will proceed to both these cities to superintend the final arrangements for the departure of the emigrants.

A meeting was held in Calcutta on the 5th of April, to consider a suitable manner of commemorating the late Rajah Rammoohun Roy. The Rajah's family have performed his funeral obsequies there according to the Hindoo ritual.

Egyptian Cotton Manufactures.—It is now nearly fourteen years since the first attempt was made to introduce the cotton manufacture into Egypt; and the wisdom of the Pasha's policy may be estimated with tolerable accuracy by the result. At present most of the mills are in ruins, and immense heaps of machinery, no longer employed, are covered with rust, and mouldering to decay. Nevertheless, Egypt is haunted by a class of foreign mechanics and adventurers, who adduce the example of England, to prove to the misled Pasha, that a change of machinery and management will quickly convert his mills into a lucrative source of revenue; indeed, I believe they have even gone so far as to allude to the possibility of successfully competing with Manchester and Glasgow. The pasha, in all doubtful matters, generally embraces the most flattering side; for, in his manufacturing schemes, he appears to think nothing beyond his powers of creation. His highness having been informed that coal is to be found in large quantities in Syria, has in consequence

adopted the determination of making his own steam engines, to drive an immense number of cotton mills. But these are not to be set up in Egypt, which, he has at length discovered, can never be converted into a manufacturing country. His recent conquests are next to taste of the bitterness of a speculating and cotton-spinning despotism; which, in lieu of encouraging the efforts of private industry, invades the province of the manufacturer and the merchant, and is justly punished with disappointment and chagrin. No reasonable man, therefore, can apprehend any lasting competition from a people ignorant in the extreme, and morally depressed to the lowest depths to which humanity can sink. The peasants are enabled to exist merely that they may labor for the government; and, while this continues to be the case, they can never excel. There is only one man in Egypt interested in the success of the manufactures. The Europeans engaged in the mills are, for the most part, unprincipled adventurers, who find their advantage in the ignorance and dilatoriness of the Turks. Receiving their pay, they are content to allow affairs to proceed in their natural course. One of these mechanics, who has resided many years in the country where he is nearly naturalized, has done much for the Pasha and his own friends in Europe, exercising the important functions of engineer and contractor greatly to the satisfaction of his employer; who has discovered the novel method of estimating the qualities of machinery by the exorbitance of its price.—From what has been said on the state of the cotton manufacture in Egypt, and the insurmountable obstacles to its success, arising from the nature of the government, the climate, and the morals of the people, it will be abundantly clear that the Pasha can never become a formidable rival, in that particular branch of industry, even to the least advanced of European nations. It is impossible, however, to regard without indignation the unhappy disposition of a prince, who having once suffered himself to be made the dupe of designing individuals, is too proud to abandon his chimerical projects; while his unfortunate subjects, tormented by his caprice, and ground down by his despotism, are deprived of the miserable consolation of reflecting that the labor, however unproductive to themselves, is advantageous to their master. In closing my remarks on this subject, I shall venture to make one suggestion to the manufacturers of Great Britain; all yarns intended for the Levant should be more twisted than is considered necessary in the European markets. The natives of Syria and Constantinople make use of a species of shirting, woven of hard twisted thread, which gives the fabric a crisp appearance. For this purpose they would consume a large quantity of British yarn, were it spun in the mule, in a contrary direction to that in general practice in our mules; and the quantity consumed would be still more considerable were the English manufacturer to give his article twice the ordinary degree of torsion; the direction of the twist being immaterial.—[St. John's Traveller.]

Tea, black and green.—Among the evidence taken by a committee of the House of Commons to ascertain whether it is practicable to distinguish accurately the different denominations of tea, is contained information relating to the tea plant differing from accounts heretofore given. According to the evidence of the Company's officers, the tea plant in China has two distinct varieties, if not species, which respectively yield the black and the green teas. The tree, as is well known, is an evergreen, growing to the height of five or six feet. The pickings of the leaves begin in May, when the plant is in full leaf, but ready to shoot out other leaves.

In the black tea plant, the first shoot on the bud coming out, then covered with hair, forms the fine flowery pekoe. A few days' more growth makes the hair begin to fall off; the leaf then expands, and becomes the black leafed pekoe. Some young shoots have fleshier and finer leaves, which makes the souchong. The next best leaves make the campoi, the next congou, and the refuse and inferior leaves the bohea. These are the states in which the black teas are collected by the tea farmers.

The varieties of green tea appear to originate, not from the stages of picking, like the black, but partly from difference of treatment and manipulation, partly from difference of soil. A large proportion of twankay tea is the growth of a different district from that which produces the hysons. When a tea merchant buys green tea from the farmer, he subjects it to the following process to obtain the varieties; he sifts it through one sieve, which takes out the dust, the young hyson and the gun powder; then through another sieve, which passes the small leaf hyson of commerce; two other sieves successively take out the second and largest degree of size, and what does

not pass the third sieve forms *hyson skin*. The tea then undergoes the process of firing, in an iron pan, at a great degree of heat, which gives the leaves a tighter twist, and brings them up to their color.—The tea which passes the first sieve is then put into a winnowing machine, and the fan blows out the light leaf at the farther end, the larger broken leaf at shorter distance. The heavier leaf, as the gunpowder and hyson, falls nearer to or further from the hopper, according to the gravity, and are then separated by the winnowing machine. When fairly made, the difference between young hyson and the gunpowder will be this; the young leaf which takes the long twist, will form the young hyson, and that which takes the round twist will form the gunpowder.—[Baltimore American.]

Life Prolonged by Civilization.—If we collect England, Germany, and France, in one group, we find that the average term of mortality which, in that great populous region, was formerly one in thirty people annually, is not at present more than one in thirty eight. This difference reduces the number of deaths throughout these countries from 1,900,000 to less than 1,200,000 persons; and 700,000 lives, or one in eighty three annually, owe their preservation to the social ameliorations effected in the three countries of western Europe whose efforts to obtain this object have been attended with the greatest success. The life of man is thus not only embellished in its course by the advancement of civilization, but is extended by it and rendered less doubtful. The effects of the amelioration of the social condition are to restrain and diminish, in proportion to the population, the annual number of births, and in a still greater degree that of deaths: on the contrary, a great number of births, equalled or even exceeded by that of deaths, is a characteristic sign of a state of barbarism. In the former case, as man in a mass reach the plenitude of their physical and social development, the population is strong, intelligent, and manly; while it remains in perpetual infancy, whole generations are swept off without being able to profit by the past,—to bring social economy to perfection.—[Philosophical Journal.]

[From the London Spectator.]

MADAME JUNOT'S CELEBRATED WOMEN.—The subject of these biographical notices have been hitherto, almost exclusively, either unhappy in their destiny or unamiable in their dispositions. The Third Number contains the memoirs and portraits of Charlotte Corday, the lovely and misguided murderer of Marat; Josephine, the amiable and repudiated wife of Napoleon; Bloody Queen Mary; and a personage less familiar to the reader, and whose career is most remarkable of all—Maryna Mnischev, a Polish lady, who became Czarina of Muscovy. The adventures of this woman belong to the romance of biography. Her father was an ambitious man, whose ruling passion was flattered by a fortune-teller predicting that his daughter, then a child, should wear a crown. From that moment the idea took possession of his brain; and he not only anticipated the fulfilment of the prediction, but had his daughter reared up in the expectation of her high destiny. It is scarcely to be wondered that the girl also became inoculated with this fever of ambition; but that they should have ultimately accomplished the object for which alone they lived, is strange. Their diseased aspirations found a congenial subject in the person of an impostor, who pretended to be Dmitry, the murdered son of Ivan the Fourth; with whom the father of Maryna contracted his daughter in marriage, on condition of his obtaining possession of the usurped throne of Muscovy. The artificial sympathy which these two deluded creatures entertained for each other, ripened into a strong natural affection; and the overthrow of the usurper and the accession of the pretended rightful heir to the throne of Ivan realized their drama of greatness. Their felicity was, however, shortlived. So soon as the usurper's fate was sealed, doubts were raised as to the legitimacy of the claims of the new Czar: his pretensions would not bear scrutiny; plots were formed against him, and the unhappy man was murdered in the Kremlin. The subsequent career of his widow affords an extraordinary instance of the predominance of the ruling passion. On her way to her native country, she was captured by the troops of a man who, she stated, was her supposed murdered husband, recovered from his wounds. Being led into his presence, she was struck with amazement and disgust, at beholding a loathsome, vile and ill-looking Jew—a brute from whose violence she had formerly rescued a young and helpless maiden. This wretch stimulated only by desire of gain, and encouraged by the success of her husband, had proclaimed himself

the murdered Czar: who was thus represented to have twice miraculously escaped the daggers of his enemies. The very extravagance of his pretensions seems to have aided his success; or the people were so eager for a Czar, that they grasped at the shadow of a sovereign. The Jew was at the gates of Moscow, backed by a victorious band of followers; and only wanted the assistance of Maryna to accomplish his object. Urged by her father's entreaties, and stimulated by her own thirst for power, she consented to be a party to the trick, and publicly acknowledged the hateful Jew as her identical husband. She soon found, however, that the impostor sought money only, and not command, and that he had seized upon the vacant throne only to sell his abdication. This she resolved if possible to prevent. Scornfully upbraiding him, she said, "Thou shalt either reign, or die;" and kept a strict guard upon all his movements. At last, in the confusion of a battle that ensued, the wretch contrived to escape, but Maryna, now mad for sovereignty, disguised herself as a soldier, pursued, and brought him back. In defence of her throne, she performed prodigies of valor; but was at length taken and condemned to death. The very night before her intended execution, she was liberated by one of her countrymen, who had loved her from a youth, and had followed her through all the vicissitudes of her fortune. She became his wife, and at the same time mistress of a horde of Cossacks, of which he was the Chieftain. Not contented with a predatory rule, she planned and achieved the conquest of Astracan; where for a short time she once more reigned over a kingdom. But here too her power was of short duration; she was attacked and defeated by the Russians in a pitched battle: and escaping only with life, wandered with her husband and her infant over the frozen steppes of the Oural Mountains; where the miserable group perished by the hands of a troop of soldiers, and found a grave in the snowy desert. History does not furnish a more fearful lesson upon the miseries of false ambition, than in the life of this wretched woman; who but for her father's folly might have equally adorned the world by her talents and her beauty.

The portraits that accompany the large edition of these memoirs, are beautiful and spirited specimens of French lithography. Those in the smaller series, are not only inferior in point of execution, but the faces are unlike, and deficient in character.

One of the sweetest things that Crabbe ever wrote, is the following song of a heart-broken maid, cracked by the peridy of her lover, and sighing gently to be at rest. The melody of the numbers is faultless, and beautifully harmonizes with the graceful pathos of the subject.—[Sketches of late English Poets.]

Let me not have this gloomy view
About my room, about my bed,
But morning roses, wet with dew,
To cool my burning brows instead;
As flowers that once in Eden grew,
Let them their fragrant spirits shed,
And every day their sweets renew
Till I, a fading flower, am dead.
O let the herbs I loved to rear
Give to my sense their perfumed breath!
Let them be placed about my bier,
And grace the gloomy house of death.
I'll have my grave beneath a hill,
Which only Lucy's self shall know,
Where runs the pure pellucid rill
Upon its gravely bed below:
There violets on the borders blow,
And insects their soft light display,
Till, as the morning sunbeams glow,
The cold phosphoric fires decay,
That is the grave to Lucy shown;
The soil a pure and silver sand,
The green cold moss about it grown.
Unplucked of all but maiden hand,
In virgin earth, till then unturned,
There let my maiden form be laid;
Nor let my changed clay be spurned,
Nor for new guests that bed be made.
There will the lark, the lamb, in sport,
In air, on earth, securely play;
And Lucy to my grave resort,
As innocent, but not so gay,
I will not have the churchyard ground,
With bones all black and ugly grown,
To press my shivering body round,
Or on my wasted limbs be thrown.
With ribs and skulls I will not sleep
In clammy beds of cold blue clay,
Through which the ringed earth-worms creep,
And on the shrouded bosom prey.
I will not have the bell proclaim
When those sad marriage rites begin,
And boys, without regard or shame,
Press the vile mouldering masses in.
Say not, it is beneath my care,—
I cannot these cold truths allow;
These thoughts may not afflict me there,
But O! they vex and tense me now!
Raise not a turf, nor set a stone,
That mark a maiden's grave may trace,
But thou, my Lucy, come alone,
And let affection find the place!

RAILROAD AND CANAL MAP.
THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.
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Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.
Ship and Boat Spikes made full size under the head, so as not to admit water.
Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y.
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Flat Bars in length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
Ninety-five tons of 1 inch by 1 inch, 200 do. 1 1/2 do. 40 do. 2 do. 800 do. 3 do. 500 do. 4 do. soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.
Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.
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The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.
The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.
Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.
DEAN WALKER. a 3

LOCOMOTIVE ENGINES.
THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored; and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.
They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.
The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.
The engines will be adapted to the use of anthracite coal, pine-wood, coke, or any other fuel hitherto used in locomotive engines.
The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.
All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.
By order of the Company.
WILLIAM NORRIS, Secretary.
December 24, 1833.
For further information on this subject see No. 49, page 773, Vol. 2, of Railroad Journal.

MECHANICS MAGAZINE.

THE NUMBER FOR OCTOBER 31, will be ready for delivery to subscribers on Monday next. It contains numerous articles, and a concise account of the FAIR of the AMERICAN INSTITUTE held at NIMLOS' GARDENS, illustrated with numerous engravings.

MECHANICS' and OTHERS who feel interested in endeavoring to abolish the abominable "STATE PRISON MONOPOLY" are requested to forward to the Editor such facts as come within their knowledge, and they will be published if authenticated.

The *Mechanics' Magazine and Register of Inventions and Improvements* is published by the Proprietors, D. K. MINOR & J. E. CHALLIS, at No. 35 Wall-street, New York: in weekly sheets of 16 pages, at 64 cents—in monthly parts of 64 pages, at 34 cents—in volumes of 334 pages, in cloth boards, at \$1.75—or at \$3 per annum, in advance.—JOHN KNIGHT, (formerly proprietor of the London *Mechanics' Magazine*), Editor.

There is no publication in our country calculated better to serve the interests of practical men, than the work before us.—*Nantucket Inquirer*.

To gratify the thirst for knowledge evinced by the mechanics of the United States the publication was undertaken, and surely any effort calculated to advance a profession which has given birth to a Fulton, a Watt, a Whitney, a Franklin, an Arkwright, and other bright names, should meet with encouragement.—*Georgian*.

The Magazine is well worthy the patronage of every mechanic, and should be taken by every scientific and ingenious man.—*Hartford Times*.

It is a valuable compend of that species of information which we should suppose the enterprise and inventive genius of our countrymen require, giving as it does, in a concise and familiar shape, an account of what others are doing and have discovered or invented; inciting to emulation, and at the same time furnishing useful hints for the prosecution of researches already begun, if not for further discoveries and inventions, calculated to extend the bounds of human knowledge.—*Albany Daily Argus*.

We look upon this periodical as the best of its kind our country affords. To practical mechanics it particularly recommends itself, as embodying a great mass of information directly bearing on their employments and interests. The scientific man will find in its pages essays and remarks well adapted to his pursuits, and the general reader cannot fail to peruse its contents with increasing gratification, as affording him a continued supply of interesting and useful instruction. The best support of our institutions and government is knowledge diffused among the people, and every effort which tends to promote this end should have encouragement—the publication before us being calculated in an eminent degree to serve so high an object, possesses a just claim to our patronage.—*Salem Gazette*.

It is stored with representations and descriptions of improvements in machinery, and of newly invented articles, together with information valuable to every class of citizens.—*U. S. Gazette, Philadelphia*.

This is truly an excellent Magazine, and we take pleasure in commending it to the public, especially to that class of community for whom it is particularly intended. It should be in the hands of every mechanic, and if an individual cannot afford to take it alone, let him associate himself with others and procure it; and if attentively read, we believe no intelligent man will consider his money idly spent in its procurement.—*Schenectady Gazette*.

The work needs only to become known to insure it a very extensive circulation. It certainly cannot fail to be highly interesting and useful to the numerous class of persons for whom it is particularly designed.—*Paterson Intelligencer*.

It forms a truly valuable repository, alike suitable to the drawing room and to the cottage.—*Watertown Register*.

We have watched the course of this publication with some solicitude; for we felt convinced that the field was so wide, which the work, to be advantageous, should occupy, that it would need more than ordinary good common sense, tact, ingenuity, and industry, in its conductor, to fill up the chasm which the absence of a work of this nature, purely, had left in this mechanical country. Enthusiastic bigots, the cells of whose brains were filled with cob-webs, have been looking for the philosopher's stone from their own preparations in earthen crucibles. Enveloped in mist, their spectacles never allowed them to discover that the true stone was the type and press of a printing office in the hands of a sensible tactician, who delves among the precious lore which the varied mind of man is continually displaying in his gaze, plucking the heart out of every book, sipping the sweets from every fugitive sheet, and, forming from the varied mass an intellectual treat; which, if it does not gratify the taste of Cæsar, would command the attention of Solomon, Archimedes, and Newton.

We say unhesitatingly that the New-York *Mechanics' Magazine* has greatly improved in matter and appearance, since this year commenced. The number now before us would sufficiently bear us out in all we might say as to the discrimination, industry, and intelligence of Mr. KNIGHT, its editor.—*Old Countryman*.

We have several times given our exalted opinion of this monthly periodical, and have done so in great sincerity, with an ardent desire that our friends might avail themselves of its usefulness by becoming subscribers. There is that intrinsic merit in the work itself which sufficiently justifies all that can be said of it, as containing a collection of the most useful and practical information on every subject interesting to the industrious man, be he of whatever denomination he may.—*Mercantile & Advocate*.

It is a valuable compend of that species of information which we should suppose the enterprise and inventive genius of our countrymen require, giving as it does, in a

concise and familiar shape, an account of what others are doing and have discovered or invented, inciting to emulation, and at the same time furnishing useful hints for the prosecution of researches already begun, if not for further discoveries and inventions, calculated to extend the bounds of human knowledge.—*Onondaga Standard*.

Every mechanic who wishes to keep pace with the improvement of the age, to avail himself of the aid which science is constantly bringing to art, should subscribe for the *Mechanics' Magazine*.—*Washington Spy*.

It is ably conducted, contains a large mass of the most useful and interesting matter, is neatly executed, and upon the whole is better calculated to diffuse useful and valuable information in relation to the various subjects of which it treats, than any publication with which we are acquainted, and this, too, so cheaply, that none can complain of the price.—*Washington Republican*.

The October number of this valuable work is before us. The design is truly laudable; the public good requires its circulation, and its execution is exceeding good. Mechanics of Morris county and Morristown, are you not prepared to sustain a work of this character?—*Jerseyman*.

A glance over its pages will convince any person of the great utility of such a work. Its contents are varied—almost every subject in the range of mechanism is touched upon—and its reduced price, three dollars per annum, places a system of modern architecture within the reach of nearly every person.—*Hillsborough Gazette*.

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P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

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The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

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Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

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Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

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EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

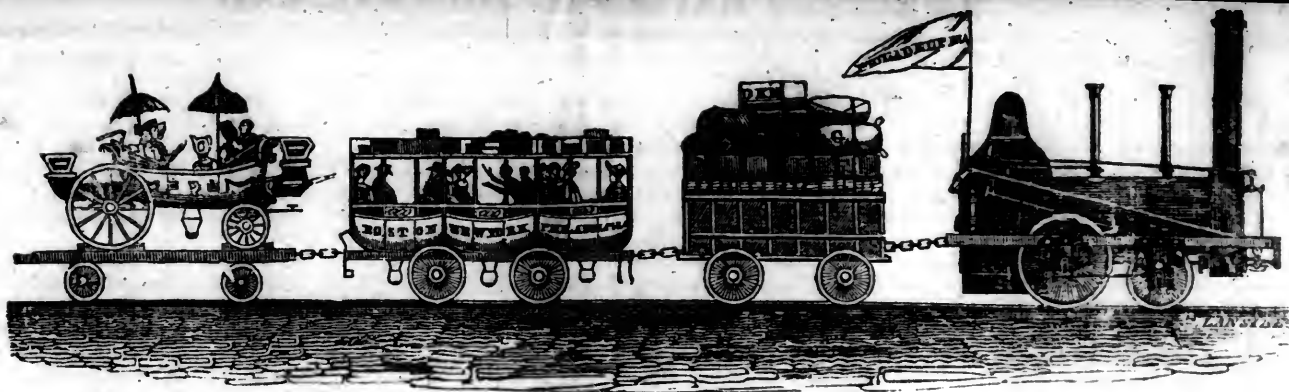
Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurances from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unequalled approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

E. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.
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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, NOVEMBER 8, 1834.

[VOLUME III.—No. 44.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 8, 1834.

We understand that upwards of 100 persons passed between Philadelphia and Trenton, on Monday, on the new Rail Road.

[From the Philadelphia Gazette.]

PHILADELPHIA AND TRENTON RAIL ROAD.—On Saturday last this road was opened, the whole distance being twenty-eight miles. It commences a short distance from Kensington, and the regular operations of cars will run daily; the first starting from Trenton at half past 7, A. M. and Morrisville at 8 with horses, the second from Trenton at 2 o'clock, P. M. and Morrisville at half past 2, with locomotive.

The first line from Philadelphia, will leave a half past 8, A. M. with locomotive, and the second line at 2 P. M. with horses.

This line is of great importance to this city, and will greatly facilitate the traveller to and from New York.

[FOR THE NEW YORK AMERICAN.]

Mr. Editor:—The following is a synopsis of several articles which appeared in the Brooklyn Star, on the subject of "the Long Island Railroad." As it is proper, at this time, that the statements which it contains, and the views which it takes should, if true and sound, be generally known, or if untrue and illusory, that they should be contradicted and exposed, I beg you will give them publicity.

The enterprise is one of consequence. Whether we regard its probable revenue, or its promised local and general benefits, it is a matter of interest.

A chain of Railroad is in a state of forwardness, from Boston to the City of Washington, with the exception of one link, which is to be supplied by the proposed work, or by a Railway from Stonington to New York, on the main, of 150 miles in length, at a probable cost of \$60,000,000, and which chain must finally extend from our Eastern to our Southern and Western borders!

Local attention has been drawn to this important link; and the public attention must be drawn to, and brought to bear on it, from the actual necessity of the case. Of the vast utility of this work, either in a National or local sense, nothing further need be said, unless it be to request a due inspection of accurate maps and charts of the coast and waters, to satisfy

every man. I shall therefore proceed to another branch of the subject.

Of the probable cost of this improvement, with the requisite outfit, it may be proper to state here, that it will not exceed the capital of \$1,500,000, named in the charter, which is a very good one. And the following data will enable every one to form a speculative opinion of its income, for himself, viz:

Annual amount paid for the conveyance of passengers between Newport, Providence, and New York, at \$6 per passenger, is about \$475,000. Reducing the charges from \$6 to \$3, it would be

237,000

Annual sum paid for the carriage of passengers by steamboats, between Stonington, Norwich, New London, the various towns on the Connecticut River, and New York, is about

260,000

Annual amount paid for the conveyance of passengers, each way, on Long Island, is about

58,000

Annual sum paid for the transportation of produce and merchandize, each way, on the Island, is about \$147,000, of which at least half would be carried as now,

73,000

Annual amount paid for the freight of light goods, between the towns on the main, above named, and New York, unknown!—nominally, I will compute it at the sum of \$20,000, half of which would be

10,000

\$638,000

The present population of Long Island is about 90,000; and the present assessed value of its real estate, is about 22,000,000 of dollars.

The distance from New-York to Boston, by this route, would be within 208 miles; to Stonington, within 123; to Saybrook, within 103; to Oyster Pond Point, within 102; and to Greenport, within 94 miles.

The last named place is one of the deepest, safest and best harbors in America; at all times easy of access and departure; and it is contemplated this point will form the eastern depot and termination of the road.

The width of Long Island Sound opposite Roco Point, 2 miles west of Greenport, is less than 10 miles. Between Stonington and Oyster-Pond Point, the distance is not less than 24, nor more than 28 miles. Greenport is west of the mouth of Connecticut River about 5 miles.

By the proposed line, passengers and light goods can be sent from New York to Boston within 12 hours! to Stonington within 7 1/2; to Saybrook within 6 1/2; and to Greenport within 5 1/2 hours.

It is thought, by some persons, that the revenue of this railway promises to be larger, rateably to its cost, than that of any work of the kind, for which a charter has yet been obtained in the United States. Without admitting, or controverting this point, I shall close this article with a few statistics and facts, accessible to the knowledge of every man who may be disposed to examine the subject, which will aid the public in forming a correct opinion.

"The Boston & Providence Railroad," when completed, with double track, is to cost \$30,000 per mile.

"The Stonington Railroad," when finished, with double track, it is computed, will cost \$26,000 per mile.

"The Camden & Amboy Railroad," when perfected, with double track, will cost \$36,000 per mile.—And this work, by its charter, is obliged to pay the State of New Jersey \$30,000 yearly; to compete, as relates to merchandize and produce, with a Canal of deep cut, connecting the rivers Delaware and Raritan, which cost \$2,500,000, or pay an interest on the capital invested therein, as the case may be; and may have to compete with the New Jersey and the Philadelphia and Trenton Railroads.

"The Mohawk & Hudson Railway" has cost \$20,000, and bids fair to cost \$100,000 per mile, before it is got quite right.

On some of these works there are ascents of from 20 to 37 feet in the mile!

"The Long Island Railroad," when finished, with double track, with no ascents or it worth naming, will cost, independently of outfit, about \$13,000 per mile.

By these statements, it will appear, the last named work will cost less than half, to the mile, of what the others, averaged, are to cost!

On this fact, the friends of the latter confidently rely.

Supposing a passenger is to start from New York to Boston, via Long Island and Stonington; that he is to pay three cents per mile for his transit; would not the profit of his conveyance be twice as great to the Road costing \$15,000, as to the one costing \$30,000 per mile? Unless it is to be supposed the land owner, the capitalist, and the public at large cannot see, or cannot appreciate the case under examination, then will the wanting link in the grand chain of Atlantic frontier Railroad be speedily forged, with immense benefit to New York, Long Island and the nation, and with great profit to the proprietors.

Respectfully, your obedient servant, W.
New York, 31st Oct., 1834.

WEEDS AND LOOSE STONES IN HIGHWAYS.—Very few of our readers, we presume, know that the following is in the Revised Statutes of this State.

"It shall be the duty of overseers of highways in each town, to cause the Noxious Weeds, on each side of the highway within their respective district, to be cut down or destroyed twice in each year,—once before the first day of July, and again before the first day of September; and the requisite labor shall be considered highway work.

"It shall be the further duty of the overseers of highways, once in every month from the first of April until the first day of December, to cause all the Loose Stones lying on the beaten track of every road within their respective districts to be removed; and to cause the monuments erected, or to be erected, as the boundaries of highways, to be kept up and renewed, so that the extent of such roads may be publicly known."

COLUMBIA RAILROAD, S. C.

Report of A. A. Dexter and C. E. Detmold, Civil Engineers, to the Committee on the Preliminary Survey of the Upper Route of the Columbia Railroad—September, 1834.

To Messrs. Hart, Blanding, Clark, Boatwright, Ewart, and Wallace, Committee of the Railroad Company.

GENTLEMEN,—Agreeably to the arrangement made with you on the 11th day of July, we proceeded to an examination of the route for a Railroad between Columbia and Branchville, and having completed the same, now have the honor to submit to you, with the accompanying maps and profiles, the following report:

Our examinations commenced on the south side of the Congaree Bridge, and the first bench mark, being the base, or zero, of the profiles and vertical measurements, is on the west wing wall of the abutment.

We conceive it practicable to carry the road across the river, on the superstructure, over the present carriage way of the bridge, at an expense materially less than that of the construction of a new viaduct. As the engines would of course remain on the south side of the river, the motion of the cars, or loaded wains, conducted by horse power, on the smooth surface of the railway, and restricted to a low rate of motion, could not injuriously affect the stability of the fabric, strengthened as it would be by the introduction of additional tie beams, and foundation pieces for the railroad. The noisy tumult of waters in the falls, beneath the bridge, would probably render the sound produced by the motion of cars overhead almost inaudible to horses, or other animals, passing below; at least, we should apprehend no danger or inconvenience on that account.

In case it were decided to adopt this plan of passing into town, the roof now on the bridge might be raised, and suffered to remain, with an alteration in the structure of the bracing, although perhaps in the end it would prove better economy to dispense entirely with the roof, and lay the rails upon a floored surface, zined, or tightly caulked, like the deck of a vessel, so as effectually to protect the interior from the weather.

An objection to crossing the river on the present bridge, is the necessity, as will be seen by reference to the profile, of introducing a grade for horse power, in overcoming the ascent from the bridge to the hill at Wingard's. The length of this grade will be 1100 feet, and will terminate in a deep excavation, where some heavy cutting will be necessary in making room for the double tracks, and other fixtures requisite at the terminating station of the locomotive road. Inasmuch, however, as horse power will be necessarily resorted to in bringing the cars across the river, a further use of this agency between the bridge and the station would not be seriously objectionable, but for the steepness of the ascent, (1 81-100 in 100,) which will make a division of the load, brought over the river, necessary at the foot of the plane.

As we expressed to you, in our communication of the 14th August, a great deal of careful examination will be necessary in determining between a crossing of the river at this point, in the manner we have mentioned, or elsewhere below, on an independent viaduct; and our examinations not having been extended to a survey of the lower crossing, we are not prepared, at present, to give an opinion on this important question.

We are inclined to believe that a considerable saving in the cost of embankment and excavation, on the route surveyed, could be effected by a location crossing the river at Granby. Our data for this opinion, however, rests on the vague basis of the general formation of the country; nothing definite can be advanced till subsequent and accurate investigations, conducted by the company, shall place the whole

subject, with all its bearings, before the engineers.

Mr. McLane's road, already established for horse power, offers the means of transit for goods from the north side of the river to the upper part of the town, superceding the necessity of any examinations, on our part, of the profile of this side of the valley of the Congaree. At some future day, should the exigencies of business require it, an inclined plane, with stationary power, could be advantageously established, between the river and the main street, and in case of an extension of the road northwardly, the impossibility of using locomotive power on this part of Mr. McLane's road may render such an improvement necessary.

From about half a mile beyond Wingard's, a straight line may be attained to Congaree Creek, which may perhaps be crossed most advantageously above the confluence, with Six Mile creek, although sufficiently near the junction to avoid the high ground between the two, extending to within half a mile of the fork of the creeks. The line will of course pass on the north side of the creek, to the east of the ridge on which Taylor's negro houses are situated.

An altitude of about 15 feet will be necessary in crossing the bed of the creeks, in order to diminish the steepness of the ascents, and to save expensive excavation, which will also afford a secure elevation above the high freshets which at times prevail.

The bed of the creek is twenty-six and a half feet below our base. Crossing the creek we encounter the low ridge which divides it from the swamp contiguous. This swamp, however, is above overflow, the general height being about 14 feet below base. Leaving the swamp, which, where crossed by the survey, is about half a mile in width, the difficulty of rising out of the deep valley of the Congaree presents itself; a difficulty which, involving the possible necessity of an inclined plane, was of no ordinary character, and demanded unusual attention in the examinations.

The dividing ridge between the Edisto and Congaree rivers, we ascertained to be about 400 feet above the bed of the latter stream. Owing to the various streams which put into the Congaree river, such as the Congaree creek, Thom's creek, Savannah hunt, &c., we find the valley on this side very irregular in extent, diminishing somewhat between the creeks, and widening as the several valleys of the tributaries merge into the general depression. Not aware of the great altitude of the ridge, and hoping an ascent for locomotive power might be obtained, by bearing up on the side of the valley, as it falls off towards the river, and into Thom's creek, we pursued our line, passing out of the Congaree creek swamp on a low spur or ridge of pine land, at Dr. Taylor's; thence, in a very circuitous course, continually ascending, passing near Mr. Butler's and Mr. Hogabook's, crossing the Edisto road, and leaving it to the left, subsequently re-crossing the same, and leaving it with Jones's road, at about half a mile south of the fork, on the right, and, finally, attaining an altitude of 380 feet above the Congaree creek swamp, in a distance of only 9 miles; upwards of 250 feet of which is to be overcome in the first five miles.

Not only does the steepness and length of the ascent, which would for the first five miles, even with 52 feet cutting, rise at the rate of 1 in 100 or 52 8-10 feet per mile, render this route impracticable, but the absolute necessity of frequent curves, of short radius, in following the irregular conformation of the valley, entirely forbids a location in this direction.

Our attention was next directed to a route keeping entirely in the valley of Thom's creek, and following up the same, along the bed of the stream, crossing the creek immediately above Mr. Herman Geiger's mill pond, and passing on a ridge forming a plane of remark-

ably uniform rise, and apparently favorable, between the main creek and a branch of the same, leaving the breaks of Savannah hunt a little to the left, and reaching an elevation of 252 feet at J. Sitilus's. This route is favorable in direction, but is not practicable for locomotive power; the rise in the first two miles from the crossing of Thom's creek is 216 feet.

At the head of the valley of Wm. Geiger's creek, (a branch of Congaree creek,) the ground rises abruptly. There is no possibility of selecting a passage for locomotive power in this direction.

The result of our examinations leads us decidedly to the opinion that an inclined plane, with stationary power, affords the only practicable means of overcoming the ascent from the valley of the Congaree.

A favorable route for the plane may be readily selected in the valley of Thom's creek.

The ground is well adapted to the purpose at the head of the valley of the main creek; the ground abruptly putting up in a basin-like form with great uniformity of ascent. It will, of course, be desirable to accumulate as much of the rise in the plane as may be practicable, in order to allow a favorable graduation for locomotive power in overcoming the remainder of the elevation.

We have laid down upon the profile a graduation for stationary power, of one in seventeen, for 3237 feet, overcoming a rise of 190 40-100 feet, and leaving a grade of 30 feet in a mile for some distance above and below the plane.

The length of the inclined plane on the Charleston road is 3,800 feet, comprising an elevation of 182 feet, with a descent of 1 in 150, or 36 feet in a mile, for a distance of two and a fourth miles from the foot of the plane.

In future explorations, conducted with view to a final location, it would be well that a thorough examination be made of the head valley of Wm. Geiger's Mill Creek, which, from its greater length, and abrupt declivity from the very summit of the ridge, may possibly afford even a more favorable position for an inclined plane than that of Thom's creek.

The advantage of an abundance of timber and mills convenient will tend greatly to facilitate the construction and lessen the cost of the plane.

Although, as occasioning an interruption in the line of locomotive transportation, an inclined plane is to be avoided, if possible, yet, the delay and expense attending its operation, where all the fixtures are complete, and the mode of operation properly systematized, are far less than would be supposed, especially from a partial observation of the plane on the Charleston and Hamburg road, which, put in operation before it was finished, is not yet fully completed, in every particular. A number of hands employed in filling in the road, construction of work-shops, &c., are supposed by passing observers to be attached to the plane, although but temporarily employed, and in no wise connected with the operations of the machinery.

It is well known that two eminent engineers, Messrs. Rastrick and Walher, recommended the adoption of stationary power on the whole line of the Liverpool and Manchester railway, in preference to locomotive engines, as subsequently adopted. Messrs. R. and W. estimated the saving in expense of transportation, by using stationary, instead of locomotive power, at about thirty-four per cent of the cost, and at 30 per cent of the amount. In the rival statements of Messrs. Locke and Stephenson, made after the successful application of locomotive power to the road, the saving in favor of locomotive power, in the cost of transportation, is placed at 42 per cent, and that of the annual expense at 39 per cent. These estimates made for the whole line, employing uninterruptedly the same kind of power, are not strictly applicable to an insulated instance of

an inclined plane, on a locomotive road, but yet we think, as formed from actual comparative performance of stationary and locomotive engines, upon roads where both kinds of power were used, these estimates are entitled to consideration. Even in the most unfavorable light, they place the cost of transportation with stationary power at only 269-1000 of a penny per ton per mile; say it should even be four cents per ton per mile in this case. By the chartered rates, the price is seven cents and seven mills per ton per mile, so that a handsome profit should be left to the proprietors. Mr. Stephens, the managing engineer of the stationary engine of the Charleston road, has politely assisted us in obtaining some minute practical information regarding the amount of goods which can be transported over the plane in a given time, with the actual daily cost attending its operation.

We find that working constantly twelve hours, the engine could pass over the plane, of freight both ways 552 tons, say, of cotton, going only one way, 1728 bales, the amount of all expenses of the engine and plane, including allowance for wear and tear of machinery, is \$15.96 per diem, being at the rate of \$3.46-100 per ton per mile. One of the highest estimates we have seen of the cost of transportation by stationary power, is that of Benjamin Wright, Esq., made from the actual performance of work on the railroad of the Hudson and Delaware Canal Company, which, on a length of sixteen miles, has five steam stationary engines, and three long self-acting planes. He estimated the cost per ton per mile to be from $\frac{3}{4}$ to $\frac{3}{4}$ cents; but, it is admitted that there was a want of economy in the management of the work.

We have dwelt thus long upon the subject of stationary power, in the endeavor to place it fairly before you, and will conclude by reiterating the observation expressed in our letter of the 14th instant, that, "we are fully convinced, when the prospects of trade and travel will warrant the construction of a road of this extent, the intervention of a single inclined plane should offer no impediment to the prosecution, and cannot affect the final success of the enterprise."

It is a fact not generally considered, that there is not a single railroad of any extent in Great Britain, and but few in this country, which operate entirely without the aid of stationary power.

At the Baptist Meeting house, near Mr. Pool's, is the summit height of the profile—the elevation being 364 feet above base, and, as we ascertained from the height of the road at Branchville, 511 feet above tide water at Charleston. This point, nine miles from the Congaree creek swamp, at Dr. Taylor's, is situated on a narrow ridge, from which the ground falls abruptly on the right and left of the line, and more easily in the direction of the survey; the deep breaks of Savannah Hunt and Sandy Run, forming the depression on one side, and of Wm. Geiger's Mill Creek and Big Bull Swamp on the other.

Over this point the line must necessarily pass, and from the altitude here attained, which is 69 feet in a distance of two miles and one-third from the head of the plane, as well as from the broken face of the profile, consequent upon the crossing of various depressions, this part of the route will be unusually expensive in graduation, with a rise of twenty-six feet in the mile for a part of the distance.

The deepest cutting will be about feet, but the soil generally a light sand, and with the appearance of continuing thus for fifteen or twenty feet, which we understand to be the fact, from the wells dug in the country.

From this point, our profile, as we proceed on the dividing Ridge, between the heads of Bull Swamp and Sandy Run, assumes a more even and favorable appearance. As the plantation of Capt. Wm. Taylor, about two miles

from the Meeting House, occupies the whole breadth of the Ridge, our line naturally seeks a passage on the high ground directly through it, and near the barn which stands at the head of a large break of Sandy Run. In compliance with a request of Capt. Taylor, not to pass with the survey through his cultivated land, which could not be done without injury to the crop, (a consideration which induced us in several instances to take a circuitous route to avoid planted grounds,) we passed along the fence, to the right of the plantation, thereby considerably diminishing the favorableness of the profile, and adding much to the length of the line, and irregularity of direction. From Capt. Taylor's to Mr. Williams's, situated on the narrow dividing ridge between Little Bull Swamp and Big Beaver Creek, the line passes over a fair country, and continues uninterruptedly favorable, with few exceptions, of considerable depressions, passing near and to the right of Mr. Hildebrand's, and to the left of Mr. Hook's field, to the old Kennely road, which we strike about one mile below Mr. Hook's.

The line subsequently follows nearly in the general course of the road, on the dividing ridge between Limestone and Cawcaw Swamps, crossing the latter at Jamieson & Glover's mill dam, three miles from Orangeburg.

From the head of the plane to the descent into the Cawcaw, embracing a distance of about twenty-five miles and a half, there will be no rise in the graduation to exceed one in two hundred, or twenty-six feet in the mile.

Occasional excavations, (in a light soil,) of from ten to twenty feet, and some high work, or embankment, of an equal altitude, will be necessary. The ridge, although it preserves its general height with some uniformity of elevation, is, nevertheless, occasionally depressed, and broken by the head breaks of lateral tributaries to the streams between which it is situated, and the alignment of the road will necessarily present frequent curvatures, although of large radii.

The whole of this route is supplied with an abundance of excellent timber, at present from its general remoteness to established mills, of little or no value to its possessors. Should the same liberal spirit of gratuitous dispensation which prevailed on the line of the Charleston road, actuate the proprietors on this route, we may expect a material saving to the company.

The natural descent from the ridge into the Cawcaw is long and rapid, being for two miles at the rate of forty-eight feet to the mile. In order to reduce the natural profile to a grade favorable for locomotive power, some heavy excavation must be encountered on the summit of the ridge, and elevated work, probably to the height of twenty-five feet, will be necessary in crossing the Cawcaw.

Long and careful examination at this point can alone determine the most favorable crossing of this depression,—and the location must be made, less with a reference to a narrow and advantageous formation of the swamp, than to a long and easy descent from the ridge, whereby a saving in expensive excavation and high work may be effected.

Whether the final examinations may fix the location at a point near to, or below the present bridge on the Bull Swamp road, we cannot now determine; but, owing to the formation on the opposite side, we think it will be necessary to cross the stream as low at least as the bridge, in order to maintain a favorable direction and profile in the subsequent course, which, in order to avoid the elevated bridge on which Orangeburg is situated, should leave the village to the left, and pass on the side of the hill, in the cultivated grounds, towards the river. We do not wish to be understood as pronouncing a route leaving the village to the right impracticable. A sharp rise of thirty-five feet to the mile, with not more than thirty feet excavation, would enable us to accomplish the route in that direction, but we give the

preference to an increased distance with a more easy profile.

The village of Orangeburg is 89 94-100 feet above base, and 57 38-100 feet above Glover's and Jamieson's mill dam, on the Cawcaw. To pass directly through the village, though feasible, would occasion, in addition to the increased expense of graduation, a depth of cutting in the streets incompatible with the convenience of the citizens, in the passage of ordinary conveyances, rendered the more objectionable from the proximity in passing of the locomotive engines.

By reference to the profile, the of the country may be seen from Orangeburg to Branchville, along the river road, on which our survey was conducted, with a view to avoiding a passage through occasionally cultivated lands, and the thick woods, and bays, which would have greatly prolonged our field labors, in an unhealthy season, and having been of but little or no advantage in forming the estimates, or determining the probable location.

Undoubtedly, the route leaving Orangeburg to the left, should cross the River road, and pass into the pine land, back to the River land plantations, where the uncommon evenness of surface and the abundance of timber give this part of the line peculiar advantages, not surpassed by the same extent of country on any part of the Charleston road.

The line may terminate directly at the company's depot in Branchville, and connect, by means of a curve of ample radius, with the turn out, or side track, already established,—or a new lateral road may be constructed, at the intersection of the branch, exclusively appropriated to the cars from Columbia.

The height of the surface of the railway at Branchville is 134 feet above tide water at Charleston, and 13 1-100 feet below the top of the wing wall of the Congaree Bridge; consequently, the latter point is 147 feet above tide water at Charleston,—and the summit of the ridge passed over by the survey, at Mr. Pool's, 511 feet above tide.

On the profile, which for a great part of the distance presents a fair average of the face of the country, will be found a line of graduation. Where partial changes on the aspect of the profile may be expected to ensue from future and thorough examinations in the establishing of the final location, we have indicated the same by remarks and lines, shaded blue, on the profiles; and in our estimates, which are based on the line of graduation there established, we have made due allowances for them.]

Before proceeding to estimate the probable cost of this work, it is proper to furnish our opinion regarding the plan of construction which a wise economy would recommend.

The plan of pile construction, as adopted on the Charleston road, taking into view the peculiar character of the country, and the limited resources of the company, was not only judiciously applied, and well adapted to the purpose, but was indeed the *only one which could have succeeded* at the time, as there was not, at that early period in the history of railroads, sufficient confidence in the community regarding such enterprises, to have allowed the adoption of a more expensive plan of construction, with the least probability of success. The advantage gained by the company is this, that now, having, by the completion and full success of their great enterprise, established their work in the solid and permanent estimation of the public, they are enabled, without a useless expenditure in the original plan, to furnish from the Revenues of the road the means of its perfection.

Now that the superiority of railroads over every other means of transportation is generally acknowledged, and their advantages well understood, and every where appreciated, and daily evidences given of their gaining favor in the confidence of the community, it becomes us, in deciding upon a plan of construction, to

be governed by other considerations than those of a saving in the first cost, when there is necessarily involved, as a consequence, a large subsequent expenditure in repairs, and the more perfect adaptation of the road to the purposes of transportation.

But that which most decidedly renders the general plan of the Charleston road inexpedient for the work under consideration, is the great and marked difference in the character of the soil and country, in the two routes; in the first case, for a greater part of the distance confined to a low, flat, and occasionally inundated country, interspersed with numerous ponds, morasses, and swamps, in the treacherous depths of which an incalculable amount of earth, transported from remote distances, to form the embankments, would have been swallowed up; and in the other case, nearly throughout the line, passing over a dry and elevated region of country, with an undulating profile of the natural surface, in the necessary reductions of which earth will be afforded for the construction of the embankments.

The occasional use of the truss or bridge work in the deep depressions may be advantageously resorted to, and will afford both a substantial and economical construction, and also allow a more rapid prosecution of the work than would be practicable in the plan of earthen embankments, which, especially in loose soils, occupy much time in acquiring a solid basis and thorough stability.

(To be continued.)

NEW YORK AND ERIE RAILROAD.—We are authorized to publish the following correspondence.

OWEGO, TIoga Co., Oct. 14, 1834.

Hon. WM. H. SEWARD:

Sir,—The undersigned, citizens of the county of Tioga, having a deep interest in the success of the projected railroad from N. York to Lake Erie through the southern tier of counties of this State, take leave to request an expression of your opinion in relation to that (to us) all-important improvement. From the situation in which you stand, as a candidate for the office of Governor of this State, an expression of your sentiments upon this subject is rendered a matter of peculiar interest to the citizens of the southern tier of counties, a section of country which has hitherto been effectually excluded from all participation in the benefits of our system of internal improvements. As citizens of that section of the State, and not as political partisans, we request an expression of your sentiments upon this subject, and we hope that our request may not be considered as intrusive or ill timed, especially as we see daily allusions in the public prints to your supposed hostility to this measure.

We are, Sir, very respectfully,

Your obed't serv'ts,

Eleazer Dana, Jas. Pumpelly,
William Platt, L. A. Burrows,
Gurdon Hewitt, Harmon Pumpelly,
Charles Pumpelly, Wm. A. Ely,
Geo. J. Pumpelly, George Bacon,
Robert Johnson, Charles Talcott.

Auburn, Oct. 20th, 1834.

GENTLEMEN.—Your communication requesting the expression of my opinion in relation to the projected Railroad from Lake Erie to the Hudson River, through the Southern tier of counties, has been received. I cannot be surprised that you have made this application, when, as you say, you see daily allusions in the public prints to my supposed hostility to that measure. Yet, Gentlemen, you must be aware that those who are engaged in misrepresenting my views, will equally endeavor to prevent credit being given to the sincerity of opinions expressed upon a subject of engrossing interest at such a time. Anxious as I am to correct such misrepresentations, I could not bring myself to appear in public, even for that purpose, had I not learned from sources entitled to my confidence, that the views of Gov. Marcy have been solicited and are confidently promised by his political friends to be laid before the electors. Under such circumstances, it would seem to be unjust to the generous and conflicting party who have made me their candidate, to suffer the great cause which they maintain to receive injury from my silence.—You however, Gentlemen, will bear witness, that I have not sought this opportunity of appearing before

the public, and that in doing so, I yield to the considerations already expressed.

It is wholly untrue that I am hostile to the projected Rail Road from Lake Erie to the Hudson River through the southern tier of counties. The vote which I gave in the Senate upon an incidental question connected with that improvement, had no reference whatever to the merits of the project itself, but was founded upon peculiar considerations growing out of the single question presented, & manner in which it came before the Senate, but in which my judgement was not in the least influenced by any unfriendly feeling to the Rail Road. On the contrary, I can freely state to you, Gentlemen, that I am and ever have been the advocate of the system of internal improvements by means of Rail Roads and Canals: that I regard it as one of the most important duties of the Government as fast as its developing resources will allow, to prosecute such a system of improvements of that description as will enable all the different sections of the country to enjoy, equally as possible, the advantages of a speedy communication with the great commercial metropolis of the State. I cannot doubt that the increased wealth and ability of the state, improved by a revision of the entire administration of the canal revenues, would allow us to resume and push to a successful completion this eminently important system. Among those improvements which are most indispensable to the great object of securing to this State the precious boon of the trade of the western States I have long believed one of the most desirable, is a work which would connect Lake Erie with the Hudson River, passing through the Southern tier of Counties, and which would give to the city of New York the advantages of the great Western trade at all seasons of the year, and particularly at those seasons of the year, when, without such a work, that trade must flow through different channels to a Southern port. To secure this trade was the great object of the system of internal improvements, projected and commenced by that distinguished public benefactor Dewitt Clinton. Experience has shown that this object has not been entirely accomplished, and I have no belief that it will be, until the improvement mentioned by you, together with others of a similar character in other sections of the State, shall be completed. It is certainly a consideration of much weight, that the suggested Railroad will bestow upon the Southern counties through which it will pass, advantages similar to those enjoyed by other parts of the State, where similar public improvements have been accomplished. That it is practicable, I am happy to learn, will be satisfactorily established by the surveys recently made under the direction of that experienced engineer Judge Wright.

With these opinions in its favor, you may be assured of my readiness, either as a private citizen or in whatever public capacity I may be called to serve, to afford every aid in my power, not only to the construction of this work, but to the completion of that comprehensive and beneficial system of internal improvements, commenced as I have already mentioned, and thus far continued with a success which has astonished ourselves.

I am, gentlemen, with the greatest respect, your fellow citizen,

W. H. SEWARD.

Messrs. Eleazer Dana Jas's Pumpelly
William Platt Latham A. Burrows
Gurdon Hewitt Harmon Pumpelly
Cha's Pumpelly William A. Ely
Geo. J. Pumpelly Geo. Bacon
Robert Johnson Charles Talcott.

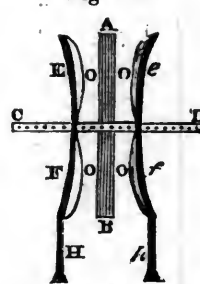
Application of the Principle of a Balance.

[From the American Journal of Science and Arts.]

The principle of a balance is a powerful one when ingeniously and judiciously applied to mechanics and the arts. Its applicability is universal. There are few if any machines now in operation that are not dependent upon this principle, or to which it cannot be beneficially applied. Look at the numerous machines employed in the various manufactories of Europe and America: how diversified, how multiplied, and how complex their operations; what a consumption of power is required to work or move them; what expense is incurred, and how great is their performance; nevertheless, how few are the parts, and simple the motions, absolutely necessary to answer, if not overrun,

this performance. Indeed, what cannot man do on the principle of a balance, and what can he do without it. With it, with liberty to exert his power, he might displace the world; and without it, how limited would be his influence in mechanics and the arts, and how small his accessions of power and profit derived from that source. I conclude my premises (as effects balance causes, and causes effects,) by suggesting that some of the greatest discoveries yet to be developed to the world may, in all probability, be founded on the powerful and universal principle of a balance, which pervades not only mechanics and arts, but every part of the universe.

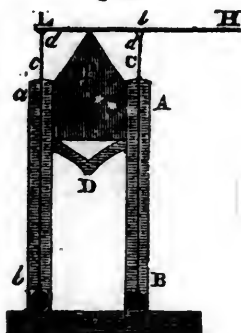
Fig. 1.



1. APPLICATION TO MILKING.—Fig. 1 represents a machine for milking. A B represent a light block, five inches long, three wide, and an inch and a half thick. C D represent a ruler-like piece of wood, or metal, five inches long, one third of an inch thick, and two thirds wide, perforated with holes at every sixth of an inch from end to end. This piece, C D, is to be firmly inserted, and fastened at right angles in the middle of the block A B. E F, e f, represent two similar, strong, light, thin boards, a little curved from their centre, each five inches long, three wide, and half or two thirds of an inch thick. H h represent the handles, which can be formed in connection with the boards, or attached separate. The boards are to have each one mortise, cut through its middle, of a sufficient size for the easy and regular motion of the ruler-like piece C D. Holes are to be made at right angles through the centre of each of these mortises, corresponding with those in the piece C D, so that by means of small pins or screws, these boards, E F, e f, can be moveably hung nearer or farther from the block A B, as required. o o o o, represent the spaces between the block A B, and boards E F, e f, which the teats are to occupy to be milked. The sides of the block A B, and the inner sides of the boards E F, e f, are to be lined with leather, or some other soft substance, stuffed with cotton, &c. so as to be elastic and press easy against the teats and not injure them. This lining should be harder, and project farther, the nearer it comes to the upper sides of these boards and blocks; so that when the pressure is given, it will commence at the upper parts of the teats and gradually increase downwards, till all the milk is forced out. Instead of this stuffed lining, springs, spiral wires, or some other elastic substance, may be used; perhaps springs are best. To work this machine, it is to be supported by the hands by means of the handles H h, in such a position that the teats will hang down between the block and the boards at o o o o, two teats each side of the piece C D. Both handles are to be moved inwards and then outwards, either fast or slow, so that the operation of

milking can be performed or regulated at pleasure. When the handles are moved inwards, the two nearest teats to the milker will be milked; when moved outwards, the two farthest; and thus, as the motions can be so quick, there will almost flow four streams, till the operation is performed. Instead of communicating the pressure on the outside, it may be applied on the inside by altering the construction a little. This machine is applicable to other purposes allied to the operation of milking. The construction, dimensions, weight, and quality of the materials are variable; but the principle of operation is the same.*

Fig. 2.

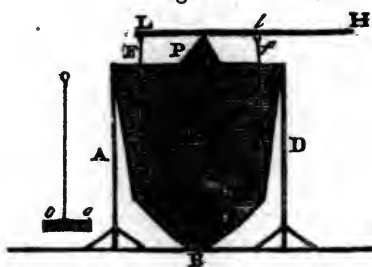


2. APPLICATION TO PUMPING.—Fig. 2 represents a balance suction or forcing pump, for water or air, wherein there is no loss of motion. W represents a body of air or water. A B, a b, represent two similar hollow cylinders, whose lower ends are inserted perpendicularly, equidistant, and parallel in the body W of air or water. P represents a pivot, which firmly connects the top of the cylinders, and across which the balancing lever L l is to be moveably hung and poised. H represents the handle of the lever L l. C c represent two similar piston rods, whose upper ends are moveably hung to the lever at d d, and to whose lower ends are attached either pistons or valves, as it is designed for a suction or forcing pump. D represents the pipes of both cylinders, united to convey off the air or water. It can be conveyed off separately. This is operated by an upward and downward motion of the handle H. Any equal number of pumps, either suction or forcing, of equal dimensions, can, by being connected on this principle of a balance, be worked or moved by one handle. This application is susceptible of numerous modifications.

3. APPLICATION TO CHURNING.—Fig. 2 will serve to illustrate its application to churning. A, B, a b, represent two churns; C c, their dashers or piston-rods; L l, the balancing lever; H, its handle; P, its pivot, which connects them the same as the cylinder A B, a b. It is worked by an upward and downward motion of the handle H. This construction may be modified into a forcing or piston churn, by having a communication at the bottom between them, to force the cream alternately from one into the other. Instead of two churns, one churn resembling those commonly wrought by a crank, with a piston through the middle, and an aperture through that, would answer the purpose. I am of the opinion, that, in churning, the cream

would gather sooner, and form butter, by being powerfully forced alternately through small apertures, than by any other means, unless it be by adding some substance or composition that will immediately fetch it. Instead of the cream's being forced from one churn into the other and backwards, constantly, a small wheel full of holes, (the lids of the churns being made tight and fast,) might be attached to the lower end of each piston-rod or dasher, and made to operate up and down, and answer the same purpose, or a better than the former method.

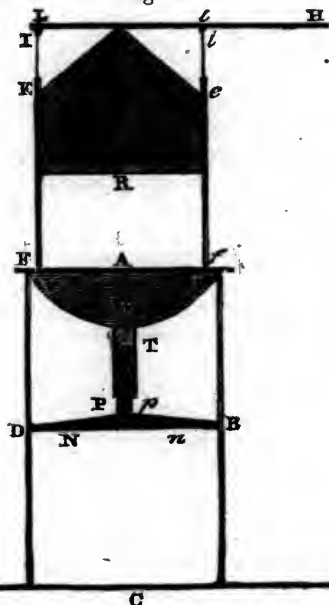
Fig. 3.



4. APPLICATION TO WASHING.—Fig. 3 represents a washing machine. C represents the cistern, which can be lined with rollers on the two sides A D, to hold the water and the clothes to be washed; three feet high and three wide; A B D, its frame; P, the pivot; L l, the balance lever; H, its handle; F f, the rods on which the washers, beaters, or rollers, are hung; o o represent a beater, &c. attached to its rod F or f. This machine is operated by the upward and downward motion of the handle H, and can be variously modified.

5. APPLICATION TO FULLING.—Fig. 3 will serve to illustrate its application to a fulling-mill or machine. There are two constructions to this application: a vertical and horizontal. Fig. 3 enlarged will represent the vertical one. The horizontal one is nearly the same as the vertical, only that the lever and rods have a horizontal motion, and the cistern must be modified a little to answer it. In both constructions the operating power is to be applied to the handle H.

Fig. 4.

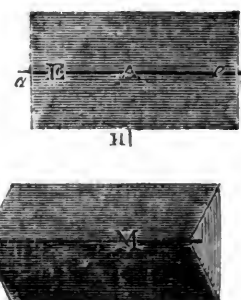


6. APPLICATION TO AN AEROSTATIC OR HYDROSTATIC PRESS.—Fig. 4 represents an aerostatic or air, or a hydrostatic or water press: A B C D, its frame; W, the air or

water cistern, which in shape resembles the segment of a hollow sphere or hemisphere; T, a strong hollow cylinder inserted in or attached to the bottom of the cistern; N n, the follower, a strong bar, fitted to move up and down in the sides D B of the frame. To this follower is attached the piston P p, which is exactly fitted to move up and down in the cylinder T, so as to prevent the escape of air or water. The pressure of this press is given between the follower N n, and the side of the frame C. E F, e f, represent two hollow pipes, whose lower ends are tightly inserted into the cistern W. V v, two valves that exactly cover the lower ends of these pipes, and open sufficiently into the cistern. R, the pivot of the operating lever, which connects the top of the pipes; L l, the operating lever; H, its handle; I i, two rods that move up and down in the pipes, whose upper ends are moveably hung to the lever L l, and to whose lower ends are attached wheels or pistons with valves in their centre, opening downwards, exactly fitted to move up and down, and not allow the escape of air or water. To give the pressure either by air or water, it is admitted into the top of the pipes, passes through the valves in the wheels and the valves V v, until the cistern is full; the handle H is then to be worked, and the water or air will force down the piston P p, and consequently the follower N n, and press whatever is between it and C. To take off the pressure, the air or water can be let out of the cistern. Pistons might be used in the pipes. This press is susceptible of numerous modifications and applications.

7. APPLICATION TO PRINTING.—Fig. 5 represents a printing machine. A represents an oblong table or frame, set full of types, and balanced on its axle E e, which supports it at a a, moveably in two upright standards.

Fig. 5.



H represents the operating handle; M, a heavy or solid, oblong, triangular block, as wide and long as the table, over which it is to be firmly hung, so that one of its angles will run parallel and laterally with its axle E e. The two sides of the block M, immediately over the types or against which they will press, when the handle H is operated, must be lined with some elastic substance, in order to give a good impression. The types are to be inked by inking rollers, and the paper applied by hand or machinery. Instead of the table being moveably hung, and the block fixed, it may be reversed: the table fixed and block moveably hung. Instead of the block being triangular, and table flat, the block may be flat, and the table triangular. Every motion of the handle H, either upwards or downwards, will give an impression.

H. STRAIT.

East Nassau, Rensselaer co., N. Y., April 28, 1834.

* Having stated to the author some doubts as to this new process of milking, we have received his assurance that he has proved it practically, and that he desires its publication.—[Ed.]

Animal Mechanics, or Proofs of Design in the Animal Frame. Part II., showing the Application of the Living Forces. [From the Library of Useful Knowledge.]

(Continued from page 680.)

We are told that we must not drink at meals, lest the fluid interfere with the operation of digestion; and of this there need be no apprehension. The stomach separates and lets off with the most curious skill all superfluous fluid through its orifice, while it retains the matter fit for digestion. It retains it in its left extremity, permitting the fluid to pass into the intestines, there to supply the other wants of the system no less important than the digestion. The veterinary professor, Coleman, ascertained that a pail of water passed through the stomach and intestines of a horse at the rate of ten feet in the minute, until it reached the cæcum. Drinking at a stated period after meals, say an hour, is at variance with both appetite and reason. The digestion is then effectually interfered with; for what was solid has become a fluid, (the *chyme*.) This fluid is already in part assimilated; it has undergone the first of those changes which fit it ultimately to be the living blood; and the drink mixing with this chyme in the inferior extremity of the stomach, or first intestine, must produce disturbance, and interrupt the work of assimilation.

Looking in this manner upon the very extraordinary properties of the stomach, we perceive how natural it was for physicians to give a name to the sensibility of which we have been speaking. The *Archeus* of Vanhelmont, the *Anima* of Stahl, were the terms used to designate this nature, principle, or faculty, subordinate to and distinct from perception: a notion entertained, and more or less distinctly hinted at, by philosophers from Pythagoras to John Hunter.

A modern philosopher,* of whom, in this instance, it would be difficult to say whether he be serious or playful, with some plausibility, however, asserts that it might be possible to carry on the business of life without pain. If animals can be free from it an hour, they might enjoy a perpetual exemption from it. Animals might be constantly in a state of enjoyment; instead of pain, they might feel a diminution of pleasure, and might thus be prompted to seek that which is necessary to their existence.

In the lower creatures, governed by instinct, there may be, for aught we know, some such condition of existence. But the complexity and delicacy of the human frame is necessary for sustaining those powers or attributes which are in correspondence with superior intelligence; since they are not in relation to the mind alone, but intermediate between it and the external material world. Grant that vision is necessary to the development of thought, the organ of it must be formed with relation to light. Speech, so necessary to the development of the reasoning faculties, implies a complex and exceedingly delicate organ, to play on the atmosphere around us. It is not to the mind that the various organizations are wanted, but to its condition in relation to a material world.

The necessity of this delicate structure being admitted, it must be preserved by the modifications of sensibility, which shall ei-

ther instinctively protect the parts, or rouse us into powerful and instantaneous activity. Could the eye guard itself, unless it possessed sensibility greater than the skin? Could it guard itself, unless this sensibility were in consent with an apparatus which acted as quick as thought? Could we, by the mere influence of pleasure, or by any cessation or variation of pleasurable feelings, be made alive to those injuries which might reach the lungs by substances being carried in with the air we breathe? Is there any thing but the sense which gives rise to the apprehension of suffocation, that would produce the instant and sudden effort which could guard the throat from the intrusion of what was offensive or injurious. Pleasure is at the best a poor motive to exertion, and rather induces to languor and indulgence, and at length indifference. To say that animals might be continually in a state of enjoyment, and that when urged by the necessities of nature, such as thirst, hunger, and weariness, they might only feel a diminution of pleasure, is not only to alter man's nature, but external nature also; for whilst there are earth, rocks, woods, and water, for our theatre of existence, the texture of our bodies must be exposed to injuries from which they can only be protected by a sensibility adapted to each part, and capable of rousing us to the most animated exertions. Take away pain, and take also away the material world, by which we are continually threatened with injury, and what, after all, is this but imagining a future state of existence, instead of that in which mind and matter are combined? If all were smooth in our path, if there were neither rugged places nor accidental opposition, whence should we derive those affections of our minds which we call enterprise, fortitude, and patience?

Independent of pain, which protects us more powerfully than a shield, there is inherent in us, and for a similar purpose, an innate horror of death. "And what thinkest thou, (said Socrates to Aristodemus,) of this continual love of life, this dread of dissolution, which takes possession of us from the moment that we are conscious of existence?" "I think it, (answered he,) as the means employed by the same great and wise artist, deliberately determined to preserve what he has made."

The reader will no doubt here observe the distinction. We have experience of pain from injuries, and learn to avoid them; but we can have no experience of death, and therefore the Author of our being has implanted in us an innate horror at dissolution, and we may see this principle extended through the whole of animated nature. Where it is possible to be taught by experience, we are left to profit by it, but where we can have none, feelings are engendered without it. And this is all that was necessary to show how the life is guarded: sometimes by mechanical strength, as in the skull; sometimes by acute sensation, as in the skin, and in the eye; sometimes by innate affections of the mind, as in the horror of death, which will prevail as the voice of nature, when we can no longer profit by experience.

But the highest proof of benevolence is this, that we have the chiefest source of happiness in ourselves. Every creature has pleasure in the mere exercise of his body, as well as in the languor and repose that follow exertion; but these conditions are so

balanced, that we are impelled to change, and every change is an additional source of enjoyment. What is apparent in the body is true of the mind also. The great source of happiness is to be found in the exercise of talents, and perhaps the greatest of all is when the ingenuity of the mind is exercised in the dexterous employment of the hands. Idle men do not know what is meant here; but nature has implanted in us this stimulus to exertion, that she has given to the ingenious artist—the man who invents, and with his hands creates, a source of delight, perhaps greater, certainly more uninterrupted, than belongs to the possession of higher intellectual powers, and far beyond any that falls to the lot of the minion of fortune.

We believe that every thinking person may have wherewithal in his own sphere to tutor him, and bring him to the temper of mind and belief which we would inculcate. Yet there is something peculiarly appropriate in the study of our own bodies. In chemistry we are so much the agents as to forget the law, and the law itself seems at least to intermit. But in the changes wrought in the animal frame, the directing power is uniform in its influence, and holds all in harmony of action.

We now learn without difficulty and without mystery, what is meant by organic and animal sensibility. The first is that condition of the living organ which makes it sensible of an impression, on which it reacts and performs its functions. It appears from what has preceded that this sensibility may cause the blowing of a flower, or the motion of a heart. The animal sensibility is indeed an improper term, because it would seem to imply that its opposite, organic sensibility, was not also animal; but it means that impression which is referred to the sensorium; where, (when action is excited,) perception and the effort of the will are intermediate agents between the sensation and the action or motion.

We may sum up the inquiry into sensibility and motion thus:

1. The peculiar distinction of a living animal is that its minute particles are undergoing a continual change or revolution under the influence of life. Philosophers have applied no term to these motions.

2. An organ possessed of an appropriate muscular texture, and of sensibility in accordance with the moving instrument, as the heart, or the stomach, has the power of action without reference to the mind. The term *automatic*, sometimes given to those motions, conveys a wrong idea of the source of motion, as if, instead of being a living power, it were consequent upon some elastic or mechanical property.

3. There are sensibilities bestowed on certain organs, and holding a control over a number of muscles, which combine them in action in a manner greatly resembling the influence of the mind upon the body, yet independent of the mind: as the sensibility which combines the muscles in breathing.

4. In the last instance, a large class of muscles were combined without volition. But the whole animal fabric may be so employed, as in the instinctive operations of animals, where there is an impulse to certain actions not accompanied by intelligence.

5. A motive must exist before there are voluntary actions, and hence philosophers have supposed that there can be nothing but

* Hume.

instinctive actions in a new-born child. But we must distinguish here what are perfect at first, and what are imperfect and irregular, and become perfect by use and the direction of the will. The act of swallowing is perfect from the beginning. The motions of the legs and arms, and the sounds of the voice, are irregular and weak, and imperfectly directed. It is the latter which improve with the mind. From not knowing the internal structure, and the arrangement of the nerves, philosophers, as Hartley, supposed that an instinctive motion, such as swallowing, may become a voluntary act. Volition in the act of swallowing consists merely in putting the morsel within the instinctive grasp of the fauces, when a series of involuntary actions commence, over which we have no more control in mature age than in the earliest infancy. Swallowing is not a voluntary action, and the thrusting the morsel back with the tongue is like putting the cup to the lip. It is the preparation for the act of swallowing that is voluntary, but over the act itself we have no control.

It is an error to suppose that all muscular actions are in the first instance involuntary, and that over some of them we acquire a voluntary power. The power of volition over the muscles of the body is provided for by appropriate nerves, and no apparatus which is not supplied with that particular class of nerves can ever by any exercise or study become subject to volition. A child's face has a great deal of motion in it, very diverting from its resemblance to expression, before there can be any real motive to the action. It will crow, and make strange sounds, before there is an attempt at speech. But this gradual development of intelligence and acquisition of power ought not to be called the will attaining influence over involuntary muscles; since, in fact, the apparatus of nerves and muscles is prepared, and waits for the direction of the mind with so perfect a readiness as to fall into action and just combination, before that condition or affection of the mind which should precede the action takes place. A child smiles before any thing incongruous can enter the mind, before even pleasure can be supposed a condition of the mind. Indeed, the smile on an infant's face is first perceived in sleep.

6. All the motions enumerated above are spontaneous motions belonging to the internal economy; but the external relations of the animal, the necessity of escaping from injury, or warding off violence, require a sensibility suited to those outward impressions, and an activity consequent on volition. Nothing less than perceptions of the mind, and voluntary acts, suited to a thousand circumstances of relation, could preserve the higher classes of animals, and man above all others, from destruction.

All these provisions proceed from an arrangement of nerves and muscles. The mechanical adjustment of the muscles and tendons is perfect, according to the principles of mechanics. The muscles themselves possess a different property; they are irritable parts; motion originates in them. This living property of contraction is admirably suited, in each particular muscle, to the office it has to perform. In some it is suitable that the muscles should act as rapidly as the bowstring on the arrow; in others the action is slow and regular; in others it is irregular, and after long intervals, according

as the functions to which they are subservient require. The motions of the limbs, the motions of the eye, those of the heart and arteries, stomach, and bowels, are all different. This appropriation of action is not in the muscles themselves, but as they stand in relation to the nervous system, and the sensibilities which impel them.

We hope, then, by the course we have taken, that we have carried the reader to a higher sense of the perfection of the animal structure. We first drew him to observe provisions in the strengthening of the bones, the adjustment of their extremities to the joints, the course of the tendons, and other such mechanical appliances, proving to him the existence of intention in the formation of the solid fabric of the body. We have then explained how that motion is produced which was at all times familiar to him, but even the immediate causes of which he did not comprehend. We have in the last place shown him, that under the term life he has a still more admirable subject of contemplation in the adjustment of those living properties; in the sensibilities differing not so much in degree as in kind; and in their appropriation, both to the operations of the internal economy, and to the relations external, and necessary to safety.

It is not possible to contemplate these things without having the full proof before us of the power of the Creator in forming and sustaining the animal body. As a man with *gutta serena* may turn his eyes to the sun, and feel no influence of light, so may the understanding be blind to these proofs; and we may say with the celebrated Dr. Hunter, that he who can contemplate them without enthusiasm, must labor under a dead palsy in some part of his mind, and we must pity him as unfortunate.

MOUNT AUBURN.—We shall continue to lay before our readers intelligence on this subject, in the hope that the day is not distant when New-York city will have a suitable resting-place for the dead.

At a meeting of the Massachusetts Horticultural Society, Saturday, September 20, 1834, the Garden and Mount Auburn Cemetery Committee, by their Chairman, (Hon. Judge Story,) presented the following Report, which was read, accepted, and ordered to be printed in those of the city newspapers whose editors may be willing to insert the same.

R. T. PAINE,
Recording Secretary.

The Garden and Cemetery Committee of the Massachusetts Horticultural Society beg leave to submit the following Annual Report for the consideration of the Society:

The committee congratulate the society upon the continued improvement of the garden and cemetery, and the additional favor and encouragement which the design has received from the public. Before proceeding, however, to any particulars respecting this subject, they feel it their duty to make a few remarks, in order to correct some erroneous notions, which pervade certain portions of the community, relative to the nature and objects of the establishment. It is by no means uncommon to find persons impressed with the belief, that the establishment is a private speculation, for the private benefit of the members of the society, or of the individuals who originally advanced the money to purchase the grounds for the garden and cemetery, and that considerable profits have been already realized from it. This notion is utterly unfounded. The cemetery is in the truest and noblest sense a public institution,

that is, an institution of which the whole community may obtain the benefit upon easy and equal terms. No individual has any private interest in the establishment beyond what he acquires as the proprietor of a lot in the cemetery; and every man in the community may become a proprietor upon paying the usual sum fixed for the purchase of a lot. The whole grounds are held by the Horticultural Society in trust, for the purposes of a garden and cemetery; and no member thereof as such has any private interest therein, except as a corporator, or proprietor of a lot. The whole funds which have been already realized by the sale of lots have been devoted to paying the price of the original purchase, laying out the grounds, enclosing them with a fence, erecting an entrance gate and portal, and a cottage, and other structures for the accommodation of the superintendent, and defraying the incidental expenses. The expenditures have already amounted, as appears by the treasurer's report, to upwards of twenty-five thousand dollars; and the proceeds of the sales have fallen short of this amount by about two thousand dollars; so that as yet the expenditures have exceeded the income. It has always been the understanding of the Society, that all funds which should be obtained by the sale of lots, should, after defraying the annual expenses of the establishment, be applied exclusively to the preservation, repair, ornament, and permanent improvement of the garden and cemetery, and never to the private emolument of any of the members—and indeed this constituted the fundamental object of those who have become the proprietors of lots. It is due also to the gentlemen whose public spirit matured the design, to state that it was their primary object to exclude all private speculation and interests from the undertaking, and, by a wise and fixed policy, to secure all the funds which should arise from its success to public purposes of an enduring and permanent character. The Society has sanctioned these views. It was believed that a generous community would foster the design, and by a timely liberality in the purchase of lots, would enable the Society to make this beautiful retreat for the Dead at the same time the consolation and just pride of the Living. The committee have great pleasure in stating that these reasonable expectations have not been disappointed. Mount Auburn has already become a place of general resort and interest, as well to strangers as to citizens; and its shades and paths ornamented with monumental structures, of various beauty and elegance, have already given solace and tranquilizing reflections to many an afflicted heart, and awakened a deep moral sensibility in many a pious bosom. The committee look forward with increasing confidence to a steady public patronage, which shall supply all the means necessary for the accomplishment of all the interesting objects of the establishment.

Relying on this patronage, the committee indulge the hope that the period is not far distant when by the sale of the lots the Society will be enabled to enclose all the grounds with a permanent wall, to erect a temple of simple and classical character, in which the service over the dead may be performed by clergymen of every denomination: to add extensively to the beauty and productiveness of the garden; and, above all, to lay the foundation of an accumulating fund, the income of which shall be perpetually devoted to the preservation, embellishment, and improvement of the grounds. The last object the committee deem of the highest importance to the perpetuity of the establishment; and it cannot be contemplated with too much care and earnestness in all the future arrangements of the Society. In addition to these objects the committee would suggest the propriety of making arrangements for the admission of water from Fresh Pond into the ponds of the cemetery, and, after passing through them, of conducting it into Charles River. Such a measure would add to the sa-

lubricity of the ponds, as well as improve the general aspect of the whole scenery. It is believed that this measure may be accomplished at a comparatively small expense, whenever the funds of the Society will admit of a suitable appropriation. In the mean time it seems desirable to secure, by some preliminary arrangements, the ultimate success of the project.

The committee would further state, that by the report of the treasurer it appears, that the whole number of lots in the cemetery which have been already sold is 351, viz. 175 lots in 1832, 76 lots in 1833, and 100 lots in 1834; and the aggregate sum produced by these sales is \$23,225.72. The whole expenditures incurred during the same years amount to \$25,211.88. The balance of cash and other available funds now in the hands of the treasurer is \$5,403.32. The committee are of opinion, that reliance may safely be placed upon the future sales of lots to defray the expenses of the current year; and that, therefore, a portion of the funds now on hand may be properly applied to the reduction of the remaining debts due by the Society.

The committee would further state, that since the month of August, 1833, there have been ninety-three interments at Mount Auburn; eighteen tombs have been built, sixteen monuments have been erected, and sixty-eight lots have been turfed and otherwise ornamented. It is understood that other monuments are in progress, and will be erected in a short time.

The committee would further state, that finding the grounds at Mount Auburn were visited by unusual concourses of people on Sundays, and that the injuries done to the grounds and shrubbery were far greater on those occasions than any other, from circumstances which it is unnecessary to mention, they deemed it their duty, as well in reverence for the day, as in reference to the permanent interests of the establishment, and a regard to the feelings of the community, to make a regulation prohibiting any persons, except proprietors and their families, and the persons accompanying them, from entering the grounds on Sundays. The effects of this regulation have been highly beneficial. It has not only given quiet to the neighborhood, and enabled proprietors and their families to visit their lots on Sundays under circumstances of more seclusion, tranquillity, and solemn religious feelings; but it has put a stop to many of the depredations which thoughtless and mischievous persons had been too apt to indulge in, in their recreations on that day. Several other regulations have been made, which experience has shown to be indispensable to the due security and uses of the cemetery. The most important of these is the closing the gates at sunset and opening them at sunrise. And it may be observed of all these regulations, that while they allow a free access to the grounds to all visitors at reasonable times, and in a reasonable manner, they are calculated to prevent any desecration of them under false pretexts, or by secret misconduct.

The committee would further state, that in pursuance of the vote of the society at their last annual meeting, they made application to the legislature of the commonwealth at its last session, for additional provisions to aid the general objects of the Society. The legislature accordingly passed an act, entitled "An act in further addition to an act to incorporate the Massachusetts Horticultural Society," which is entirely satisfactory to the committee. They therefore beg leave to recommend, that the Society should, by a formal vote, accept the same.

All of which is respectfully submitted.

JOSEPH STORY,
Chairman of the Committee.

The Trial of Lieutenant Babbitt closed on Thursday last, and the decision of the Court has been for-

warded to Washington; whence it will be made known to the public. It has been stated in the newspapers that a sum, between five and six hundred dollars, has been raised by subscription, in order to pay the expenses incurred by Lieutenant Babbitt in defending this suit,—expenses which were large enough to deprive him of all his pay and emoluments for at least a year or two. In addition to this, we have heard that his counsel, Mr. Loring, after the trial was over, refused to receive any remuneration for his services, although he has spent considerable time in the case, and time too, which to a gentleman of his profession and business, is very valuable.—[Boston Courier.]

OFFICIAL.
ORDER } HEAD QUARTERS OF THE ARMY,
No. 68. } ADJUTANT GENERAL'S OFFICE,
Washington, Oct. 31st, 1834.

1. . . . PROMOTIONS and Appointments in the Army. By the PRESIDENT of the United States, since the publication of the "Order" No. 49, of July 9th, 1834.

1.—PROMOTIONS.

Regiment of Dragoons.

Brevet Second Lieutenant Lucius B. Northrop, to be Second Lieutenant, 21st July, 1834, vice McClure, deceased.—(brevet 1st July, 1831.)

First Regiment of Artillery.

First Lieutenant David Van Ness, to be Captain 23d October, 1834, vice Griswold, deceased.

Second Lieutenant Richard C. Tilghman, to be First Lieutenant, 23d October, 1834, vice Van Ness promoted.

Brevet Second Lieutenant David E. Hale, to be Second Lieutenant, 23d Oct., 1834, vice Tilghman promoted.—(brevet 1st July, 1833.)

Second Regiment of Artillery.

Second Lieutenant Hugh W. Mercer, to be First Lieutenant, 10th October, 1834, vice Armstrong, deceased.

Brevet Second Lieutenant Edmund Schriver, to be Second Lieutenant, 31st July, 1834, vice Allen, resigned.—(brevet 1st July, 1833.)

Brevet Second Lieutenant Harrison Loughborough, to be Second Lieutenant, 10th Oct., 1834, vice Mercer, promoted.—(brevet 1st July, 1834.)

Third Regiment of Artillery.

Brevet Second Lieutenant Roswell W. Lee, to be Second Lieutenant, 14th Sept., 1834, vice Brown, deceased.—(brevet 1st July, 1833.)

Fourth Regiment of Artillery.

Second Lieutenant William F. Hopkins, to be First Lieutenant, 14th September, 1834, vice Canfield, appointed Assistant Topographical Engineer.

Brevet Second Lieutenant Alfred Brush, to be Second Lieutenant, 14th September, 1834, vice Hopkins, promoted.—(brevet 1st July, 1832.)

Second Regiment of Infantry.

Major Alexander R. Thompson, of the 6th regiment, to be Major of the 2d Regiment; (vice Whistler, promoted;) to rank from the 4th April, 1832.

Third Regiment of Infantry.

Brevet Colonel James B. Many, Lt. Colonel of the 7th infantry, to be Colonel, 21st July, 1834, vice Leavenworth, deceased.

Seventh Regiment of Infantry.

Major William Whistler, of the 2d Infantry, to be Lieutenant Colonel, 21st July, 1834, vice Many, promoted.

2.—APPOINTMENTS.

Staff.

Assistant Surgeon Edward Macomb, to be Surgeon, to take effect 1st Nov. 1834, vice Macmahon, resigned.

John S. Gatlin, to be Assistant Surgeon, 3d August, 1834, vice Welsh, deceased.

George R. Clarke, to be Assistant Surgeon, to take effect 1st November, 1834, vice Macomb, promoted.

Topographical Engineers.

Brevet Captain James D. Graham, Assistant Topographical Engineer, to be Topographical Engineer, with the brevet rank of Major, 14th September, 1834, vice Anderson, deceased.

First Lieutenant Augustus Canfield, late of the 4th Regiment of Artillery, to be Assistant Topographical Engineer, with the brevet rank of Captain, 14th September, 1834, vice Graham, promoted.

3.—CASUALTIES.

Resignations.

Surgeon J. P. C. Macmahon, 30 October, 1834.

Second Lieutenant James Allen, 2d Artillery 31st July, 1834.

Second Lieutenant Philip St. George Cocke, 2d Artillery, 1st April, 1834.

Deaths.

Brevet Brigadier General Henry Leavenworth, Colonel of the 3d Regiment of Infantry, 21st July, 1834.

Brevet Lieutenant Colonel John Anderson, Topographical Engineer, 14th September, 1834.

Colonel Wm. Piatt, Paymaster, 16th August, 1834.

Assistant Surgeon Charles B. Welsh, 2d August, 1834.

Captain H. W. Griswold, 1st Artillery, 23d October, 1834.

Brevet Capt. Robert L. Armstrong, 2d Artillery, 10th Oct. 1834.

Second Lieutenant George W. McClure, Dragoons, 21st July, 1834.

Second Lieutenant Theophilus B. Brown, 3d Artillery, 14th Sept. 1834.

Brevet Second Lieutenant Geo. D. Dimon, 1st Infantry, 16th Sep. 1834.

2.—The officers promoted and appointed, will report accordingly, and join their proper stations and companies, without delay; those on detached service, or acting under special orders and instructions, will report, by letter, to their respective Colonels.

By order of ALEXANDER MACOMB,
Maj. General Comd'g in Chief.
R. JONES, Adjutant General.

AGRICULTURE, &c.

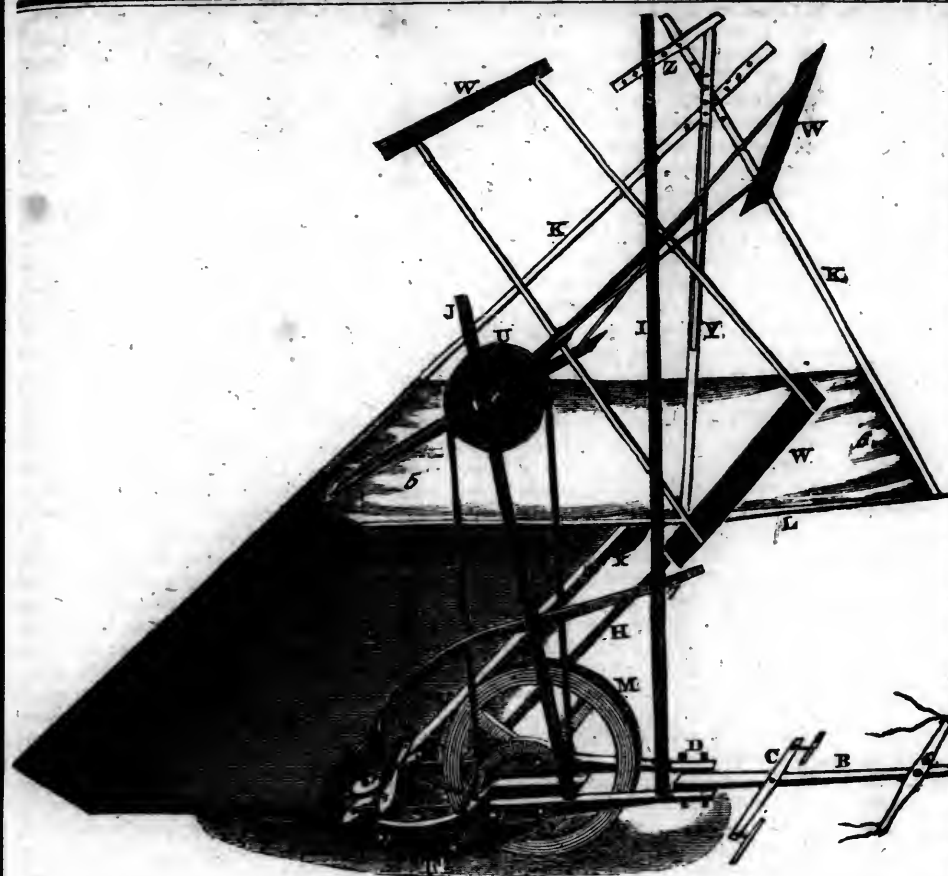
Cyrus H. M'Cormick's Improved Reaping Machine.

To the Editor of the Mechanics' Magazine:

DEAR SIR,—I send you a drawing and description of my Reaping Machine, agreeably to your request.

References—A, the platform; B, tongue; C, cross-bar; D, hinder end of the tongue; e e, projections in front; F, broad piece on each side; G, circular brace; H, diagonal brace; I, upright post; J, upright reel post; K, braces to upright; L, projection to regulate the width of swath; M, main wheel roughened; N, band and cog wheel of 30 teeth; O, band; p, small bevel wheel of 9 teeth; Q, do. of 27 teeth; r, do. of 9 teeth; s, double crank; T, cutter; V, vibrating bar of wood, with bent teeth; U, reel pulley; W, reel; X, wheel of 15 inches diameter; Y, reel post.

The platform A is of plank, made fast to a frame of wood, for receiving the grain when cut, and holding it until enough has been collected for a sheaf, or more. The projections in front, e e, are two pieces of the platform frame, extending about 1½ feet in front, and one or more feet apart. On each outside of these pieces is to be secured a broad piece of wood, as at F, by screw bolts, as at 1 1, passing through them and the projection of the frame. From the end of the outer broad piece, nearest the platform, rises a circular brace, G, projecting forward, and secured to the reel-post, I, by a moveable screw bolt. About nine inches in front of the screw bolts, at 1 1, are two other moveable screw bolts, as at 2, passing through both broad pieces and the ends of both projections, allowing for a rise or fall in adjusting the height of cutting; and at about the same distance, further on, is to play an axis of a wheel to be hung between said pieces. Near each end of this axis is secured an arm with two screw bolts, as at 3 3, one of which is moveable, as will be seen; projecting before the wheel, where the tongue is made fast between them by means of two screw bolts passing through all at D. H is a diagonal brace. On the opposite side of the machine is another reel-post, Y, connected near the top with a piece, K, on each side, with a moveable screw bolt, and extending, one to the end of a piece, L, which is attached to the outside of the platform, and divides the grain to be cut, from that to be left standing, the other to the hind end of the platform. T is an upright post, secured to the braces of G and H, at 7, by a moveable



bolt, bracing the reel-post Y by means of a piece, Z, passing diagonally over the reel. 5 5 is a strip of cloth about as high as the grain, for the purpose, of keeping entirely separate the grain to be cut from that to be left. On the axis, hung between the hind pieces, is a wheel, M, of about two feet diameter, having the circumference curved with teeth to hold to the ground by. N is a cog wheel on the same axis, which serves also for a band wheel, on which and the pulley U the band O works. The cog wheel P working into the cog wheel N, has another cog wheel, Q, on its axle, which works into another small pinion, as at r, attached to the double crank s. These cranks are in a right line, projecting on opposite sides of the axis and in a line with the front edge of the platform. The lower of these works the cutter T, along the front edge of the platform, and the upper one the vibrating bar V, counter to each other. The cutter is a long blade of steel, with an edge like that of a reap-hook, and is supported on the under side by stationary pieces of wood at suitable distances apart. This blade is attached to the frame piece, below the edge of the platform, by means of moveable tongues or slips of metal; the bolt securing it to said frame-piece acting as a pivot, and that through the blade likewise, so that the motion is described in part of a circle. The vibrating bar is of wood, of the same length, and secured in the same manner, above the cutter, with iron teeth made fast in it, at about 2 inches apart, extending before the edge of the cutter, and bent round under it. This vibrating bar has been and may be made stationary, with bent teeth supporting the stalks on each side of the cutter, thereby dispensing with the upper crank; but the other is much preferable, as it reduces the friction and liability to wear materially, by

dividing the motion necessary for one between the two, and counterbalancing each other.

In the upper end of each reel-post is a groove, or long mortice, to receive the end of the axis of the reel, which rests on an adjusting pin, subject to be moved higher or lower, to suit grain of different heights—rye, wheat, or oats, &c. The reel W is composed of two or more cross arms at each end of the axle, projecting about 3 feet each way, and connected at their ends by a thin board of about nine inches in width, which, by the arrangement of the arms, runs in a somewhat spiral direction along the axis (though it might be parallel), the right end bearing up first on the grain. This reel, by the motion given by the strap O as the horses advance, bears the stalks upon the cutter, and when separated lands them on the platform A, which advancing till a sufficient quantity is collected, is discharged as often as may be required by a hand with a rake at the right end of the platform. On the left end of the platform is a wheel, H, of about 15 inches diameter, that may be raised or lowered as the cutting may require, corresponding with the opposite side. The point of the tongue is secured to its place by passing through a pin, 6, that is fastened to the hames of each horse by means of leather straps.

I have made some alterations on the drawing, which I think you will readily understand. Two horses were not used to the machine until the last harvest; the necessary changes of which were only described to the draughtsman, and were not all understood. I directed that it should not exceed 54 inches, though I think it does one way. The wheel H I think has a wrong direction.

Very respectfully, yours, &c.

C. H. M'CORMICK.

Experiments on Potatoes. By M. MOORE, Jr.
To the Editor of the Quarterly Journal of Agriculture, Mechanics, &c.

SIR,—The following is the result of an experiment tried by me the past season, and thinking it might interest some of the readers of your Journal, have made the memorandum annexed.

I planted, last spring, potatoes of the same kind, on the same ground, all manures exactly alike, eleven different ways, and the result was as in the following table, viz.:

		Product.	
		No. of potatoes.	lbs. oz.
No. 1,	Planted a single eye,	9	3 14
" 2,	" two eyes,	14	5 2
" 3,	" three eyes,	14	5 15
" 4,	" two sets of 2 eyes each,	15	5
" 5,	" do. 3 do.	25	5
" 6,	" do. 4 do.	34	5 10
" 7,	" three sets of 2 eyes each,	24	3 2
" 8,	" do. 3 do.	27	4
" 9,	" do. 4 do.	24	4 10
" 10,	" do. 5 do.	32	5 3
" 11,	" whole potatoe, with 11 eyes,	21	4 12

The size of the potatoes in No. 1 were as nearly of the same size as could well be; in No. 2, were good size, even; No. 3 were some very large, and others smaller; No. 4 were mostly of an even size; but all below were a great number of very small size. A farmer living near me had planted this spring an acre, and used 50 bushels of seed.

I endeavored to procure in New-York last fall, all the varieties of early corn I could, and had them planted on the 22d of May. I gathered on the 11th August the earliest kind, and it was fit to grind on the 18th, nearly two weeks previous to the next earliest, which was seed I procured of G. Thorburn, and which he called Cobbett's corn, he (Cobbett) having raised the same in England. The earliest kind had a long Indian name, hard to pronounce, and in distributing the seed this fall, I called it Moore's corn. Where I reside is 14 miles north of Utica; generally have frost in September, and I consider it important in raising corn that we should have the earliest.

M. MOORE, Jr.

Trenton Falls, Oct. 16, 1834.

Hops.—The Bangor Republican says there are farmers not thirty miles from Bangor who have taken a thousand dollars in cash as the clear income from their crop of Hops the present season. If this is correct the hop business must certainly be worth the farmers attention. Our farmers need more enterprise, and a better agricultural education. There are many ways in which they might turn a portion of their lands to much better account than they now do, and acquire for themselves a good living, and even independence, with one half the hard knocks and weary toils they usually endure. If they want their lands to produce money, let them turn their attention to the raising of Silk, Hemp and Hops, and they can get it.—[Portland Courier.]

Getting Spilt.—Yesterday, about fifteen large oxen were driven on board one of the steam boats at Market street, with a view of being taken across the river. While they were cogitating upon their new mode of locomotion, one of the animals broke the bar at the side of the boat, and fell overboard. The situation of the luckless animal excited the sympathies of his fellow travellers, who incontinently rushed over the side of the boat, and shared his watery accommodations. Twelve of the noble fellows turned their faces towards the island, which they soon reached, and three were drawn up at the slip. The question of freight, we suppose, will be left to some court of admiralty.

(We caution our compositor against heading this paragraph "bullvestment.")—[United States Gaz.]

Cow-houses.—Among the objects of inattention by farmers is suitable covering for cattle in winter, particularly cows. Generally, among farmers, they suffer from too much exposure to cold and wet; and among milkmen in and near cities, from want of pure and wholesome air. The following is from the Edinburgh Quarterly Journal of Agriculture.

Cow-houses for dairy-cows ought to be 10 or 12 feet high in the side-walls, with proper apertures in the wall, and no lofts over the cows, that they may breathe abundance of wholesome air. Animals so large and well-fed as dairy cows, whose lungs are capacious, ought to have abundance of free air, as breathing of foul air is injurious to them, especially when many of them are placed in one cow-house. Cows do not require much heat, so that they are kept dry; too much fresh air cannot be given them. All cow-houses, and the roads into them, ought to be well paved, and kept clean, as the effluvia of dung or urine cannot fail to injure cattle; and it is a great advantage to cows that they be well cleaned and curried with a comb and brush once every day. Where thin flags of stone can be procured, one of them, about four feet square, should be placed on each side of every stall, for two cows. An iron rod, called a slider, about 20 inches long, should be fixed at both ends in a perpendicular position on each side of each flag, so that a cow may be bound to each slider, by a chain which should slide up and down on the slider when the cow raises or lowers her head. When bound in this manner, the cattle are very secure, and have all the freedom necessary to move and lick themselves. Stone troughs are now generally placed before the cows to receive their food; and a passage in front for feeding the cows is a great convenience. Every cow-house ought to have a tank or well to receive the urine. I saw nothing in continental husbandry that I would more anxiously wish to see introduced into Scotland, than the careful manner in which the urine of cattle, and every species of dirty water, is carefully preserved and used as manure to the land. The Belgians have not only tanks at their cow-houses for collecting the urine, but they have reservoirs on different parts of their farms, to which it is removed as collected, and kept in them, excluded from the air, till it be convenient to be sprinkled upon the ground, which is generally done a few days before sowing the seed for a crop.

Wool Exportation.—It is the opinion of intelligent persons, who have the means of judging, that within fifteen years from this time, American wool will be as important an article of export as American cotton is now. This opinion is justified by the unprecedented increase of the production for the last ten years: an increase which for the last two or three years has been calculated to be at the rate of twenty per cent. per annum. The amount of wool raised in the United States last year and brought into market, (without reference to that consumed at home,) was estimated at sixty millions of pounds. This year it is probably seventy-five millions; next year it will be ninety. Now, to see how this amount of production compares with that of England. England, we believe, produces one hundred and sixty million pounds per annum, and she cannot be expected to produce much more, as all her grazing lands are now taken up. She imports on the average twenty millions from Germany, and ten from Spain. The United States, then, at their present rate of increase, will soon take the lead in amount, and very probably in quality of production, and with so vast a territory adapted for sheep-grazing, will become the great wool market of the world.

Many years will not pass, probably, before the German system of selling wool at fairs

will be adopted in our own wool-growing districts. While wool, as at present, is sold at the farmers' doors to manufacturers and manufacturers' agents, a wide field is spread for speculation, and occasionally for fraud. The farmer, on his remote homestead, cannot possibly have so early or accurate information as the manufacturer, of the changes in the markets. It is impossible for him, at a distance, always to tell with precision what is the fair market price, or whether it is best to sell or hold on. These evils were equally felt abroad, until a remedy was devised. The Leipsic fair, which is the principal one, concentrates all the wool of a district of three or four hundred miles in diameter, and is attended by purchasers, not only from all the European States, but occasionally from this country. The advantage of combination is here enjoyed by the seller as well as the buyer, and every individual can ascertain in a short space, and with the greatest certainty, the highest market value for his wool. The competition on either side is so open and direct, that there is very little opportunity for fraud or mistake.

The small growers would be more benefitted by the establishment of wool fairs than the large ones. In Vermont there are individuals who sold their wool last year for between three and four thousand dollars each; and there is a single township, (that of Orwell in Rutland county,) in which seventy thousand sheep are assessed, and probably a considerably greater number are owned. Wool-growers on such a scale as this can afford the trouble of watching the markets, and the expense of obtaining information; they can even control to a certain extent the markets of their vicinity. The owners of small flocks have none of these advantages, and the average price which they obtain is considerably less than that obtained by the large growers.—[Springfield Mercury, Mass.]

CHINESE MULBERRY.—The Secretary of the H. F. and H. Agricultural Society, in April last, received from Canton, China, some Chinese mulberry seeds, *Morus multicaulis*, through the agency of gentlemen residing there, and having the privilege of penetrating the interior. The secretary forwarded by letter a few of these seeds to several friends down east, from one of whom an acknowledgment has been made, an extract of which follows: "The Chinese mulberry seed you sent by letter, the last of May, have produced 43 fine plants of *Morus multicaulis*, which are valued very highly. The tallest is now, (August 23,) over two feet in height. This year have two kinds of worms, one the common, the other on account of yielding the greatest weight of cocoons, and considered the best and most valuable kind among us—(County of Essex.) Both kinds fed alike, and from leaves of the same white mulberry trees. The largest cocoons of each kind were selected and weighed—of the most valuable kind, took 18 to weigh an ounce, and of the common kind took 33 to weigh an ounce. Then took of all sizes without selecting and taken promiscuously, six ounces of each kind. Of the best kind took 183 to weigh six ounces, and of the common kind took 258 to weigh six ounces, being equal to 489 of the best kind to the pound, and 688 of the common kind to the pound."

The letter does not state how often, how attentively, or how long fed, but shows the result in feeding different kinds of worms. That the best attention was not given to the feeding seems probable, from an examination of the Essex Agricultural Report of 1833, where in one case 208 cocoons, the moth not stifled, being selected from 20,000, weighed one pound, being about 13 to the ounce—but on an average took 330 to the pound, and were in feeding 32 to 40 days. The committee in Essex say: "There is no mystery in the culture of silk. The whole process, from rearing the mulberry tree to the production of silk, is simple and easy,

and our farmers, by turning their care and attention to this business, would obtain a much more profitable reward than in the usual course of field husbandry."

The following experiment has been made in the county of Hampshire. Two families have fed the same kind of worms upon leaves of the same trees, (white mulberry,) but there was a very different result: while, in one family, the worms produced cocoons of less weight, the other, by superior attention, produced cocoons of a large size and weight. The parcel of worms having superior attention, were 29 days in feeding and winding, and produced cocoons, 230 of which weighed one pound, the moth not being stifled. But the other parcel of worms in the other family, supposed to have less attention, were 35 days in feeding, and required 583 to weigh one pound.

From the foregoing, two important facts are developed, to wit, 1st, That there is a great difference in the quality of worms, although fed alike. 2d, That the same kind of worms, having the same kind of food, but superior attention paid to feeding, cleaning, &c., have produced more than double, yes more than 150 per cent. in favor of superior attention to the worms. The usual mode of feeding worms is to keep them on shelves or tables; to clean them from the offal, it becomes necessary to remove the worms to another place upon mulberry leaves. But a better mode has been adopted by the family mentioned in the second fact. In this family the worms are placed on netting, and there fed without the necessity of a removal. The offal falling upon a paper screen beneath, and easily removed without molesting the worms, and when ready to rise for winding, elevate themselves upon and behind another netting near the wall, but connected with the netting whereon they were fed, affording a pleasant sight, being distributed upon the meshes: the whole paraphernalia of bushes are rendered unnecessary, the cocoons more easily separated, and less waste of silk. S.—[Northampton Courier.]

CULTIVATION OF Madder.—Mr. Tucker: There are consumed in the counties of Oneida and Oswego, by three manufacturing establishments, about two hundred and thirty-four thousand pounds of Madder every three years. The article is dug from the ground once in three years. Suppose each acre produced from 1500 to 2000 lbs., but say the former, on a common soil, it would require 156 acres of land to produce madder for these establishments; and perhaps the remaining manufactories, cloth dressers and families, use half as much more, making in the whole 351,000 lbs., which at 15 cents per lb., the average price of best Dutch madder for the last twelve years, is over \$50,000. What a large sum to send to foreign countries, for an article which can be cultivated here as well as potatoes! I am well aware that less than 156 acres will produce the above amount; as, according to the quality of the land and cultivation, it will produce from 1500 to 2000 lbs. of dry madder. I think it would produce 2000 lbs. on land that will yield in a good year 50 bushels of corn to the acre. The whole cost of cultivation on rich deep loam, say sandy loam, digging, washing, drying, grinding, rent of land, seed, and interest of money, at 2000 lbs. to the acre, will not exceed 7 cents per lb. There are without doubt, on most farms in these counties, a few acres of land at least suitable for the cultivation of this article. I consider that the demand will be for years unlimited; as there is not as yet, in the circle of my acquaintance, more than twenty-five acres under cultivation, nine of which are under my management. The price of American madder, for the three past years, has averaged about 23 cents, wholesale. The time for digging, as also for selling the top roots, or seed, is from the 15th of September to the 15th of October; the price at this time is \$3 per bushel, by the quantity. These top

roots are buried in the fall like potatoes, and planted the following spring in drills, six feet apart between the drills, (giving room for a crop of potatoes the first year,) and 12 or 18 inches apart in the drills. It is better to purchase the seed in the fall, as it will bear transportation much better when the buds are not much started,—and the price is considerably lower. The bottom roots are also dug at this time, and washed, (or rinsed, if dug from a light soil,) dried, &c. I have, of three years old roots, unengaged, 150 bushels, or enough to plant from 23 to 25 acres.

Mr. James Eaton, of Winfield, Herkimer co., is a successful cultivator and an honorable dealer in the article. There are others also, so that applicants can be supplied to a considerable amount. For more particular information, as to the cultivation of madder, see "Phinney's Calendar, or Western Almanac, for 1834,"—also a communication in the Cultivator for August, in which is stated my success in the cultivation of this root for two or three years past.

As it is not the intention of the subscriber to offer any remarks to the public but what he believes are founded in truth, he respectfully invites editors of newspapers devoted to agriculture and manufactures, to copy some portion of the above into their respective papers—also other editors who may consider the subject important to the public.

A small package of ground madder will be sent, on application, to the care of the President or Committee of any Agricultural Society in the state, previous to their annual fair, for the inspection of members interested.

RUSSEL BRONSON.

Bridgewater, Oneida co., Sept. 1, 1834.

RIBBON GRASS.—The ribbon grass of our gardens, *Phalaris americana*, is likely to become of great value in our husbandry; it has been found to be better adapted to wet boggy grounds than any other species of grass; to propagate rapidly, either by its seeds or by its roots; to yield a very large product in hay or pasture, and to be well adapted to farm stock. The first suggestion of this fact came to us in a letter from Abedn. Robinson, of Portsmouth, N. H., who says the discovery was accidental.

"A neighbor," he says, "wishing to get rid of some of the roots which encumbered his garden, threw them into a bog; where they took root, and spread over a large space of ground, excluding every other plant. The water flows through the roots at all seasons. The turf has become so solid as to bear a cart and oxen. I walked through this grass when in bloom, and never beheld a more handsome and luxuriant growth. It stood perfectly erect, full of large leaves, even, and from four to five feet high. It will produce two good crops in a season, and springs up immediately after the scythe. It produces excellent food; cattle feed it close, and appear to be more fond of it when made into hay than any other grass. I have spoken for one half of the roots of the patch, and have ground ploughed in my meadow in which I intend to transplant them, at about the distance of corn hills."

On a recent visit from the Hon. E. Goodrich, of Hartford, we were happy to receive, from that gentleman, a confirmation of the good opinion of the *Phalaris* which had been induced by Mr. Robinson's letter. It has been found as beneficial in Connecticut as in New-Hampshire. Not recollecting the particulars narrated, we would beg of Mr. Goodrich, when he sees this, to forward them to us, in order that we may publish them correctly. The subject merits further attention; and if our anticipations are not irrationally founded, the *Phalaris americana* will yet become the gamma grass of the north. It is truly perennial, spreads rapidly, and may be inoculated in the manner suggested by Mr. Robinson, especially in a soil saturated with water, with great facility, and at trifling expense.—[Cultivator.]

NATIVE CATTLE.—Having lately observed a new property in the native breed of cattle belonging to Mr. Ralph Haskins, of Roxbury, I am desirous to inquire through the medium of your paper, whether there are any other ones possessing a similar quality.

This milk consists in the remarkable richness of the milk and cream, the latter of which, when separated from the milk for the space of twelve hours, becomes of the consistency of a baked custard, and may be turned upside down without any harm, or spread on like butter. Cream in this state has been repeatedly carried into State street, and gentlemen in the Insurance Offices have churned it, and brought the butter in less than a minute.

Mr. Haskins states that, notwithstanding the richness of the cream, the milk, after it is skimmed, is much richer than common skim milk, and the cows also give as much as others usually do.

He has received premiums at Brighton for two of them, one of which, we understand, he has lately sold for 150 dollars.

If any of your readers have ever known such an instance before, they would much oblige a subscriber if they would mention it in your paper. S.—[Boston Advocate.]

APPLES.—There has not been such a scarcity of apples in this part of the country since the year 1794. The cold weather in May destroyed almost all the fruit on the hills and in the valleys. Some persons have a few apples and will make a small quantity of cider, but the greater part have hardly enough for apple pies, and will be destitute of cider, apple sauce, and winter apples. So far as we have observed, there are more apples on the trees in the meadows and low lands near Connecticut river, than any where else. We have heard old people make the same remark in regard to apples in 1794.—[Hampshire Gaz.]

TAKING UP THE ROOTS OF THE SCARLET RUNNERS IN AUTUMN, AND REPLANTING THEM IN SPRING.—I have practised this mode of culture for some years. When the frost destroys the leaves and shoots, I take up the roots, keep them in sand through the winter, and replant them in May. They grow stronger, and begin to flower much earlier than beans planted in the common way, and never stop bearing till the frost destroys them. I have not set the plants more than one year, but a friend of mine has a plant six or seven years old, which looks as well now as it did the first year; and he has also a row now in pod, which were not either taken up or covered last winter. N. S. N. Nottingham, July 4, 1834.—[Loudon's Gardeners' Magazine.]

PAINTING HOUSES.—A writer for the New-England Farmer, whose communication was published vol. i, page 314, says, "I believe it is a general practice for people to do their painting some time during the three summer months; but repeated experiments have been made within a few years, which prove that a house painted late in autumn, or in the winter, will hold the paint more than twice as long as one painted in warm weather. The reason is obvious—for when the paints are applied in cold weather, the oil with other ingredients form a hard cement on the surface of the clapboards, which cannot easily be erased; whereas a building painted,

(as usual,) in the heat of summer, will need a new coat; for the heat causes oil to penetrate into the wood, and let the other component parts dry, which soon crumble off."

JEWETT'S CHEMICAL WATER-PROOF. Among the superior articles exhibited at the cent Fair of the American Institute was Jewett's water-proof paste. A boot which had been saturated with it had been standing in water three days without being in the least injured on the inside. A lady's slipper was similarly exposed, with the same results. We have tried it on boots and can speak favorably of it, though, as yet, we have made but a partial trial. The information we have given on this subject in former numbers of the New-England Farmer, together with the following subjoined certificate, cannot fail of recommending the notice of our readers. Should it prove a desideratum in protecting the feet from what will be of incalculable benefit to the health of all classes, particularly to farmers, who are constantly exposed, most of the year round, to rain, a damp and wet ground, or to dry grass.

"Executive Office,

"Columbus, Ohio, June 21, 1834.

"Having worn shoes for the past six months, to which Col. Jewett's Chemical Water Proof had been applied, I can from experience recommend it to the community at large, under the impression that all who use it will find it much to their interest and comfort. I immersed one of those shoes under water which had been saturated, and found that the leather was made perfectly impervious to water, and remained soft and pliable. I believe that leather thus saturated will wear longer than otherwise would, and conceive the paste to be an article of immense value, and its discovery of great importance to the public.

"ROBERT LUCAS,

"Governor of Ohio."

THE MASHANNOCK POTATO.—We received a letter from a subscriber in Indiana, last week, containing a small fine looking potato, in which he gives the following account:

"I send you in this letter the celebrated Mashannock Potato of the west. I call it the Mashannock of the west, as it was produced from a seed of the Mercer potato, by an old Irish man in Columbiana county, Ohio, about the year 1820. This variety spread over the country in 1824 with such rapidity as to reach almost every farm that year. Since that time it has had no rival among the old varieties. It remains in full perfection to the present day. The Mashannock potato greatly resembles the Mercer of Pennsylvania, but is superior to it in every respect. The Mercer potato is short, and whiter, and I believe the product not more than one-fourth as much. If your farmers have not this kind of potato already, they will do well to try it.

"The Mashannock has vines of a beautiful light yellow color, medium size, soft and spreading. A common potato is six inches long, and as thick as a man can span, and flattened in form. Overgrown ones are much larger, sometimes weighing from two to three pounds with lumps on the sides. The vines bear a moderate quantity of small seed-balls, and soon fall down when the crop is very good the ground is nearly covered with them. These seed-balls make the greatest variety of potatoes, and the most promising kinds of any I have tried. They sport in endless variety of early and late, large and small, and all colors except red. Of one thousand seedlings raised by myself in 1833 not one was red, mostly long shaped and excellent.—[Genesee Farmer.]

NEW-YORK AMERICAN.

NOVEMBER 1-7, 1834.

LITERARY NOTICES.

VIEW for this week is of necessity post-
We may comment, however, briefly, on
ons lying on our table.

the *Messrs. Harpers* we have in two very
nted, close and thick volumes, the *Life and*
endence of HANNAH MOORE, which, from the
our readers have had of it through these
e, will be eagerly sought after, we do not

John Doyle we have one of the London an-
The *Gem*—of which we have only had time
e at some of the engravings.

er, *Heindee & Co.*, of Boston, have sent us the
nd fourth book of history, designed as a se-
the first and second book, by the author of
arley's tales. All these we shall have oc-
to speak of again.

conclude with a notice from the New York
of a book about to appear, which will claim
miration and patronage, we are sure, of very
us readers—*Mr. Dunlap's History of the*
arts in the United States.

[From the New York Mirror.]

ORY OF THE RISE AND PROGRESS OF THE ARTS
ESIGN, IN THE UNITED STATES. BY WILLIAM
DUNLAP. IN TWO VOLUMES. VOL.

have been favoured by the author of this
le and highly interesting work, with a copy
first volume, in anticipation, and have been
struck, in the hasty perusal our leisure has
d us to give it, not only with the quality, but
mense amount and variety of information it
ns. Perhaps there is not another man living
e *Mr. Dunlap*, who could have gathered to-
such a mass of facts, extending through the
period of our national existence, and relating
ry individual who has wielded a maul-stick, or
nel, or handled a burin, any where between
a and the Gulf of Mexico: from *John Wat-*
who flourished, after a fashion, in 1715, down
a multitude of clever and rapidly-improving
of whom as Americans, we are proud at the
nt moment. But it is dot only as a copious
ithful record of the rise and progress of the
mong us, that the book deserves and claims
most ample success; it abounds with judicious
ism and most amusing anecdote; and readers of
lasses will find in its pages instruction richly
ed with entertainment. To the artist, of
e, it will prove invaluable; but a very large
ortion of the matter it contains address them-
selves with equally pleasant and happy effect to
the man of business in his hours of relaxa-
the student of human nature, the literary idler,
even to the belle, when wearied with conquest
admiration—to such as read merely for amuse-
as well as to the seeker after knowledge. It
admirable fire-side companion; open it as you
you will find an abundance of choice morsels;
ing with most agreeable variety, "from grave to
from lively to severe." You may read it
ugh at once, or keep it on your table or beneath
illow of your sofa, and take it up whenever
have a spare half hour; and, when you have
ed the last leaf of the second volume, you will
strongly tempted to wish you could forget every
d, and begin again with all the zest of novelty
ing fresh about its pages. We have already
in the readers of the *Mirror* some columns of
ghtful extracts; but there are plenty more, and
shall, perhaps, draw again upon its stores for
entertainment of our readers, without the slight-
ear of wearying them, or producing any desire
their minds except of becoming early purchasers.
have found in it, by the way, a piece of infor-
on which is very little known, and which we
glad to see made public, inasmuch as it tends to
ect a general, but erroneous impression. Here

the same emoluments and accommodations which
his predecessors had enjoyed. But his friends,
anxious that he should be with them, had assured
him that the teachership would be made a professor-
ship, with additional advantages corresponding with
the other professors, and that a painting-room should
be built for him. But in our representative govern-
ment, this required an act of congress, and the pas-
sage of the yearly appropriation bill. This act and
appropriation was intended: but *Mr. Leslie* had ta-
ken post at West Point, at the commencement of
winter, with his family, never before out of London.
The winter is a trying season in a bleak situation on
the Hudson—a situation at other times redundant
with charms. *Mrs. Leslie* is a London lady, and
her family remained occupants of the house left by
the artist; her heart was naturally at home. *Les-*
lie, I am told, upon an answer from the secretary-
at-war, that he could not order a painting-room built
until appropriation was made for it, gladly resigned
the situation, and took his family to London again,
no doubt happy to escape from the bleak promon-
tory on which they had passed a discontented win-
ter."

We have but one remark to make in addition;
we think "the teachership" ought to "be made a
professorship" and that a painting room, should be
built by the government for the incumbent. The
inadequate salary attached to the office makes it in-
dispensable for the artist who fills it to employ his
leisure hours to more pecuniary advantage than he
derives from his labors in the institution.

FOREIGN INTELLIGENCE.

FIFTEEN DAYS LATER FROM PORTUGAL.

Death of Don Pedro.—By the ship *Lorena*, Urqu-
hart, from Lisbon direct, the Editors of the New
York Daily Advertiser have received files of Lis-
bon papers to the 7th October, from which they learn
place on the 11th Sept. and had caused general regret
the death of *Don Pedro*, Duke of Braganza, took
throughout the Portuguese nation. The Queen was
in exercise of Royal powers, according to the Con-
stitutional charter, and the approval of the Cortes.

The Chamber of Deputies and Peers had sent
joint committees to express to her Majesty their sen-
timents of condolence for the loss the Queen and the
whole nation had met with by the death of *Don*
Pedro. The Diplomatic Corps attended.

The inhabitants of Lisbon had, en masse, sympa-
thized with the Queen and august family. The fune-
ral ceremonies had taken place with all possible
pomp on 2d Oct.

The Queen had, by a decree, granted several
pardons; and at the same time stated that as she
was clement towards those who in past times trea-
passed, she was much more rigorous, and would
punish with all possible rigor such persons as should
still adhere to rebellion, and to disturb the public
peace.

The Chambers continued their legislation for the
perfect organization and well being of the nation.

The latest news from Spain was calculated to
bring dismay to the Carlist party, which were desti-
tute of every thing, and pursued by the Spanish
army.

News had been received of fresh disturbances in
Rome, in consequence of which the papal funds have
lowered one franc.

LATER FROM FRANCE.—By the *Francis Depau*, from
Havre, we have Paris papers of the 5th ult., which
furnish London dates of the 3d.

The intelligence of *Don Pedro's*, death at Lisbon,
reached Paris on the 5th.

MR. ARMAND CARREL surrendered himself on the
5th to the Police, and was sent to St. Pelagie to un-
dergo his term of imprisonment.

The affairs of Spain are yet undecided, though the
accounts represent the affairs of *Don Carlos* as in a
poor way. The cholera is destroying a great many
lives in various parts in Europe. Commercial affairs
appear to be in a prosperous condition.

Mr. William Blackwood, the proprietor and pub-
lisher of the celebrated Magazine which goes by
that name, died at Edinburgh a few weeks ago. He
had been in a very delicate state of health for some
time past. He was considerably advanced in life.—
It is not generally known that he was editor as well
as proprietor of *Blackwood's Magazine*. He was
greatly assisted by Professor Wilson. Not only
were all that distinguished writer's contributions in-
serted, but his recommendation or otherwise of the

articles of others went a great way in influencing
the decision of *Mr. Blackwood*. *Mr. B.* correspon-
ded himself with all the contributors to his Ma-
gazine, and by this means increased their attachment
both to it and himself. He was extremely liberal
in the remuneration he gave for contributions.—
Other publishers regulate the price they give for ar-
ticles by the length to which they extend; but *Mr.*
Blackwood, when he met with an article that particu-
larly pleased him, would often give four times the
price for it which it would have brought if paid by the
sheet—adding, when authors would have expressed
their surprise at their liberality, that he never paid
for literature by the yard, as if paying for a piece of
cloth; but he wished to measure the quality rather
than the quantity. This Magazine is a most valuable
property. Perhaps it is the most profitable of the
kind in the world. It has a circulation of nearly 9,
000 copies monthly.

See page 702.

SUMMARY.

Mr. Webster, *Mr. Ewing*, *Mr. Grundy* and *Mr.*
Southard, all of the United States Senate, are here
in order to examine, as it is understood, a portion of
them into the affairs of the United States Bank and
the deposit banks; and another portion into the
affairs of the Post-office. Their stay will, it is
probable, be prolonged several days.

[From the Frederick (Md.) Herald.]

Judge Duvall of the Supreme Court.—In our last
we copied an article from the New York Commer-
cial, which stated that it was the intention of *Judge*
Duvall to resign his seat upon the bench of the su-
preme court of the United States. This report is
confirmed by a gentleman who has recently conversed
with the judge upon the subject. The reasons
assigned for this act are his advanced age and the in-
firmities consequent thereon,—particularly a partial
deafness, which much impairs his usefulness, and, in
some measure, disqualifies him for a proper dis-
charge of his judicial functions.

By the *Wm. Gibbons* from Charleston, (S. C.) we
have accounts to last Saturday Evening.

NEW ORLEANS, Oct. 20.—The brig *Ariel*, arrived
this morning from Norfolk, brings about 209 negroes,
probably for the purpose of increasing the number of
vagabonds and thieves with which our city is already
amply provided.

The schooner *Philadelphia*, which sailed from
Aransas, Texas, on the 6th instant, arrived here this
morning. She has on board about forty emigrant
passengers from *Power's* colony on the *Mission* river,
Texas. We learn from a passenger on board that
they are completely disgusted with the country,—
that nearly all the colony, principally composed of
Irish, had been sick with the fever, and that a num-
ber of deaths had taken place among them—it is fur-
ther stated that it is the intention of all the colonists
to leave the country as soon as possible. Those who
came passengers in the *Philadelphia* were more or
less afflicted with fever and ague when they left, but
were rapidly recovering.

We hope that some steps will be taken by our li-
beral-minded citizens to mitigate the distresses of
these unfortunate emigrants.—[Courier.]

NEW ORLEANS, Oct. 22.—A very sudden and
sensible change has taken place in the state of the
weather. Winter has come upon us unawares. The
rain of Saturday evening was succeeded by a chil-
ling and cold day. On Monday morning, we noticed
many a half naked and shivering slave in the market
places on whom this stolen march of bleak winter
seemed to operate with impunity, while the better
prepared for the visit, were wrapped in furs and co-
vered with over cloaks.

NATCHEZ, Oct. 17.—Two Steamboats Sunk.—On
the 4th instant, fifteen miles above Helena, the *Tom*
Jefferson struck a snag, became unmanageable,
floated down, and sunk in about six feet water on a
sand bar. Her cargo consisted of merchandise for
the upper country. Report said it was not insured.
The boat is broken in two.

The Return on the 5th instant, on her way down,
run upon a sand bar near Princeton, Mi. and in get-
ting off, struck a snag and sunk in five feet water.
She was loaded principally with Bagging and Rope.
A merchant in Grand Gulf, had goods to the amount
of fourteen thousand dollars on board, not insured.—
[Gazette.]

The Cooper Fund.—The sum of five hundred dol-
lars was cleared at the benefit in Cincinnati in behalf
of the Cooper Fund. The amount was immediately

Mr. Leslie returned to London. In the only in-
terview I had with him, which was in my sick cham-
ber a day or two previous to his embarkation on his
return, he did not express any feeling of disappoint-
ment. With the government of the United States
certainly had no cause of complaint. He was in-
vited to West Point as a teacher of drawing, with

ADVOCATE OF INTERNAL IMPROVEMENTS.

remitted to the treasurer of the fund, W. T. McClure, Esq. of New York.

MR. MILLS' ASCENSION FROM LANCASTER.
To the Editor of the United States Gazette:

PHILADELPHIA, SUNDAY AFTERNOON.

SIR:—In conformity with the desire of some friends in Lancaster, I made, on Saturday, the 1st of November, an ascension from that place.

Half an hour before the specified time, I had my balloon completely inflated; and as the spectators were already on the ground, I set off six minutes before three, P. M. although I had announced my intention of going at three.

At that time, the thermometer indicated a temperature of 54 deg. and the barometer stood at 29 deg. 8'. The wind nearly due east, was light and irregular. My course was at first westward, so that I passed immediately over Lancaster, when a change of current took me several miles in a north-westward direction. As I did not rise high, I could distinctly hear the sound of the horses' hoofs, as their riders pursued me. My elevation at that time, was 27 deg. 5' and the temperature 44 deg.

A new and higher current of air from the north and west, soon drove me back towards Lancaster; which, as I passed it, appeared to be half a mile or less to the westward of my course. I could see the assemblage in the inclosure in which I had left them, but I was out of hearing of their salutations. My elevation at this time, was about 24 deg. 5' or, very nearly a mile above the earth. At this time, I could see a vast expanse of beautiful country, and among other objects, recognised the Susquehanna, and its bridge, at Columbia.

Soon after leaving Lancaster for the second time, I entered and passed through the clouds, which though thick enough to conceal the earth from view, did not seem to be more than 20 or 30 yards in thickness. Emerging from this stratum, I suddenly found myself in a bright sunshine, with a vast field of white opake vapours below me, convoluted into singular forms, and presenting a variety of elevations and cavernous depressions.

I continued above the clouds for nearly an hour, and during that time saw the earth only three times and then but for a moment, as the rolling clouds beneath happened to break their well preserved continuity.

As I fell below the clouds, I was surprised to see a beautiful river, full of boats and vessels, and to find myself almost immediately over a small town, on its margin, while I saw another of greater size at a little distance inland. After some reflection, I felt sure that it was not either the Susquehanna or the Chesapeake, but it never entered my head to suppose that I could have travelled so far as to have reached the banks of the Delaware, at New Castle, and that the beautiful city of Wilmington lay in sight, to the north of my position.

Attempting to descend here, to avoid crossing the river, I encountered the eastern current, with which I had started at Lancaster, and was carried by it across the State of Delaware. I, at 5 P. M. precisely, touched the earth, near Cooch's Mills, 3 miles from Elkton.

As I passed over a house near this place, some white people hailed me, "who are you?" I replied by asking "where am I?" to which they answered, "go back where you came from." I soon after let go my anchor near to the turnpike, and fortunately it laid hold of a fence, when I called to two black men to come to my assistance, which at first they declined, without giving me any answer in words. After repeated solicitations, they were induced to approach, and drawing down the balloon, brought me to the ground.

Soon afterwards, I was joined by a party on horse-back, from Elkton, who taking hold of the anchor rope, as I sat in the car, carried me, sailing through the air, along the turnpike, to Elkton, a distance of 3 miles, where at half past 6, I arrived in safety. I discharged the gas, folded the balloon, and at 7, had finished the folding and securing the balloon, car, &c.

As we passed along the turnpike, the intervention of trees sometimes made the road too narrow for the passage of the balloon, which was then, by lengthening the cable, elevated above them, and brought over their tops.

This morning I went to Frenchtown, and by rail road and steamboat reached Philadelphia at 5 P. M. It is not easy to tell the exact distance traversed during the two hours and six minutes passed in the air, but it was probable, that it was not less than one hundred miles.

In descending, I adopted the simple plan of estimating

the force and direction of the current beneath me. A feather of sufficient size to be visible at a distance, loaded in such a manner as to fall slowly, floats along with the balloon and its current, until it enters another atmospheric movement, when it is seen to take the new direction. The aeronaut may thus be guided to a choice of current before he enters it. In ascending, the same kind of knowledge may be had by letting off very small balloons prepared for the purpose, and carried up in the car. I cannot conclude, without expressing my thanks to the friends at Lancaster, who gave me countenance and assistance, and to the good people of Elkton who did every thing in their power to promote my comfort and convenience.

The annexed Table, will show the various altitudes, and their corresponding temperatures. I should have noted the time of entering the clouds, and their exact elevation, but I was so completely absorbed by the beauty and variety of the phenomena, that I entirely forgot to make at that time, the necessary observations. I am, very respectfully, yours, &c.

JAMES MILLS.

Time.	Barometer.	Thermometer.	
2 54	21 8	59	W.
3 5	27 5	44	N.W.
3 15	25 0	46	N.
3 20	22 2	34	E.N.E.
3 30	20 4	32	S.E. by S.
4 0	19 9	34 30	

[From the Boston Daily Advertiser.]

THE UNITED STATES AND BRAZIL.—The Aurora Illuminense of Rio Janeiro, of Aug. 22, publishes under the Rio Janeiro head, the following article, from which it would appear that a project is entertained in that quarter; at least by some individuals, of political union between this country and the Empire of Brazil. A formal exposition of a similar kind was made some years ago, as our readers will recollect, by the Republic of Central America, and rejected. The same result would probably occur in the present instance, if the offer should really take place, which, however, we do not consider probable. We have seen no intimation of any such intention other than that conveyed by the motion of the Messrs. Franca, which does not seem to have been sustained, and was apparently the act of a few individuals.

Rio Janeiro.—In the House of Deputies the following bill was offered, and a motion was made to proceed to the consideration of it immediately, which was rejected. We deem it unnecessary to add any commentary, remarking that we publish the bill in the exact form in which it was presented by the Deputies Franca.

Decree of the Legislative General Assembly.

Article 1.—The Empire of Brazil and the United States of America shall form a union for their mutual defence against foreign aggression, and for their common advantage in matters of domestic interest.

Article 2.—The two nations shall assist each other with all their forces against any hostile attack, and shall contribute annually for this purpose such sums as may be agreed upon.

Article 3.—Each of the two nations shall have Representatives in the National Assembly of the other.

Article 4.—The products of each nation shall be received in the ports of the other on the same footing with its own, and held exempt from any foreign duty.

Article 5.—The two nations shall aid each other in effecting a communication from one to the other of the useful institutions, arts and products that may now belong respectively to each.

Article 6.—The citizens of each of the two nations shall enjoy in the territory of the other all the privileges of natives.

Art. 7.—Questions of right occurring between citizens of the two nations, shall be decided either by mutual consent, by arbitration, or by a jury composed of equal numbers of both.

Art. 8.—The nations bind themselves to aid each other in the preservation of a national form of government, and against any dangers that may threaten their moral or physical improvement.

Art. 9.—The Government of Brazil will endeavor to negotiate a treaty of alliance to this effect which shall be permanent.

Art. 10.—This treaty when concluded shall be laid before the General Assembly, for its consideration and approval.

Art. 11.—All preceding laws in contravention of this are revoked.

House of Deputies, Aug. 18, 1834.

[Signed.]

C. J. FRANCA.
A. J. FRANCA.
E. J. FRANCA.

OFFICIAL.—NAVY REGISTER.

Changes, Notices, &c. for the month of October. VESSELS OF THE DIFFERENT SQUADS. Mediterranean.—Ship of the Line—De Frigates—United States, Constellation, 1 mac. Sloop—John Adams. Schooner—West Indies.—Sloops—Vandalia, St. L Falmouth. Schooners—Experiment and Coast of Brazil.—Sloops—Natchez, On Erie. Schooner—Enterprise. Pacific.—Frigate—Brandywine. Sloop field and Vincennes. Schooners—Dolphin er.

NOTICES.

Delaware 74, Captain Nicholson, Com. on board, was in the Levant the last advic August,) having visited Egypt and Syria, an pected at Malta about the middle of Sept his way down.

Frigate United States, Captain Ballard ed to Vourla Bay about the 5th August cruise in the Gulf of Salonica and its hood, all well, and was near Smyrna the gust.

Frigate Constellation, Captain Read, Malta 17th July from Naples, and sail the 21st for Tripoli and Tunis, on the Mahon.

Schooner Shark, Lieut. Comd'g Pauldin company with the Delaware, above notice Sloop Vandalia, Captain Webb, still at under repairs.

Sloop St. Louis, Captain McCauley, sti folk, but on the eve of sailing for her stat West Indies.

Sloop Falmouth, Captain Rousseau, se Pensacola 9th October, on a cruise, to re the 10th of January.

Schooner Experiment, Lieut. Command and schr. Grampus, Lieut. Comd'g White, at Pensacola the 12th Oct.

Sloop Natchez, Capt. Zintzinger, bearing pendant of Com. Renshaw, left Rio the 14th and arrived at Bahia the 21st; still there 3 ber, and to sail for Rio that evening or morning.

Sloop Ontario, Capt. Salter, left Rio the arrived at Bahia the 31st from Pernamb there 3d Sept.

Frigate Brandywine, Capt. Deacon, se Rio for the Pacific station 14th August.

Sloop Fairfield, Capt. Vallette, was at the Island of Puna, in the Guayaquil river gust—all well.

Sloop Vincennes, Com. Wadsworth, at Payta 12th August for Callao.

Schooner Dolphin, Lieut. Commanding was at Callao the last advices (25th Augu Schooner Boxer, Lieut. Comd'g Page, bly left Norfolk before this for her destins Pacific.

Frigate Putomac, Captain Nicholson, se Boston 20th October for the Mediterranean

THE MAILS.

For the Mediterranean, can be sent by Herald, to sail from New York 12th in by two shore ships, to sail from Norfolk 10th to the 16th instant.

For the Coast of Brazil, by the brig I sail from New York for Rio 14th instar a store-ship, to sail from Washington abo stant.

For the Pacific, by the ship Leonidi from New York 15th instant; and by ste sail about the same time from Washington

NAVY DEPARTMENT, }
November, 1st, 1834. }

NAVY DEPARTMENT.

Extract of a letter addressed to the Secre Navy, by Capt. HENRY E. BALLARD, d frigate United States, Nauplia de Ron gust 22d, 1834.

"I do myself the honor to inform y obedience to my instructions, I reached th age three days ago from a cruise an islands—all well—and that I shall sail f and Smyrna, as soon as the land breeze c to-night.

"We had the pleasure to learn, a day vious to our leaving Vourla, (about the 11th the Commander in Chief was at Alexan Delaware, all well.

"The young King of Greece did me tl visit my ship yesterday, for two hours, an with his Ministry, expressed themselves lighted with the order and condition she is as with the kind reception given them."

PROCLAMATION.

William L. Marcy, Governor of the State of New York.

the purpose of rendering devout acknowledgments to the RULER of NATIONS, for the dispensation of His numerous favors vouchsafed to the people of this State, during the past season, I do hereby, in compliance with established usage, recommend to the PEOPLE, on the ELEVENTH DAY OF DECEMBER NEXT, to observe by them as a day of Public Thanks-

witness whereof, I have subscribed my name, and affixed the privy seal of the State, this 27th day of October, 1834.

W. L. MARCY.

MASSACHUSETTS.—A letter from Batavia (East Indies) dated April 23d, announces the death of Captain F. Livingston, formerly an officer of the U. S. Army, by the hand of violence, together with six persons on board his Ship, the Matilda of Batavia, bound from that port to some other place in the East Indies, with a cargo of salt, and \$250,000 in specie belonging to the Dutch government. The murderers succeeded in their object, which was to get possession of the money, and having scuttled the vessel, which after sunk, they landed on a neighboring shore. In Livingston was a son of Judge William Livingston, of Kings county, was born at Flatbush, and was about 48 years of age. The Matilda was owned by Messrs. Payne, Sticker & Co., of Batavia.

A black frost with ice, occurred at Charleston, on the 21st instant, thus putting an end to the reign of the Yellow Fever, or, as it is called there, the Strangest Fever.

CHARLESTON, OCT. 25.—The funeral of Captain John Pinckney, Commandant of Castle Pinckney, on this day, took place yesterday morning, in this city, with military honors, and all the usual demonstrations of respect.

ANNAPOLIS, OCT. 22.—*The Weather and the Health of the City.*—Night before last, the first frost of the season occurred. For two days past, the weather has been delightful—the atmosphere clear, dry, and bright. The Cholera which has been desolating the River Plantations has been subsided so long that all fears of its re-appearance are passing away. The health of our city may challenge comparison with that of any other in the Union. There has been peculiar cause for thankfulness on the part of our citizens, that although Cholera has been in the limits of the city, the victims have been few and isolated.

from the Albany Evening Journal of Friday.—The following gentlemen were this day admitted to the Supreme Court as Counsellors and Attorneys.

COUNSELLORS.—John G. Atterbury, Daniel Baldwin, Julius H. Bryson, Walter Clark, William Cochran, Morris M. Davidson, Louis De Witt, Elisha Jr., James M. French, William L. Greenly, John Grover, Thomas M. Howell, David L. Johns, Jr. B. Kellogg, Erasmus H. Marshall, Mortimer Pierpont Potter, John B. Purroy, Lyman Ward, Wm. C. Schuyler, George G. Scott, Henry Smith, James M. Smith, William Stuart, Robert Rensselaer, Henry D. Varrick, Horace B. Vetter, Augustus Wynkoop, Jr., James J. Wynkoop, Harvey P. Yale, Halsey R. Wing, Alfred H. Wing, Edward Clark, Albert Van Holler Powell, Erick W. Baker, J. M. Casey.

COUNSELLORS.—Benedict Bagley, N. Dane Ellingsworth, Josiah W. Fairfield, Alonzo Green, Joseph H. James, James McCall, P. E. Pitcher, Horatio G. Lucius Robinson, Wm. Soul, John Van Buren, Edgar S. Van Winkle, Wm. Walton, John D. Wm. H. Fondley.

Tall Visitor.—We were visited yesterday, by a gentleman from North Carolina, who measures in height no less than six feet eight inches. He naturally excited some astonishment among our clerks, of whom stands rather above six feet; but who, beside of the stranger, seems but a half grown man. Our visitor stated that he has four brothers, whose aggregate height is 26 feet 3 inches. His father measures six feet one inch. North Carolina may well boast of the tallness of her sons, as this specimen of growth is not the only one that may be produced, our friends having told us that one of his neighbors measures seven feet. Truly, he must belong to a race of giants. [Gazette.]

Melancholy Casualty.—Amos Richardson, Esq., a Member elect of the approaching Legislature from Bladen county, was unfortunately killed a few days since by the bursting of his gun, while in the pursuits of the chase.

[From Neilson's Gazette of Oct. 22.]

A fire, with a melancholy loss of life, occurred yesterday in the parish of St. Vallier, about twenty miles below Quebec. Michel Letellier, Esq., aged 87, formerly one of the members of the Assembly, was burned to death, in the house of his son, Eustache Letellier. He was in a room where a stove was lit to dry lint, and it got lit on fire by being too near the stove. In his anxiety to suppress the flames, Mr. Letellier's efforts, from his great age, were attended with the loss of his own life, having been wholly enveloped in the very combustible material. The house and most of the property was also consumed.

Emigrants to Africa.—The ship Ninus, Captain H. Parsons, sailed from Norfolk, on Sunday last, for Liberia, in Africa. She had on board 128 emigrants, 110 of whom were liberated by the late Dr. Hawes, of Rappahannock, Va. who also appropriated funds for their transportation.

With the approbation of the Parent Colonization Society, these go to found a new colony at Bassa Cove, about eighty miles distant from Monrovia, on the coast of that continent, whose nations are sitting in darkness, and in the region of the shadow of death. They are sent to give them the light of Christian example, and to introduce among them the arts of civilized life. This colony is to be established on strictly Christian and temperance principles. These first emigrants to this new colony are nearly all members of the Baptist Church, and have in their number three preachers of their own colony. Twenty of them can read and write; and a goodly portion of them have valuable trades, and not one of them is superannuated. All of them seem to be above the ordinary class for vigor and intelligence.

There are also on board the ship Ninus fourteen very valuable slaves, liberated by the truly benevolent Mrs. Ann R. Page, of Frederick county, Virginia, sister of Bishop Meade. They are sent to the old colony, in order to join a number who are settled there, and who had been previously liberated and sent out by the Meade family. These are all amply provided for, having large stores of clothing, provisions and tools, and every thing necessary to render them comfortable.

There is also on board of the same ship two white gentlemen and one lady, who go out as instructors. Upon the whole, there has no expedition gone to that country better equipped, and which has fairer prospects of success than the present.

[From the Boston Atlas.]

FROM LISBON.—Captain Manson, of the Barque Leonidas, from Lisbon, states that every thing was quiet on the 19th September. Don Pedro's affairs in this world were nearly wound up. He was in the last stage of dropsy, and his death is daily expected.

LATER FROM EUROPE.—By the France from Havre, and Henry from London, Paris dates of 24th and London of 25th, are received.

Nothing of interest is quoted either as to French or English affairs. Spanish remain as they were; and Portuguese declining somewhat. We have no time today for long extracts.

ENGLAND.

PARLIAMENT, Sept. 25th.—In a few minutes Mr. Lee, one of the Clerks of the House of Commons, attended by about twenty gentlemen, entered the House.

The Lord Chancellor then read the Commission, issued under the Great Seal, authorizing the Commissioners to prorogue Parliament until Thursday, Oct. 23d.

The Commons then withdrew.

PORTUGAL.

[From the Morning Post.]

Our Lisbon letter of the 13th, comprises the occurrences deserving of notice from the 8th, the date of our last advices. Don Pedro was still alive, but pronounced beyond the possibility of recovery. He has at length been made sensible that his dissolution is at hand, and accordingly had given orders to be conveyed from the Ajuda to the Queluz Palace, the place of his birth, and when our letter was closed, was left lying in the very room in which he was born.

He had expressed a wish to perform some action

which should show hereafter, that he did not depart this life at variance with his brother Don Miguel, which, it is added, his Ministers took care to prevent. The intrigues respecting the Regency were going on, the present Ministers imagining that their existence in office depends upon the Duchess de Braganza's holding the supreme power, in opposition to the Charter, which would place the Regency in the hands of the Princess Isabel Maria, who held it when Don Pedro's new Constitution was put in force.

The insurrection in the interior provinces evidently increases. The guerrilla parties are strong and formidable, at the same time that the desertions and emigrations to Spain continue. The French battalion, which had revolted and fortified the barracks of Val de Perriers, has been disarmed and embarked in a Swedish ship. As we anticipated, the idea of marching an army into Spain, in aid of Queen Christina, is abandoned. Don Pedro cannot even put down the guerrillas within the Portuguese territory.

Judging from the state of the public mind in Portugal, (and the same may be said of Spain) we deem it impossible for the Lisbon Cortes to legislate much longer. The members are insulted on leaving the House, and only the other day the Baron Renduff (a noted character it must be confessed) was hooted through the streets, and followed with the cry of "Thief!" The people cannot respect Don Pedro's legislators, and much less obey their mandates.

FRANCE.

PARIS, SEPTEMBER 24.—*Stock Exchange Sept. 23, half past 4 o'clock.*—The business transacted has been upon a very limited scale, in consequence of the uncertainty as to what the decision of the Procuradores will be with respect to the Spanish Loans. For cash the Funds have fallen, and for the accounts the Threes closed on Saturday, while the Fives have given way. Spanish have all declined, but the Rentes Perpetuelles only in a trifling degree. For cash the Fives have fallen 25c.; the Threes 26c.; Cortes 1 1/8, Spanish Threes and Don Pedro's Loan 1/2; Haytian 2 fr. 50c. Belgian have risen 1/2. For the account the Fives have declined 15c.; Rentes Perpetuelles 1/4; Spanish Threes 1 3/8; Neapolitan have improved 10c.

SPAIN.

The Courier Francais, affirms that Don Carlos is in a state of ill health and disagreement, arising out of fatigue, privation and disappointment, at his cause making no progress, and that his partisans are thinking of calling to Spain his eldest son, who is about seventeen years of age. Unless the insurgents can make themselves masters of some sea-port, to introduce supplies sent by their friends, or can capture the magazines or disarm the numerous corps of their adversaries, it is impossible for them to possess arms and ammunition. A serious embarrassment for the Carlists is the obstinacy of the towns in not embracing the cause of the Pretender.

GENIUS AND METHOD.

[From a Letter of Diderot to Mlle. De Voland, published in his Memoirs.]

At seven o'clock the company sat down to cards, and Messrs. Le Roy, Grimm, the Abbe Galiani, and I, began to converse. I must teach you to know the Abbe, whom perhaps you have looked upon merely as an agreeable man. He is something better.

A dispute arose between Grimm and Le Roy about Genius and Method. Grimm detests method: it is, according to him, the pedantry of literature. Those that can do nothing, he maintained, but arrange, had better not give themselves the trouble; those who can learn nothing but by means of arrangements had as well remain ignorant. "But," said Le Roy, "it is method which makes genius available." "And which spoils it." They said a great many things which it is not worth while mentioning to you, and they would have said a great many more had not Galiani interrupted them.

"I remember a fable, my friends, which I must tell you. It is rather long, perhaps, but it won't tire you."

"One day in the middle of a wood, there arose a dispute about singing between the nightingale and the cuckoo. Each gave the preference to his own talent. 'What bird,' said the cuckoo, 'has so simple, natural, and measured a song as I?' 'What bird,' said the nightingale, 'has a song so sweet, varied, light and brilliant as mine?' 'I say few things,' said the cuckoo, 'but they have weight and order, and one remembers them.' 'I am fond of talking,' said the nightingale, 'but what I say is always new, and never wearisome. I enchant the woods; the cuckoo saddens them. He is so attached to his mother's lesson, that he never hazards a note he has not learned from her. I acknowledge no teacher; I laugh at

rules, and it is when I break through them that I am most admired. Where is the comparison between your dull method and my happy flights?

"The cuckoo made many attempts to interrupt the nightingale. But nightingales sing for ever, and never listen—it is a little failing of theirs. Our friend, carried away by her ideas, ran on without minding her rival's answer.

"At last, however, they agreed to refer the matter to some arbitrator. But where were they to find an enlightened and impartial judge? They set out in search of one.

"In crossing a meadow, they fell in with an ass of the most grave and solemn aspect. Such length of ears never was seen since the creation of the species. 'Ah,' said the cuckoo, 'we are in luck. Our quarrel is an affair of the ear, and here is an admirable pair of them. This is the very judge we want.'

"The ass was browsing, and never dreamed that he was one day to be a judge of music. But stranger things sometimes happened. Our two birds lighted beside him, complimented him on his gravity and judgment, explained the subject of their dispute, and begged him very humbly to decide it.

"But the ass, scarcely turning round his clumsy head, and continuing to browse most diligently, made them a sign with his ears that he was hungry, and that he was not that day holding a bed of justice. The birds insist—the ass continues to browse. At last, however, his appetite was appeased. There were some trees planted on the skirts of the meadow. 'Well,' said he, 'go there, and I will come to you. You sing and I will digest. I will listen to you, and then give you my opinion.'

"The birds take flight and perch in a tree. The ass follows them with the air and step of a chief justice. He lay down on the grass, and called to them, 'Begin; the court will hear you.'

"My lord," said the cuckoo, "you must not lose a note I sing; you must seize the character of my song, and, above all, be pleased to observe its contrivance and method." Then, drawing himself up, and clapping his wings each time, he began to sing, 'Cuckoo, cuckoo, cuckuckoo, cuckoo, cuckuckoo' and after having combined these notes in all possible ways, he held his peace.

"The nightingale, without any preamble, began to display her voice, struck into the boldest modulations, and warbled the most singular and original strains. Her song was successively sweet, airy, brilliant, and pathetic; but it was not music for every body.

"Carried away by her enthusiasm, she would have sung longer; but the ass, who had been yawning fearfully all the while, interrupted her. 'I have no doubt,' said he, 'that all that you have been singing is very fine, but I can make nothing of it. It seems to me to be strange, confused, and incoherent. You are perhaps more learned than your rival, but he is more methodical than you; and, for my part, I am for method.'

"Now," said the Abbé, addressing M. Le Roy, and pointing to Grima with his finger, 'there is the nightingale—you are the cuckoo—and I am the ass who decides in your favor. Good night!'

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine-wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 773, Vol. 2, of Railroad Journal.

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in Marble Paper covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.

Published at 35 Wall street, N. Y., by D. K. MINOR & J. E. CHALLIS.

A12 1f

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.

DEAN WALKER. a 3

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch.	Flat Bars in lengths of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. do.	
40 do. 1 1/2 do. do.	
800 do. 3 do. do.	
800 do. 3 1/2 do. do.	
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 90 inches diameter for Locomotive wheels.

Axles of 2 1/2, 2 3/4, 3, 3 1/4, 3 1/2, and 3 3/4 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia. Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

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SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833. Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833. For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY B. CAMPBELL, Eng. Philad., German and Norris Railroad

ml 1y

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad No. 264 Elizabeth street, near Bleecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.

J 25 1f

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.

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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

E. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.

m26

Few more rare and delicate gems have come from the East than the following, which we find set in the *Bengal Annual*.

Nay, jest not! woman loves not twice;
Her scenes of infancy are nought
When, yet unthorned—her fate's bright dice
Are trembling;—and her heart untought
With whywardness and change is fraught.
Believe me, woman while a child
Thinks but of love as something new—
A fleeting rainbow on the wild!
The bud she is, that held no dew
Until a blossom cup it grew.
In girlhood days she loves all things
That live or bloom on heath or sward:
In womanhood, her being clings
To only one, with rapt regard,
Her light of life and great reward?
Oh! Woman's love, when woman grown,
Is fix'd as is the polar star;
And (childish fancies ever flown)
A crystal well, in cave of spar,
Her feelings pure and moveless are."

[FROM THE GLOBE.]

By the President of the United States of America.
Proclamation.

Whereas, a Convention between the Government of the United States of America, and her Majesty the Queen Regent, in the name and behalf of her Catholic Majesty, Donna Isabel the Second, was concluded and signed by their respective Plenipotentiaries, at Madrid, on the seventeenth day of February, in the year of our Lord, one thousand eight hundred and thirty-four; which Convention is word for word as follows:

Convention for the settlement of Claims between the United States of America and her Catholic Majesty.

The Government of the United States of America, and her Majesty the Queen Regent, Governess of Spain during the minority of her august daughter, her Catholic Majesty Donna Isabel II, from a desire of adjusting by a definitive arrangement the claims preferred by each party against the other, and thus removing all grounds of disagreement, as also of strengthening the ties of friendship and good understanding which happily subsist between the two nations, have appointed for this purpose, as their respective plenipotentiaries, namely: the President of the United States, Cornelius P. Van Ness, a citizen of the said United States, and their Envoy Extraordinary and Minister Plenipotentiary near her Catholic Majesty Donna Isabel II, and her Majesty the Queen Regent, in the name and behalf of her Catholic Majesty Majesty Donna Isabel II, his Excellency Don Jose de Heredia, Knight Grand Cross of the Royal American Order of Isabel the Catholic, one of her Majesty's Supreme Council of Finance, ex-Envoy Extraordinary and Minister Plenipotentiary, and President of the Royal Junta of Appeals of Credits against France; who, after having exchanged their respective full powers, have agreed upon the following articles:

ARTICLE I.

Her Majesty the Queen Regent and Governess, in the name and in behalf of her Catholic Majesty, Donna Isabel II, engages to pay to the United States, as the balance on account of the claims aforesaid, the sum of twelve millions *vellon* in one or several inscriptions, as preferred by the Government of the United States, of perpetual rents, on the great book of the consolidated debt of Spain, bearing an interest of five per cent. per annum. Said inscription or inscriptions shall be issued in conformity with the model or form annexed to this Convention, and shall be delivered in Madrid to such person or persons as may be authorized by the Government of the United States to receive them, within four months after the exchange of the ratifications. And said inscriptions, or the proceeds thereof, shall be distributed by the Government of the United States among the claimants entitled thereto, in such manner as it may deem just and equitable.

ARTICLE II.

The interest of the aforesaid inscription or inscriptions shall be paid in Paris every six months, and the first half yearly payment is to be made six months after the exchange of the ratifications of this Convention.

ARTICLE III.

The high contracting parties, in virtue of the stipulation contained in article first, renounce, release, and cancel all claims which either may have upon the other, of whatever class, denomination, or origin they may be, from the 22d of February, one thousand eight hundred and nineteen, until the time of signing this Convention.

ARTICLE IV.

On the request of the Minister Plenipotentiary of Her Catholic Majesty at Washington, the Government of the United States will deliver to him, in six

months after the exchange of the ratifications of this convention, a note or list of the claims of American citizens against the Government of Spain, specifying their amounts respectively, and three years afterwards, or sooner if possible, authentic copies of all the documents upon which they may have been founded.

ARTICLE V.

This convention shall be ratified, and the ratifications shall be exchanged, in Madrid, in six months from this time, or sooner if possible.

In witness whereof, the respective Plenipotentiaries have signed these articles, and affixed thereto their seals.

Done in Triplicate at Madrid, this seventeenth day of February, one thousand eight hundred and thirty-four. [Seal.] C. P. VAN NESS,
[Seal.] JOSE DE HEREDIA.

And Whereas the said Convention has been duly ratified on both parts, and the respective ratifications of the same were exchanged at Madrid, on the fourteenth day of August, one thousand eight hundred and thirty-four, by Cornelius P. Van Ness on the part of the United States, and His Excellency Don Francisco Martinez de la Rosa, on the part of Her Catholic Majesty—Now therefore be it known, that I, ANDREW JACKSON, President of the United States, have caused the said Convention to be made public, to the end that the same and every clause and article thereof may be observed and fulfilled with good faith by the United States and the citizens thereof.

In witness whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington, this first day of November, in the year of our Lord one [L. s.] thousand eight hundred and thirty-four, and of the Independence of the United States the fifty-ninth. ANDREW JACKSON.

By the President:
JOHN FORSYTH, Secretary of State.

The following is a translation of the form, or model, of the inscription:

No. —	Perpetual rent of Spain.
Cupon of — dolla.	Payable in Paris at the
of rent payable in	rate of 5 per cent. per an-
Paris on the — day	num.
of — 183— Cu.	Inscribed in the great book
pon No. 1.	of the consolidated debt.

This inscription is issued in pursuance of a convention concluded at Madrid on the — day of — 183— between her Catholic Majesty the Queen of Spain, and the United States of America, for the payment of the claims of the citizens of said States.

INSCRIPTION No. —

Capital.	Rent
Dollars or Francs.	Dollars or Francs.
The bearer of this is entitled to an annual rent of — dollars or francs, payable at Paris every six months, on the — of — by the bankers of Spain in that city, rating each doll at 5 francs 40 centimes, in conformity with the royal decree of December 15th 1825.	

Agreeably to said royal decree an appropriation of one per cent. on the nominal value of this rent is made annually at compound interest for the extinction of the same, which amount shall be employed by the above mentioned bankers in such extinction periodically at the current rate.

Madrid of 183
The Secretary of State and of the
department of Finance.
The Directors of the Royal Caisse
d'Amortisation.

In witness whereof we the undersigned Plenipotentiaries of Her Catholic Majesty the Queen of Spain and of the United States of America, have signed this model and have affixed thereunto our seals.

Done at Madrid this — day of —
[Seal.] JOSE DE HEREDIA.
[Seal.] C. P. VAN NESS.

OFFICIAL.

Department of State, Nov. 3d. 1834.

By the 4th article of the Convention concluded with Spain on the 17th of February last, a copy of which is published with the President's Proclamation of the 1st instant, it is stipulated that the Government of the United States will deliver to the Spanish Minister at Washington, in six months after the exchange of the ratifications, a note or list of the claims of American citizens against the Government of Spain, specifying their amounts respectively. The ratifications having been exchanged at Madrid on

the 14th of August last, the term within which this list is to be furnished to the Minister will expire on the 14th day of February next. It is therefore requested that all persons having claims against the Spanish Government, which have originated since the 22d of February 1819, and before the time of signing the Convention, and which are supposed to be included in the terms of the said treaty, will send to this Department without delay, a note thereof, specifying the nature and amount of each claim, and the name of the claimant.

JOHN FORSYTH, Sec'y of State.

AGENTS FOR NEW PUBLICATIONS.

HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications:
The New York American Daily, at \$10.00—Tri-Weekly, at \$5.00—Semi-Weekly, at \$4.00 in advance.
The American Railroad Journal, Weekly, at \$3.00 per annum.
The Mechanics' Magazine, two volumes a year, at \$3.00 per annum.
The Quarterly Journal of Agriculture and Mechanics, at \$5.00 per annum, or \$1.25 per number.
The Family Magazine, 416 pages a year, at \$1.50 in advance.
The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25.
The Ladies' Companion, of 54 pages a month, at \$3.00 per annum, in advance.
The Rochester Gem, at \$1.50 in advance.
All communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834. nov6 Cif.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORNBURN,
347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.
* * * Mr. Thornburn is also Agent for the following publications: to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANICS' MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly: either oral or of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J31 dt corner of Maidenlane.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

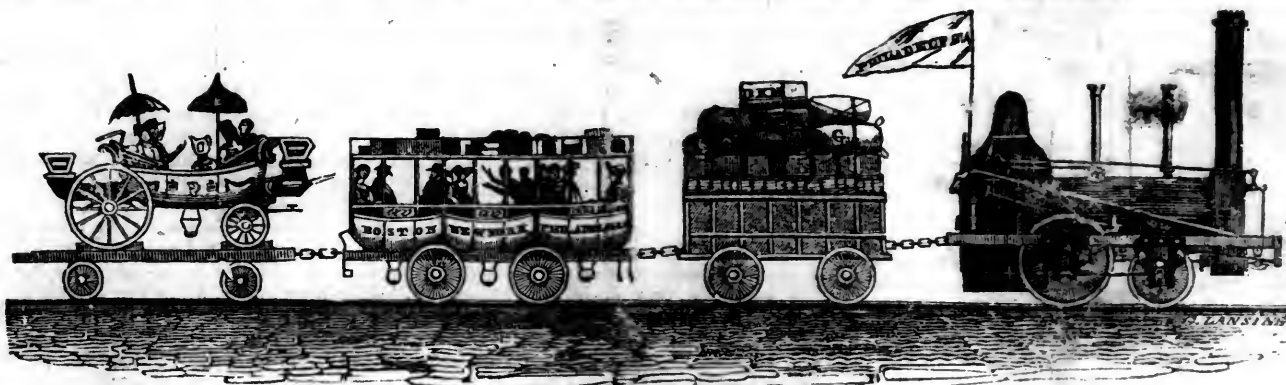
Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13-ly

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty six nails, and about forty to fifty in a minute, and in the same proportion larger sizes, even to spikes for ship. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh, August 15, 1833. A291 RM&F

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. K. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania. Hudson, Columbia county, New-York, January 29, 1833.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, NOVEMBER 15, 1834.

[VOLUME III.—No. 45.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 15, 1834.

BALTIMORE AND OHIO RAILROAD.—We have been favored with the eighth annual report of the President and Directors, to the Stockholders, of the Baltimore and Ohio Railroad Company, from which we shall publish the report of the Chief Engineer, the Treasurer, the Superintendent of Machinery, and of Transportation.

The business, on the part completed, has materially increased since last year; and the operations on that part of the road between the Point of Rocks and Harper's Ferry have been prosecuted with great success—the road being now nearly ready for use.

The Baltimore and Washington Road is also in a great state of forwardness, and will probably be in use by the middle of the ensuing summer.

The income of the road has materially increased since last year, and it will probably be nearly doubled next year, in consequence of the extension of the road to Harper's Ferry, there to unite with the Winchester road, thereby opening a direct intercourse with the most fertile part of Virginia.

We are gratified to learn of the progress of this great work. It is the parent of most other railroads in the country; and its projectors and managers deserve well of community for their enterprise.

CHESAPEAKE AND OHIO CANAL.—We publish, in this number of the Journal, a notice of a meeting held in Maryland, for the purpose of calling a convention at Baltimore, upon the subject of the continuation of this great work. This Canal may be truly deemed a national

work, and therefore it is much to be desired that measures should be taken to insure its continuation and completion. If business will permit, we shall endeavor to be in Baltimore at the time designated for the holding of the Convention.

MICHIGAN AND ILLINOIS CANAL.—We are indebted to a friend for a public document of the last Congress, containing a letter, written in December last, by General DUNCAN, then a member of Congress, Governor elect of Illinois, to Mr. MERCER, chairman of the committee on roads and canals, relative to the contemplated canal from Chicago to the Illinois river, together with Col. Gratiot's letters upon the same subject, communicating the report of H. Belin, Esq., Civil Engineer, who surveyed the route upon which Mr. Mercer's able and interesting report, accompanying them, is founded. This document contains, in about 20 pages, much valuable information, and we shall therefore lay it before our readers entire in our next number; and we bespeak for it an attentive perusal, especially by the citizens of New-York, to whom, when taken in connexion with the contemplated SHIP CANAL, around the Falls of Niagara, and another from Lake Ontario, at Oswego, to the Hudson, it is of the first importance.

There is a map accompanying this pamphlet of the entire route, and we have one also of the contemplated canal around the Falls of Niagara, which may be examined by those who desire, by calling at the office.

We have in our possession much more interesting matter relating to this grand work, which we shall lay before our readers at our earliest convenience.

Col. Long, the United States Topographical Engineer, who has been engaged in the reconnoissance of the grand route of the Atlantic and Mississippi Railroad, through the northern parts of Georgia, Alabama, Mississippi and the Western District of Tennessee, is, we learn, now engaged in viewing a central route, passing by Cotton Gin, Mississippi, and so on through this State to Savannah and Georgia. His report will be published as soon as his reconnoissances are completed. We shall embrace the earliest opportunity to lay it before our readers, or at least such part of it as may be immediately interesting.

To the Editor of the New York American :

COST OF RAILROADS.—Your correspondent W. has recently given to the public through your columns a synopsis of several Railroad articles lately published, in which the following statement appears, among others relating to the cost of American Railroads.

"The Mohawk and Hudson Railway has cost \$90,000 and bids fair to cost \$100,000 per mile, before it is got quite right."

If the estimated cost of the Long Island Railroad, as given by your correspondent should prove as erroneous as the historical statement which is here quoted, it may occasion much disappointment to the friends of that enterprise. But believing with him that such statements "if untrue and illusory should be contradicted," I take the liberty of denying the above in any part of its application to the Mohawk and Hudson Railway; either as relates to the existing state of facts or the prospective invendo.—Will your correspondent have the goodness to give us the authorities on which so grave a statement has been put forth?

MOHAWK.

Important for the Pennsylvania Canal and Railway.—We have been credibly informed that arrangements are making in the city of New York, for organizing a company with an extensive capital, to carry trade to and from New York and Pittsburg, via the Delaware and Raritan Canal and Pennsylvania Canal and Railway.

Of the reasonableness of such a project no one can doubt. The Pennsylvania canal opens from six to eight weeks earlier, in the spring, than that of New York. Merchants in New York must either make arrangements to transport merchandise to the west on the Pennsylvania canal and railway, or they must lose the spring sales. In addition, it appears that arrangements are making for running a regular and daily line of steamboats to and from Pittsburg, next season.

The above, from the Harrisburg Reporter, contains interesting information, IF TRUE. Can any of our readers inform us whether there is any foundation for this rumor?

We learn from the English papers that the steam project via Egypt is forthwith to be put to the test under proper auspices. The Hugh Lindsay steamer is to leave Bombay on the 10th of February, and to be met at Alexandria by a branch steam vessel from Malta. The Hugh Lindsay is to remain at Suez till met by the regular Mediterranean packet from Fal-mouth, to be despatched March 3; and the Maltese boat set out on her return to that island between the 15th and 20th of the same month. The railroad across the Isthmus of Suez, established by Mehemet Ali, will, it is hoped greatly facilitate the success of this important plan of communication.

COLUMBIA RAILROAD, S. C.

Report of A. A. Dexter and C. E. Detmold, Civil Engineers, to the Committee on the Preliminary Survey of the Upper Route of the Columbia Railroad—September, 1834.

(Continued from page 692.)

We would recommend the laying of longitudinal sills, or scantling, under the caps, or transverse sleepers, on all the embankments, and through the loose soil, in the excavations. A larger size of caps than that adopted on the Charleston road we should also prefer, as well as a diminishing of the distance between the supports. The arrangement may be as follows: Longitudinal sills, hewed lightwood, or heart pine timber, as a support for the caps, of length not less than 20 feet; 9 x 9. Transverse caps—9 feet long, 8 x 10, let 4 inches into the longitudinal sills, and secured by keys. On the Charleston road the transverse caps are secured to the sills by 2 inch trenails, which are objectionable from admitting water into the pin hole, and engendering decay. The transverse caps should be placed 5 feet apart, so as to give five supports to a rail of 20 feet in length, instead of four, as on the Charleston road. The rails 6 x 9 should be let 4 inches (full) into the caps, and may be secured by a dovetailed wedge to prevent the rail from raising and the key from working loose.

A mile of Road constructed on this plan would cost on an average as follows:

Clearing, grubbing, and opening tract, (aver.)	\$150
10,560 feet of longitudinal sills at 3 c.	316 80
1,036 caps—9 ft. long 8 x 10 at 4 c. per lineal ft.	330 16
Railing 6 x 9—17,520 feet at \$9.	427 68
Laying longitudinal sills per mile.	225
Putting on caps	250
Putting on rails and preparing top surface for the iron	350
Laying down the iron.	30
Making side drains and filling in between caps and sills.	150

Amount, exclusive of iron, - \$2,229 64

In regard to the plan of iron, we would decidedly recommend a much heavier plate than that made use of on the Charleston road. There is no economy in the purchase of thin iron. Every day's experience shows this. The half inch iron ought never to be put on a road intended for Locomotive Engines. It was only adopted on the Charleston road from the urgent necessity of economizing in the first cost.

The great weight of the cars rolling over the thin plates, at a rapid velocity, tends to depress the bars, loosen and break off the spikes, and to produce great inequality of surface, from the sinking of the plate into the string piece below.

We believe you would ultimately find it a judicious investment of capital to purchase iron three fourths of an inch in thickness, with a large flange, or downward rectangular projection on the inner edge of the plate, of half an inch in depth from the under surface of the bar. This flange would not only prevent lateral friction between the wheel of the locomotive and the string piece, but would greatly tend to the preservation of a uniform surface, by stiffening the plate. Iron of this description would cost including spikes about \$1625 per mile.

Iron five-eighths of an inch in thickness, two and a half inches wide, with a flange, as above, would be vastly superior to any of the iron plates now used in this country, and costing less than that above described, would answer the purpose of augmenting the stability, maintaining evenness of surface, and lessening the friction of the road. The thickness of the iron would allow a sufficient depth of countersink to prevent any collision between the surface of the wheel and the spike head.

We would recommend you by all means to adopt at least iron of this weight. The addition of a flange so evidently an improvement on the ordinary construction, will add but little or nothing to the cost, per ton, of the material.

The cost of a small quantity of half inch flanged iron, imported for the Charleston road, was only ten shillings per ton more in Liverpool than the ordinary iron. We think a large order for this iron would be filled in England at the same price as that of the plain plates.

The cost of the plain plates used on the Charleston road was \$46 62 per ton delivered. That of the flanged plate, \$48 84 per ton. Of the iron five eighths of an inch in thickness, with a flange such as we recommend to your adoption, the number of tons in a mile would be 26—which say at fifty dollars per ton would be \$1300, or \$1425 including the cost of spikes.

A solid and rigid uniformity of surface is of the first importance to the successful running of the locomotives, which from their rapid motion are liable to derangement from slight impediments or inequalities in the surface, acting incessantly, and heightened by the velocity.

Light blows continually repeated fracture large masses. Hence where engines run a great distance daily, on an ordinary road, we may expect a frequent parting of axles and breakage of machinery.

In using a staunch and heavy iron plate you will not only save a great deal of expense in the supervision and repair of the road, the attention to raised bars, broken and loosened spikes, &c. but you will also save incalculably in the prevention of accidents to your locomotives, the frequent occurrence of which robs the Treasury of its revenues, and impairs the confidence of the public.

It is also necessary in forming an estimate of the probable cost, to ascertain the number of engines and cars which will be requisite in the transportation.

The distance being but 59 miles from Columbia to Branchville, and from the latter point to the head of the Plane about forty eight miles,—the whole distance from Columbia to Branchville, and back, 118 miles, may be very readily accomplished in the conveyance of the mail and passengers by two locomotives, plying each way, from the foot and head of the plane. By the present arrangement, leaving Charleston at 6 o'clock, the engines arrive at Branchville (62 miles) between half past 10 and 11 o'clock.

As the Columbia road will be probably constructed on a more substantial and perfect plan than the main track, a speed of 18 miles in the hour may be allowed, with perfect safety, and time enough permitted, leaving Columbia at 6 o'clock, to allow an arrival at Branchville in time to meet the engine from Charleston. Passengers for Charleston would remain at Branchville about one hour and a half, for the arrival of the locomotive from Hamburg, due by the present arrangement at fifteen minutes past twelve. The passengers for Columbia, both from Charleston and Hamburg, would then take passage in the locomotive at 1 o'clock, and arrive at the head of the plane, making due allowance for stoppages, at half past four o'clock, and arrive in Columbia at thirty minutes past five. The engine plying between Columbia and the foot of the plane, owing to the shortness of the route, say ten miles and a half, might almost be considered a reserve engine; and could be drawn up the plane, and used as such, when occasion required. However, it will be better to keep an extra passenger-engine on hand, to be used when repairs may be necessary to either of the other locomotives.

Supposing that the freight from Columbia may be equal to the transportation of 70,000 bales of cotton, annually, and that the exigencies of business require the conveyance of a larger part of the above in the fall and winter months,—then, if 500 bales daily leave Columbia, in 140 days, or 4½ months, the amount would be consumed. Making all allowances, it is not probable that more than 500 bales of

cotton per diem would be sent on the railroad in the business season. One powerful freight engine of the best construction will readily convey this number of bales from the head of the plane to Branchville, at the rate of ten miles an hour.

Between the foot of the plane and Columbia, the engine could perform small trips daily, and the 500 bales could be taken up the plane in the morning, after the arrival of the locomotive, in 4 hours, and in time for the arrival of the same at Branchville before six o'clock. Cotton brought the day before to the foot of the plane, could be raised to the head in the evening, and depart at five o'clock A. M. for Branchville, in time for the same engine which carried it, to return to the head of the plane, with her load of up freight, which would arrive at Columbia early in the morning of the next day. By this arrangement, which it now strikes us would be the best, but 2 freight engines would be kept in constant operation,—and one spare freight engine, only, would be requisite; and we think the company may commence business with 3 freight and 3 passenger engines. However, to provide against all contingencies of accidents and press of business at particular periods, we will estimate for 4 freight, and 3 passenger locomotives, of the best English construction.

4 powerful English freight engines, of the size of the Columbia on the Charleston road, will cost, delivered in this country.	\$24,000
3 light English passenger engines, like the Edgefield on the Charleston road, will cost, delivered.	15,000
16 passenger carriages, at \$550.	3,300
80 freight cars made on the improved model of those now used on the Charleston road, tin roofed and proof against fire from the locomotives, fixed in springs, and capable of holding 20 bales of cotton each, will cost, made by contract and delivered to the company, \$325.	26,000
4 baggage cars, \$250.	1,000
Stationary engine and fixtures for the inclined plane complete.	11,000
Duplicates of parts of the machinery of engines, tools for work-shops, &c.	2,500

Amount, - \$82,800

Estimate of the Total Cost of the Work.

SECTION 1.

10½ miles in length from Columbia to the foot of the inclined plane. Graduation complete at \$2,930 per mile.	\$30,765
10½ miles construction at \$2,229 64 per mile.	23,411 23
Probable cost of bringing the road across the present bridge into the city.	15,000
Fixtures at termination of horse track, and increased width of excavation, &c.	1,200
Depository at Columbia for freights.	5,000
Engine depot, south side of river, with work-shops, &c.	3,000
1 turnout and water station with house for attendant.	800
Crossing of the Congaree and Six Mile creeks.	1,800
Culverts, roads, and farm bridges.	2,100

Add 10 per cent., - 8,307 62

Amount, - \$91,383 84

SECTION 2.

Inclined Plane ½ mile.

Inclined plane with graduation and construction complete	\$15,000
Putting up engine house—foundation for machinery—building furnace, well, and other fixtures, including double tracks—house for attendant, &c.	8,500
	\$23,500
Add 10 per cent. for contingencies.	2,350
Amount,	\$25,850

SECTION 3.

From head of Inclined Plane to descent into the Congaree Swamp, 25½ miles.	
25½ miles graduation complete at \$2,460 per mile.	\$61,806 50
Construction of 25½ miles at \$2,229 64.	56,855 82
4 turn outs with water stations and houses for attendants at \$300.	3,200
Culverts, road and farm bridges, altering roads, securing fields, &c.	1,800
Depositories.	2,000
	\$125,662 32
Contingencies 10 per cent.	12,566 23
Amount,	\$138,228 55

SECTION 4.

From the descent into the Cawcaw to the Orangeburg road east of Orangeburg, 6½ miles.

6½ miles graduation at \$3,500 per mile, -	\$22,750 00
Construction, Viaduct and bridge work in the Cawcaw swamp, Culverts, road and farm bridges, securing entrance into fields, &c. -	14,492 66
Turnout at Orangeburg with depository building, &c. -	5,000 00
	1,200 00
	3,500 00
	\$46,942 66
Contingencies 10 per cent. -	4,694 26
Amount, -	\$51,636 92

SECTION 5.

From the end of Section 4, near Orangeburg, to Branchville, 15 6-10 miles.

Graduation 15 6-10 miles at \$1,120, -	\$17,172
Materials and construction of 15 6-10 miles at \$2,229 64, -	34,782 38
Culverts and side drains, road and farm bridges, -	1,700
3 turnouts, houses, &c. with extra siding at Branchville, -	3,000
Extra for depository at Branchville, -	1,500
	\$58,454 38
Add 10 per cent. -	5,845 43
Amount, -	\$64,299 81

SUMMARY OF THE COST.

Sec. 1, -	\$94,333 84
Sec. 2, inclined plane, -	25,850 00
Sec. 3, to Cawcaw, -	138,223 55
Sec. 4, to east side of Orangeburg -	51,636 92
Sec. 5, to Branchville, -	64,299 81
	\$371,399 12
Iron and spikes for 61½ miles of road, including turnouts, double track at plane, extension over river at Columbia, &c. at \$1,525 per mile, with an allowance for transportation, &c. -	93,787 50
Cost of machinery as per estimate, -	82,800
Total cost, -	\$547,986 62

Estimate of the expense of transportation, repairs, superintendence of road, &c.

Running 2 locomotives daily on south side of plane, including allowance for wear and tear of engines, &c. at \$16 daily for 312 days, -	\$9,984
2 do. on north side of plane at \$14 -	8,736
Stationary engine, per diem, \$16, -	4,982
One general superintending engineer, -	1,500
Master of work-shop, -	900
Expense of work-shop, hands and materials, 20 negroes at turnouts, stations and in depositories, at \$100, -	2,000
50 negroes to keep the road in order, partly understanding the use of tools, \$110, -	5,550
2 superintendents of the above lands, -	900
3 agents at depositories. -	1,800

	\$44,312
Add 10 per cent. for contingencies, -	4,431 20
Amount, -	\$48,743 20

Taking the estimate of business furnished by the Committee, the down and up freight will amount to -	\$70,000 00
Mails to Charleston and Augusta, -	10,000 00
100 passengers per week, down and up, or 10,400 passengers at \$3 each, -	31,200 00

	\$111,200 00
Deduct annual expense -	48,743 20
Nett revenue, -	\$62,456 80
Equal to 11 3 10 per cent. on the Capital.	

We think the estimate of revenue very moderate, and judging from the receipts for up freights on the Charleston road, considerably within bounds. Way passengers and pleasure parties from Columbia to the plane will also augment the receipts. At the same time, both in our estimate of the cost of the work, and in that of the annual expense attending its operation, we have put every thing at its highest value, and made liberal allowances for all possible contingencies. A great allowance should be made for the invigorating influence given to the trade of every place by augmenting the facilities of intercourse with the sea board. We may reasonably expect that a large amount of goods for the upper Districts of Carolina, now received by way of Hamburg and Augusta, will, on the completion of the Columbia railway, find their destination

through the new and more convenient channel.

Future extensions of the road into the interior, to Tennessee, and North Carolina, with the necessary consequence, a vast addition to the revenue, should not be lost sight of in estimating the profits of the enterprise.

Much could be said upon the interesting and important topic of a connexion with these fertile Northern and Western regions, whose agricultural treasures naturally seek a vent through this channel, to the sea board, but we are aware, Gentlemen, of your superior information in all that regards this subject, and of course the little necessity of further remark on our part.

With our best wishes for the full success of this enterprise, the prospects of which are in every respect so highly encouraging, we have the honor to be, with the highest respect, your most obedient servants,

ANDREW A. DEXTER,
C. E. DETMOLD.

Columbia, Sept. 12, 1834.

To Messrs. Hart, Clarke, Blanding, Ewart, Boatwright and Wallace, Committee.

GENTLEMEN: It having been suggested to us that an estimate of the cost of the proposed railroad from Columbia to Branchville, based on the plan of Pile construction, as adopted on the Charleston and Hamburg railroad, instead of that of a superior embankment road, as estimated for in our report, would be satisfactory to the committee, we submit to you a statement showing the reduction which could be effected in the cost, should the Stockholders deem fit to adopt the Charleston road as a model. In that case even, you would have a road decidedly superior to the Charleston road, in point of permanency and stability, for your route embraces a dry and elevated region of country, free from the many swamps, morasses and ponds which abound in the other line, where the piles would reach a solid basis, to the prevention of any settling, or derangement of the superstructure.

By the plan of pile construction, the saving in the cost would be -

In the cost of iron plates, using the ½ inch iron, instead of bars ½ inch in thickness with a flange, as recommended in our report, -	\$73,027
	32,100

Amount to be saved, -	\$105,127
Deducted from estimate as in report, -	547,986

Total cost on plan of the Charleston road, -	\$442,859
Of the above there would be for cost of locomotive engines, cars, and machinery, -	\$82,800
For depositories, crossing the Congaree, turnouts, and houses for attendants, &c. -	38,200
Iron plates ½ x 2½, -	61,687
Inclined plane, -	25,850
	208,537

Amount for excavation and wood construction of 59 miles of road, including 10 per cent for contingencies, -	234,322
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Amount, -	\$442,859
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Our reasons in favor of the plan of a permanent embankment road, with thick flanged iron plates, are given at large in the report, but yet as the proprietors may think it advisable to adopt a cheaper plan, we submit the above estimate to your consideration, fully confident that the amount is amply sufficient to cover all the expenses incidental to the full completion of the work.

We are, gentlemen, very respectfully, your obedient servants,
ANDREW A. DEXTER,
C. E. DETMOLD.

Columbia, S. C., Sept. 14, 1834.

To Messrs. Hart, Clark, Blanding, Ewart, Boatwright, and Wallace, Committee.

GENTLEMEN,—We have the honor to lay before you the result of our examinations, in a reconnaissance of the lower or Congaree river route for the proposed railroad. We can comprise this result in a few words, as it is our conviction that the route is financially impracticable and utterly inexpedient. We find that, were it practicable to pass down the valley of

the Congaree, an inclined plane could not be avoided, without carrying the road along the Congaree and Santee rivers to Wilson's creek, at least 40 miles below Columbia, which would make the distance to Branchville upwards of 80 miles, or fully 70 miles to the nearest point of the Charleston railroad. But even the rise at Wilson's creek would be, in all probability, difficult for the locomotive power, and expensive in graduation. The formation of the country, however, will not permit the construction of a railroad at a practicable expense on the south side of the Congaree. We find the river bounded by a swamp, generally from ½ to 1 mile in width, subject to inundation in time of highest water from 5 to 12 feet in depth. This swamp is broken between the water courses, (lateral tributaries to the river,) by high promontories of the pine land, which extend in many points to the very margin of the stream, and are from 75 to 150 feet in elevation above the swamp. The first of these ridges is Congaree Bluff, about 11 miles below Columbia, near Slappy's lake, lying between Savannah Hunt and Sandy Run. The second ridge of importance is Bell Hall Bluff, between Sandy Run and Beaver Creek. The third is Buyke's Hill, below Big Beaver Creek. The next is Pinckney Hill, an extension of the ridge between Buyke's branch and High Mill Creek. The elevation of this Bluff immediately on the river is at least 150 feet, and a view of the high hills of Santee, near Statesburg, embracing an horizon of 30 miles in extent, is commanded from its summit. Immediately below Buckhead Creek is Bellville Bluff, of an equally commanding altitude.

Although it might be practicable to pass the railroad at the base of these bluffs without any extraordinary expense, yet to do so would necessarily throw the line so far into the intervening swamp, in passing from bluff to bluff, that a great extent of high work, occasionally through lakes, sluices, and ponds, where enormous expense would be encountered in establishing a foundation, would be absolutely necessary. To make embankments through these deeply inundated sections, would be out of the question, as, besides the expense, the points are not sufficiently frequent to afford earth for the purpose. On the other hand, if the line curves up along the high land which borders the swamps of the lateral tributaries, and crosses these streams where the flats are comparatively narrow, the irregularities and abrupt curvatures in the direction would add a double length to the line, and furnish a road scarcely practicable for locomotive use. Even did the formation on this route allow the construction of a road, there are other considerations which should weigh strongly against it in our opinion. These are, the absence of suitable timber to a great extent, the great inconvenience and expense of getting the same into the swamp, the unhealthiness of the situation endangering the lives of those engaged in the construction and after management of the work, and the difficulty of access to the road, both of persons, produce, and in the supply of fuel for the engines. In the one article of fuel, from the above cause, and its less abundance, we estimate the additional expense on this route, compared with the upper route, \$10 per diem. On the whole, Gentlemen, we are fully satisfied, that further examinations and the result of experience will only serve fully to confirm in your minds the conviction of the decided superiority and eminent advantages of the route heretofore selected in the survey. Passing over a dry and elevated surface, covered with an abundance of the choicest timber, inexhaustible both for the purpose of construction and future repairs, the most direct as regards distance, the least expensive in the first cost, as well as in the annual outlay for the preservation of the road and the maintaining of the transportation, we are fully convinced that these advantages, which characterize the route selected, will be eventually ap-

preciated by every friend of the enterprise, and throw the single and unavoidable difficulty of an inclined plane into that comparative insignificance to which it must sink, when considered by a reflecting mind in connection with these circumstances and the great interests of the undertaking.

Respectfully submitted by your most obedient servants,

ANDREW A. DEXTER,
C. E. DETMOLD.

Columbia, S. C., Sept. 31, 1834.

CHESAPEAKE AND OHIO CANAL.—We are gratified to learn that efficient measures are to be taken to prosecute this important work. It is one of those works which are hereafter to serve as the bonds of the Union. We therefore wish it all possible success. Should nothing occur to prevent, we anticipate the pleasure of attending the convention.

Great Meeting in Allegany County, Maryland, October 18, 1834.—At a very large assemblage of the citizens of Allegany county, Maryland, convened at the court-house, in Cumberland, on Saturday, the 18th October, 1834, at 1 o'clock, P. M., in pursuance of public notice, to consider what measures should be adopted to hasten the completion of the Chesapeake and Ohio Canal—the court being in session, Chief Justice John Buchanan presiding, and Judges Abraham Shriver and Thos. Buchanan assisting, politely adjourned, to afford their fellow-citizens the use of the house, and a favorable opportunity of expressing their opinions and wishes on a subject so important to Maryland and her sister states. Previous to the adjournment of the court, Chief Justice Buchanan made some very eloquent and appropriate remarks commendatory of the objects of the meeting. The meeting was then organized by calling Wm. McKaig, Esq., to preside over it, assisted by David Shriver and Wm. Ridgely, Esquires, and appointing Thos. J. McKaig and James Smith to act as secretaries.

The objects of the assembly were then stated at large by B. S. Pigman, Esq., and the appointment of a Committee proposed to prepare and submit a preamble and resolutions expressive of the sense and wishes of this meeting, upon the important subjects then under consideration.

Whereupon, the following persons, to wit: B. S. Pigman, Richard Beall, S. P. Smith, Joseph Shriver, and Wm. Matthews, were appointed said Committee, and accordingly reported the following preamble and resolutions, which, after several spirited and eloquent addresses, evidencing the deep and momentous interest felt by the citizens of this and the neighboring counties in the early completion of this great national work, were severally considered and adopted with unanimity.

Whereas, it appears to this meeting, that the Governments of Virginia, Maryland, Pennsylvania, and the United States of America, considering the Chesapeake and Ohio Canal a work of National importance, as well with reference to the agriculture, manufactures, and commerce of these States, as the preservation of the Union in which we happily live, wisely accorded the wishes of very many of the most enlightened and patriotic citizens of the Nation by granting a charter to the company incorporated to execute that work, and furnishing capital to be expended thereon: And whereas, it also appears that this Canal has been successfully and well constructed by that company, from tide water, along the left bank of the Potomac, 103 miles, at the cost of about four millions of dollars, which sum is but little, if any, more than its estimated expense, and that by the construction of this work, the further distance of 75 miles, which may be done at an additional cost of about one million and a half of dollars, a line of Canal will be completed from tide water to Cumberland, in the

midst of a region abounding with bituminous coal of the very best quality and inexhaustible extent, that would immediately yield, from tolls to be derived thereon, income enough to pay more than the simple interest of the whole cost of said Canal: And whereas it also appears to us, that the rapidly increasing commerce of the West, proceeding along the lakes and the valleys of the Missouri, Mississippi, and Ohio, by artificial ways to and from the Atlantic cities, will at all times, and the operations of our State and National Governments will, especially in times of war, imperiously require the use of as many avenues as can be improved, and as great facilities as can be provided for the transportation of persons and things between the western and eastern portions of this Union, and particularly along the central course of this Canal, which in its whole line will ever be free from foreign violence, and is shorter and for a greater period of the year is less obstructed by ice than any more northern work: And whereas it also appears that the value of the vast national domain beyond the Allegany mountains, and the large portion of the city of Washington, still owned by the Nation, would be greatly enhanced by facilitating and cheapening the intercourse between the West and the East; and the expenses of the United States Government, and of those who administer it, would be much diminished, by the great reduction which, so soon as this Canal shall be finished to Cumberland, will occur in the price of the fuel required and used in large and increasing quantities for the public works at Harper's Ferry and the Navy Yard, and for the public offices, hotels, and private establishments near the Capitol, all placed by the Constitution under the exclusive control, and therefore entitled to the fostering care, of the national authorities; and as in fact "no State in the Union, not one of its many markets, nor any branch of its industry, whether it speed the plough, or spread the sail, or ply at home the shuttle or the hammer, whether its activity be exerted on land or sea, to the north or south, the east or west, is without an interest in the accomplishment of this national work"—and as the funds heretofore subscribed for its accomplishment have been expended, and the completion of said work must depend upon aid being obtained from Congress, or the Governments of those States whose inhabitants are more immediately interested in its being soon finished, it seems to us proper and, to be only necessary, that a concert of action should be had to express opinions very generally entertained, and wishes long and anxiously felt by the people of several cities and states, in a manner so explicit as to entitle them to the highest and most deferential consideration by all persons in authority, and thus assure the triumph of those opinions, and the early fulfilment of our wishes. Therefore it is, by this meeting—

1. *Resolved*, That it is expedient to hold a Convention in the city of Baltimore, at 10 o'clock, A. M., on the second Monday, (the 8th day,) of December next, to be composed of three or more delegates from the towns, cities, and counties of the District of Columbia, and the several States that feel an interest in the early completion of the Chesapeake and Ohio Canal and may find it convenient to be represented therein, for the purpose of considering and adopting such measures as shall to them seem most likely to cause that Canal to be soon finished; and such other works of National character to be undertaken as may advance the welfare of Maryland and her sister States.

2. *Resolved*, That David Shriver, John Hoyer, M. C. Sprigg, S. P. Smith, Moor N. Falls, Thos. J. McKaig, Joseph Shriver, James Smith, Thomas Perry, and Wm. Matthews, be, and the year hereby appointed, the delegation to represent Allegany county in the aforesaid convention, with power to fill any vacancies in said delegation, or to add to its number.

3. *Resolved*, That the following gentlemen be appointed a corresponding committee, viz:

David Shriver, John Hoyer, S. P. Smith, Robert Swan, J. M. Lawrence, Thos. J. McKaig, Andrew Bruce, David Lynn, John McHenry, M. C. Sprigg, Wm. McMahon, Richard Beall, B. S. Pigman, John McNeill, Jacob Snyder, Jas. M. Smith, Levi Hilleary, Geo. McCulloh, William Ridgely, George Hebb, Thomas Perry, John Piper, Ezekiel Totten, Mesheek Frost, George M. Swan, Robert Bruce, William Matthews, James Smith, James Prather, Alpheus Beall, John G. Hoffman, Normand Bruce, Joseph Shriver, Daniel Raymond, William Shaw, Samuel Charles, Perry Worthington, R. C. Hollyday, Wm. Thistle, Moor N. Falls, R. Worthington, Joseph Frantz, S. M. Semmes, Daniel Blocher, Jas. P. Carleton, Geo. W. Devecmon, Jeremiah Berry, Jr., Henry Hammil, Joseph Dilley, William Reid—and charged with the duty of publishing and communicating these proceedings to such persons as may be zealous and influential in promoting the views of this meeting, and inviting their prompt and cordial co-operation.

4. *Resolved*, That the proceedings of this meeting be forwarded for publication in the several newspapers printed in the District of Columbia, the State of Maryland, the Western portions of Virginia and Pennsylvania, and in the States of Ohio, Kentucky, Indiana, Illinois, and Missouri.

WILLIAM McMAHON, President,
DAVID SHRIVER, } Vice Pre-
WILLIAM RIDGELY, } sident.
THOS. J. MCKAIG, } Secretariess.
JAMES SMITH, }

EXTRAORDINARY DESPATCH.—Extracts from the New York papers of Thursday morning, communicating the result of the election in this city, were published in the National Gazette, of Philadelphia, an evening paper, on the same day.

The United States Gazette thus relates the manner in which this despatch was effected:

The most extraordinary despatch ever forwarded in this or any other country, for so great a distance, save by telegraphic signals, was executed on Thursday. The officers of the Camden and Amboy Railroad Company, with a view to gratify the anxiety of our community in regard to the New York elections, employed one of their locomotives to bring the newspapers from Amboy, where the steamboat arrived in two hours and twenty-five minutes from New York. The locomotive proceeded to the present termination of the road, 56 miles, in 2 hours and 15 minutes, and with a horse and sulkey the remaining 5 miles were performed in 25 minutes, and at 12 minutes past 12 o'clock, the papers which left New York at 7 o'clock, were in this city. The last five miles, which are graded, will be completed within a short period, so that on any emergency, intelligence may be conveyed from city to city within five hours. It is not to be understood by any means, that this is the maximum speed practicable on this road, for it was observed by the conductor who attended the line, that he meant to run no risk, and came at a moderate rate.

The accuracy with which distances can be traversed, is shown in this instance. The speed was directed to be at the rate of 2 1/2 minutes to the mile, and the fifty-six miles were run at the rate of 2 41/100.

[From the Philadelphia Inquirer.]

RAILROAD RAPIDITY.—We stated on Friday that the Camden and Amboy Company had actually run the whole distance from New York to Philadelphia in less than five hours—being at the rate of thirty miles an hour for that part of the route which is between South Amboy and Camden.

This is undoubtedly one of the most striking facts connected with the progress and growth of Railroad travelling which has yet taken place in this section of the country. It shows what can be accomplished by science, rightly applied. For while it is well known that several natural disadvantages impair the speed of the Camden and Amboy Railroad machinery, besides part of the distance—that between New York and South Amboy—being water carriage, and therefore slow, in proportion, yet we see the two large cities of New York and Philadelphia now for the first time, brought within five hours of each other.

The whole distance by this route is ninety-four

miles, being about ten miles longer than the route by the way of Trenton.

The Camden and Amboy Company has done well, and deserves the liberal patronage of the community. Judging also from what it has accomplished, we may be permitted to imagine what greater speed may be attained, on the opening of the Trenton route, which is only eighty-four miles long, and passes through the intermediate country without the curvatures, deep cuts, elevations or water sections which necessarily impede the speed of the Camden and Amboy route. At the same rate of speed, the journey to New York by the Trenton route, may be travelled in about *two hours and three quarters*, but as the levels and directness are greater, it may be calculated on extraordinary occasions, at *two hours and ten minutes*.

This calculation may appear incredible to the public—but it will be found on a strict scrutiny to be based on mathematical accuracy. Ten years ago who would have supposed that in 1834, the distance between New York and this city would have been diminished to *five hours*? Yet so it was on Thursday.

We trust that with these facts before our public men no impediments will be allowed to prevent the opening of all routes—but particularly the shortest, and most direct, between our large commercial cities. The growing population and intercourse of New York and Philadelphia will soon demand another route of communication. One will be insufficient for the purposes of trade and commerce, and we trust that no time will be lost in providing for the construction of the Trenton route especially. The opening of the new route will not in the slightest degree affect the interests, injure the prospects, or depreciate the stock, of the Camden and Amboy Company. It will only increase the number of travellers. The Camden and Amboy Company deserve well of the public—their arrangements are, on the most liberal scale—their steamboats, railroad cars and so forth, of the most commodious character.—They cannot be put down—there is no desire to injure a corporation that has conferred such important advantages upon the public; but at the same time, for the sake of fair competition and honest rivalry and general convenience, we earnestly trust that the New Jersey Legislature will act in a liberal and enlightened spirit, and sanction both routes.

FOREIGN MISCELLANY.

Village of Brock.—"Before arriving at the village, you discover an extensive piece of water, bordered by pavilions and kiosks, highly adorned. At a middling sort of inn, beyond the precincts of this sanctuary, the traveller descends, and he must consider it no small favor to procure a guide to conduct him into the interior of this elysium. It is said that both the law and the usage forbid carriages from entering the street. Besides, there is a more forcible reason, which cannot be disputed, viz., there is no street; for the little lanes which separate the domains are so narrow, that they are only practicable to pedestrians, who rarely tread on the pretty paved bricks, arranged in a sort of Mosaic work, with pebbles and shells; and a dog or a cat is seldom seen to intrude on them. It is also alleged that a law formerly existed which obliged passengers to take off their shoes before entering the street. In summer the alleys are covered with fine sand, disposed in compartments which are frequently not disturbed for a whole day, the inhabitants having but little intercourse with each other, preferring a promenade in the gardens; and when visits are paid, they have access to their neighbors by the rear of their houses—a snite of toys, one more ornamented than another, fairy canals, and bridges intersecting them at every ten yards, and serpentinizing in a truly cockney taste. At every step you see new luxury. Here a house in the form of a temple, with a superstructure of painted deal, crowned with clay busts and wigs; in another dwells a retired burgomaster, who retains a painter by the year to revarnish his walls daily; a third has an iron gate to his garden, which cost 10,000 florins, and ugly in proportion; in his neighborhood a bourgeois of Amsterdam has erected two columns of Canara marble in front of a brick building on a quay at an expense of 20,000 florins. His garden exhibits three ponds, greener than his lawn, with every possible specimen of bridge. In a wooden painted pavilion is a priest in costume, with legs crossed and spectacles on nose, reading his breviary, while a fishing rod and line, suspended into the pond at his side, wait for a gudgeon. On a bare and peaked rock, a shepherd of the Alps blows his horn, without prevailing on a cow in the act of crossing a bridge, to advance one step. At the bottom of a massive grove, a villager endeavors to obtain

the favors of a coy nymph, who does not appear at all moved by his addresses. A *chasseur* has been planted for twenty years, waiting orders to shoot a wild duck, stationed a few yards from the muzzle of his gun, while a group of swans regard the enemy with the utmost *sang froid*. Another amateur has varied the manner of showing his taste, and, imitating nature, has planted a number of yews; and, as they grow up, they are converted into chairs, ladders, wild boars, &c. It is difficult to retain your gravity in passing through this chaos of absurdity; especially when you are informed by the pompous proprietor, that his garden is quite in the English style! To sum up the account of this arsenal of villanous taste,—it is appreciated at its true value; for no one but a citizen of Brock has any other feeling in viewing it, but as a mass of bad taste and absurdity. In no other part of the world has so much money been expended so foolishly, yet it deserves to be seen and to be praised; for the sums daily expended in cleaning the canals, repairing the bridges and the alleys, employs a multitude of laborers. A large board is fixed on a trellis, in the most public place, containing the names of the proprietors who have neglected to make the necessary repairs; so that the defaulters are kept on the alert to avoid this species of pillory, by seldom omitting to restore any deficiency."

Anecdote of Vandylke.—"The travellers who visit the Pays Bas will find in every town collections of pictures more or less important, and *chefs d'œuvre* of the old masters in many of the village churches. The celebrated picture of 'St. Martin dividing his cloak with the Beggars' is in the small church of a village a few miles from Brussels. The history of this work is not a little interesting. Rubens, it is well known, not only recommended Vandylke to visit Italy for his improvement, but furnished him with the means, and letters of introduction. While he halted for a few days at Brussels, on his way, there happened to be a *kermess* there, into the merriment of which he entered with much spirit. At a *cabaret*, where there was a ball, he saw a beautiful country girl, with whom he danced, and became so desperately enamored of her loveliness, that he followed her home to the above village; and, contriving to scrape an acquaintance with her family, he thought of nothing else. In the mean time the funds with which his generous patron had supplied him were daily diminishing; and he found that, unless they could be replaced, it would be necessary to abandon his Italian expedition. In this dilemma he applied to the *cure* of the village, stating that he was an historical painter, and understanding that an altar-piece was wanted for the church, he would undertake to paint one on very moderate terms. The priest smiled at the stripling's pretensions to execute such a work, and put him off, saying 'there were no funds.' Vandylke, however, insisted on making the experiment, only demanding to be supplied with canvass. 'He would paint the picture,' he said, 'and leave the price to the *cure's* liberality.' Inspired, we may easily believe, by the love and romance of a young heart, the future painter of kings and courtiers instantly commenced his work, and finished it in a few weeks. The priest, though no connoisseur, could not help admiring the beautiful figure of the Saint, and sent for a friend at Brussels to judge of its merits. This person had some taste, and recommended its purchase; but the youth would neither tell his name nor fix the price of his labors. It is, however, said that he obtained for it 100 florins, (a considerable sum in those days), and being thus again enabled to pursue his journey, he bid adieu to his dulcinea, and departed for Italy. This anecdote is given in a rare little work, 'Sketches of the Flemish Artists,' published at the Hague in 1642."

Prussian Looms.—"The pleasantest route to Aix-la-Chapelle is through Verriere, which is seated in a rich and populous valley, where the principle cloth manufactories are established. The cloth produced by their looms are finer than ours, the warp and the woof being both of the best Saxon wool; but they are much more costly, and therefore cannot be brought into competition with the English in the market. The King of Prussia, during the war, pretended to be our rival, and laid out enormous sums in establishing looms; but he soon found that, so far from exporting cloth, he could not even clothe his army. Not being willing to acknowledge his failure, he ordered the webs from Leeds to have their selvages embroidered with the Prussian eagles!"—[Gordon's Belgium.]

Bellenden Ker's New Language.—Mr. Bellenden Ker has invented a new language, which he swears

is a very old tongue, called the Saxon Dutch. The truth is, it is neither very new or very old; but has been brought into notice by the Society for the Diffusion of Useful Knowledge by the rejected of Norwich, Mr. Bellender Ker, who has the honor to act as *Boots* to Lord Brougham. This language is merely a dialect of the Morouski, in which we used to be considered as having gained some small proficiency; and should our readers like the specimen we now put before them, we shall be happy, when we have become better known to our new allies of the Diffusion Society, to give them also an initiation into the mysteries of the tongue. The following is a specimen which Bellenden gives as a first lesson:—

"Thel ordc hanc el lori sah umb ugth eism yfri endan diamag reath unbugm yse lftoo."

Those who are quick at picking up a language will instantly be enabled to get the art of writing, if not of talking, this interesting tongue. We beg to say, that although this language is introduced by Ker, it has no connexion with the Ker-ry brogue.

Geese At Michaelmas.—The custom of eating geese at Michaelmas must have existed much longer than is generally supposed. It is said, we well know, that Queen Elizabeth was eating geese when news arrived of the destruction of the Spanish Armada, and that it has since been the custom to have a goose on the table on Michaelmas-day in commemoration of that important event; but there seems to be no real cause why that sort of poultry should be brought to our tables at Michaelmas, unless it be that geese at Michaelmas are better than at other times of the year. Our ancestors were in the habit of eating geese on Michaelmas-day as early as the fifteenth century, and that fact decides the story told of Elizabeth and the Spanish Armada. In Blount's *Ancient Tenures of Land and Jocular Customs of Manors*, there is an extract from the rolls, by which it appears that Johannes de lay Hay, in the reign of Edward the Fourth, took from Will. Barneby Lord of Lastres, in the county of Hereford, a piece or parcel of land, paying for the same 22d. per annum, and a goose (*pro prandio Domini in Festio S. Michaeli Archangeli*) fit for the Lord's dinner on Michaelmas-day.

A Lapland Beauty.—By the beginning of June, Linnaeus found himself among swamps, torrents, and woods, occasionally accompanied by a Laplander as guide, and now and then incurring dangers which would have damped the ardor of a less enthusiastic traveller. On one of these occasions, after wandering a long time in a labyrinth of marshes, he was met by a woman, whom he describes as presenting a very extraordinary appearance. Her statue was very diminutive; her face of the darkest brown, from the effects of smoke; her eyes dark and sparkling; her eyebrows black; her pitchy colored hair hung loose about her head, and on it she wore a flat red cap. "O thou poor man!" quoth she, "what hard destiny can have brought the ehither, to a place never visited by any one before? This is the first time I ever beheld a stranger. Thou miserable creature! how didst thou come, and whither wilt thou go?" Linnaeus entreated her to point out some way by which he might continue his journey. "Nay, man," said she, "thou hast only to go the same way back again; for the river overflows so much, it is not possible for thee to proceed further in this direction. From us thou hast no assistance to expect in the prosecution of thy journey, as my husband, who might have helped thee, is ill." The traveller begged of her something to eat, and after much difficulty procured a small cheese. He was obliged to retrace his steps through the marshes; and, when almost exhausted by hunger and fatigue, at length reached the house of a poor curate, where his wants were supplied.—[Edinburgh Cabinet Library, No. XVI. Lives of Eminent Zoologists, from Aristotle to Linnaeus inclusive.]

Lesson to Married Ladies.—"A curious cause has been lately tried at Bruges, the decision of which has thrown the *femmes couvertes* of foreign countries into a panic. A Greek, married to an English woman, and established at Bruges, got into difficulties, and quitted the country without paying his debts.—His creditors sued his wife in her maiden name for the amount, and threw her into prison. A high-minded chivalrous Englishman, also living at Bruges, espoused the poor lady's cause, supposing the arrest was illegal; but, though the best counsel that the city afforded pleaded the case, it was decided against her, with costs of suit, it appearing that such is the law of Belgium, and that 'any married woman, participating in her husband's expenses, is liable to the payment of debts thus contracted; and, if insolvent, to imprisonment.'"—[Gordon's Holland.]

Fireside Enjoyments.—I dearly love what may be called fireside enjoyments. Music!—yes, it decidedly is, or ought to be, one; and a young lady employed in the exercise of that exquisite talent, for the purpose of soothing or enlivening the dear home circle, is ever an object of interest and affection. How delicious are some of our sweet ballads sung in the soft twilight—papa and mamma tranquilly listening to the well remembered notes of "The winter is past," "The Birks of Endermay," or the thrilling combination of sense and sound in the "Exile of Erin," and then blessing God for having given them an unspotted child, who, though it may be rich, and young, and beautiful, derives more delight from their approval than from the applause of the gay and brilliant.

Books!—what pleasure do they not impart? Quick—draw the curtains—the circular table a little nearer the fire; Emily, the dear little Emily, on her own particular stool at mamma's feet, her fine doll in her lap, which she is stealthily undressing, lest papa should be shocked at seeing it *en robe de nuit*; Martha, the good natured Martha, arranging some flowers in her *hortus siccus*; Rebecca, the sage, the wise young woman of the family, pondering over "The Foreign Review," or the last "Quarterly," or the sound yet laughing "Blackwood," or my especial favorite "The British Magazine;" mamma investigating the contents of a "Tidy," that newly invented receptacle of torn clothes, sighing over portions of the dilapidated wardrobe of seven children; papa turning the leaves of a musty folio, the stock-book of the household for various purposes; while Alfred, the eldest hope of the family, stretches his feet on Pompey's silky coat, and tosses over and over an aged newspaper, from which (silly fellow) he knows he can derive no information. Gentle reader!—fancy such a scene, in a country mansion, some forty or sixty miles from London, at the beginning of November; and fancy also, old Daniel, or old Joseph, or old Samuel—any old servant will do—entering with a parcel, a London parcel of books! Just fancy the delight such an event must occasion to such a party, who are all, with the exception of mamma, who has too much to think of, and Emily, who does not think at all, somewhat *bookwormish*; how charming! a parcel containing the best of Colburn's publications, for those seniors of the party who ought to know how the proceedings of the literary world are conducted; books from Westly and Davis, fit for the Sabbath and the serious; and such charming pretty looking things from Hailes and Harris, as make even Emily forget her doll. A heap of delightful annuals for those who love pretty pictures and rational amusements. How much are we indebted to them during the winter evenings, when out of doors the snow is deep, and the wind piercing!

I might say, and with truth too, that for very little masters and misses, a quiet game of blindman's buff is seasonable at Christmas time, particularly when a steady person is present to call "fire" and prevent mischief; though I almost fear that to express such an opinion is likely to bring me into disrepute with the young *élégantes*, and those smart juvenile gentlemen who come under the denomination of *little dandies*—troublesome monkeys! I could better, by a thousand times, endure a good romping boy, than a mincing, snikkin, perking, bowing, simpering Jimmy Jessamy, with kidded hands, perfumed handkerchief, and empty head. But I am sure all little creatures, roly-polys under eight, will forgive me, ay, and love me too, for tolerating blind man's buff.

I am sorry that needle-work goes out of fashion, it is a gentlemanly amusement, and ought not to be neglected, particularly by those who have many brothers and sisters, and whose parents are not rich. Many girls, I am sorry to say, despise their needle, and affect to think work unfit occupation for genteel or intellectual beings. I both grieve for, and am angry with such misses. I can tell them that many of our high-born noble ladies employ their fingers in fringing clothes for the poor and desolate widows and orphans of our distressed country. And I can also tell them that the sensible and instructive Holland, the playful and highly gifted Mitford, ay, and even the graceful and elegant Landon, think it no disgrace to form themselves the garbs in which they are always fascinating, because always unaffected. One advantage of the generality of female occupation is, that the mind can be engaged either in hearing or reflecting, when the fingers are employed in plain work, or even in embroidery; and nothing is more delightful than a party enlivened by alternate reading and music, where the greater number are not too fine to be industrious.—[Mrs. Hall's Chronicles of a School Room.]

[From the Mechanics' Magazine, for October.]

Seventh Annual Fair OF THE AMERICAN INSTITUTE,

HELD AT NIBLO'S GARDENS,
October, 1834.

It is with no ordinary satisfaction that we again bring before the notice of our readers some of the most useful and important inventions, improvements, and displays of American ingenuity and industry, exhibited at this annual fete—an exhibition in every way honorable to us as a nation, and calculated by the competition it offers, and the rewards it bestows, to render us able in a short time to vie in all our manufactures and mechanical skill with any nation on the face of the globe.

America has great reason to be proud of her numerous institutions for fostering talent and ingenuity, her seminaries of learning, and her philanthropic institutions in every section of the Union, but to none will posterity be more indebted than the institution now under our notice. It promotes a taste for the cultivation of the arts and sciences—gives a spur to industry among all classes—and has been the means of bringing into notice individuals of modest merit, who without a similar institution would have known full well

how hard it is to climb!
The steep where Fame's proud temple shines afar,
—how many a soul sublime,
Has felt the influence of malignant star—
And waged with fortune an eternal war,
Checked by the force of pride, or envy's frown,
Or poverty's unconquerable bar."

It offers, too, by its annual exhibition, by the meeting of so many of the ingenious and scientific of our land, an opportunity for the interchange of ideas, which must afford them great gratification, and when guided by those feelings of patriotism which will ever be found predominant in the breasts of men of talent, must be productive of great benefit to our country.

We are gratified to learn that the number of visitants this year quite equalled that of any former one, and we most cordially wish that this, as well as institutions of a similar nature, may "go on and prosper."—[Ed.]

LIST OF ARTICLES EXHIBITED.

Steam Engine and Sugar Mill—Cylinder, 2½ inches bore, 4½ inches stroke; walking-beam, 13½ inches long, from centre to centre; connecting rod, 13½ inches long; crank, for connecting rod, 2½ inches long; fly wheel, 16 inches diameter; air pump next to cylinder; force pump in the centre; injection and feed cocks between the two centre standards; feed pipe from boiler to feed cock; boiler, 22 inches long, 13 inches diameter, of copper.

Spur wheel for sugar mill, 16 inches diameter; pinion, 1½ inches diameter; 3 rollers and stands for sugar mill; rollers, 5½ inches long, 3½ inches diameter; the driving wheels for rollers are the same diameter from the pitch line as the rollers. This mill is connected with the engine by a coupling attached to the spur wheel, which works in the pinion attached to the fly wheel of the engine.

The Draught and Model of a Ship, 420 tons, drawn by C. G. Selfridge, of Boston, representing 4 different plans of the ship. 1st, Sheer plan, which represents the ship as looking upon her broadside; shows the place for the masts, the shape of the cut-water, rudder, &c.; also, of the section lines, diagonal lines, bearding line, throat of the floors, &c. 2d, A half-breadth plan, which represents the ship upside

down, shows the shape of all the water lines; main and top breadth, &c. 3d, Square body plan, representing all the square frames of the ship in their proper shape and place, with the diagonal section and water line struck upon them, also the height and length of the main transom, with the upper and lower edge of all the other transoms, struck across the frames to lay them down in the half breadth transom place. 4th, Cant body plan, representing all the forward and after frames canted into their proper places, showing the shape of all the cants, and the fashion piece, the size of all the transoms, and the place for the heels of the cants in the dead wood. Dimensions of ship—126 feet on deck, 26 feet beam, 19 feet deep.

The model was made to order, or the beam would have 28 instead of 26 feet.

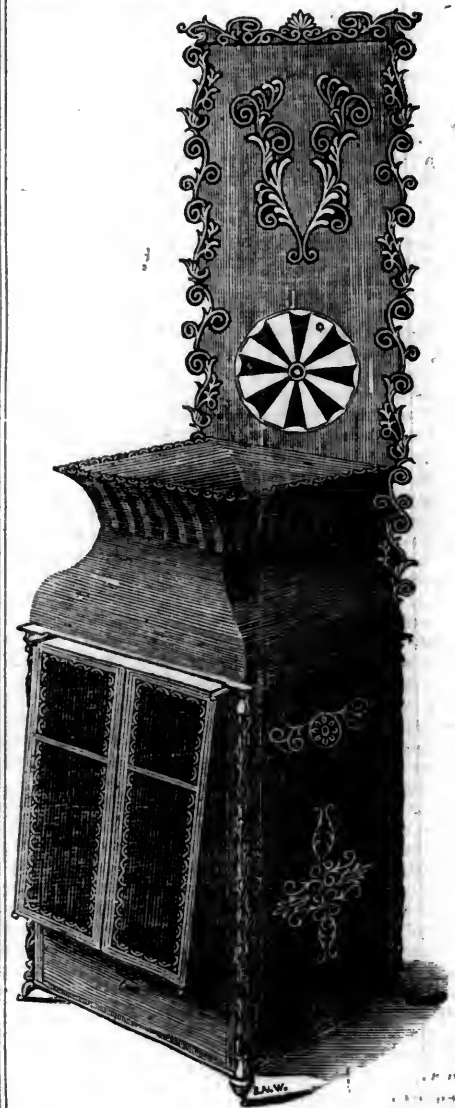
Likewise, the Model of a Steamboat, for sea, with spandings under the guards, for the double purpose of preserving the guards from the force of the sea, and making the boat more buoyant. Made by Selfridge. Dimensions—181 feet on deck, 24 ft. beam, 48 ft. from out to outside of guards, 10½ ft. deep, wheel 22 ft.

Stoves, &c.

H. Nott & Co. 1st premium on anthracite coal Hall and Cooking Stoves—a silver medal.

J. L. Mott, 2d premium for anthracite coal Cooking Stoves—a diploma.

W. Naylor, 2d premium for anthracite coal Hall Stoves—a diploma.



Naylor's Newly Invented Hot-air and Self-ventilating Stove—an entirely new article, embracing principles which the inventor has never known to be applied to any other stove; they are recommended with the greatest confidence, and warranted to perform well in every respect, or no pay demanded. Heat

can also be applied to other rooms from the same stove when required. The demand for them last year was greater than could be supplied in time, and they have undergone a very great improvement this year, both in utility and appearance, which is a farther recommendation.

J. L. Mott, 1st premium for Office Stoves—a diploma.

James Wilson, 2d premium for Office Stoves—a diploma.

N. Whitman, 1st premium for Parlor Grates—a silver medal.

Edward Smylie, 2d premium for Parlor Grates—a diploma.

B. H. Folger, for anthracite Globe Stoves—a diploma.

Platt & Treadwell, Albany, Parlor Stove for wood—a diploma.

F. Van Tassel, for a Cooking Stove—a diploma.

Joel Curtis, for a coal Cooking Stove—a diploma.

Richards & Damerel, Cooking and Office Stoves—a diploma.

H. S. & J. S. Gold, 1st premium for Portable Bake Ovens—a diploma. This oven is constructed for preventing the loss of heat, being made double, (the material of tin or

other thin metal plate,) with a distance between the two of from three quarters to an inch, so that between the two casings on the top, and on all sides, there may be confined air. This construction of the oven gives it firmness and durability.

The furnace is in the centre, between the doors or ends of the oven, passes through it, is put in at the top, and projects a little below the bottom. The fuel is put in at the top, which has a cover, (as represented in the first cut;) the draught enters (as represented in the same cut) in front, just under the bottom. The sides of the furnace are represented in the second cut, by the two lines near the centre. The circle represents the smoke or gage pipe, which ascends behind the oven. The furnace is about two inches thick, is nearly as wide as the oven, so that it divides it into two parts: it holds about eight quarts of coal, which is sufficient to bake at least *thirty-two loaves* of bread. To prevent the heat from operating unequally, there is a contrivance introduced for regulating the heat, by producing what is called by the inventor, "the circulation of heated air." Those several pieces running parallel with the furnace, and near it, represent a *vertical partition*, in so many pieces. The air between this partition and the furnace becomes immediately heated; it then rises, of course; and as each piece of the partition is set back towards the furnace a proportionable distance, (as is seen in the cut,) the heated air will enter between the several shelves and pass towards the door over the articles on one shelf and, under those on the other, by which the heat will be absorbed, so that the air will become cooler when it reaches the door, where, by preponderance, it will ascend through the space (represented in the cut) to the bottom, when it will be re-heated, and so on. This contrivance for producing circulation has never before been known, and from this the oven derives its chief advantage, as it will operate equally well, though several stories high. In this oven the lower shelf is made double, containing confined air. This prevents what is on the shelf from being burned at the bottom. It is made thicker the front side next to the door, so that its under side may be an inclined plane. The furnace is round, and is located under this shelf, entirely in the oven, except the part which catches the ashes. The partition in this is the same as in the other. It will be seen that the heated air must be carried to the back side of the oven, where it will ascend as in the other, and the operation will be the same.

H. Nott & Co., 2d premium for Portable Bake Ovens—a diploma.

Graham's Stove,—as represented by the subjoined cuts. We have before us several testimonials from persons who have had it in use some time, who all concur in stating that it fully answers their expectations. It is cheap—simple in its construction—neat in its appearance—and economical as to the quantity of fuel consumed.

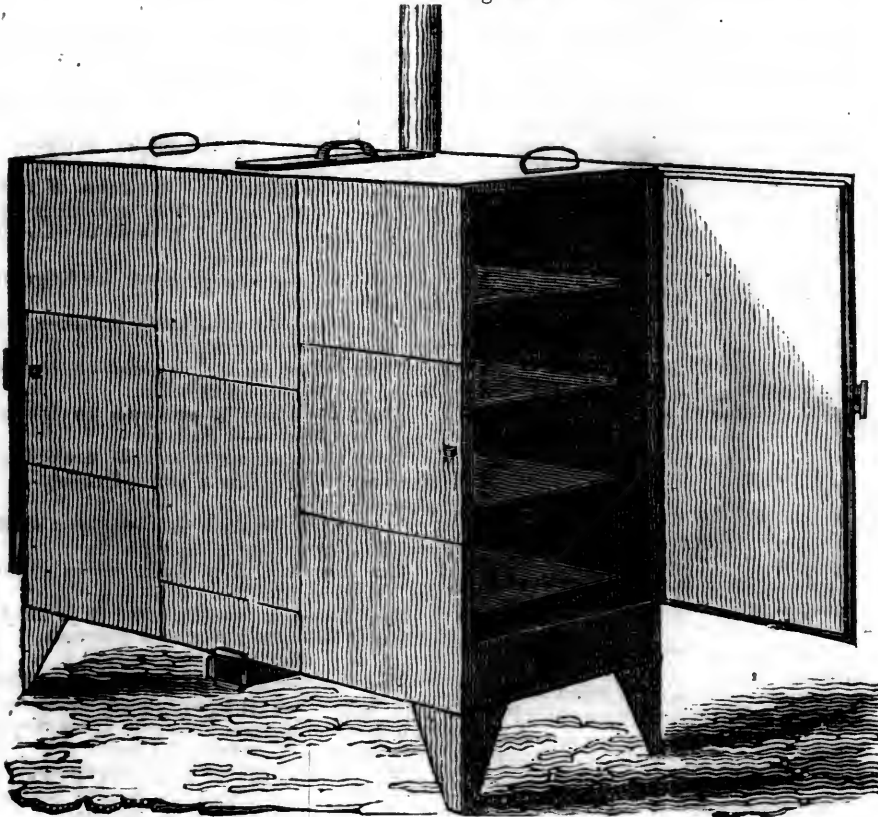
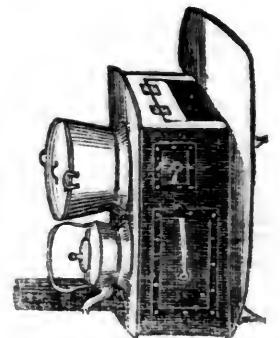
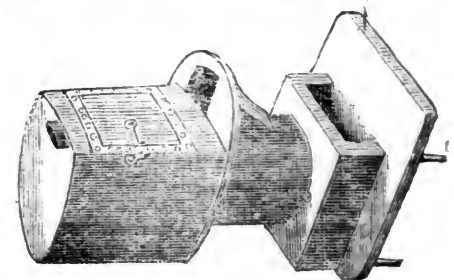
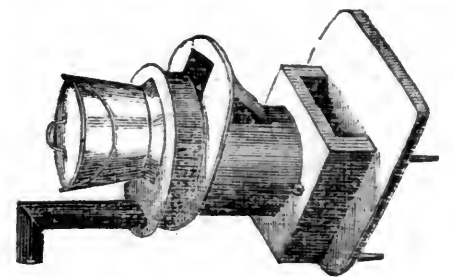
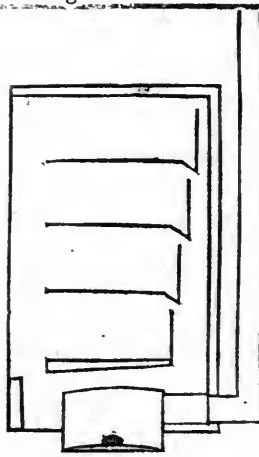
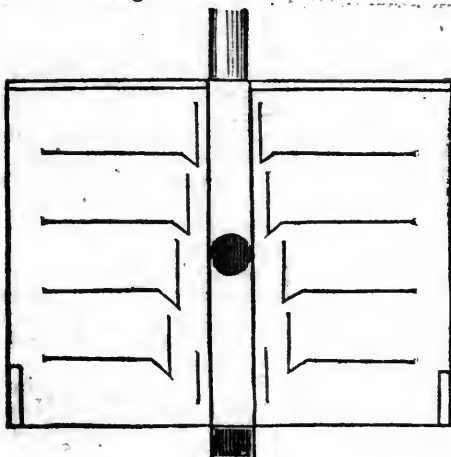


Fig. 2.

Fig. 3.



Naylor's Coal Cooking Stove, acknowledged the best article of the kind ever brought into the market. The demand having been extensive, and the improvements great this year, will be a further recommendation to it. The improvements are a greater increase and equalization of heat to the boilers, a greater facility



in cooking, economy in fuel, and a total preventive of the dust arising from coal.

A Model of a Cooking Stove, invented by Dr. Payne, 13 Beekman st., New-York; quite novel in its operation. The grate, or furnace, in which the wood, or coal, is burned, turns horizontally under a shallow heat chamber, of a circular form, on which the cooking vessels are placed, which enables the cook to put the most intense heat under the vessel, or vessels, that most require it, the burning surface of the fuel coming in immediate contact with the bottom of the vessels, whilst the heated air from the furnace, or grate, by an ingenious and compact arrangement, passes from the furnace under all the vessels, in a circle, before it escapes into the stove pipe, which is placed in the centre of the circle. The range, or grate, is so constructed as to afford ample and convenient room for roasting and broiling, without occupying a space more than 3 feet square. The stove may stand on legs, or be suspended.

Cabinet Ware.

J. C. Jenckes, a Carriage Chair for an Invalid—a diploma. A very ingenious contrivance, by which sick persons are able to move themselves from room to room, and also alter their position of sitting.

A splendid Perspective Pier Table, inlaid with upwards of one hundred and fifty pieces of wood of different shades and colors, so arranged as to appear like solid blocks or boxes, in whatever position you may stand to view it: manufactured by Wm. Fulcher, No. 88 Elm street, New-York.

W. Woolley, for a Sofa Bedstead, made by E. S. Woolley, and Frieze Window Covering—a diploma.

J. A. Patterson, fine inlaid top for Centre Table—a silver medal.

J. H. Farrand, for Spring Window Blinds—a diploma. Mr. F. exhibited a figure of a Pagoda or Temple, made in the form of a hexagon—as a model intended to illustrate at one view, by revolving on its centre, blinds for windows, both on an improved principle, and of original invention, and classed under the following heads:

Inside spring blinds, adapted either for linen, transparencies, maps, &c.;

Sun shades for outside, made to suit different forms of windows, which effectually screen the rays of the sun, and ventilate the rooms in hot weather;

Dwarf Venetian blinds, with vertical movement, striped Venetian and falling hood;

The painted Venetian blind differs from the old plan, inasmuch as it has an extra lath revolving on two rollers, centred in the top lath, which hangs in a horizontal position, thereby preventing the line either to cut or slip from the pulleys, which being vertical to the holes in the slats facilitate the turning of the blind, besides effectually screening the rays of light.

Fine Arts.

Original Busts of McDonald Clark, the poet, and a Dead Infant, both sculptured by James V. Stout—silver medal.

These busts are stood on pedestals of the

Scagliola marble, and are manufactured by Clark & Dougherty, 40 Hamersley street. They are, in point of strength, durability, richness of tint, vein and polish, fac similes of their originals, and what greatly enhances their value is the barrenness of the primitive quarries, among which are the lapis lazuli, rosea broccido, yellow antique, &c., and the cost is from one-sixth to one-third of their models.

J. W. Dodge, 1st premium for Miniature Painting—a diploma.

J. James, 1st premium for Stained and Burnt Glass—a diploma.

Smith & Crane, 1st premium for Wood Carving—a diploma.

Mrs. Springsteel, 1st premium for frosted embossed Flower Work—a silver medal.

Miss Harris, 1st premium for Shell Flower Work—a silver medal.

W. J. Hubbard, 1st premium for Portrait Painting—a diploma.

Edward D. Marchant, 2d premium for Portrait Painting—a diploma.

J. W. Hill, 1st premium for water colored Landscape and Marine Painting—a diploma.

Miss E. Johnson, 2d premium for water colored Landscape Painting—a diploma.

T. Chambers, 2d premium for water colored Marine Painting—a diploma.

Noel Delregney, 1st premium for Oil Landscape Painting—a diploma.

Hyatt & Smith, 2d premium for Oil Landscape Painting—a diploma.

W. Eagleson, 1st premium for Sculpture in Marble—a diploma.

R. J. Brown, 2d premium for Sculpture in Marble—a diploma.

George Endicott, two Portraits of Daniel Webster and Doctor De Witt, in Lithograph, a fine specimen of that art in point of execution and likeness—a diploma.

W. Thompson, 1st premium for Engraving—a silver medal.

George Bird, 1st premium on Imitation Wood and Marble—a silver medal.

E. Ramsbottom, 2d premium on Imitation Wood and Marble—a diploma.

Joseph De Groot, 2d premium on Imitation Wood and Marble—a diploma.

Town Davis, fine specimen of Architectural Drawing, (the New Custom-House)—a diploma.

Stephen H. Gimber, fine specimen of Mezzotinto Engraving—a diploma.

Miss Margaret Ackerman, for a Painting on Velvet—a diploma.

Miss Cornelia Loomis, aged 13 years, for 2 Wreaths Embossed Work—a diploma.

Books and Stationary.

The best specimen of Typography exhibited was Sparks' Life and Writings of Washington, exhibited by Monson Baneroff, from the University Press, Cambridge, Mass.

Second best specimen of Typography, Byron's Works, published by George Dearborn, elegantly bound by H. & H. Griffin.

Best specimen of Blank Account Books, exhibited by Wm. Minns; the ruling very neat and perfect, and the binding, particularly of two volumes, highly finished and in good style.

Second best specimen of Blank Books, by D. Felt & Co., four very elegant specimens, as to ruling and binding.

Best specimen of Book Binding; Books of Common Prayer, bound by L. Turner.

Second best specimen of Book Binding, by H. & H. Griffin.

Best specimen of Sealing Wax; a great variety of beautiful samples, plain and variegated colors, by D. Felt & Co.

Best specimen of Manufactured Quills, by D. Felt & Co.

Best specimen of Maps, by Mitchell, Philadelphia.

Second best specimen of Maps, by D. H. Burr, N. Y.; a large and elegant Map of the State of New-York, with Plans of the cities and most important towns in the State.

The following articles were worthy of particular notice:

The National Portrait Gallery, published by M. Bancroft, press of Wm. Van Norden. Although it may be thought that this work falls more immediately under the department of the Fine Arts, this committee cannot omit to notice, with high approbation, the style of its execution, which is highly creditable to the publishers, and a favorable specimen of the progress of the arts in this country.

Book of Common Prayer, published by R. Bartlett & S. Raynor, press of Wm. Van Norden, a very neat and beautiful edition.

Mitchell's Reference and Distance Map of the United States, exhibited by C. Mould, agent, 155 Broadway, is a work which merits particular notice for its correct and handsome execution, and minuteness and variety of detail. It is accompanied by a volume (324 pages) of explanatory references, containing also a mass of important topographical and statistical information.

A fine specimen of Portable Writing Desk and Dressing Case, by Thomas Luff & Co.

Very superior Binders' and Paste Boards, by J. B. Cheeseman.

Music and Musical Instruments.

Rosewood Cabinet Piano Forte, No. 401, 6 octaves, with patent piccolo action, and cylinder fall, manufactured by Firth & Hall, No. 1 Franklin square. Silver medal.

One 8 keyed silver banded cocoawood flute, with patent roller springs, elastic cushion keys, and C & C silver plates;

Also, one 8 keyed silver banded cocoawood flute, with elastic cushion keys, common springs, C & C silver plates. Both the flutes manufactured as above.

Two Piano Fortes, by John Osborne. The only difference in the two musical instruments is, the one is what is called by makers French Grand Action, and the other English Grand Action. The above names are given them by way of classification or designation, as they are, in part, copied from those two nations, in their original mode of mechanism. Gold medal.

Bridgland & Jardine, 2d premium on Square Piano Forte—a silver medal.

Bridgland & Jardine, 2d premium on Cabinet Work, rose-wood Piano Forte Cases—a diploma.

C. H. Eisenbrant, Baltimore, 1st premium on Flutes and Clarionets—a silver medal.

Rounberg & Schroeder, 2d premium on Flutes and Clarionets—a diploma.

C. G. Christman, for workmanship for an improved Flute—a diploma.

C. A. Eisenbrant, for a Brass Horn—a diploma.

G. Godene, for double Bass Viol—a diploma.

India Rubber Goods.

Captain L. Norcross' Water Dress—composed of a lead cap, which encloses the head, of 75 lbs. weight, and one foot in diameter, with a small glass in front, for the object of vision. The lower part has an opening, the edges of which rest on the shoulders and front and back of the chest equally.

The dress is made entire of India rubber cloth, with arms, gloves, legs, and feet, and made to fit loose. The end that joins to the lower part of the cap or helmet is made like the mouth of a bag. The operator draws it on whole, and then the upper part, or mouth, is tied close around the lower edge of the cap. Weights of lead are attached to the feet, of ten pounds each. From the top of the helmet there is a pipe as long as, or longer than, the water is deep, which the operator is going to work in, attached to an air pump. This is the air refreshing, or supply pipe; another pipe, from the helmet to the top of the water, is the discharge pipe. In the latter, there is a flat portion, about 6 inches long, made by stitching two flat pieces of sole leather together on the edges, situated about 6 inches from the helmet, and this constitutes the safety valve. On this valve, the pressure of the water acts so as to prevent the escape of air from the dress, till the air, surrounding the body from the fingers to the toes, is more dense than the water, then a proper portion of the air escapes through the

valve, and goes up to the surface, along the discharge tube.

Boston and Lynn India Rubber Company, 1st premium for India Rubber Goods—a silver medal. C. C. Nichols, 33 Fulton street, agent.

Also, from the India Rubber Factory, Roxbury, Mass. (warranted water and air tight)—

Ladies' India Rubber Camlet Cloaks; Gentlemen's Drab Pantaloon and Surtouts; Life Preservers; Silk Air Cushion; Ladies' Prunelle Shoes—a diploma. H. A. Winslow, 66 Maiden lane, agent.

Carriages, &c.

Isaac Mix & Sons, a very handsome Stanhope, with improvements in manner of putting on tires, worthy of particular notice; the rundle behind is well arranged for servant, or can be closed at pleasure—a silver medal.

Isaac Mix and Sons, one carriage, turn-over seat Stanhope, a well made and convenient article for a family. A diploma.

I. Cooke & Sons, one double seat Phaeton. This carriage is so constructed that it can be used as a barouche, with a top to close all round, or as a double seat Phaeton; by taking off the driver's seat and turning the front seat to face the horses, the top can be thrown down or removed at pleasure. A silver medal.

I. Cooke & Sons, a very handsome Buggy Waggon—a diploma.

Peter L. Donaldson, Newark, N. J., for Gig Axles—a diploma.

Gold, Silver, Plate, Jewelry, &c.

Mullen & Ackerman, for specimens of filagree jewelry—a diploma. W. J. Mullen, of the same firm, has been awarded a medal for two gold watch dials. Mr. M. deserves great credit for the perfection to which he has brought the American manufacture of this article. He was the first in this country to attempt their preparation, and now executes them in a style equal to any that can be imported.

James Thompson, 2d premium for Silver Pitchers—a silver medal.

Richards, 1st premium on Patent Spring Gold Spectacles—a diploma.

Robinson, Jones & Co., 1st premium for plain and fine gilt chased and fancy buttons—a silver medal. Attwater, Parker & Wilson, No. 8 Platt street, agents.

Ackerman's Lithometallic, or Jewel-pointed Pen, is a gold pen, with points made of a valuable jewel, and one of its peculiar advantages is that it cannot be corroded by ink, and may be used a long time without being at all injured or impaired by use.

After a little experience, a good writer will prefer it to the steel pen, as the ink flows more freely, and his hand-writing will be uniformly the same, and resemble more that of the quill pen. It is made portable for the pocket, and will be found, to persons travelling, a very useful and convenient article.

We defer (at the request of Mr. Williamson, the inventor,) giving a description of the newly invented graduating silver steel pen, which received the premium of a gold medal.

Marquand & Co., 1st premium for Silver Pitchers, Spoons, and Forks—a silver medal.

Jared L. Moore, for fine specimen of Gold and Silver Spectacles.

Leather, Boots, Shoes, &c.

Sherill & Reed, Salisbury Centre, Herkimer county, 1st premium for hemlock tanned Sole Leather—a diploma. Thomas Brooks & Sons, agents, No. 60 Vesey street.

Quackenboss, Wynkoop & Co., 2d premium for hemlock tanned Sole Leather—a diploma.

W. Leek, 1st premium for oak tanned Sole Leather—a diploma. Isaac Bullard, agent.

F. K. Boughton, Utica, 1st premium for Otter and Seal Skin Caps—a diploma. For sale at 163 Water street.

J. W. Brodie, 1st premium for dressed Otter Skins—a diploma.

J. D. Williams, 1st premium on dressed Muskrat Skins—a diploma.

S. C. Smith, fine specimen of lined India Rubber Shoes—a diploma.

J. G. Vandenburg, 33 Wall street, fine speci-

men of water proof Gum Elastic Boots—a diploma.

T. Lane & Son, 1st premium for Ladies' Boot and Dress Slippers—a diploma.

Alexander Clark, 1st premium on Gentlemen's Calf Skin Boots—a diploma.

Cloths, Cassimeres, &c.

Denny Manufacturing Company, Oxford, Mass., 1st premium for superfine black and blue Cloths—a gold medal. Steele, Wolcott & Co., 62 Pine street, agents.

Middlesex Company, Lowell, Mass., 2d premium for superfine black Cloth—a silver medal. Steele, Wolcott & Co. 62 Pine st., agents.

Wethered & Brothers, Baltimore, 2d premium for superfine blue Cloths—a diploma. Steele, Wolcott & Co., 62 Pine street, agents.

Daniel Buck, Lawville, Lewis county, N. Y., 1st premium for American Saxony Wool—a diploma. Steele, Wolcott & Co., 62 Pine st., agents.

Wethered & Brothers, Baltimore, 1st premium for black Cassimeres—a silver medal. Steele, Wolcott & Co., Pine street, agents.

Middlesex Company, Lowell, Mass., 2d premium for black Cassimeres—a diploma. Steele, Wolcott & Co., 62 Pine street, agents.

Dick & Sanford, Newtown, Conn., 1st premium for Satinets—a diploma. Charles N. Mills, 44 Pine street, agent.

John Wilde & Co., Bloomfield, N. J., 1st premium for White Flannels—a silver medal. J. Wilde, No. 12 Gold street, New-York.

A. Robinson, Fall River, Mass., 1st premium for Prints—a gold medal. Brown, Brothers & Co., 63 Pine street, agents.

Louisdale Company, R. I., 1st premium for Nankeens—a diploma. Lawrence & Trimble, 51 Pine street, agents.

Paul M. P. Durando, 1st premium for Boys' Clothing—a diploma.

Horne, Shepard & Fisher, a piece of Bleached Cotton Flannel—a diploma. L. Holbrook & Co., 53 Pine street, agents.

Premiums or diplomas were also awarded for the following:

Wm. T. Willard, for Covering for Vault Grate—a diploma.

John Woolley, 1st premium for Roofing—a diploma.

E. B. Sweet, 2d premium for Roofing—a diploma.

Peck & Lannuier, 1st premium for Beaver Hats—a diploma.

A. & A. Bancker, 2d premium for Beaver Hats—a diploma.

J. M. Henderson, 1st premium for Silk Hats—a diploma.

Hyatt & Smith, 1st premium for Sign Painting—a diploma.

John M. Brown, 2d premium for Ornamental Sign Painting—a diploma.

J. F. Hanks, 1st premium for Ornamental Sign Painting—a diploma.

Judah A. Lee, 1st premium for Plain and Ornamental Penmanship—a diploma.

S. Andrews & Co., Perth Amboy, 1st premium for Combination Lock, invented by S. Andrews—a silver medal.

J. G. Pierson & Brothers, 1st premium for Wood Screws—a diploma.

T. & B. Rowland, Philadelphia, 1st premium for Mill Cross-Cut and Pit Saws and Shovels and Spades—a silver medal. Edward Field, No. 1 Platt street, agent.

Lewis McKee & Co., Plymouth, Conn., 1st premium for Chest and Cabinet Locks—a diploma. Atwell, Baker & Wilson, agents, No. 3 Platt st.

W. Hunt & Co., Douglass, Mass., 1st premium for Axes and Hatchets—a diploma. Agents, Hubbard and Casey, No. 48 Exchange Place.

Johnson & Co., 1st premium for Cosmetics, Fancy Soap and Perfumery—a diploma.

O. S. Williams, 1st premium for Travelling Trunk—a diploma.

R. R. Chamber, 2d premium for Travelling Trunk—a diploma.

(To be continued.)

NEW-YORK AMERICAN.

NOVEMBER 8—14, 1834.

LITERARY NOTICES.

MEMOIRS OF THE LIFE AND CORRESPONDENCE OF HANNAH MOORE; by WM. ROBERTS. 2 vols. New York: Harper & Brothers.—We hastily mentioned these volumes last week, and have since looked into them with much interest; though to say truth, there is something too much of them.

The great charm of them is the collection of letters from conspicuous persons, with whom, during a period of nearly sixty years, *Hannah Moore* lived on terms of great familiarity and friendship. These present a lively and striking view of the times: they are full of anecdote, nay gossip; and on that very account, as viewed in contrast with the character, —in later life almost ascetic,—of the lady, and with that of her literary labors,—are the more striking.

Garrick, Johnson, Walpole, Burke, of a past age, with Wilberforce and all his virtuous associates of our day, constitute a few of the bright names that grace these pages.

We have heretofore made extracts from these volumes. We now add a few more; and first from Garrick's sprightly pen.

Essex, July 9, 1777.

MY DEAREST OF HANNAHS.—You must have thought me lost, mad, or dead, that I have not sent you a morsel of affection for some time. I have an excuse, if there can be any for the neglect of such a friend! We are now with Mr. Rigby and some ladies, our particular friends, by the sea-side; and while I am writing this in my dressing room, I see no less than fifty vessels under sail, and one, half an hour ago, saluted us with thirteen guns. Among all the news, foreign and domestic, that travel through and about Bristol, have you not heard that *Mrs. Garrick and I were separated*? Tell the truth, dear Nine, and shame you know whom. To our very great surprise, a great friend of ours came from London; and to his greater surprise, found us laughing over our tea under our walnut-tree; he took me aside, and told me it was all over the town, from Hyde Park corner to White chapel dunghill, that I had parted with Mrs. Garrick. You may easily suppose this was great matter of mirth to us. We imagined somebody had had a mind to joke with our friend, but upon inquiry we found that such a report had been spread; but, to comfort your heart, be assured that we are still as much united as ever, and are both so well, that there is a prospect of dragging on our clogs for some years to come. Colman is preparing his comedy of four acts, called the "*Suicide*," a very dangerous subject, but the actors say it must have great success.

My theatrical curiosity diminishes daily, and my vanity as an author, is quite extinct; though by the by, I have written a copy of verses to Mr. Baldwin, the member for Shropshire, upon his attack upon me in the House of Commons. He complained that a celebrated gentleman was admitted into the house when every body else was excluded, and that *I gloried in my situation*. Upon these last words my muse has taken flight, and with success. I have described the different speakers, and, it is said, well, and strong, and true. I read them to Lord North, Lord Gower, Lord Weymouth, Mr. Rigby, &c., and they were all pleased. If I have time before I am obliged to send away this long letter, you shall have the first copy, though you must take care not to suffer them to go from your own hands. I have, upon my word, given them to nobody. Burke and Mr. Townshend behaved nobly upon the occasion. The whole house gloated at poor Baldwin, who is reckoned, *par excellence*, the dullest man in it; and a question was going to be put, to give me an exclusive privilege to go in whenever I pleased. In short, I am a much greater man than I thought.

Whenever I receive your story I shall con it over most unmercifully. My wife this moment tells me that I must send you a double portion of her love; and she has added, that if the vinegar is but half as sharp as your pen, or as your temper is sweet, she shall be most thankful for it. There is German wit for you. I shall deliver the overflowings of your heart to her in all the purity of affection. We are going to Lady Spencer's, for ten days, in half an hour. Our loves to all about you.

Most affectionately and faithfully yours,
D. GARRICK.

Adelphi, Oct. 17, 1777.

Shame! shame! shame!

You may well so, my dear madam; but indeed I have been so disagreeably entertained with the gout running all about me, from head to heel, that I have been unfit for the duties of friendship, and very often for those which a good husband, and a good friend, should never fail performing. I must gallop over this small piece of paper; it was the first I snatched up, to tell you that my wife has your letter, and thinks it a fine one and a sweet one.

I was at court to-day, and such work they made with me, from the Archbishop of Canterbury to the Page of the Back Stairs, that I have been suffocated with compliments. We have wanted you at some of our private hours. Where's the Nine? we want the Nine! Silent was every muse.

Cambridge said yesterday, in a large company at the Bishop of Durham's, where I dined, that your ode to my house-dog was a very witty production; and he thought there was nothing to be altered or amended except in the last stanza, which he thought the only weak one. I am afraid that you asked me to do something for you about the parliament; which, in my multitude of matters, was overlooked; pray, if it is of consequence, let me know it again, and you may be assured of the intelligence you want.

The last new tragedy, "*Semiramis*," has, though a bare translation, met with great success. The prologue is a bad one, as you may read in the papers by the author; the epilogue is grave, but a sweet pretty elegant morsel, by Mr. Sheridan; it had deservedly great success. Mr. Mason's *Caractacus* is not crowded, but the men of taste, and classical men, admire it much. Mrs. Garrick sends a large parcel of love to you all. I send mine in the same bundle. Pray write soon, and forgive me all my delinquencies. I really have no time to read over my scrawl, so pray decipher her, and excuse me. Ever yours, most affectionately,
D. GARRICK.

HANNAH MOORE was excessively anxious for the establishment of religious schools. The following letter shows some of the difficulties she met with.

"I was told we should meet with great opposition if I did not try to propitiate the chief despot of the village, who is very rich and very brutal; so I ventured to the den of this monster, in a country as savage as himself, near Bridgewater. He begged I would not think of bringing any religion into the country; it was the worst thing in the world for the poor, for it made them lazy and useless. In vain I represented to him, that they would be more industrious as they were better principled; and that, for my own part, I had no selfish views in what I was doing. He gave me to understand, that he knew the world too well to believe either the one or the other. Somewhat dismayed to find that my success bore no proportion to my submissions, I was almost discouraged from more visits; but I found that friends must be secured at all events, for if these rich savages set their faces against us, and influenced the poor people, I saw that nothing but hostilities would ensue; so I made eleven of these agreeable visits; and as I improved in the art of canvassing, had better success. Miss Wilberforce would have been shocked, had she seen the petty tyrants whose insolence I stroked and tamed, the ugly children I praised, the pointers and spaniels I caressed, the cider I commended, and the wine I swallowed. After these irresistible flatteries, I inquired of each if he could recommend me to a house; and said that I had a little plan which I hoped would secure their orchards from being robbed, their rabbits from being shot, their game from being stolen, and which might lower the poor-rates. If effect be the best proof of eloquence, then mine was a good speech; for I gained at length the hearty concurrence of the whole people, and their promise to discourage or favor the poor in proportion as they were attentive or negligent in sending their children. Patty, who is with me, says she has good hope that the hearts of some of these rich poor wretches may be touched; they are as ignorant as the beasts that perish, intoxicated every day before dinner, and plunged in such vices as make me begin to think London a virtuous place."

This passage was written in 1789. Thirty-four years elapsed, and she was among the scorners of the Schoolmaster. The age had outgrown her.

"Our poor are now to be made scholars and philosophers. I am not the champion of ignorance; but I own I am alarmed at the violence of the contrast. Even our excellent C—— seems to me to refine too much; but my friend F—— is an Ultra of the

first magnitude. The poor must not only read English, but ancient history, and the sciences are to be laid open to them. Now, to inquire where would they get the money, I ask, where would a laboring man get the time? Time is the fortune of a poor man; and as to what they would gain from Grecian history,—why, they would learn that the meanest citizen of Athens could determine on the merits of a tragedy of Euripides; to do which, they must always live in a playhouse, as indeed they almost always did; they were such critics in language as to detect a foreign accent in a great philosopher, &c.; and yet history does not speak of a more turbulet, unmanageable, profligate people.

If you are not quite tired of me and my senilities, I will proceed to a few facts to illustrate my theory. Not only in the great national schools, but in the little paltry cottage seminaries of threepence a week, I hear of the most ridiculous instances of the affectation of literature. A poor little girl of this stamp was in my room one day when a gentleman was sitting with me. He asked her what she was reading at school. 'Oh, Sir, the whole circle of sciences!' 'Indeed,' said he, 'that must be a very large work!' 'No, Sir, it is a very small book, and I had it for half a crown.' My friend smiled, lamented that what had cost him so much time and money was of such easy attainment. I asked a little girl, a servant's child, the other day, what she was reading, and if she could say her Catechism? 'O no, Madam, I am learning *Syntax*.' What I am going to add, you will think an exaggeration, if not an invention, but it is a literal fact. A girl in the next parish being asked what she learnt, answered, I learn geography, and the harts and senses."

"In many schools, I am assured, writing and accounts are taught on Sundays. This is a regular apprenticeship to sin. He who is taught arithmetic when a boy, will, when a man, open his shop, on a Sunday. Now, in my poor judgment, all this has a revolutionary as well as irreligious tendency; and the misfortune is, that the growing ultraism on the side of learning, falsely so called, will irritate and inflame the old bigotry which hugged absolute ignorance as hidden treasure, not to be parted with; while that sober measure of Christian instruction which lies between the two extremes, will be rejected by both parties."

Who would have expected to find *Cobbett* and *Hannah Moore* maintaining the same opinion respecting the *inexpediency* of educating the poor?

A few anecdotes shall close.

Precocious Princecraft.—"I have since dined with Bryant at Mrs. Montagu's, and we are become great friends. He bears his faculties so meekly, and has such simplicity of manners, that I take to him as I did to *Hermes Harris*, whom every body must regret, that had the pleasure and advantage of knowing him. Only Bryant is the pleasanter man. He told me an amusing anecdote of one of the little Princes. He had been that morning to Windsor to present his book. He was met in the ante-chamber by the youngest of them, who begged to look at it. When it was put into his hands, he held it upside down, and glancing his eyes for a moment over the pages, returned it with an air of important graciousness, pronouncing it excellent."

A singular friend for a pietist.—"Poor Ayrey dropped down dead a few days ago! he was the only Atheist I ever knew; but what I thought particularly argued a wrong judgment in him was this, that he was an honest good-natured man,—which certainly he should not have been on his principles. He was a fatalist; and if he snuffed the candle, or stirred the fire, or took snuff, he solemnly protested he was compelled to do it; and it did not depend on his own discretion whether he should buckle his shoe or tie his garter. If I had not known him well, I would not have believed there had existed such a character. He always confessed he was a coward; and had a natural fear of pain and death, though he knew he should be as if he had never been. I cannot think of him without horror and compassion. He knows by this time whether a future state was really such a ridiculous invention of priestcraft and superstition, as he always said it was."

A Moravian Repartee.—"Miss Hamilton told us a pleasant anecdote of Hutton, the Moravian, who has the honor of being occasionally admitted to the Royal breakfast table. 'Hutton,' said the King to him one morning, 'is it true that you Moravians marry without any previous knowledge of each other?' 'Yes, may it please your Majesty, returned Hutton, 'Our marriages are quite royal.'"

Death-bed of an Ambassador.—"I believe I mentioned that a foreign ambassador, Count Adhe-

mar, had a stroke of apoplexy, and that he was to have had a great assembly on the night of the day on which it happened: it is shocking to relate the sequel. It was on a Sunday. The company went—some hundreds. The man lay deprived of sense and motion; his bed-chamber joins the great drawing-room, where was a faro-bank held close to his bed's head. Somebody said they thought they made too much noise. 'Oh, no!' another answered, 'it will do him good; the worst thing he can do is to sleep.' A third said, 'I did not think Adhemar had been a fellow of such rare spirit: paley and faro together is spirited indeed; this is keeping it up!' I was telling this to Mr. Walpole the other day, and lamenting it as a national stigma, one of the worst signs of the times I had met with. In return, he told me of a French gentleman at Paris, who being in the article of death, had just signed his will, when the lawyer who drew it up was invited by the wife to stay supper. The table was laid in the dying man's apartment; the lawyer took a glass of wine, and, addressing himself to the lady, drank *a la santé de notre aimable agonisant!*"

THE RELIGIOUS SOUVENIR: Philadelphia, KEY & BIDDLE.—The late and lamented Dr. Bedell, of Philadelphia, beloved as a clergyman, and respected as a scholar, was the Editor, for the three years of its existence, including the present, of this *Souvenir*—and though death snatched him away before this one could appear, he had selected, prepared, or approved all the materials. They are all good, though we cannot say any are marked by high excellence. As a whole, however, including the engravings, some of which are nevertheless carelessly enough executed, it is a creditable publication.

COMMENTARY ON THE BOOK OF PSALMS, No. 1. By GEORGE BUSH, Professor of Hebrew and Oriental Literature in the University of New York. New York: LEAVITT, LORD & Co.—A clear and beautifully printed pamphlet—the first of a series to be published periodically, under the above title, has attracted no little attention. It is the design of the learned expositor to present with the original Hebrew text, a new literal version of the Psalms, fortifying the same by all that versions in other languages can impart of explanatory matter. The labor of such a version, when, as the author well remarks, a day may be spent upon settling the proper meaning of a single word, those only conversant with philological inquiries can appreciate.

To scholars, this commentary will be greatly attractive, while to all persons who desire to see for themselves the authority upon which this new and literal version of the Psalms is to be given, it will be not less valuable.

It is a great endeavor, and seems to be faithfully and ably made.

THREE WEEKS IN PALESTINE AND LEBANON.

THE FISHERMAN'S HUT, a Tale for Young Children.—These little volumes both are issued by the New-York General Protestant Episcopal Sunday School Union, and from the Protestant Episcopal Press.

The first is an adaptation, from some English travels, of facts likely to attract the attention of young readers, with notes explanatory, and some, bad enough, wood cuts.

The Fisherman's Hut is a pretty little story, intended to elucidate the moral that courage and affection, unless restrained and checked by cool forethought and prudence, may be absolutely injurious.

USURY FUNDS, BANKS, &c. &c., repugnant to the Divine and Ecclesiastical Laws: by the Rev. JEREMIAH O'CALLEGHAN, Roman Catholic Priest, Burlington, Vermont: New-York, T. DOYLE.—This is a grave jumble about bank usury, pew rent, grave tax, *Burking!* dissecting, &c., which fills 380 pages of an 8vo volume, and which those will read who think they need instruction whether banks, funds, and usury are contrary to the law of God.

THE LONDON QUARTERLY REVIEW, No. CIII. for August. New York: T. FOSTER.—This is No. IV

of the republication of the London Edinburgh Foreign and Westminster, undertaken by Mr. Foster, at the exceedingly cheap rate of \$8 per annum, for the whole series. We perceive with pleasure, by a notice in this number, that the encouragement extended to the enterprise, exceeds the most sanguine hopes of the proprietor; and moreover, that it may be further encouraged without any detriment to the Boston edition, by Lily, Wait & Co. of the Edinburgh and Quarterly Reviews—those gentlemen having sold to Mr. Foster the subscription list of their republication, which will now be merged in this.

The last number of the Quarterly, issued by Messrs. Lily, Wait & Co. was CII. We now have in the new form, CIII.

THE AMERICAN ALMANAC AND REPOSITORY OF USEFUL KNOWLEDGE, for 1835. Boston: CHAS. BOWEN. New York: John Wiley.—Assuredly the hope expressed by the publisher, founded on the favorable manner in which this work has hitherto been received, "that the public will not be disinclined to encourage its continuation," should be, as we think it will be, realized. An almanac, next to *Book of books*, is needed by every one—is in every one's hands. It has therefore been wisely deemed advisable to make an almanac really scientific, and affording at the same time useful and accurate information on many and various topics of universal interest. The idea, of English origin, has been admirably carried out by the gentlemen at Cambridge, Massachusetts, who superintended this publication, and we again take the opportunity of its annual appearance, to commend it to the attention and patronage of our readers, especially of our country readers, who will find in it, all they look for in a cheap and comparatively worthless almanac, united with much precious matter, that otherwise is not easily accessible to them.

In addition to the usual variety of miscellaneous matter, this volume devotes much space and attention to the subject of banks and the periodical press, both of great interest.

Of astronomy, as the preliminary observations inform us,

The most remarkable of the phenomena happening in 1835 and visible in the United States, is the Transit of Mercury, on Saturday the 7th of November. Although on account of the distance of this planet from the Earth, its transits are of little use, in determining the Sun's parallax and the dimensions of the solar system, they, from the very great precision with which the contacts can be observed and the slight change in the absolute time of beginning and end, in a large extent of country, afford the best means of ascertaining the longitude of any place on the Earth's surface. In the transit of this year, as in remarked in the 9th page, the change in the absolute time of its beginning throughout the U. States is so small, that the first contact will take place at New Orleans only 3 1.2 seconds later than in Boston.

Whether the planet can be seen during the transit without the aid of a telescope is doubtful; but viewed through that instrument it will appear as a very small, round, dark body, passing across the Sun.

In connection with this subject we cannot but give from the almanac of last year, the account of an eclipse of the sun, which occurred, unnoticed by any here, last Wednesday. Shedding "dim and disastrous twilight" as that stormy day, the third of our election, did upon the political as well as the planetary system, the darkness from on high, which fell then upon our earth, may, without any violation of truth, be said to have also fallen on the hearts and understandings of too many of the dwellers on this its western surface.

Great Eclipse of the Sun.—The most remarkable of the Phenomena that this year, (1834,) will happen, is the Eclipse of the Sun, on Wednesday, the 5th of November. This is the third of the very uncommon series of five large eclipses, visible to us, in the short term of seven years; the fourth of this series will take place 15th May, 1836, and the last, Sept. 18, 1838.

The eclipse of the present year will doubtless re-

ceive great attention throughout our country. In those places where its magnitude will not exceed 11 digits, much diminution of the light is not to be expected, even at the time of the greatest obscuration; perhaps, however, it may be sufficient to render visible the planet Venus, then above 30 deg. E. S. E. of the Sun, and much nearer the earth than usual; nor will the obscuration be very great where the eclipse is almost total; since it had been observed on former occasions, that the unobscured part, even when reduced to a mere point, sheds sufficient light to render small objects visible, and invisible the brightest of the stars. Indeed, on account of the refraction of the sun's rays by the atmosphere of the earth, the darkness can hardly with strictness be considered total, even when the sun is completely shut out from the sight. In the great and remarkable eclipse of June 16th, 1806, when the sun was totally obscured at Boston for five minutes, as much light remained as is given by the moon when full, and greater darkness will not probably be experienced, in any place on the present occasion.

Throughout the United States, however, a greater depression of the thermometer, if placed in the sun, will probably be noticed; and for some minutes before and after the moment of greatest obscuration the power of a lens to produce combustion, by condensing the solar rays, will be nearly, if not entirely, destroyed. At the time of the annular eclipse of February 12th, 1831, it was observed by the editor, that the thermometer in the sun, fell from 73 to 29, and that during the continuance of the ring, no sensible effect was produced by placing its blackened bulb in the focus of a powerful burning glass.

This eclipse, as will be seen on tracing the path of the centre, will be total in a small part of the Territory of Arkansas, and of the States of Mississippi, Alabama, Georgia, and South Carolina. The principal places, in which the obscurity will probably be complete, are Charleston, Beaufort, South Carolina, Savannah, Milledgeville, Tuscaloosa, and Little Rock. The greatest duration of total darkness in any place will be at Tuscaloosa and Beaufort—these places lying very near the central path. At Charleston and Savannah, the duration will be considerably less, the former being situate about forty miles north of this path, the latter, about thirty south. The width of the line of total darkness varies in its passage across the Earth, but in the United States will be about one hundred miles. Those of the Atlantic States, who desire to behold this rare spectacle—the most magnificent and sublime of the phenomena of Nature, compared with even Niagara, sinks into mediocrity—will find Beaufort the most eligible place in which to make their observations, and they will not neglect this opportunity when they reflect that the Moon's shadow will not again, for the space of thirty-five years, pass over any part of the inhabitable portions of the United States, or until August 7th, 1860.

As, at the time of the eclipse of February, 1831, much inconvenience and even injury was sustained from want of care in looking at the Sun without any protection, for the eye, or through a glass not sufficiently colored, it may be proper to remark, that should the sky, during the continuance of the eclipse, be clear, one of the very darkest green or red glasses of a sextant, and in default of this, a piece of common window glass, free from veins and rendered quite black by the smoke of a lamp, only can be used with safety. If the lustre of the Sun should be diminished by intervening clouds, a lighter shade will be sufficient.

We add from an article on periodical literature, a notice of the state of the newspaper press in France, as being somewhat new to most of our readers. Since the period, however, to which this refers, 1829, great variations have taken place in the circulation of some of the papers named, particularly the *Constitutionnel*, which has been materially cut into and diminished by the *National* and the *Tribune*, both advocating more boldly than it, republican doctrines.

The *Gazette de France*, the first regular French newspaper, was established by Renaudot, in 1631, and was continued with few interruptions till 1827; when it ceased, and another paper assumed the name. Up to 1792, it forms a series of 163 volumes. Before the French Revolution of 1789, the French newspaper press was comparatively weak; and during the reign of Bonaparte, it was in a low state; yet during a great part of the last forty-five years, it has been exceedingly active and powerful; and many of the most distinguished French writers have been contributors to the different newspapers.

The *Moniteur*, which was commenced in 1789, has, since the year 1800, been the only official jour-

nal of the government. Two of the papers that have for a considerable time been the most ably conducted and widely circulated, are the *Constitutionnel* and the *Journal des Débats*. These papers treat of a great variety of topics, embracing not only news and politics, but also the sciences, literature, and the arts. The *Constitutionnel* has for its different branches, 10 or 12 editors, and employs 8 or 10 preases a day and night; and probably no other daily paper ever obtained so numerous a subscription.—The circulation of the different papers is subject to great variation. The number of subscribers of several of the papers of Paris was stated in 1829, as follows:

Le Constitutionnel	18,000 to 20,000
Le Journal des Débats	13,000 to 14,000
La Gazette de France	7,000
La Quotidienne	5,000
Le Courier Français	4,500
Le Journal du Commerce	3,500
Le Moniteur	2,500 to 4,000
Le Messager des Chambres	2,000

View of the Newspapers published in France in 1832.

Daily Newspapers in Paris	34
Other Journals in Paris, besides daily papers	136
Newspapers in France out of Paris	173

Of these, 30 were published once a week; 36 twice a week; 12 every other day; 1 five times a week; 9 six times a week; 10 daily; and 28 not stated how often. In France, the daily newspapers are published every day, Sunday not excepted: but in England, as in the United States, the daily papers are not published on Sundays.

HENRI QUATRE OF THE DAYS OF THE LEAGUE—2 vols.: N. Y., HARPER & BROTHERS.—A new adventurer in the field of historical romance has here presented himself, and the period chosen is one assuredly of stirring interest—just after the massacre of St. Bartholomew's, and while the Bearnais was yet a prisoner in the palace of the Louvre. For fidelity of costume and incident we do not doubt that this romance may compare advantageously with any in its line; but there is wanting the life, the reality, which give to the similar works of Scott—and we may say, with truth, James too—an actual and present existence, so that the whole scene seems to pass before our eyes. Their stories tell themselves—here the story is told—the style, moreover, is constrained; and the dialogue, when it occurs, elaborate and unnatural. Notwithstanding these objections, there is much vigor in the delineation of character; particularly in that of Catherine of Medicis, and both originality and vigor in that of Villafranca.

FOREIGN INTELLIGENCE.

By THE NORTH AMERICA from Liverpool, and the PHILADELPHIA from London, papers to the 5th ult. from the latter place are received.

The death of Don Pedro and the affairs of Spain, occupy chiefly their columns.

A few extracts are annexed.

The revolt of the relatives of Colocotroni and Coliopolu had been suppressed, and the leaders, after a sanguinary conflict, conveyed in chains to Nauplia.

Another insurrection has broken out in Maine and the Morea among the partisans of Colocotroni. They demand the dismissal of all the foreign functionaries employed by King Otho, and a redressal of other grievances arising from the Bavarian measures of the Regency. The government has under its orders 7000 men, of whom 4000 are German volunteers.—The English had despatched some ships from Malta to the coast.

Namick Pacha, the Turkish Ambassador at the Court of Great Britain, left Paris on Thursday for London.

The *Constitutionnel* has the following:—"The veil which has hitherto covered the object of the mission of Mustapha Reschid Bey Effendi begins to be drawn aside. Turkey finds herself in a difficult position. If she were openly to solicit the support of France and England against the Emperor Nicholas, she would immediately excite him to hostilities without being able to rely upon the immediate and effective aid of the other two powers. For though the Russian fleet might be destroyed by that of England, the Russian army might in the mean time cross

the Balkan before the troops of France or England could be brought to oppose it, or unless Austria might be disposed to avert the storm, as she could do if she were willing. Guided by these considerations, the Divan, it is confidentially stated, has instructed the Effendi to require from the Cabinets of the Tuileries and St. James's that they would endeavor to avoid entering into a war on account of the complicated state of the East, since the Ottoman Empire would become the theatre of such a war, and thereby have its prosperity destroyed.—Such at least is asserted to be the ostensible object of the visit of Mustapha Reschid, but it appears to be unquestionable that beyond this request, dictated by prudence, Turkey, in order to promote her future interest, is seeking a protection against invasions from the North. It was at first believed that the stay of the Turkish Envoy at Paris would not exceed three months, but it is now certain that it will be much longer. Russia, however, does not seem to be yet prepared to carry into execution the designs formed by the Empress Catharine against Turkey. The Emperor is making a display of his military forces at St. Petersburg, and he is also concentrating bodies of troops in the south, but the sinews of war, and money, are wanting to him.—Russia has lately made an attempt to raise a new loan, but she has failed. The details of this negotiation will ere long be made public. Russia therefore must take time, and this explains her affability towards France, and the presence of Count Pozzo di Borgo at Fontainebleau."

By the last census it appears that there 785,000 inhabitants in Paris, who occupy 29,000 houses.

Seventy-three periodical journals, in twelve languages, are issued from the press in Russia. There are 1,411 elementary schools, with 70,000 pupils. At the universities, 13,100 students are educated; and the ecclesiastical institutions rear 3,600 theologians for the service of the Greek church. In the former there are 300; in the latter 427 professors.

Mr. Gibbons Merle.—The English newspapers mention the death of this laborious *littérateur*, of cholera, at Boulogne. He was long engaged in the periodical press of London, and by turns contributor to and editor of several popular journals.—We do not know that he produced any original work.

M. Arnault.—The perpetual Secretary of the Académie Française (so far as aught human can be perpetual in this world) died recently in the 68th year of his age. He was the author of the celebrated tragedies of *Mariva* and *Germanicus*: and also of some excellent and instructive fables.

An old Sailor.—Galignani's Messenger mentions the existence of a Sailor, named Conrad Vancouver, who had attained the age of one hundred and thirty five years. He resides at Dordrecht, in Holland, and is supposed to be the oldest man now living in Europe.

SUMMARY.

Dividend.—The Atlantic Insurance Company have declared a dividend of four per cent. for the last six months, payable on the 15th inst.

The Springfield, Illinois Journal, says, "Emigrants are flocking into our State, caravans from Kentucky, Ohio, and Virginia, are constantly passing through this town, on their way to the rich country north west of us. Sangamo is also rapidly increasing her population. The emigrants appear to be of the best description—possessed of substance, intelligence, and enterprise. They are welcome to the advantage which our state offers them—and thousands of others would be welcome. Illinois will sustain a population of several millions. Its inhabitants now number, probably, 230,000.

[From the National Gazette.]

Died, at New Harmony, State of Indiana, on the 10th ultimo, THOMAS SAY, the distinguished Naturalist, in the 47th year of his age.

To a mind fully impressed with the glories of nature, to an ardent votary in the temple of fame, the allurements of pleasure and the desire of wealth are equally indifferent; his studious habits unfitted Mr. Say for mercantile pursuits, and he consequently failed in an occupation in which he eagerly engaged, at the solicitation of a kind parent, the late highly respected Dr. Say. The Moloch of riches was sacrificed at the shrine of science. He subsequently devoted himself with an enthusiasm which can never

be too much admired, and a resolution which no reverse of fortune could shake, to the study of his favorite sciences: with what success the republic of letters can testify—ask the Savans of Germany, of France, and of England, and they will with one accord thankfully acknowledge the discoveries due to his labors. It may indeed be fearlessly asserted that few individuals, certainly none in this country, have so extensively contributed to enlarge the boundaries of natural knowledge. To his native genius, supported by untiring zeal and indefatigable research, the Academy of Natural Sciences of Philadelphia is indebted for its opening reputation. Mr. S. was among the earliest members, if not one of the founders of the institution.

His original communications to the Society alone, in the most abstruse and laborious departments of Zoology, Crustacea, Testacea, Insecta, &c., of the United States, occupy more than 800 printed pages of their journal. His essays published in the transactions of the American Philosophical Society, the Annals of the Lyceum of Natural History of New York, in Silliman's Journal, &c., are equally respectable, perhaps equally numerous. His contributions to the American Encyclopedia, though highly valuable, are not so generally known. His separate work on American Entomology and another on Conchology, have met with the approbation of the learned. With the brilliant results of his laborious exertions as Naturalist to the two celebrated expeditions by the authority of the United States Government, under command of Major, now Lieut. Col. S. H. Long, the reading public is already familiar. Some years previously he accompanied Mr. McClure, and other kindred spirits, on a scientific excursion to the Floridas. The pages of the Academy's Journal were subsequently enriched by the fruits of this undertaking. These expeditions, with occasional excursions, made with similar views, in the vicinity of Philadelphia, constitute the only interruption to a laborious course of studies, steadily and unostentatiously pursued, in his native city, in which many departments of natural science were successfully cultivated and extensively enriched by his observations and discoveries.

In the year 1825 our devoted student consented, in an evil hour, to forego the society of his early friends, the companions of his labors, and all the advantages of a large and populous city, and at the earnest instigation of his friend, Mr. McClure, President of the Academy of Natural Sciences, he abandoned forever his native home. New Harmony, on the Wabash, State of Indiana, had now become the Land of Promise, where new views of the social compact, and new institutions, literary and philosophical, were to be promulgated and tested. How soon these Eutopian visions vanished in airy nothing the public is well informed. The principal agents in this Agrarian establishment are scattered to the four corners of the earth, whilst man, as usual, is hurried along to the consummation of his destiny. Considerable sums had been expended in landed property; this required the presence of a few confidential agents to protect it; in this capacity Mr. Say consented to fix his permanent residence at New Harmony, at the request of Mr. Wm. McClure, whose infirm state of health obliged him to seek a more genial clime. Mr. S. soon after his arrival in New Harmony, wedded a lady of congenial habits, and appears to have become reconciled to his new domicile: mere locality was to a considerable degree matter of indifference to a naturalist, so long as he found himself surrounded in rich profusion with the objects of his research, supplied as he was, by the liberality of his patron, with a valuable library.

Our much lamented friend had recently devoted much of his time to the publication of his work on American Conchology, elucidated by expensive plates. He might have continued thus usefully employed for many years, had not the climate on the Wabash proved injurious to his health; he repeatedly suffered from attacks of fever and dysenteric affections, by which a constitution originally robust and inured to hardships materially suffered. A letter announcing the sad catastrophe which deprived society of one of its worthiest members and science one of its brightest ornaments, informs us that Mr. S. suffered another attack of a disorder similar to that by which his constitution had already been shattered, about the first of October: on the 8th the hopes of his friends were flattered by a deceitful calm; on the day following, these hopes were chilled; he appeared sinking under debility, when on the 10th death came over him like a summer cloud. He died intestate and without issue, but left with his wife verbal directions relative to the final dispositions of his library and Cabinet of Natural History. H.

Large Dividend.—The American Insurance Company have this day declared a dividend of 8 per cent., for the last six months, payable on the first day of December.

The Rev. Mr. Coit, of the Episcopal Church in Cambridge, Mass. has been elected President of Transylvania University.

St. Augustine.—Many of our citizens annually resort to this ancient southern town in quest of health. A third of all the visitors there last winter, were from this state. Several of them went too late. In their last sickness, as the survivors testify, they were most kindly treated by the residents of the place. By the minister and members of the episcopal church, it is said, the most liberal and per severing kindness was exerted towards all who needed. That church is now soliciting aid to discharge a pressing debt necessarily contracted. By the death of the late indulgent creditor, the pressure has fallen unexpectedly—and ruinously too, if relief be not obtained. We hope and trust it will be. For we have learned with pleasure, that Mr. Isaac C. Kendall, to whom all the facts of the case are personally known, and who, therefore, takes a deep interest in the subject, has obtained two subscriptions of fifty dollars each, with several of smaller sums. Let every one applied to give something, and their minister may soon return to his people and make their hearts glad with the means of relief. And then will they resume their annual labors of love to the sick strangers among them with renewed energies and thankful hearts.—[Com. Adv.]

A Boston paper says that a translation of 'I Promessi Sposi'—the celebrated Italian novel of Manzoni—is about appearing under the title of 'The Betrothed.'

The work in question has been for sale in this city for the last six months.

A gentleman of Darien, (Geo.) proposes in the *Telegraph* of that place, to furnish a pedestrian to take up the offer of Mr. J. C. Stevens, of New York, to give a considerable sum of money to any one "white, red, or black or of any intermediate color," who will accomplish ten miles in the hour, provided Mr. S. will consent that the trial be made on the race course near Savannah. "The person selected," says the *Telegraph*, "is a black man, and though his speed has never been tested to the extent required by Mr. S., the gentleman has little doubt he will be able to accomplish the task imposed on him."

The State of Georgia has purchased of his owner, at the enormous price of \$1800, a negro man named Sam, with a view to his emancipation, for his services in extinguishing the fire on the State House, which occurred upwards of a year ago.

Dreadful Accident.—A letter from Missouri to a gentleman in Baltimore, dated October 25, states that the steamboat Boonslick, in descending the river, on the previous night, came in contact with the steamboat Missouri Belle, bound to St. Louis, when about fifteen miles above that city, and that such were the force and effects of the concussion, that the Missouri Belle sunk in less than two minutes, in about one hundred feet water. It is added that, at the time of writing the letter fifteen or twenty persons were missing—supposed to have been lost with the boat!—[Com. Adv.]

A Yankee Editor's Excuse for lack of Editorial.—If we had a subscriber on our list that we thought would not take the following as a sufficient excuse, for the want of a single line, we would erase his name from our list:—

"The business of the editor has been too multifarious this week to admit his paying much attention to the editorial department of his paper. Our printer and devil have both been drunk, and we (that is myself) have been compelled to set most of the types and do the press work for the paper. It is known that "we" are a practising physician, and that our calls have been unusually prolific this week. Our sister's nurse has been sick, and we have been compelled to spend a considerable portion of our time in rocking the cradle. This would appear a sufficient excuse for any reasonable man, but it is not all. A beautiful black eyed girl came to town last Saturday, and we had no sooner seen her than we were half dead in love; we have, during the week, wooed and won the dame, and shall (if no lawful objection be made) be married at the Methodist church to-morrow. Are our patrons satisfied? If not, we hope they may be doomed to a life of celibacy! Or if married, doomed to all the horrors of the hen-pecked husband!"

The Baltimore American of yesterday states, that "His B. M. ship ARACHNE, Capt. Burney, mounting sixteen guns, arrived at this port yesterday from Jamaica. On coming to anchor, salutes were interchanged with Fort M'Henry. We understand she brings passenger Captain KIRSON, of the Royal Engineers, who is charged with the duty of erecting Light-houses on the Coast of Florida and the Bahama Islands, in conformity with an arrangement entered into some time ago, between the Governments of Great Britain and the United States. It is believed this is the first armed vessel which has entered this harbor since the late war."

[From the North Alabamian.]

TUSCUMBIA, Oct. 25.—A tough one.—The Florence Gazette states that on Sunday night last, there was a hard frost, and ice three inches thick. We commiserate the condition of our northern neighbors.

Southern Frost.—The Alabama Flag of the Union, of Oct. 23, says—There was a severe and killing frost at this place on Monday last. Vegetation is effectually nipped. The cotton crop had so far ripened, that no injury will have been sustained by the planters. At Edisto, N. C., on the 21st, there was a killing frost, which has curtailed a crop previously short. A letter from that place says—"You may, with the most perfect certainty, rely upon the fact of there being not more than the half of a Sea Island crop sent to market this season from Edisto. Of the neighboring Islands, all the information we have been able to gather, state the Crops as inferior, much worse than with us."

CUMBERLAND, MD., Nov. 4.—Bears—Child Destroyed.—During the present season, bears have been very frequently seen westward of this place, most generally in or near corn fields. A letter from Petersburg, Pa., published in the Advocate, states that they are often seen crossing the turnpike near that town; and that a small boy, who had been sent in search of the cows, had recently been devoured by bears in that vicinity. The legs and feet of the little sufferer were found, which revealed to his agonized parents the fate of their child.—[Civilian.]

A similar melancholy event is mentioned in the Bradford, Pa., Settler of the 1st inst., from which we learn that a small child in Tioga county was lately seized by a bear, whilst in a field with some cows, not far from the dwelling, but before assistance could be rendered by some men who were in sight, was deprived of life, and partly devoured.

The same paper states, that an acquaintance in Smithfield had been recently seized, and considerably mangled, by a wounded bear, of which he and others had been in pursuit. He was saved from death by the timely interference of his comrades.—[Baltimore Patriot.]

On the Twenty-third Sunday after Trinity November 2d, the Bishop of this Diocese instituted the Rev. Thomas Pyne, A. M., late Rector of St. Paul's Church, Brooklyn, into the Rectory of St. Peter's Church, in this city. The Morning Prayer was read by the Rev. Samuel H. Turner, D. D., of the General Theological Seminary, assisted by the Rev. Charles Luck, of the Church of England, and the sermon, being the annual matriculation sermon of the General Theological Seminary, preached by the Rev. Bird Wilson, D. D., of that Institution.—[Churchman.]

The Newark Daily Advertiser of yesterday relates the following

Tale of Marvel.—Rumor with one of her ten thousand tongues, brought us a mysterious story yesterday of a "mysterious lady," which so far challenged credit that we were induced to send a competent witness in the afternoon to procure more particular information. Our agent, after the fullest opportunity of observation, has returned this morning, and communicates the following facts which we give without embellishment, as he relates them.

On Monday night of last week the family of Mr. Joseph Barron, living in the township of Woodbridge, about three mile from Rahway in this county, were alarmed after they had retired, by a loud thumping against the house. Mr. B's first impression was that some person was attempting to break in, but further observation soon undeceived him. The thumping, however, continued at short intervals, until the family became so alarmed, that Mr. B. called in some of his neighbors, who remained up with the family until day light, when the thumping ceased.

The next evening, after night fall, the noise recommenced, when it was ascertained to be mysteriously connected with the movements of a servant

girl in the family,—a white girl about 14 years of age. While passing a window on the stairs, for example, a sudden jar accompanied with an explosive sound broke a pane of glass: the girl at the same moment being seized with a violent spasm. This of course very much alarmed her; and the physician (Dr. Drake) was sent for, came, and bled her. The bleeding, however, produced no apparent effect: the noise still continued as before, at intervals, wherever the girl went, each sound producing more or less of a spasm, and the physician with the family remained up during the night. At day light the thumping ceased again. On the third evening the same thing was repeated, commencing a little earlier than before, and so every evening since, continuing each night until morning, and commencing every evening a little earlier than before, until yesterday, when the thumping began about 12 o'clock at noon.

The circumstances were soon generally spread through the neighborhood, and have produced so much excitement that the house has been filled and surrounded from sun-rise to sun-set every night for nearly a week. Every imaginable means have been resorted to in order to unravel the phenomenon. At one time the girl would be removed from one apartment to another, but without effect. Wherever she was placed, at uncertain intervals the sudden thumping noise would be heard in the room. She was taken to a neighbor's house; the same result followed. When carried out of doors, however, no noise is heard. Dr. Drake who has been constant in his attentions during the whole period, occasionally aided by other scientific observers, was with us last evening for two hours, when we were politely allowed to make a variety of experiments with the girl in addition to those heretofore tried, to satisfy ourselves that there is no imposition in the case, and if possible to discover the secret agent of the mystery.

The girl was in an upper room with a part of the family when we reached the house. The noise then resembled that which would be produced by a person violently thumping the upper floor with the head of an axe, five or six times in quick succession, jarring the house, ceasing a few minutes, and then resuming as before. We were soon introduced into the apartment, and permitted to observe for ourselves. The girl appeared to be in perfect health, cheerful, and free from the spasms felt at first, and entirely relieved from every thing like the fear or apprehension which she manifested for some days. The invisible noise, however, continued to occur as before, though somewhat diminished in frequency and sound while we were in the room. In order to ascertain more satisfactorily that she did not produce it voluntarily, among other experiments we placed her on a chair on a blanket in the centre of the room: bandaged the chair with cloth, fastening her feet on the front round, and confining her hands together on her lap. No change however, was produced: the thumping continued as before, except that it was not quite so loud: the noise resembling that which would be produced by stamping on the floor with a heavy heel. Yet she did not move a limb nor a muscle that we could discover. She remained in this position long enough to satisfy all in the room that the girl exercised voluntarily no sort of agency in producing the noise. It was observed that the noise became greater the farther she was removed from any other person. We placed her in the door-way of a closet in the room, the door being ajar to allow her to stand in the passage. In less than a minute the door flew open, as if violently struck with a mallet, accompanied with precisely such a noise as such a thump would produce. This was repeated several times with the same effect. In short, in whatever position she was placed, whether in or out of the room, similar results, varied a little, perhaps, by circumstances, were produced. There is certainly no deception in the case. And now for conjecture. For ourselves we offer none, but among other conjectures which have been suggested by Dr. D. and others is that the phenomenon is electrical.

This conjecture is supposed to be supported by the fact that the noise is prevented by the intervention of substances that are non-conductors; as for instance, when a pillow was placed between her person and the door in which she stood, no noise or effect whatever was discoverable. So when she gets upon a feather bed: and again if she lays at length on the floor, the thumping appears to be near her head, which is very much affected at the moment of the report, so much so that she screams; on one such occasion she said it appeared as if some one was "knocking her brains out."

The noise of the reports may be heard at least 100 yards from the house.

EXCERPTS.

[From the *New British Novel* called "*Dacre*."]

It certainly is a most fortunate circumstance that watches and clocks are never in love, for without their interference poor time would, indeed, be most sadly belied. Every one takes his own fanciful view of the rate that he flies. Suspense makes a moment an age, and joy turns a day to an hour. Ennui lives a life in every week: and whilst idleness chides the slow flight of his foe, industry murmurs that he escapes her so swiftly. Still old time goes on his own unwearied and unvaried pace, and various are the contrivances which, like faithful emissaries, mark that he does so, and love—even love—must submit to the cold decision of a well regulated clock. Lovers may storm at delays that barely exist, and protest that hours gone by are yet to come; but, the dull, insensible minister of time looks on unmoved by his passion, he strikes with stern justice—points at truth with his hand, and man must bow to the power of calculation he has lost."

"How often is the happiness of married life destroyed by the weak indulgence of a capacious temper. How often may the confidence of those who have no thoughts but for each other be shaken, by this uncertainty in the effect produced by their communications. How completely is the mutual ease, the unrestrained openness, happy feeling of equality destroyed, when the curl on the lip and the frown on the brow must be watched, and the tone of the voice must be listened to, ere the subject in question can with safety be broached. When once the thought that *now* was the fitting opportunity has crossed the mind of either party, and when the delay is felt more as a reprieve than a privation, then may both be sure that for the questionable pleasure of indulged irritability, one of the blessings of matrimony has been forfeited. They are at once deprived of the comfort of that quick and open interchange of thought and feeling which should exist in wedded life."

"Marriage is to a woman at once the happiest and the saddest event of her life; it is the promise of future bliss, raised on the death of all present enjoyment. She quits her home, her parents, her occupations, her amusements, every thing on which she has hitherto depended for comfort, for affection, for kindness, for pleasure. The parents by whose advice she has been guided—the sister to whom she has dared to impart the every embryo thought and feeling—the brother who has played with her, by turns the counsellor and counselled—and the younger children, to whom she has hitherto been the mother and the playmate—all are to be forsaken at one fell stroke; every former tie is loosened, the spring of every hope and action is to be changed; and yet she flies with joy into the untrodden path before her. Buoyed up by the confidence of requited love, she bids a fond and grateful adieu to the life that is past, and turns with excited hopes and joyous anticipation to the happiness to come. Then wo to the man who can blight such fair hopes—who can treacherously lure such a heart from its peaceful enjoyment, and the watchful protection of home—who can, coward-like, break the illusions that have won her, and destroy the confidence which love had inspired. Wo to him who has too early withdrawn the tender plant from the props and stays of moral discipline in which she has been nurtured, and yet make no effort to supply their place; for on him be the responsibility of her errors—on him who has first taught her, by his example, to grow careless of her duty, and then exposed her with a weakened spirit and unsatisfied heart to the wide storms and the wily temptations of a sinful world."

"There is something in the wildness and sublimity of mountain scenery, that tends to remind us rather of eternity than decay. The perishable works of man are no where to be seen. No city lies in gloomy ruins, to show the outlines of its faded greatness—no remnant of a sanctuary here stands to show the worship that has passed away. We see no falling records of the glorious deeds of those whose names are learnt in history's page. We stand upon the mountain, and we scarcely know that man exists upon the earth. This is not the land where arts have died, or science been forgot—these rocks never echoed the eloquence of orators, or the song of the poet—these waters never bore the proud ships of the merchant—this soil never yielded to man the fruits of his industry. It is not here that the finger of time can be recognized. In vain would he set his mark on snows that never melt, or disturb the fast-bound form of adamant ice. In vain he stretches out his hand where the rushing torrent, and the waving waterfall, blest with an eternity of youth, dash on their headlong course, regardless of the blighting power

that withers strength, or lulls to rest the creations and the creatures of mortality.

"Here may we pause, and say that Time has lost his power. Here may we view the faint efforts of Time overthrown in an instant. Changes there are; but the work of an hour has defeated the slow progress of decay. The lightning of the thunder-storm—the blowing tempest—the engulfing flood—the overspreading avalanche—have effaced from the surface of nature the impress of Time, and left nought in the change to remind us of age. Surely there are scenes in life which seem created to awaken in mankind the recollection,—that even Time can lose its power. Who will not feel the nothingness of the pleasures—the cares—nay, even the sorrows of our petty span, when, for a moment, he dwells with his heart and soul upon the thoughts of an eternity!—Yes, it will sober the gay—it will comfort the grieved."

"Nothing adds more to the consciousness of woe than being surrounded, in vain, by all that wealth can purchase or luxury invent. When the heart sickens at the sight of objects that in happier times gave pleasure, how painfully is the conviction pressed upon the mind, that it was to the lost happiness within, they must have owed their power to please? When the dull cold eye gazes with indifference on the unaltered battles that have amazed, and the employments that have occupied, who is not the more forcibly reminded of the change that has been wrought in themselves? and whilst memory quickly summons the sad contrast before us, the bitter certainty becomes more fixed in our hearts, that the train of joyous thoughts they once could give has vanished from our minds."

"There are events in life that seem too great, too sudden, too overwhelming, to be true. We cannot believe that the hopes, the joys, and the sorrows of life, can depend on the work of a minute. We measure by the hours, the days, and the years, that have been spent in their anticipation, enjoyment, or endurance. We look to the gradual realization of our hopes and wishes; we think our joys will be weakened by decay, ere they depart. We trust that time will wear away, with its slow workings, the keenness of sorrow: but on these sudden revulsions of fate we are too much startled to believe them possible, and the first impression is to doubt the reality of the change that has been wrought."

"The arrival of letters from home is always a moment of excitement to those who are travelling abroad. It recalls us at once to all we have left—to the cares we would forget, the sorrows we would efface, the joys that are passed. The messenger is expected with feverish impatience, and yet we tremble to read the tidings he brings. The letters are placed in our hands, and quicker than thought the directions are looked at, the hand-writings are recognized, and we glance at the seals to descry if any have come on a message of death.

"Some are sure to tell of change; and the change will startle, when its progress is unseen. Perhaps we read that friends will join us in our pilgrimage abroad, their fortunes broken, or their health impaired. We hear the men we left in power have ceased to rule. The splendid mansion where we danced and feasted is now the prey of creditors, who once decked it so richly for pleasure. The house that wept a father's death, now lights its halls in honor of its heir. The giddy girl has pledged her troth—the reckless youth has learnt a husband's fondness, and a father's care—the widow wears again the bridal robe—the laughing girl we saw so full of life, now droops beneath the blight of pale consumption—the child who frolicked at our parting, is cold and stiff within its early grave.

"The afflictions we grieved for, have ceased to afflict, and the joy we rejoiced at, is turned into sorrow. Yes! we read of such changes in those with whose image we have long been familiar: we marked them not when we were near, but, when removed to a distance, they show us the progress of life.

"How sadly this progress is watched by the mind which is dead to all changes, and stands still in its grief! How dispiriting to see the healing powers of time in others close the wounds of sharp affliction, and yet to feel it has not plucked from our hearts the deep canker of disappointment!"

"Lady Emily Somers had certainly been one of those whom education and habit had alike combined to cherish every feeling which nature had implanted. Her nature was to love and to be loved; and she had been nurtured and brought up in the atmosphere of affection. Her sensibility had not been deadened by the voice of unkindness. She had known no vicissitudes of fortune—she had borne no affliction—she had suffered no illness. The occasional irritability

of her father's temper had sometimes cost her a pang, but then it was her pleasing task to dispel the frown that was gathered on his brow: and though she had watched with anxious care the bed of sickness, she never yet had failed to impart to the sufferer the cheering influence of her own sanguine disposition. She had met with all the admiration from the world which her beauty and her charms deserved, and yet she was unconscious of distinction. She had always been lovely—she had always been engaging, and she had been admired and loved from her infancy. Admiration came not to her as the welcome tribute to an ambitious vanity, but as that to which she had been so accustomed, that it seemed a part of life itself; she thought the better of human nature for the kindness she experienced, but knew not that she created the feelings she approved. Her life had been but one bright chain of smiles, and joy, and hope—her first and only sorrow had been the fear of Dacres' inconstancy, and the having unconsciously misled her mother, respecting her feelings towards him. But now she had met him at Denham, her confidence in his love was reassured. She had since confided all to her mother, and she had been folded to that mother's heart, and thanked for the motives that had restrained her confidence, at a time when she needed and desired the comfort of a parent's support."

"There have been some who think that love is a native of the rocks; but its birth place matters little, when once it is called into being, for it can thrive alike wherever it is transplanted. It shrouds itself in an atmosphere of its own creation, and sees the surrounding objects through the medium of its own fanciful halo. The existence of colors depends not more on the rays of the sun, than depends the hue which is lent to all that is external, upon the internal feelings of the mind. The bustling scenes of gayety may appear ill suited to the indulgence of deep feeling, yet the mind which is preoccupied by some absorbing thought, has not only an inward attraction that bids defiance to the intrusion of others, but has even the power of converting into aliment all that should tend to destroy its force. The crowds that pass before the eyes of a lover, seem but as a procession of which his mistress is the queen. If he talks to another, it is to listen to the welcome theme of her praise from the voice of partial friendship; and if the actions of others ever attract his attention, it is to observe with the general watchfulness of a lover, the manner and reception of those whom he regards as rivals."

"It is seldom, indeed, that friendship, pure friendship—exists, where love dares creep in. From the ties of kindred and of gratitude may spring affection in its purest form—regard, respect; but the friendship that arises from the conscious preference to each other's society—the friendship that induces the opening of the heart, the almost unrestrained confidence of feelings, thoughts, opinion—the friendships that lets the stranger know the secrets of our home, and yields to intimacy the claims which kindred only should assert—treads a dangerous path. The happiness of one, if not both, is too often sacrificed in the vain endeavor to check the growth of feelings that are nourished with fresh food. In single life, the wish for dearer ties will soon arise; and often, too often, in married life, has the friendship, begun in innocence and honor, displaced the joy and peace it never can restore.

There are few whose vanity will not rejoice at the flat ering distinction of being chosen confidant—few whose hearts can withstand the interest created by this dependence on the counsel, the confidence, or the sympathy of themselves: and friendship, fairest, gentlest child of love, is soon exchanged for passion fierce and strong. Young hearts should beware how they tread in this path of delusion. The friend of the family may prove an admirer, he may win affections that he did not seek—may give his love to one who neither knows nor heeds its possession—he will see the cloud that is gathered on the husband's brow—he may hear the hasty word, the harsh rebuke—then watch the tear that is shed by the wife from coldness or neglect; and from pity for the woman's sorrows springs the love that cannot, or that should not, be requited.

FOREIGN MISCELLANY.

The Late Mr. Canning.—Through the whole of the Napoleonic wars this man was the evil genius of the Peninsula; for, passing over the misplaced military powers which he gave to Mr. Villiers' legion in Portugal, while he neglected the political affairs in that country, it was he who sent Lord Strangford to Rio Janeiro whence all manner of mischief flowed. And

when Mr. Stuart succeeded Mr. Villiers at Lisbon, Mr. Canning insisted upon having the enormous mass of intelligence, received from different parts of the Peninsula, translated before it was sent home; an act of undisguised indolence, which retarded the real business of the embassy, prevented important information from being transmitted rapidly, and exposed the secrets of the hour to the activity of the enemy's emissaries at Lisbon. In after times when by a notorious abuse of government he was himself sent ambassador to Lisbon, he complained that there were no archives of the former embassies, and he obliged Mr. Stuart, then minister at the Hague, to employ several hundred soldiers, as clerks, to copy all his papers relating to the previous war; these, at a great public expense, were sent to Lisbon; and there they were to be seen unexamined and unpacked in the year 1826! And while this folly was passing, the interests of Europe in general were neglected, and the particular welfare of Portugal seriously injured by another display of official importance still more culpable. It had been arranged that a Portuguese auxiliary force was to have joined the Duke of Wellington's army, previous to the battle of Waterloo; and to have this agreement executed, was the only business of real importance which Mr. Canning had to transact during his embassy. Marshal Beresford, well acquainted with the characters of the members of the Portuguese regency, had assembled fifteen thousand men, the flower of the old troops, perfectly equipped, with artillery, baggage and all things needful to take the field: the ships were ready, the men willing to embark, and the marshal informed the English ambassador, that he had only to give the order, and in a few hours the whole would be on board, warning him at the same time, that in no other way could the thing be effected. But as this summary proceeding did not give Mr. Canning an opportunity to record his own talents for negotiation, he replied that it must be done by diplomacy; the Souza faction eagerly seized the opportunity of displaying their talents in the same line, and being more expert, beat Mr. Canning at his own weapons, and as Beresford had foreseen no troops were embarked at all. Lord Wellington was thus deprived of important reinforcements; the Portuguese were deprived of the advantage of supporting their army, for several years, on the resources of France, and of their share of the contributions from that country; last and worst, those veterans of the Peninsular war, the strength of the country, were sent to Brazil, where they all perished by disease or by the sword in the obscure wars of Don Pedro! If such errors may be redeemed by an eloquence, always used in defence of public corruption, and a wit that made human sufferings its sport, Mr. Canning was an English statesman, and wisdom has little to do with the affairs of nations.—[Colonel Napier's History of Peninsular War.]

Expedition to Central Africa.—On Thursday morning the expedition for exploring Central Africa, under the command of Dr. Smith, proceeded on its perilous undertaking. The party consists of Dr. Smith, Captain Edye, of the 98th Regiment, Mr. Charles Bell, Mr. Burrow, besides two gentlemen from India, who will accompany them as far as Lat-takoo. They were escorted in the morning to a considerable distance on their journey by Sir John Herschell, Mr. McClear, the Astronomer Royal, Mr. Meadows, and Baron Van Ludwige, gentlemen attached to them by friendship and a common zeal for discovery. They started in excellent spirits, making allowance for those feelings the occasion excited, when solicitude for the safe return of these enterprising men was mixed up with sincere friendship and esteem. Indeed the history of all former expeditions to the interior of Africa proves how much hazard must be incurred, even when the greatest prudence and address are exercised. The present has been planned with much care, and, considering the talents of those engaged, the best results may be anticipated. The whole expedition will assemble at Graaff Reinet, which will be the point of departure on their bold enterprise. When Captain Edye was leaving the barracks in the morning, the 98th Regiment, with the band, turned out, a gratifying token of the respect and esteem felt for him by his brother officers and men.—[South African Advertiser, July 11, Cape of Good Hope.]

Post diem Surgery.—In June, 1833, a miller received a sabre cut at a public house, which completely amputated his right ear. Before he left the house he picked up the ear from the ground, and put it in his pocket. This was in the evening.—Early in the following morning he went to a surgeon

and showed him the ear, now cold, and somewhat crushed. The surgeon washed the ear in spirits and water, and made a new edge to the part of the wound which the man still possessed, and to that of the ear which he had lost. After accurately fitting the parts, he kept them together by four stitches, and dressed them with adhesive plasters, compresses, and an appropriate bandage. The day after some of the dressings were removed; in order to make sure that the parts were in contact; the point of union was then observed to be red, the patient was feverish, and had thirst and headache. In eight days these symptoms disappeared, and the helix began to assume its vital warmth; the lobe extremity united the first; the other parts suppurated, and granulations appeared on the cartilages. In a little more than a month the cure was complete; the patient's right ear was almost in the same condition as the left, and all that was remarked was an elliptic linear cicatrix at the point of union.—[Medical and Surgical Journal.]

Fertility of Belgium.—The glorious fertility of the agricultural districts well deserves to be mentioned. Were there nothing else to reward a traveller for going thither, I think the sight of the rich fields of Flanders would be enough to do it. * * * England has noble fields of grain, and her herbage is rich and abundant; but in Flanders the soil is crammed with produce, and the corn stands on the ground like a solid mass. In short, Belgium is a beautiful little kingdom, and, notwithstanding the extent of territory be small, it has sufficient within its circuit to give its name a higher rank among the nations of the continent than its extent of domain alone could justify.—[Mrs. Trollope's German Tour.]

Namik Pasha.—The following notice of Namik Pasha, the Turkish ambassador who has just arrived in this country, is given by the correspondent of the *Morning Herald* at Constantinople:—"The presence of Namik Pasha in England, at this moment, must be hailed as an event pregnant with great results. No man knows better what may be made of Turkey—no man knows better that the weakness so often complained of is in her government, not in her people.—If so inclined, he can enlighten the British Cabinet on the identity of our interests with those of his country. Namik Pasha is a superior man, and to him Turkey owes many of her internal improvements; his brigade has always been an example of order and industry; he caused all his men to be instructed in some mechanical art, so that the many leisure hours of a military life have not been hours of idleness. The army is indebted to him for the translations of several useful works on tactics; he has been a warm advocate of education, and was the main instrument of establishing it on the Lancasterian system, which under his fostering care, has already been spread far and wide, notwithstanding a thousand vexatious difficulties ever thrown in his way by the narrow-minded. In a word, Namik Pasha has already rendered important service to his country, and I sincerely hope his efforts to save it from the impending danger may be crowned with success, which depends upon England alone."

Influence of the Stomach.—The emotions of the mind have a powerful influence upon the stomach.—Let a man who is going to sit down to dinner with a good appetite, receive a piece of news, either exceedingly joyful or exceedingly distressing, his appetite goes in a moment. Children who are about to set out on a pleasant journey, it is well known, cannot eat. This, when I was a child, used to be called being "journey-proud." On the other hand, a blow upon the stomach will sometimes take away life instantly; a drink of cold water, when the body has been very hot, has often had the same effect. Attend to your companions when on a journey a-foot; as their stomachs grow empty, how sullen and silent the whole party becomes! let a crust of bread, a little cheese, a glass of ale or wine be taken, and cheerfulness immediately reigns, even long before any nutriment has had time to reach the general circulative system. These things all show the general sympathy between the stomach and every other part of the body.—[Carbutt's Clinical Lectures.]

Zincography.—It was but a few years past that we had to record an advance in the fine arts, in the invention of lithography, which afforded increased facilities in the art of engraving. Lithography is now, however, likely to be displaced, at any rate to a great degree, by the invention of an ingenious Frenchman, M. Breugnot, who has succeeded in preparing a composition of metal, the basis of which is

zinc, upon which drawing and writing can be effected with equal, if not with greater facility than upon stone, and as easily applied to paper with the same machinery. The art of zincography has several advantages over that of lithography, amongst others, in the portability and comparative cheapness of the plates, over the necessary bulkiness and cost of stone. These plates can even be adapted to a lady's portfolio, to any thickness, and to any size, a desideratum much wanted in lithography. The invention of zincography has received the sanction of the Royal Academy of Paris, and we understand that M. Breugnot has sold the patent for Great Britain to Mr. John Chapman, of Cornhill, who feels confident that he shall be able to adapt this improvement to every department in the art of engraving. In Paris, they have already succeeded in printing large window blinds with one plate, and we believe experiments have been made on silk and cotton, which warrant the supposition that zincography will soon be applied in our silk and cotton printing establishments.—[Morning Herald.]

Cure for a Bad Appetite.—An Irish Student complained to a friend, a few evenings ago, that he had lost his appetite, when the latter recommended him to eat oysters in the forenoon, which would restore it. Some time after the student met his friend, and upbraided him with the folly of his receipt, by stating that he had eaten a hundred of oysters, as desired, but did not find that his appetite was a bit better than it was before he had eaten them.—[Dublin paper.]

A mine of silver and copper has been discovered in the environs of Pernwelz, district of Tournay, Belgium. The discoverers have applied to the government for leave to work it, but nothing has yet been determined.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures here after, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORNBURN,

347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

* * * Mr. Thornburn is also Agent for the following publications, to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANIC'S MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

J31 61

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13 1y

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated in redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A2911 RM&F

In Moore's Philadelphia Price Current, we find it stated that the increase of Wool in the United States for the last two or three years, has been estimated at the rate of 20 per cent. per annum. The amount of wool raised last year and brought into market, was about sixty millions of pounds—this year it is probably seventy five millions, and next year it will be ninety. England produces one hundred and sixty millions pounds annually, and as all her grazing lands are taken up, she cannot be expected to produce much more.

The United States then at the present rate of increase, will soon take the lead in amount, and very probably in quality, and with so vast a territory adapted for sheep grazing, will become the great wool maker of the world.

The sheep which are fed on the wild aromatic herbs in Luxemburg, are small, (as in all mountainous countries,) but celebrated for the delicious flavor of their flesh. The breed is nearly the same as that in the Ardennes, which was introduced into Scotland above a century back, and the race only declined within the last thirty years, when a larger and more profitable breed for the farmer was brought from England. A celebrated gourmand of the north, however, retained his favorite mutton till his death, very lately; a short time previous to which he observed, that "a life was not worth holding since the breed of the Ardennes sheep was become extinct."

We learn from a Montreal papers that the British Government has given a decision in favor of allowing American Beef and Pork salted, to be exported from the Canadian ports to other British ports, duty free. This will enable the West Indies to obtain their articles of provisions at much cheaper rates than heretofore. The consequence of this decision will be, to create a more extensive demand for Beef and Pork, from New York, Pennsylvania, Ohio, and Michigan, in the Montreal and Quebec Markets.

MECHANICS MAGAZINE.
THE NUMBER FOR OCTOBER 31, will be ready for delivery to Subscribers on Monday next. It contains numerous articles, and a concise account of the FAIR of the AMERICAN INSTITUTE held at NISLOES' GARDENS, illustrated with numerous engravings.

MECHANICS and OTHERS who feel interested in endeavoring to abolish the abominable "STATE PRISON MONOPOLY" are requested to forward to the Editor such facts as come within their knowledge, and they will be published if authenticated.

The Mechanics' Magazine and Register of Inventions and Improvements is published by the Proprietors, D. K. MINOR & J. E. CHALLIS, at No. 35 Wall-street, New York: in weekly sheets of 16 pages, at 64 cents in monthly parts of 64 pages, at 34 cents—in volumes of 384 pages, in cloth boards, at \$1.75—or at \$3 per annum, in advance.—JOHN KNIGHT, (formerly proprietor of the London Mechanics' Magazine,) Editor.

AGENTS FOR NEW PUBLICATIONS.
HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications:
The New York American Daily, at \$10.00—Tri-Weekly, at \$5.00—Semi-Weekly, at \$4.00 in advance.
The American Railroad Journal, Weekly, at \$3.00 per annum.

The Mechanics' Magazine, two volumes a year, at \$3.00 per annum.
The Quarterly Journal of Agriculture and Mechanics, at \$5.00 per annum, or \$1.25 per number.

The Family Magazine, 416 pages a year, at \$1.50 in advance.
The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25.

The Ladies' Companion, of 54 pages a month, at \$3.00 per annum, in advance.
The Rochester Gem, at \$1.50 in advance.

All Communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834.
m6v6 Cfr.

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.
DEAN WALKER. a3

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthen, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine-wood, coke, or any other fuel hitherto used in locomotive engines. The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch, 200 do. 1 1/2 do. 40 do. 1 1/2 do. 800 do. 2 do. 300 do. 2 1/2 do. soon expected.

Flat Bars in lengths of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.

250 dn. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, and 4 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

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SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely anything to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off-rails; and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833. Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

German town, February, 1833. For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germant. and Norrist. Railroad

STEPHENSON.

Builder of a superior style of Passenger Cars for Railroad No. 264 Elizabeth street, near Bleecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J 35 tr

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Rollers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 85 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER, Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m24



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, NOVEMBER 22, 1834.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 22, 1834.

We are indebted to J. E. BLOOMFIELD, Esq., of Utica, for the interesting documents which appear in this number of the Journal.

This number of the Journal is devoted almost exclusively to the contemplated STEAMBOAT or SHIP canals, from the navigable waters of the Illinois river to Chicago; from Lake Erie to Ontario, around the Falls of Niagara; and also from Lake Ontario, at Oswego, to Utica and the Hudson. It is a subject of great national importance, as well as of individual interest, and we therefore take great pleasure in thus laying it before the public.

The report of the Hon. C. F. MERCER, and the letters of Col. GRATIOT, and Gen. DUNCAN, will be found highly interesting, and, together with the field notes of the Engineer, which will be published in our next number, will, as we think, convince the most determined opponents of the work of its entire practicability, as well as of the importance of its early completion.

The report of NATHAN ROBERTS, Esq., of his survey of the route around Niagara Falls, contains precisely the information which the friends of the work have long desired, but which we have only recently received, together with a map of the same, both of which are soon to appear, and would some time since have been published, in pamphlet form, but for the absence from the city of the gentleman who undertook to prepare it for the press.

The reputation of Mr. Roberts as an Engineer will be a sufficient guarantee of the practicability of the work, and also of the approximate cost of a canal of the dimensions of which he speaks; although of the dimensions, we presume, he would now entertain different views from those of 1826.

The more than realization, in the success of the Erie canal, of the most sanguine, and, as they were then termed, *visionary*, anticipations of its friends, must surely satisfy every intelligent man that we shall need, and *must have*, at no distant day, a free and easy communication for steamboats of the largest class between the Hudson and the Mississippi rivers; we ought therefore to make *this* link of it of the required dimensions at once. The locks should certainly be equal in size to those now constructing on the St. Lawrence—200 by 55, and 10 feet deep.

We would call particular attention to the letter of J. E. B., page 728, in reply to a communication signed "Brindley," which appeared in the New-York American on the 7th of October last. "Brindley" crossed the Atlantic for authority to show the impracticability of the measure, when he might, with one-tenth of the trouble, have found much higher authority at home, showing its entire feasibility, and the importance of an early accomplishment of the work.

Brindley is not the first, nor the only, American, who forgets that his own countrymen have merits as well as others. We would by no means detract a particle from the merit to which foreigners are entitled, nor would we withhold from our own countrymen that praise to which many of them are so justly entitled. With regard to the objection on account of a want of water on the summit, we have received a letter assuring us that an examination has been made which puts that question at rest. The supply, it is said, will be ample.

At the Meeting held on Friday evening at the Common Council Room the following resolution was adopted, in reference to the contemplated convention respecting the Rail road.

Resolved, That a committee of twelve persons be appointed whose duty it shall be to attend such meeting or convention as may be appointed in connex-

ion with our fellow citizens in other parts of the country to consult upon our common interests in relation to the route of a Railroad across the peninsula of Michigan, and to report the result of such consultation to a future meeting of the citizens of Detroit.

The following gentlemen were appointed said committee. Hon. J. Biddle, Col. Andrew Mack, General J. R. Williams, Col. Levi Cook, Colonel Henry Whiting, B. F. H. Witherell, E. Farmsworth, E. Gray, J. Norval, O. Newberr, S. T. Mason, E. C. Matthews.—[Detroit Courier.]

The New Orleans papers are seriously discussing the subject of a railroad from that city to Nashville. The length of the road is estimated at 500 miles, and it is contended that it may be easily made with the united funds of New Orleans and the States of Mississippi and Tennessee. The distance by water, from New Orleans to Nashville is twelve days; by the railroad it would be only two and a half days.

The people of Fredericksburg and its vicinity, at a public meeting held last week, adopted the following among other resolutions:

1st. *Resolved*, That the scheme of a railroad from Fredericksburg to Gayandotte, or some other point on the western waters, is feasible and may be carried into effect, advantageously to the stockholders and to the community.

2d. *Resolved*, That a committee of three be appointed, to draft a memorial to the next Legislature of Virginia, for an act of incorporation.

Rail Roads.—It is stated in a late Pensacola Gazette, that a survey of the route for a Rail Road between that place and Columbus, has been made; and that the Engineer reports the distance 220 miles,—straight and level beyond expectation.

We mentioned some days since that the People's Line of Railroad Cars and Stages had been established to run between this City and Pittsburgh in 60 hours. The first trip has been made and was run in 57 hours.—[Connecticut Herald.]

From the 21st to the 31st of October, the tolls on the Erie Canal amounted to \$75,648,26. The tolls collected upon all the Canals in this State for October, amount to \$240,000.

Sixty-one canal boats passed Huntingdon, Pa., during the week ending 3d inst. Fifteen hundred and eighty-four have passed that place during the present season.

A project is now in preparation at Liverpool for establishing a steam communication with India, by the way of the Mediterranean. It is to consist of two flat bottomed steamers, manufactured of iron, which, with their engines, will be transported in a vessel to the coast of Syria, to be there landed, and conveyed by camels to the Euphrates, and then put together. The expedition will be under the direction of Captain Chesney, of the Royal Artillery, having under him an officer and twenty artillery men, and also a lieutenant of the Royal Navy, with two mates, engineers, &c.

To the Hon. CHAS. F. MERCER,
Chairman of the Committee on Roads and Canals.

SIR: Allow me most respectfully to call your attention, and that of the committee of which you are chairman, to the proposition submitted by me on the 17th day of December, 1833, authorizing "an inquiry into the expediency of a grant by Congress of efficient aid to the State of Illinois, to enable her to construct a steamboat channel from Lake Michigan to the Mississippi river."

It can scarcely be necessary for me to urge the importance of an early completion of this great work to every portion of this Union, connecting, as it would, more than twenty States.

By this small improvement we should secure the most extensive internal steamboat navigation that now is, or perhaps ever will be, known, penetrating, for more than twenty-five thousand miles, the most fertile regions of country on the globe; capable of supplying every part of Christendom with every thing necessary to make man independent and happy; and on whose lakes and rivers are seen in increasing numbers the whitening sail and torrent-stemming boat.

Through this channel the sugar, cotton, rice, and tobacco of the South, the lead, coal, bread-stuffs, pork, beef, and other products of the West, would pass to the North, exchanged for their salt and timber, manufactures and merchandise.

It is now estimated that there are about 315 steamboats on the Western waters, and about 350 schooners, smaller vessels, and steamboats on the lakes, the increase of which can scarcely be anticipated, when we see that the steamboats have increased from one in 1814 to 315 in 1833, less than twenty years, and the vessels, &c. on the lakes have increased almost as fast.

The commerce carried on on the Western waters was estimated this year at one million seven hundred thousand tons, which is said to have been worth about one hundred and seventy millions of dollars; freights have been reduced from five dollars to thirty-seven and a half cents per hundred from New-Orleans to Louisville; passages and other charges have fallen in the same ratio; the amount and value of the commerce on the lakes can scarcely be estimated, except by the number of vessels engaged in carrying it on, and the unequalled growth and improvement of the whole lake country. It seems to me that national pride, as well as national interest, should press on the accomplishment of this great work.

Of its practicability there can be no doubt, unless the observations of more than one skilful engineer have been deceptive; and it is the shortest and best, if not the only route for the union, by such a channel of these vast navigable waters.

There is a reason for the immediate action of Congress on this interesting subject, which I will respectfully suggest. A portion of the country on the contemplated route of this canal, and on both sides of the Illinois river, is rapidly settling; an extensive commerce is now carried on with New-York, Philadelphia, and Canada, from Chicago, on Lake Michigan, and through the Illinois river, to New-Orleans, and all the West, which is pressing the State for an immediate construction of this work; and I am confident that the next Legislature of Illinois will commence a work of some kind to connect these waters; and, if left to do so with the limited means now at her command, cannot project and finish a communication corresponding with the national utility of the position. Several routes for this canal have been thought of:

First. The route as at present designated, which has been surveyed and thoroughly examined, and is known to be practicable.

Second. The bed of the Des Plaines river.

Third. To enter the Kankakee from fifty to seventy-five miles above the rapids of the Illinois, as it is said to be navigable for that dis-

tance, making a canal round the rapids, and to the lake.

The last route, it is thought by some with whom I have conversed, would greatly diminish the expense of the work; and though the distance might be increased, that forms no great objection if steamboats could be used: these, however, will be points hereafter to be settled by the State of Illinois. According to my judgment, there are two ways of affording such assistance as would induce the State to begin and finish a canal of the largest size.

The first would be for Congress to grant the reserved alternate sections of land on the route of the canal, and extend the grant on both sides of the Illinois river, from the canal to its junction with the Mississippi, with the right to select other lands in lieu of such as have been sold by the United States, or which may be unfit for cultivation. With such aid, I have no hesitation in expressing the opinion that the State will immediately commence and very soon complete the work.

By using the lake as a feeder, a sufficient quantity of water can be thrown into the Illinois river so as to secure the passage of steamboats of the largest size at all seasons of the year.

The reason for extending the grant along the river is, that the State may thereby be enabled to improve its channel and banks. The Illinois is one of the most beautiful rivers of the West, and during most of the year is navigable for the largest steamboats; yet in very low water there are several shoals or bars, and obstructions by sunk timber, which should be removed. The current of this river is so slight, that it is in fact a natural canal; and, by improving one or both banks, so as to make tow-paths, would be so used.

I am aware that it may be supposed I am asking too much, and it may be said that the State has not yet expended the original grant. To such I can only say that parsimony in this case, as in all others of like kind, will be a fatal error.

The proposed grants, if made, would of course be on condition that the canal should be as large as I have suggested; and if they be not made, it is perfectly certain that the State will not be able to construct this, or even an ordinary canal, without embarrassing her resources, or contracting a heavy debt, which might, under all the circumstances, be considered doubtful policy, and which the Legislature of the State have heretofore refused to adopt. As the citizens of that country are anxious for some communication between the lakes and the Mississippi, it is much to be feared that the Legislature may authorize the construction of a railroad, which, however valuable, would fall far short, in its utility, of the just expectations of the people, and, in point of national advantages and importance, would bear no comparison with a canal of any kind, but especially such a one as I have suggested.

With you, sir, I need not argue to prove that this is the most important national improvement now to be made in this country; and the time has now arrived when Congress has it in its power to decide whether this link in the vast extent of inland navigation shall be on a liberal or on a contracted scale—shall be made promptly or at some distant day.

I cannot permit myself to doubt the decision, especially when I well know that a large portion of the very land which is asked for, unless a canal be made, will remain for many years, as millions of acres now are, valueless and unsaleable, on the hands of the Government, and that the sound policy in relation to the value and sale of the immense districts of land owned by the United States almost exclusively, through which the canal would pass, would be to make the grant.

I do not doubt that the whole grant, nay, three times the amount, would, on the completion of the work, be immediately reimbursed by the increased value and ready sale of the adjacent lands, a large portion of which, from their remoteness from highways and other

causes, are now nearly, if not altogether, without value.

The other mode of accomplishing this work would be for Congress to construct it on their own plan, out of the treasure of the nation, and then cede it to the State on the same principles as were contained in the cession of the Cumberland road to Ohio, Pennsylvania, and Virginia, which, I have no doubt, would be acceptable to Illinois, and may be made out of the public treasury with the same propriety that the national road has been made, under the agreement with Virginia that one or more highways should be made from the Northwest Territory to the Atlantic.

These suggestions are made with a view to secure the early accomplishment of this great national work, and on a scale worthy of a great and enterprising people, which, if finished, will, in a single season, and especially in case of a maritime war, more than pay for the cost of its construction to several States in the Union, by the certainty and increased facilities afforded to their commerce.

Among the objections which I have to a railroad, especially at this point, are the following:

The transportation would fall into the hands of a few monopolists. The cost, risk, and delay of transshipment, would be great; and many, if not most, of the articles raised in the country would not bear transportation on a railroad, while all would upon a canal.

If a canal should be made, such as I have spoken of, every man who did not desire to put his material into a steamboat, could use his own craft, his own means, and his own time; could go to market and return with little or no expense; while the citizens of other States, engaged in carrying on a trade, could pass from New Orleans directly into Lake Michigan, without the expense of a transshipment or a moment's delay; and the difference in utility, between a canal and railroad, is not more striking to my mind than that of their comparative durability and value. Experience has shown that railroads grow worse with use, require repairing from the moment they are made, and last but about fifteen years; while canals improve every day, and last forever.

I will not consume your time by showing the perfect practicability of constructing this canal, and at comparatively small cost; but will refer you to the several surveys and reports of engineers, made under the authority of the State of Illinois and of the United States, which leave no doubt upon that subject.

With great respect, your obedient servant,
JOSEPH DUNCAN.

In the House of Representatives of the U. S., June 25th, 1834, Mr. MERCER, from the Committee on Roads and Canals, to which the subject had been referred, made the following

REPORT:

The Committee on Roads and Canals, to which was referred the resolution of the House of Representatives, instructing them to inquire into the expediency of affording some efficient aid to the State of Illinois, in the construction of a steamboat canal from Michigan to Illinois river, report:

That they have given to the subject of this resolution all the consideration compatible with a due regard to the numerous topics of inquiry referred to them by the House. The public attention has long been attracted, by Darby and other geographers, to the facility as well as the importance of connecting, by a line of uninterrupted navigation, the Northwestern lakes with the Upper Mississippi. Two modes of accomplishing this desirable purpose have been especially regarded: one, by Green Bay and the Fox and Ouisconsin rivers; the other, by means of Chicago creek and the river Illinois.

Of these routes, the latter possesses a decided advantage over the former, apart from the present condition of the population and improvements of the country to be immediately bene-

fixed by opening such a communication, and the whole of this route is comprehended within the jurisdiction of a single State, one of the largest in territorial extent, and destined, by the fertility of its soil, to be one of the largest, in point of numbers, of the Union. The United States, as the actual proprietor and concurrent sovereign of the national domain adjacent to the lakes, manifested an interest in this route, by an act of Congress of the 30th of March, 1822; which authorized the State of Illinois to open a canal through the public lands, to connect the Illinois river with Lake Michigan. This act empowered the State of Illinois to "survey and mark the route" of such a canal, and, reserving from future sale, vested in that State ninety feet of land on each side of such route as might be approved for that object. A condition was annexed to this grant, that it should become void, provided that the State of Illinois did not survey and return to the Treasury Department a map of the canal within three years from the date of the grant; or, if the canal should not be completed "and suitable for navigation," within twelve years from the passing of the act.

Believing that the contemplated canal would advance the price of the lands in its vicinity, this act "reserved from future sale, till otherwise ordered," every section of the public land "through which the canal route might pass." By a subsequent act, bearing date the 27th of March, 1827, Congress granted to the State of Illinois, to aid in the construction of this canal, "a quantity of land, equal to one-half of five sections in width," on each side of the route thereof, "reserving each alternate section to the United States;" and subjected the land, so granted, to the disposal of the Legislature of Illinois, under several conditions: among which was, that the canal should be commenced within five years, and completed in twenty years, or the State should pay to the United States the proceeds of sale of any of the granted lands which she might have sold. By an act of the 2d of March, 1833, amendatory of the last, the State of Illinois is authorized to dispose of the lands before granted, for the purpose of making a railroad, instead of a canal, should such be the pleasure of that State, and the time for commencing and completing the canal, or its substitute, the railroad, is extended for five years, under all the obligations of the antecedent acts of Congress, neither of which is expressly repealed.

As the resolution of the House of Representatives, which gives rise to this report, limits its inquiry to the expediency of constructing a steamboat canal, the committee are called upon to consider the relative advantages of such a canal, compared with the railway; which the State of Illinois has been authorized to make in lieu of it.

Of the part of the communication from Fort Mackinac, near the head of Lake Michigan, to New Orleans, in length more than two thousand miles, to say nothing of the vast extent of the steamboat navigation connected with that lake and the various rivers of the Mississippi, the whole is adapted to the use of steamboats of a large class, except the portion between the contemplated harbor of Chicago, at the bottom of Lake Michigan, and the navigable waters of the river Illinois, a distance of ninety-two miles.

Fortunately, as has been said, this obstruction is entirely within the limits of a single State, in fixing whose extended boundaries a former Congress is believed to have had reference to one of the most striking features in the topography of the United States; that, at high water, an imperfect but continuous navigation has always been known to subsist between the river Illinois and the lower extremity of Michigan. On the wisdom and enterprise of the largest western State of the Union, therefore, the efforts to effect a permanent union of the upper lakes with the Lower Mississippi and the mouth of the Missouri will hereafter rest; and the first question which that flourishing

commonwealth will be called upon to decide, in fulfilling the national trust thus confided to her, is, by what means shall this union be accomplished? Shall it be by a uniform line of water transit, admitting the delivery of the produce of the lake shores at the ports of the Mississippi from the vessel which first receives them; or shall this produce, of every description, be transferred, by the interposition of a railway, more than 90 miles long, from the lake vessel to the road car, and thence back again to the river boat?

This question, of necessity, involves an inquiry, which would be the cheaper line of transit from Lake Michigan to the highest steamboat navigation of the Illinois river, making due allowance for the expense of transportation; and not that alone, but the cost of storage and of commissions on two translations of the cargo, and its unavoidable exposure to deterioration, hazard, and waste. With regard to certain commodities, such as coal, lime, and lumber, the weight of which is very great in proportion to their value, as well as several manufactures of an opposite description, such as of china, glass, and furniture, liable to breakage from frequent and rough handling, these transshipments merit serious consideration. Bituminous coal, of soft texture, however excellent as fuel, loses, it is known, much of its value by being shovelled and thrown from one vessel into another: and boards are often split in the usual mode of transshipping them. Other commodities are liable to injury from being wet, as salt, sugar, and dry goods; and especially, if transported considerable distances after being so. Lime, from such exposure, would be involved, with its accompanying cargo, in yet more serious danger; and would extend that danger to the vessel or carriage which contained it. The weight of some of those commodities is, moreover, liable to be much increased by moisture, a circumstance calculated to effect directly the cost of their transportation. But setting aside all these minute but important details of actual experience, does a rational doubt any longer obscure the question, whether canals, and especially such a canal as is here contemplated, will afford a cheaper line of transit than a railroad, for the distance between Chicago and the head of steamboat navigation on the Illinois river, however perfect its construction? It is believed not.

A prejudice of natural origin pervaded all the first inquiries on this subject. The imagination was led captive by the flying motion of a railroad car, impelled by one of the most powerful agents hitherto discovered by the ingenuity and subject to the control of man. And no one, not insensible to the peculiar character of the political institutions of the United States, who beholds the vast and yet growing extent of the territory which they hold in union, can be insensible of the value of railroads. They are calculated, by the rapid motion which they admit upon their smooth and even surface, to impart to every State many of the advantages of a narrow territory, without subtracting from the numbers or wealth of its inhabitants. This advantage, however, so far as its political effect should be regarded, is most important in relation to the transit between the seat of the General Government, and that of each of the several States, and between the capitals of those States—an advantage of incalculable value in a period of public danger.

For the mere transit of commodities, for purposes of commerce only, and especially of that commerce which transfers the heavy agricultural or mineral productions of the interior of the United States from place to place, celerity of motion is far less important than economy or cheapness.

For many of these commodities will not bear a heavy charge upon their transportation; and the most valuable, if imperishable in character, gain no more, by an earlier arrival at market, than the interest on the sum which their sale

produces, during the time that would be lost by their slower transit. The mere interest, for a few weeks, days, or hours, on the price of a cargo of coal, that commodity which, more than any other, has contributed to swell the revenue of the most productive canals—or upon a cargo of lumber, of lime, or of iron ore, commodities of similar importance in canal navigation—would pay but a very small, scarcely a nominal advance on the freight of any one of those bulky commodities. And yet, a few hours only, certainly less than a single day, would be saved in a distance of ninety miles, by substituting a railroad for a canal between the navigable waters of the Illinois and the harbor of Chicago.

A much greater difference, it is believed, would be found to arise in favor of a water transit, when compared with that by a railroad, from the superior economy of the former.

The opinion, that, in their construction, canals cost more than railroads, notwithstanding the authority of certain English writers, as Wood and Tredgold, has been exploded in America by experience, the best test of truth, in relation to all matters of practical economy. Those writers, aware that the efficiency of a given moving power upon a well constructed canal, at low velocities, is at least three times as great as on a perfectly level railroad, to balance this advantage of the former over the latter, estimated the cost of a canal at thrice that of a railroad.

It is remarkable that, while these authorities continue to be read and quoted, to subvert the same purpose in America as in Great Britain, the Liverpool and Manchester railroad remains the only instance of the application of this mode of commercial intercommunication or exchange, between any of the great cities of that populous, rich, and flourishing island. Except the Stockton and Darlington railroad, employed almost exclusively in the transportation of coal, this road is also the only one in Great Britain the stock of which is above par; and this, too, in a money market, in which the legal rate of interest does not at any time exceed four per cent. per annum.

The length of this railroad is very little more than thirty miles; its cost, with its appurtenances, it is seen by the last semi-annual report of the Liverpool and Manchester Railroad Company, exceeds a million of pounds sterling; and the price of carriage upon it for merchandise is 10s. 8d. sterling per ton; for each passenger 4s. 7½d. sterling, for the distance of thirty miles. The outlay of the company, in effecting this transportation, has not, in a series of years, been, at any time, less than 7s. 6d. sterling for each ton of merchandise, and 2s. 0½d. sterling for each passenger. As this outlay of the company comprehends no charge whatever for its large expenditure, it is an item which, in measuring the relative economy of carriage by railroads and canals, should be brought into immediate comparison with the cost of transportation, or the freight only of the carrier, exclusive of the tolls, on a canal.

The freight for transportation will be found to vary on different canals, decreasing with the increase of their dimensions, and the consequent reduction of the resistance of the moving boat, which, under five miles per hour, is as the square of its velocity.

Two men, a boy, and a horse, suffice to move, at the rate of three miles an hour, a boat of fifty tons, and, aided by a second horse, of one hundred tons, on a broad and deep canal. The same force is required for moving a boat of thirty tons, at the same speed, on the Erie canal of New-York, or, if the additional horse be allowed, of fifty tons. Hence the superior economy of large canals, when compared with those of smaller dimensions. But assuming the cost of transportation upon the Erie canal as one term of the proposed comparison, which, with a breadth at the surface of but forty, and at bottom of twenty-eight feet, has a depth of four feet water, and a cent a ton per mile may

be regarded as a just measure of the freight necessary to allow an ample profit to the carrier; a sum which, when compared with the charge incurred by the Liverpool and Manchester Railroad Company, is about one-sixth; a fact which should forever put to rest all controversy on this disputed topic. For the other terms of a comparative estimate of the economy of these rival modes of conveyance, the rate of toll or profit on them, it must be recollected, that the profit of any railroad or canal, and consequently its rate of tolls, should bear a certain proportion to the cost of its execution, and the annual expense of its repairs, or of keeping up the capital expended on its construction.

In relation to the cost of the repairs of the best railroads in use, no measure has been supplied by an experience exceeding that of the Liverpool and Manchester Railroad Company.

The last semi-annual report of this company stated the branch of their last six months' expenditure, called the "maintenance of way," by which is meant the repairs of their road, at an amount, which doubled for the year, and turned into American currency, at the present rate of exchange, fell very little short of \$2,000 per mile per annum.

It is too obvious to escape notice, that the longer a railroad is used, the greater will be the cost of its annual repairs; while the older the works of a canal, the less will be the annual cost on the same account. Admitting, however, the cost of their repairs to be the same, the only point of comparison remaining to be settled is the relative cost of their original construction.

Facts on this subject are very abundant in Great Britain, and have recently become sufficiently numerous in America, to show that the estimates of the popular writers on the subject of railroads are unfounded in fact.

The Ohio canals have cost about ten thousand dollars per mile; the Erie canal of New-York, exclusive of interest on loans, and the repairs, sometimes blended in the computation of the canal commissioners of that State, with the original cost of the construction of this work, about \$18,000 a mile. The Delaware canal of Pennsylvania, five feet deep, and extending from Easton to Bristol, about 60 miles, cost for its construction about \$25,000.

The Chesapeake and Ohio canal, whose cross-section exceeds in dimensions by 17 per cent. the double of that of the Erie canal, has cost, so far, for the part above tide water, about \$32,000 per mile.

On the other hand, the Baltimore and Ohio railroad has cost as much as the largest of the preceding canals, and the estimate for the branch by which it has been proposed to extend it to the city of Washington, a distance of thirty miles, is near \$50,000 per mile. The Newcastle and Frenchtown, the Camden and Amboy, and the Albany and Schenectady railroads, have cost very little, if any thing, short of \$30,000 a mile; and the Columbia railroad of Pennsylvania, 82 miles, and the Portage railroad, 36 miles long, it is now known, have cost per mile, the former more than \$42,000, and the latter more than \$43,000 a mile.

Profiting by the delay of their contemplated enterprise, the Legislature of Illinois will, it is to be expected, profit by the light of experience, and prefer a uniform connexion of the navigable waters of their great river with Lake Michigan, to the construction of a railroad, where nature has afforded facilities so remarkable for a canal communication.

As to the manner of effecting this communication, whether by resorting to a summit above the level of the lake, and feeding from the Des Plaines river, or by an open cut from the lake, of twenty-seven miles, using the lake itself as a feeder; whether this cut shall be reduced in breadth to that required for a single steamboat, with only occasional passways, as on the Dismal Swamp canal, between Virginia and North Carolina, and the largest canal in the world,

that from Amsterdam to the Helder, in the Kingdom of the Netherlands; or, by allowing sufficient breadth throughout for such boats to pass every where, on the long line of ninety miles, are questions which the State of Illinois must decide, with reference to the resources which she may be disposed to apply to this great undertaking.

No estimate of the cost of any canal, nor any plan for its construction, accompanied the former survey, map, and report, of the Engineer Department, on the subject of this connexion, transmitted to the House of Representatives on the 24th of May, 1832.

The interesting views of both, furnished to the committee by Gen. C. Gratiot, the chief of that corps, and by a Representative of the State of Illinois, in answer to letters of inquiry from the chairman of this committee, are appended to this report.

Without repeated borings through the earth to be excavated, and a careful examination of the quality of the various materials to be removed, in forming the trunk of the canal, as well as an acquaintance with the quality of the stone and cement to be procured in the excavation, or found in the adjacent country, for the masonry of the canal, no exact estimate can be made of the cost of this work; and so far as its plan should be regulated by its probable cost, this examination should precede any decision on the former.

For the same reason, further aid from the United States, towards the construction of this interesting communication, should be deferred till such an examination and estimate be made; and a plan adopted by the State of Illinois, for the construction of its necessary works. When this plan shall have been fixed, and presented to the consideration of Congress, there can be no doubt that, if approved by them, additional aid will be afforded to an enterprise of such national importance.

ENGINEER DEPARTMENT, Washington, June 6, 1834.

SIR,—I have had the honor to receive your note of the 16th ultimo, respecting the contemplated canal to connect the Illinois river with Lake Michigan; and regret that almost perpetual engagements have not allowed me to reply to it before. There is nothing on the files of this department relating to this work. A survey of the route was made some time since, and I believe an estimate, but they are lodged in the Topographical Bureau, to the chief of which I beg leave respectfully to refer you. You have been pleased to ask my views on making this a steamboat canal, and I take great pleasure in giving them, although want of sufficient data will not permit me to enter into any thing like detail, or to aim at arrangement in the ideas which I shall offer. This subject has long since attracted my attention; as it has, indeed, that of every person who has reflected upon the rapid development of the resources of the country through which it is proposed to carry this canal.

By an inspection of the map of the United States, it will be perceived that a connection between the two great valleys of the United States must be created at various points, to enable the people who inhabit them to carry on with each other, and with those of the Atlantic States, the extensive intercourse that must subsist them at no distant day. New-York and Ohio have, by their canals, contributed largely to this Union; the canals and railroads of Pennsylvania, the Chesapeake and Ohio canal, and Baltimore and Ohio railroad, though as yet in their incipency, have the same object. But of all the projects having this great design, that which contemplates the union of Lake Michigan with the Mississippi by the Illinois river, is, without doubt, both on account of the ease with which it may be accomplished, and the vast extent of navigable waters it will connect, the most important. Its effect will be to unite the St. Lawrence with the Gulf of Mexico; to

create a dependence, founded upon mutual interests, between the vast territory watered by the Mississippi, with its extensive tributaries, and that bordering on the Lakes and the St. Lawrence.

There would seem to be, in a position such as this, and to accomplish objects so vast, no question as to which of the usual means, railroad or canal, should be resorted to. The exclusive character of the first; the repeated handling of the commodities transported over it, always attended with expense; the complication of machinery, and the consequent liability to accident and detention, as well as the principle of rapid decay, inseparable from the materials used in its construction, seem to offer to my mind objections not to be overcome. A canal, on the contrary, would afford facilities commensurate with the great thoroughfares it would connect, and the vast amount of produce affording upon them during the greater portion of the year, or in waiting upon their shores. It would be alike open to the merchant with his accumulated products of every region, from the Yellow Stone to the Sabine, from Lake Superior to Quebec, and to the humble farmer upon its very margin, with the less valuable, though to him equally important returns from his little farm. Besides, nature herself seems to have contemplated this mode of connection. The great basin of the lakes, except at its edge, is higher than any point over which the canal will have to pass, and presents the appearance of a great reservoir, specially designed to furnish in superfluous abundance the great desideratum of works of this kind. A writer, well acquainted with the features of that region of country, observes, in the North American Review, vol. 26, page 361: "There is not, perhaps, on the globe, a place where such a mighty physical revolution could be produced with so little human labor, as by opening a communication between Lake Michigan and some of the upper tributaries of the Illinois. The Des Plaines, which is a considerable stream, rises in the country between the Mississippi and Lake Michigan, and, pursuing a southerly course, approaches within twelve miles of the lake. The intermediate land is a level prairie, stretching in every direction as far as the eye can reach. Its extreme elevation above the lake is seven-tens feet, and that feeble barrier is all that is interposed between this mighty mass of water and the rich valley of the Mississippi, which it overhangs like an avalanche on the summit of the Alps." Such is the country over which this improvement would have to be made. Commencing at the junction of the Rigolet with the Chicago river, it would pass by an easy single cut through this barrier for a distance of 27 miles, with an average depth of about 20 feet, where it would reach a point in the natural surface of the ground 10 ft. below the usual level of the lake; from this point, it would make the right bank of the Illinois, and enter that stream either at the mouth of the Fox or Vermillion river, passing, in that distance of sixty-two or sixty-five miles, over an almost uniform, gentle, and unbroken slope of two and a quarter feet a mile. The fine valley of the Illinois is skirted by steep and prominent bluffs; those of the right bank being so uniform, and running in a direction so well suited to the purpose, as to give reasonable hopes that the canal may be made to wash their base, and to rest upon the natural surface; thus affording the great advantage with such a supply of water as may be drawn from the lakes, of increasing its width to any desired extent, at no additional, but rather diminished expense. The question here presents itself, what should be the dimensions of the canal? Should they be limited to the present wants of that region of country? Or should they be determined by the admonitions furnished by experience on the New York canal, where the unfortunate mistake in its dimensions is so frequently and severely felt as to have given rise to the project of a ship canal to subserve the same purposes, and the data to be drawn from the heretofore great and rapid

increase of population, and the lakes, and the experience on the New York canal, where the unfortunate mistake in its dimensions is so frequently and severely felt as to have given rise to the project of a ship canal to subserve the same purposes, and the data to be drawn from the heretofore great and rapid

increase of population along the shores of the Lakes, and those of the Upper Mississippi? I think the latter; and when we look to our experience on the Lakes, and see how great has been the spirit of enterprise created by the facilities of intercourse afforded by the comparatively trifling improvements on their southern shores, it really seems that the trade must soon justify almost any dimensions that can well be given. I should, therefore, recommend, most emphatically, that, from the Lake to the termination of the single cut, the width should be 200 feet, and the depth 10; and from this latter point to the débouché into the Illinois, the minimum width should be 100, and the depth at least 6. This would enable the steam and other craft navigating the lakes and the Western waters, to approach a common point, and afford accommodation during the operation of transferring or exchanging cargoes. You are aware that the surface of the lakes is subject to periodical fluctuations; this reach of 27 miles, 200 feet wide, and 10 feet deep, would effectually provide against any inconvenience that might otherwise arise from this cause. It would, besides, readily afford all the water required for lockage in the lower section of the canal, without creating a sensible current on the summit. By this arrangement, the supply of water would be constant and most abundant, however great the draught might be, and would be divested of sediment so common to small streams, particularly in times of freshets, and which makes them so objectionable for the purposes of feeders. The Des Plaines should, therefore, be diverted from its present course, and made to discharge itself into the Chicago river; this would, moreover, be attended with the precious advantage of keeping open the entrance to the harbor at the mouth of the latter stream, by increasing the volume and velocity of the water which passes through it at certain seasons. I regret that I have not the means of submitting an estimate of the cost of this great and important work; but I feel justified by the history of that country, and my own observations, as I passed through a portion of it last summer, in saying that; cost what it may, the wants of the people of that region, and those inhabiting the great valleys referred to, will, ere long, require its construction, and to the magnitude here proposed. The map which will be handed to you by the bearer is one prepared for my private use; I have sent it, believing that it may afford you some assistance; and allow me to request that you will be pleased to return it as soon as you shall have no further use for it.

With great respect, Sir, I am your most obedient servant,

C. GRATIOT, Chief Engineer.

TO THE HON. CHARLES F. MERCER, Chairman &c.

ENGINEER DEPARTMENT.

Washington, June 23, 1834.

SIR: I beg leave to submit, as a supplement to my letter of the 6th instant, the following estimate of the probable cost of a canal, of the largest dimensions, from Chicago to the mouth of the Little Vermillion of the Illinois.

The first twenty-seven miles to be one hundred feet wide at the surface, and ten feet deep; and the remaining distance of sixty-five miles to be not less than one hundred feet at the surface, and six feet deep.

From Lake Michigan to the Point where a level line ten feet below its surface will intersect the valley of the Illinois river, is twenty-seven miles, twenty-five of which should not be less than 100 feet wide, and the remaining two in short sections, distributed at convenient distances, to be 200 feet wide, to accommodate boats while detained in exchanging cargoes without interruption to the navigation. As has been stated in my letter, the average depth of the excavation for this section will be about 20 feet. This is assumed, therefore, in the estimate. The whole quantity of excavation, then, will be, on the supposition that the

base of the slopes will equal the height, and that the water level will be about midway down the excavation, giving the width of that surface as the width of the section to be excavated,

25 miles, or $44,000 \times 33\frac{1}{2} \times 6\frac{3}{4} = 9,577,772$ c. yds.
2 miles, or $3,520 \times 66\frac{2}{3} \times 6\frac{3}{4} = 1,464,000$ c. yds.

11,041,772 c. yds.

Assuming one-fourth of this, say 2,760,443 cubic yards, to be rock, and the remaining three-fourths, or 8,281,329 cubic yards, to be clay and sand.

On the Chesapeake and Ohio canal the cost of quarrying rock is put down at $31\frac{1}{2}$ cents, and the excavation of earth at $9\frac{1}{2}$ cents per cubic yard, (see page 70, Doc. 18, 1st session 22d Congress.) But as the distance to which, on this canal, the excavation will have to be removed is greater, generally, than on the Chesapeake and Ohio canal, it is supposed that an advance on these rates, of something more than one-half, must certainly cover the expense of this work.

The excavation of rock is, therefore, assumed at 50 cents, and that of clay and sand at 15 cents. We then have for

2,760,443 cubic yards of rock excavation, at 50 cents,	\$1,380,221 50
8,281,329 cubic yards of earth excavation, at 15 cents,	1,242,199 35

Cost of summit, 27 miles, 2,622,420 55

From the western termination of the summit to the Little Vermillion, the canal will follow the right bank of the river, keeping as near the bluffs as may be found necessary. Wherever the bluff is used as one of the sides of the canal, but one embankment will be required, thereby saving greatly in the cost of construction; and as it is proposed to secure to this branch of the canal a minimum navigation of six feet, the embankment will require an altitude of eight feet. This will admit, in case of necessity, an increase of an additional foot of water without greater expense. The whole distance of single embankment is 65 miles, to which 25 miles may be added as a full allowance for double embankment, at places where the bluffs recede too far from the axis of the canal: thus, then, we will have 90 miles of embankment to construct.

The dimensions proposed for this embankment are $2\frac{1}{2}$ yards high, 4 yards wide at top, and $14\frac{3}{4}$ at the base, giving a section of $24\frac{3}{4}$ multiplied by the length, which is 90 miles, or 158,400 yards, equalling 3,933,072 cubic yards at 15 cents, as before stated, \$589,960 80.

On the same canal the lockage cost \$1,000 per foot lift. Suppose that on account of the greater dimensions to be given to the locks on this canal, and the difficulty of procuring in a new country a sufficient number of good workmen, that each foot will cost \$2,500, which may be considered large, then $139\frac{64}{100}$ feet fall will cost \$348,100.

Culverts, aqueducts, and other masonry, will have to be constructed at various points, to admit the free discharge from streams that flow into the Illinois. The cost of these cannot at this time be correctly estimated, but is assumed to equal that of the lockage, which must be regarded as high, \$348,100.

Add for contingencies, such as diverting the Des Plaines into the Chicago river, pay of engineers, and other unforeseen expenses, 10 per cent. on the foregoing amount, \$390,858 16.

Recapitulation.

Cut across summit,	\$2,622,420 55
Embankment below summit,	589,960 80
Lockage,	348,100 00
Masonry, aqueducts, &c. &c.	348,100 00
Contingencies,	390,858 16

Total estimated cost, \$4,299,439 81

This is submitted with great diffidence, it being but an approximation to what the cost may be found to be on actual construction. I

have the honor to be, Sir, your most obedient servant,
C. GRATIOT, Chief Engineer.

TO THE HON. C. F. MERCER, Chairman, &c.

For the Report of N. ROBERTS, Esq. on the "Location and Estimates of the Expense of a Ship Canal around the Falls of Niagara," see page 728 of this Journal.

Manchester and Liverpool Railway—The report of the fifth half-yearly meeting of the company has been published, from which it appears that, compared with the corresponding six months of the previous year, the increase in merchandise conveyed along the line has been 7,727 tons, and in passengers 26,255 persons: and that a profit on the half-year's business has accrued of 3,469 11 16s 4d, which enables the company to declare a dividend for that period of 4 10s per 100l share, leaving a reserved fund of upwards of 4,000l to meet contingencies. The total expenditure on the construction of the railway and works is stated at 1,132,075 1, and the net profit between July, 1833, and July, 1834, at 75,577 1, being at the rate of 9 13s 9d per cent. per annum.—[Bol's Weekly Messenger.]

Mr. Hancock's steam carriage is now undergoing the only test that will satisfy the public of its utility—actual regular work upon the road. The road taken partakes of every variety of rough and smooth, hill and dale, with vehicles, horses, and pedestrians on it of every grade; through all this he has continued his career daily for the last two months.—Mr. Hancock began his experiments in 1826, and his experimental carriage "Infant" was the first steamer that plied for hire on the common roads, in February 1831; since then he has built five others.

From the result of the experiments made in Portsmouth dock yard, in driving and pressing in large iron and copper bolts, a man of medium strength, striking with a mallet weighing eighteen pounds, and the handle of which was forty-four inches long, would start a bolt about one eighth of an inch every blow. It required a pressure of 107 tons to press the same bolt down the same quantity of space; but a small additional weight pressed it completely home.—[London Courier Oct. 15.]

An unfortunate accident occurred yesterday, during the trial of a locomotive engine built by Mr. C. Reeder, of this city, for the use of the Ohio Railroad Company. We learn that the engine, at the time of the accident, was undergoing an experiment, under the charge of the maker or his agent, for the purpose of testing its power before being delivered to the Company. It was attached to and in the act of drawing a train of burden cars, when the boiler exploded and killed the Engineer, Mr. Neff, instantly.—The attendant fireman was injured, but not seriously. No other damage was sustained.—[Baltimore American.]

The Charleston Courier relates a most unfortunate occurrence which recently took place in that vicinity:

The locomotive engine, Augusta, was on her way from Hamburg, on Saturday last, with a train of 20 cars, loaded with Cotton, three of which were ahead of the locomotive, and the rest followed in the rear. About 3 o'clock on Saturday afternoon, near Windsor, 15 miles this side of Aiken, from some occurrence, which we have not been able correctly to ascertain, the foremost freight car fell in between the rails, and of course forcing the two behind down with it; before the locomotive could possibly be stopped, she was precipitated upon the freight cars, and one loaded car, immediately behind, was also drawn down. We regret to state that the engineer of the Augusta, Mr. Lee Allison, a very worthy young man, and one who enjoyed the perfect confidence of the company, was dangerously wounded in the fall; the lever employed to let off the steam entering his left side, just below the lower rib, and it is feared causing injury to the intestines, and thus rendering his recovery almost hopeless.

In addition to this most unfortunate occurrence, we learn that one man had his thigh broken, and several others were somewhat injured. Immediately after the accident, we understand that medical assistance was afforded to the sufferers, and as soon as the information reached town, two eminent physicians were despatched to their aid. At the time our informant left (5 P. M.) Mr. A. was perfectly collected, and although we fervently hope that the life of this amiable and useful young man may be saved, we regret to say, that the prevalent opinion is that the result will be fatal.

[From the Mechanics' Magazine, for October.]

Seventh Annual Fair

OF THE

AMERICAN INSTITUTE,

HELD AT NIBLO'S GARDENS,

October, 1834.

(Continued from page 713.)

R. H. Oldson, 1st premium for Hobby Horse—a diploma.

New England Crown Glass Company, first premium for Boston Crown Glass—a diploma. Charles Goff, 164 Maiden lane, agent.

B. Bosch, 1st premium for Secretary Book Case & Standing Mirror—a silver medal. Joseph Titcomb, 196 Broadway, agent.

Lowell Company, Lowell, Mass., 1st premium for Hearth Rugs—a silver medal. Stone, Swan & Mason, Pine street, agents.

Powers & Co., Lansingburgh, 1st premium for Oil Cloth—a diploma. T. L. Chester & Co., agents, Broadway.

Charles Attwood, Middletown, Conn., 1st premium for Metallic Pens—a diploma.

A. Denlow, Hartford, Conn., 1st premium for Card Wire, manufactured at the Rainbow Mills—a diploma. John Whittemore, 66 Frankfort street, agent.

William Field, for Vertical Trip Hammers—a diploma.

J. C. Stevens, for a model of a Fire Engine—a diploma.

Bollen, Pollard & Co., Hartford, Conn., for specimens of Box Wood and Ivory Rules—a diploma. Pettibone & Long, No. 4 Liberty street, agents.

Mr. Thompson, 1st premium for Paste Blacking—a diploma.

Wm. Sturdevant, 1st premium for purified Sperm Oil—a diploma.

W. Woolley, first and second premiums for two Surgical Bedsteads—a gold medal. For a full account of this valuable invention see p. 74, vol. iv., of this Magazine.

Dr. Leo Wolfe, third premium on surgical bedsteads—a diploma.

R. & E. Orrell, Providence, R. I., first premium on Weavers' Reeds—a silver medal.

Blake & Brothers, New-Haven, first premium on Escutcheon Latches—a diploma.

N. Hooper & Co., Boston, first premium on Mantel and Astral Lamps—a silver medal. John Nye & Co., 30 South street, agents.

C. Cornelius and Sons, Philadelphia, second premium on Mantel Lamps—a diploma. P. N. Haughwout & Son, 609 Broadway, agents.

M. Lefoulon, fine specimens of Stone Ware—a diploma.

L. Decasse, fine specimens of Fire Brick and Pipes, for conducting water, manufactured at the Salamander Works—a diploma.

Lowell Company, Lowell, Mass., fine specimen of Venetian Stair Carpeting—a diploma. Stone, Swan & Mason, Pine street, agents.

Norwalk Felt Co., Norwalk, for Felt Carpeting and Rugs—a diploma.

P. Luff & Co., fine specimen of Portable Writing Desk and Dressing Case—a diploma.

William Fulcher, splendid inlaid Centre Table, made of American wood—a silver medal.

R. J. Brown, an elegant Marble Centre Table—a silver medal.

Underhill & Ferris, a beautiful Carrara Marble Fireplace—a silver medal.

R. Heinisch, Patent Tailors' Shears—a silver medal. J. Andrews, 147 Fulton street, agent.

T. Thomas, for Painting on Glass—a diploma.

Isaac F. Bragg, fine specimen of Penmanship, sent in for exhibition only—a diploma.

A. Macklin, fine specimen of Embossing from Brass Cylinders—a silver medal.

D. Berrien & Co., for superior Smith Bel-lows, Fancy Brushes and Bellows—a diploma.

E. & J. Fairbanks, a Concentrated Platform Scale—a diploma.

G. Hodges, Andover, Mass., for Flannel

made in imitation of Welch—a diploma. Stone, Swan & Mason, agents, Pine street.

J. B. Cheeseman, fine specimen of Paste-board—a diploma.

Thomas Godwin, fine specimen of Gilding on Glass—a diploma.

Esther R. Cobb, Wrentham, Mass., a very fine specimen of a Lady's Hat, made of rye straw—a silver medal.

Henry Keep, 2 fine specimens of Fancy Tuscan Bonnets—a diploma.

A & S. White, a very handsome specimen of Tuscan Hats, made of foreign materials—a diploma.

F. A. Kipp, & C. Cordes, fine specimen of Starch—a diploma.

Mrs. S. Little, a splendid Feather Bonnet, made of Poll Parrot Feathers—a silver medal.

Sebastian Jaclard, for Wigs, Toupees, &c.—a diploma.

J. M. D. & T. W. Keating, 3 small models of Steam Engine—a silver medal.

Samuel Iudd, for specimen of Spermaceti Candles—a diploma.

J. A. Riell, for specimen of Macaboy Snuff—a diploma.

Miss Mason, for specimen of Bead Bag—a diploma.

Miss Clark, several elegant specimens of Worsted Flower, and other ornamental worsted work, together with some handsome specimens of Drawing—a diploma.

Miss L. A. Browere, fine specimen of Wax Fruit and Flowers, and a pair of Transparent Blinds—a diploma.

Miss B. Van Tuyl, a specimen of Gilding on Velvet, and a Landscape Painting in oil—a diploma.

Miss Lucretia Fordham, Brooklyn, aged 14 years, a pupil of the Mechanics' School, a specimen of Worsted Embroidery—a diploma.

W. Williams, a pair of Worsted Lamp Mats—a diploma.

Miss Ann Eliza Constantine, aged 12 years, a pupil of the Mechanics' School, a piece of Shell Embossed Work—a silver medal.

Japanned Ware, exhibited by J. Smith & Son, Nos. 217 Water and 244 Grand streets, to show that Japanning can be and is brought to as great perfection in this country as in the old; and secondly, that the said persons do manufacture japanned goods to compete with the imported; and, thirdly, that old goods which have been in use for many years, so that the Japan is almost, or altogether, worn off, can be, by them, (and they are the first that have done it in this city,) be made equal to new. 2d premium—a diploma.

F. Ternan & Co., 1st premium on Japan Ware—a diploma.

F. Reynolds, specimens of Plain Needle Work—a diploma.

Miss Mallison, fine specimen of Wax Flowers—silver medal.

Miss Sarah Maria Street, New-Haven, aged 13 years, one Chair Seat, an elegant specimen of embroidered Canvas—a diploma.

Mrs. Cooke, of New-Jersey, two Shell Boxes, one pair Shell Vases, and one Shell Watch Stand—a diploma.

Miss Thompson, two vases, fine specimen of Wax Flowers—a diploma.

Miss Margaret Fanshaw, a Bed Quilt, containing 16,800 pieces—a diploma.

Mrs. W. R. Addington, a Shell Wreath and Box—a diploma.

Mrs. Baldwin, a Shell Basket—a diploma.

Lorinda Lydaback, a fine specimen of Blue Silk Vest—a diploma.

Robert Ward, fine specimen of Carving, Butcher, and Cook's Knives—a diploma. J. Andrews, 147 Fulton street, agent.

J. Russell & Co., Greenfield, Mass., fine specimen of Socket Chisels—a diploma. Edward Field, No. 1 Platt street, agent.

Edwin Ellis, Attleborough, Mass., Brass Butt Hinges—a diploma. Atwater, Baker & Wilson, No. 8 Platt street.

Wm. Morgan, an ingenious Pocket Pistol—a diploma.

D. E. Delavan, fine specimens of brass Stair Rods, brass and copper Coal Hods, brass Tea Kettle and Stand—a silver medal.

F. W. Widman, Philadelphia, case of splendid Swords—a silver medal.

Timothy Dwight & Son, New-Haven, specimens of Screw Augers—a diploma. Ibbotson Brothers, 242 Pearl street, agents.

Ewin & Heartte, Baltimore, for excellent specimen of Leveling Instruments, and improved Leveling Instrument and a Theodolite Compass—a silver medal.

Wm. J. Young, Philadelphia, for excellent specimen of Railroad Goinometer, an improved Compass, and a Level Goinometer—a silver medal.

John Roach, a fine Barometer, Thermometer, and Hydrometer, in one vertical column case—a silver medal.

Henry Cooke, for a Drill Breast-plate, with a Swivel—a diploma.

U. S. West, for a Bottle Faucet, for tapping a bottle without drawing the cork—a diploma.

N. J. Williams, for Weavers' Shuttles and Reeds—a diploma.

Jeremiah Dodge & Son, fine specimen of Wood Carving, two Stanchions for a Fire Engine—a silver medal.

Wm. E. Stoutenburgh, for a four-light Suspended Lamp and twelve-light Chandelier—a silver medal.

E. S. Scripsure, a centripetal Power Press—a diploma.

O. Parker, for Hydraulic Cement for making durable Cisterns and large Store Vessels—a gold medal.

Eaton & Gilbert, Troy, a very fine Omnibus—a diploma.

E. & S. S. Rockwell, Patent Vault Light—a silver medal. [See page 91.]

Fredericks & Smith, for a splendid French Chair—a silver medal.

Robert Usher, two fine specimens of Spiced Beef—a diploma.

Delano & Sons, good specimen of Iron Chests—a diploma.

W. B. Green, good specimen of Iron Chests—a diploma.

F. Fossard, for a piece of La Fayette Blue Cloth, a dye substituted for Indigo—a diploma.

Aaron Gilbert, New-Lebanon, one box of Shakers' Herbs—a diploma. Rushton & Aspinwall, 86 William street, agents.

Mrs. Jessie E. Paul, for fine specimen of Cotton Fruit—a diploma.

Miss A. Lewis, for a piece of Embroidery on Canvas—a diploma.

Samuel Allen, one bale of Hemp, raised at Copenhagen, N. Y.—a diploma. Peter Remsen & Co., No. 109 Pearl street, agents.

S. N. Brewer & Brothers, Boston, for specimens of Lozenges. D. & E. L. Perkins, No. 9 Courtland st., agents.

Robert G. Lamphier, Washington city, D. C., for a fine specimen of Seal Engraving—a diploma.

Mr. Charles G. Christman, improved twelve keyed Flute, manufactured at 395 Pearl street, New-York.

The Rev. William Fisher, Meredith, Delaware county, N. Y., specimen of refined Maple Sugar—a diploma.

Refined Sugar, exhibited by H. & J. Stuart—a diploma. Without exception the most excellent and finest sugar that ever came under our notice. We recommend to all house-keepers to examine it for themselves, and we are satisfied it needs no other recommendation. Ladies particularly, will find it a valuable appendage to the tea table, as well as for other domestic purposes.

Madam Doyley, fine workmanship one pair Corsets—a diploma.

Specimen of a Straw Hat, from the manufactory of J. D. Cobb, Wrentham, Mass. The fabric is rye straw, of Wrentham growth, braided by Miss Adeline Pond, and sewed by Mrs. Esther R. Cobb. Its fineness cannot be surpassed. It is a beautiful specimen of American enterprise and industry.

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Fancy Glass Working; Blowing and Spinning, by W. J. Hanington, of the American Museum and 450 Broadway.

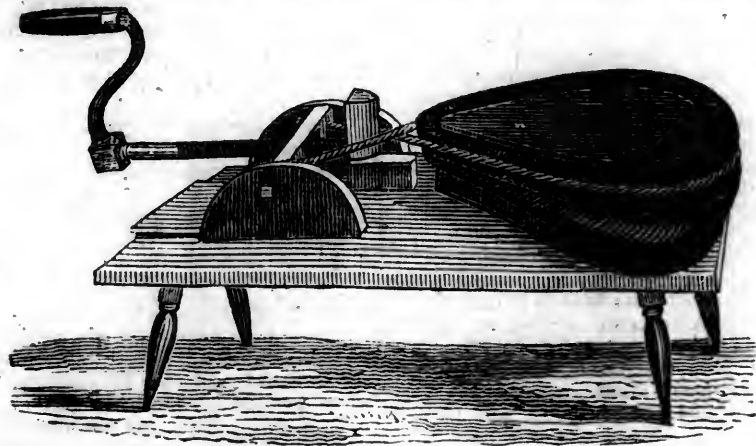
Birds and animals were made to resemble life; also pans, globe vases, decanters, segar tubes, pipes, glass plumes, and various other articles, formed at the blow-pipe of the glass while in a state of fusion, in the presence of the company. The process of glass blowing in all its varieties, at intervals blown finer than leaf gold, when it bursts with the report of a pistol, forming a shower of glass, frosting, tinted with all the various prismatic colors; glass spin-

ning, on a wheel of multiplying power; by this process red hot glass was spun at the rate of 1000 yards a minute; specimens of ribbons were shown, manufactured from this material; glass balloons, in jars, made repeated ascensions; pulse and spirit glasses, together with philosopher's or water hammer.

H. J. S. Hall, best specimen of Fire-Works—a diploma.

Nathan Post's Patent Hame Collar Blocks, manufactured and sold by Francis S. Lane, No. 279 Bleeker street, New-York.

These patent blocks and rights may be had



at the place above mentioned, or at the store of Henry Storms, No. 179 Water street, corner of Burling slip, where one may be seen constantly in use. The proprietor of this invention takes pride in offering it to the trade as one of the most important discoveries in crimping and perfecting the hame collar, both with regard to saving labor and producing accuracy of form, that has ever been the subject of a patent.

"I hereby certify that I have used one of the above mentioned blocks for shaping hame collars, and find it to be a great labor saving machine, which overcomes the great difficulty heretofore experienced in making collars, both for the ease of the horse and a sufficient bed for the hame, and I do not hesitate to say that it is particularly worthy the notice of manufacturers. HENRY STORMS, Saddler."

[The above is doubtless important, particu-

larly when we consider the pain and injury inflicted on horses from the use of ill-shaped hames.]

We have seen a Gun Lock,* invented by a sporting gentleman of Virginia, with which we are much pleased, and, if we are not mistaken, it will supersede the percussion lock now in use. It is styled the "Lateral Percussion Lock," and differs from the lock now in use in having a hammer that plays lateral to and parallel with the barrel on the tube, which is introduced precisely where the touch-hole of a flint gun is usually placed. The interior construction is remarkably plain, not half so complex as the common lock. By the lateral hammer, the upright cock of the flint and the hammer of the percussion gun is entirely done away with; consequently, the top or upper surface of the

per width, length, and depth, whose sides, between the curve where the bow commences and the curve where the stern commences, are to be a perfect longitudinal parallelism; her sides, in a vertical direction, are to observe a curvilinear line—they are to be, in other words, a perfect arc of a circle. A cross section of the hull is to be a circular zone, the longest cord of which is to be the transverse line of her deck, and the shortest cord to be the transverse line of her bottom; her bow and stern are to be shaped and modeled in such a manner as will give her, when in motion, the greatest possible relief from positive and negative pressure. Her deck and bottom are to be pierced or perforated with a series of openings, in a lineal direction from bow to stern, of a magnitude in her deck to receive the largest circumference of a hollow sphere or globe, and in her bottom of such diminished dimensions as to receive only a segment of the same globe or hollow sphere. Bulkheads are to be constructed perfectly water tight within her hull, that is, between her deck and bottom, and to join close all around upon the margin of the perforation which is in the bottom of the boat or hull, and carried up and joined close on and all around the margin of the perforation in the deck: this bulkhead is to be shaped as to assume a globular form, and to encompass and give facility for a globe to revolve, which is to be suspended in its chamber: the residue of the perforations and chambers, for the reception of the globes, are to be finished in the same manner: the residue of the whole remaining part of the boat or hull is to be divided off into compartments by perfect water-tight bulkheads: next, a requisite number of hollow globes or spheres are to be made, and of a proper magnitude, mounted with iron axletrees through their axis, and the ends sufficiently projecting to answer for gudgeons; these globes, so mounted with their axletrees, and perfectly water tight, are to be suspended in the above mentioned chambers, fastened and secured in sockets or boxes in a workman-like manner, and with a segment of the globes projecting through the orifice in the bottom of the boat or hull, so that the globes may revolve with facility, to enable them to carry the boat over the shoal or bar with facility: this one boat or hull, now considered finished, another, of the same dimensions, and built every way in the same manner, is to be placed by her side and parallel with her, and at a proper distance: these two twin boats are to be connected with suitable cross-beams and timbers, supported a sufficient height above deck with stanchions, and the whole well secured with proper braces and fastenings in a workman-like manner, the whole of which will constitute the float or bottom of my boat.

The above described boat is intended should be built either of iron or of wood, or of iron and wood combined, or of any other material: she is intended to be used for passage or freight, or any other use that any other boat is used for, and she is intended to be moved by any tractile or motive power. And further—on the above float or bottom of my boat, a superstructure is to be erected, as fancy or necessity may direct or dictate. And again, it is the intention of the inventor, that the stern of each of the twin boats should be carried back the requisite length, in imitation (or nearly so) of an eel's tail, so as to give her run a clean, smooth exit, with the least possible distress from negative pressure when in motion; her bows are to be carried forward so as to assume the most elegant tapering form, thereby enabling her to separate the resisting particles in the most easy manner, to give relief to positive pressure.

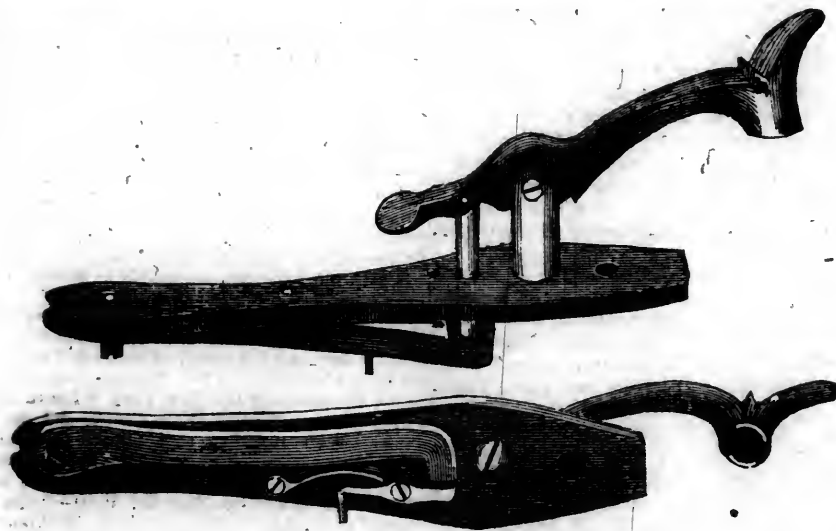
The invention and improvements herein contemplated consist in giving additional security to my water wheel, by being placed between the twin boats, and by obtaining buoyancy and speed, and likewise by giving facility to the crossing of shoals or bars in shallow water by the rolling and revolving of the globes on their axles, and likewise by securing and retaining the buoyancy of the whole of the uninjured

barrel presents a smooth and perfectly even appearance. Sight in the flying shot is much more accurately taken by this means, in consequence of the absence of the elevated cock. The facility with which the flint gun can be altered to the percussion is another very great advantage arising from this improvement. The

* These were intended to be exhibited at the Fair, but arrived in New-York too late.

gentleman has promised us a more particular description of the lock, which will be hereafter inserted. [See engravings above.]

Ne-plus-ultra, or Mississippi Life Boat, invented by Daniel M. Toll, M. D. of Schenectady. The object and use of the boat being determined upon, ought to govern its dimensions; the hull of one boat is to be constructed of the requisite dimensions; that is to say, of pro-



part of my boat as a compensation for the loss of that part which might be pierced or penetrated by the impetus of a snag or any other substance.

The objections that may be raised or suggested to her speed, in consequence of the projections of her globes through her bottom, will yield on the least reflection, for as soon as the resistance amounts to the sum of the friction on the axletrees, the globes will revolve and thereby relieve the resistance.

And again—the apprehension that may be had on the score of resistance from the small and slender sheets of water that will be standing around the globes in the chambers, will as readily vanish by reflecting that the cohesion of water is merely nominal.

Observations.—This boat may be built and used without either globes or compartments, where there is plenty of water and no danger of having her hulls pierced or perforated. Again, she may be used with or without her globes, with or without her compartments, or any other way, as the case may require.

Report on the Location and Estimates of the Expense of a Ship Canal around Niagara Falls.

This canal commences at Porter's Store House on the Niagara River, two and a half miles above the Falls, and passes along the margin of the Niagara River, over the State land at Old Fort Slossar, to the village of Manchester; thence, still keeping along the margin, it passes by a summit level of eight miles and sixty-five chains to the eminence near Fort Gray, immediately south of Lewistown. Here the locks commence; and in a distance of one mile and sixty-seven chains are located thirty-two locks of ten feet lift each, making the total lockage at this place to be three hundred and twenty feet; from eight feet below the level of the water at its commencement to the same distance below the water at its proposed termination in the harbor at Lewistown.

As this canal is to connect the navigation of the upper with the lower lakes, (and at some future day perhaps with the Atlantic,) the capacity of its section and the size of its locks have been calculated for the most useful size of vessels navigating those waters. Its section through the earth cutting has been calculated for 36 feet width at bottom, eight feet deep, and sixty feet at the water line; and through the rock cutting, thirty feet in width at water line, with suitable recesses for vessels to stop in while others are passing—of these but two or three will be necessary. The dimensions proposed for the locks are twenty-five feet wide in the chamber, and one hundred and twenty between the gates.

The great utility and increasing importance of this work will require the size of the canal and locks to be of these dimensions, and to be constructed in the most permanent and durable manner; with this view, the locks on this canal are calculated to be built of stone in a strong and substantial manner. In fact, it is believed to be the most economical, as stone of a suitable quality can be obtained from the rock cutting in the immediate neighborhood of the locks. These latter have been so located, that a basin of two hundred feet in length is placed between each combination of five locks for four sets. The others are more scattered to suit the nature of the ground. Immediately adjoining the river will be a combination of six locks, the lowermost of which will terminate in eight feet below the level of the water in the Niagara, which here affords a spacious and safe harbor directly in front of the village.

A comparison has been made of the expense of the route by Gill Creek, and that by Manchester and Niagara Falls; and although this latter route is nearly two miles the longest, yet it will cost less by two hundred thousand dollars than the former by way of Gill Creek, as will appear by the annexed abstract.

An estimate of the expense of constructing the canal from Porter's Store House on the Niagara River by the Gill Creek route to station "41," where it intersects the Manchester line at station "71," (see the accompanying map,) a distance of two hundred and fifty chains, is found to be \$445,938.31, with no allowance for recesses and tow-path, calculated in deep cutting at fourteen feet high and ten feet wide.

An estimate of constructing the canal from the same point as before, along the margin of the Niagara River through Manchester to the same point as above, a distance of four hundred and twenty-two chains, is found to be \$228,759.59,—being a difference in favor of this latter route of \$217,178.72; in addition to which, the rock on this latter route is of a description to be easily blasted and drained.

It is proper also to remark, that on the Gill Creek route only the first 36 chains is calculated at 36 feet wide at bottom, with the usual slopes; the remainder 214 chains is through a hard rock, and is taken at 30 feet wide.

On the Manchester route the canal is all calculated at the full size, (36 feet bottom width, with slopes of 18 inches base to 12 inches rise,) except through the rock cutting on Pierce's farm, and through the clay hill on the Fairbanks' farm. At these two places it is calculated at 30 feet wide, and a towing path 14 feet above the bottom, and 10 feet wide, and through the clay hill a beam on the off-side of 5 feet, and the usual slopes to the surface. These two deep cuts being separated by three-fourths of a mile of canal of the full size, no recess for passing has been deemed to be necessary in them, and consequently there has been no allowance for them in the calculations.

From station "41," where the Gill Creek route and that by Manchester come together, the line passes over ground very favorable for the construction of a canal. There are no steep sideling grounds, and the location can be so made as to admit of every section being perfectly drained. The rock appears to be such as will quarry very easily, and will be of the greatest use in constructing the locks, to the site of which latter the rock cutting is immediately contiguous. From station "41" to the head of the locks at station "82," at Fort Gray, is a distance of two hundred and twenty-four chains, the expense of which part of the line is estimated at \$208,668.54.

From station "82" to station "85," is a combination of ten locks; and as the side hill on which they are necessarily located is very steep, and principally of rock, the average cutting has been taken at 10 feet deep, by 45 feet wide, and estimated at 50 cents a cubic yard. From "85" to station "87," the hill is more sloping, and a pond of nine chains has been located between the first and second combination of locks, the average cutting of which is about 10 feet, and has been estimated at 25 cents per cubic yard.

From "87" to "90" are located 10 locks. The hill at this place appears to be nearly free from stone, and owing to the dryness of the soil affords a very favorable scite. The average cutting is 10 feet by 45 for the lock pits, and is estimated at 25 cents per cubic yard. From "90" to "93" is another pond between the locks. At "93" is one lock; from "93" to "97" the line passes over very favorable ground for a canal; from "97" to "100" is located a combination of five locks. The excavation, principally of earth, is averaged at 14 cents per cubic yard. From "100" to "104" is over a handsome flat, the cutting in which is very favorable.

From "104" to "107" is a combination of six locks; the cutting here will be deep, and by the appearance of the bank of the Niagara River, there will be a considerable proportion of red sand stone; it is, however, not very hard to excavate; the average cutting is estimated at 25 feet, with a slope of one to one.

The locks being calculated at 10 feet lift each,

will be 32 in number, and will require 100,000 perches of stone masonry, which, considering the abundance of the materials, are estimated, when laid in the work, at \$3.25 per perch, which gives, for 100,000 perches, the sum of \$325,000. Foundations, gates, castings, and wrought iron for each lock, is estimated at \$900 for each lock, making for 32 locks a sum of \$28,800, which, with the masonry, amounts to \$353,800 as for the total of lockage.

The total expense of the line from Fort Gray, to its termination in Niagara River, a distance of 147 chains, as estimated in the above calculations, is \$54,977.90. And the total expense of the Canal by the Manchester route, (in every way the most desirable,) is

From the starting point to station "41,"	\$228,759.59
Thence to the head of locks,	208,668.54
Estimate for locks,	353,800.00
Thence to its termination in Niagara River,	54,977.90
To which add for contingencies, superintendence, &c., 10 per cent,	84,620.60

And it gives a total of . . . \$930,826.63

The whole length of the canal, from its commencement at Porter's Store House, by way of Manchester, to its termination at Lewistown, is 9 miles and 73 chains.

The calculations and estimates of expense for constructing the canal and locks are all reasonable; and it is believed that, for the prices above stated, with good economy and judicious management and superintendence, the Canal could be completed. All of which, together with the size of the Canal and locks, and the preference which is to be given to one or the other of the above described routes, is most respectfully submitted by

NATHAN S. ROBERTS, Engineer.

January 28, 1826.

SHIP CANAL.

We publish with pleasure the following letter from an intelligent gentleman at the West to his friend in this city, which will be read with pleasure by those who desire to promote the interesting project of a Steamboat Canal from Oswego to Utica. It affords a full and able refutation of the arguments urged by a writer in the American, under the signature of "Brindley," against the practicability of the measure.

Utica, Nov. 3, 1834.

To ————, Esq.—Dear Sir:—I have received your letter, with the resolutions passed at the Ship, or Steamboat Canal Convention, held in Utica, the 11th of September last. I am convinced that it is only necessary to discuss the subject, to gain friends to the project.

I perceive a writer in the American, over the signature of Brindley, has attacked the Report of the Chamber of Commerce of your city. The doctrine he quotes, in letters from Mr. Weston, viz. that small and narrow canals are preferable to wide and deep canals, is now entirely exploded. They are no doubt necessary in England, from whence Mr. Weston writes; and where our creeks would be called rivers, and the supply of water so limited; but the error committed by Mr. Weston, when he projected the canal for the New York "Inland Navigation Company," using Wood Creek, and the Mohawk, in part, to make a canal of two feet deep! (on the line where eight feet water, by one hundred feet wide, is now wanted,) was soon found as much behind the wants of the then Far West—being the county of Oneida, extending from Herkimer to Lake Erie, and sending one member to Congress—as the capacity of the Erie Canal is now too limited for the trade of our own State, without great delays, and serious injuries to boats, &c.: this canal actually passing at the time, at Alexander's Lock, west of Schenectady, by an official report, a boat every 12 to 15 minutes during this whole season, day and night, including breaches and Sundays.

If Brindley will judge from past experience, he will have no difficulty in answering the query he makes, as to the capacity of the Erie Canal. When the contemplated double locks shall have been made,

and an additional foot added to embankments, the answer (to judge from past experience, and by the continued rapid increase of the West and "far West"), naturally presents itself—ere fifteen years shall have passed, it will be unable to answer the demands on it from the West, and *probably*, not those from our own state, when we take into view, that within that period of time, we shall have increased to four millions of souls. The necessity, therefore, for a large Steamboat Canal round Niagara Falls (only 8 miles, and will cost about \$1,000,000,) and from Oswego to the Hudson, is so apparent, when we view what our British neighbors are doing on the St. Lawrence, that even should these two works cost the sum of \$9,000,000, as mentioned by Brindley, grounded on the liberal calculation of Judge Wright, since let at from 20 to 30 per cent. less for locks along and in the St. Lawrence, 200 feet long, 55 wide, and 10 feet deep, it should not be considered by our Legislature one moment, although a much less sum will complete this work. From Niagara to Utica, competent engineers have estimated two millions of dollars as covering the entire expense, as nearly for the whole of this distance there are natural waters; and there is no question but the Canal can be so constructed as to employ steam to tow barges, and cheapen transportation. Then, when the work is completed to the Hudson, vessels may leave New-York for New-Orleans, as it cannot be long ere the State of Illinois will employ the liberal and sufficient donations by the General Government in lands, to construct a Ship Canal on the magnificent plan (see Congress Documents, No. 546—Map, Survey and Report of Chas. F. Mercer, 25th June, 1834,*) contemplated by Col. Gratiot, United States Engineer: to be 200 feet wide, 10 feet deep, and be fed by the waters of Lake Michigan!!! the barrier of sand from Chicago to the Illinois River, 12 miles, being only 8 to 15 feet. Removing this trifling difficulty, and then enlarging the Illinois River to steamboat navigation, at all seasons of the year, (by the official estimate) will only cost \$4,230,000. The circuit of a large part of the United States may be made, and an inland steam navigation of 25,000 miles be effected with the largest and richest body of land in the world, with a varied climate and products, mutually dependant on each other.

Brindley, although apparently acquainted with the country round Rome, the summit, labors under an error in supposing that the supply of water is not abundant for a Ship Canal. The waters and springs for a country 30 miles by 40 miles square, to wit, the E. and W. branches of Fish Creek, and the Black River, can be emptied into the Mohawk at Rome, at a small expense. This fact will, I trust, put Brindley at rest on this subject. A supply for the contemplated route was feared, as he quotes, and, with other causes, produced as a bugbear, to get the Canal to Buffalo, in the famous Canal Report of 2d March, 1811, when Mr. Weston (Brindley's authority) pronounced a Canal, where the Oswego Canal now is, "impracticable!!!" So much for Brindley and his authority, against large Canals.

Such is the increase of the West, in trade and numbers, that it exceeds fancy and calculation. We cannot get too many avenues and outlets for this valuable commerce, now in its infancy, as it will increase faster than the facilities to reach the Atlantic can be made; and these channels will all produce a revenue equal to the interest on their cost, not excepting even the New York and Erie Railroad, a most important work to the State and City of New York.

The Erie Canal, after deducting 28 1/2 per cent. of tolls in 1833, produced 15 per cent. interest on its entire cost, without taking into view what the State got and is getting yearly in duties from the increased sale of salt, and value added to the land owned by the State.

This year the tolls have been further reduced 25 per cent.; and such has been the increase of trade, even under the derangement of the currency and bank facilities; and with an unfortunate dispute with the Ohio Canal Commissioners, which has turned much trade to Philadelphia, that this year is expected to exceed the ratio of the last year, nine-tenths of the tolls being from our own State. What will the Canal Fund produce when the necessity of the case will cause the State to permit the Utica and Schenectady Railroad to carry goods at canal tolls for rapid and early transportation by steam?

It now nets above a million per annum, and, with the funds on hand, will pay off the entire cost of all

our Canals, to this period; within four years. Should the tolls then be further reduced, or say half a million of dollars be appropriated to pay the expenses of the State Government, and add \$100,000 per annum to the literary fund, we shall still have an income of \$500,000; on which we would be warranted in borrowing one hundred millions of dollars, to make such improvements (even should they not pay one cent) of income, but experience teaches the reverse,) as the Ship Canals, Southern Railroad, Black River and Orleans Canals.

New York, fortunately, possesses the summit and table lands from the great Lakes to the best port on the Atlantic; and with the capital and facilities now centred in New York, can, by a liberal policy with regard to internal improvements, retain the largest portion of the trade with the far West, which must go to the ocean by the Welland and St. Lawrence Canals, and supply our New England States with bread stuffs, unless we act promptly, or our British neighbors are blind to their own interest—a charge not now to be made, although hinted at in 1811, when the Canal Commissioners feared to let the trade down from Lake Erie into Lake Ontario, and was the main argument with Weston's statement of the "impracticability" of the route on the Oswego River, and want of water on the summit, then urged, since proved incorrect, which prevented the adoption of a Canal, then contemplated, on the steam Canal route, of 60 feet on the surface and five feet deep.

To you I am aware that the subject is not new; but I could not let Brindley's statements pass unexamined and not controverted.

With esteem, yours, truly,

J. E. B.

NAVIGATION OF THE RED SEA.—RAILROAD ACROSS THE ISTHMUS OF SUEZ.—It has been mentioned that a sum of money had been voted by the British Parliament for the purpose of ascertaining the practicability of opening communication with India, by means of steam navigation through the Euphrates and the Persian Gulph. It is now announced, that whatever may be the result of the survey, steam will be called into operation in effecting the passage to India, by at least one channel, viz: that by the Red Sea. Mohamed Ali, the Pasha of Egypt, desirous of profiting by the determination of the British Government, has decided on the construction of a railroad across the Isthmus of Suez. It is supposed that a ship may be transported on the railroad, and thus the necessity be avoided of unloading and relading the cargo. Two years are judged to be sufficient for the proposed work; meanwhile, passengers can cross from the Nile to the Red Sea without difficulty or danger; so that when the plan is brought into operation,—and it is intended that it should without delay,—a voyage from London to Bombay may be made in about two months. As numbers of persons in England are desirous of emigrating to Hindostan, they will be likely to avail themselves of this course, rather than the circuitous one by the Cape of Good Hope.

By recent letters from Bombay we learn that most favorable results are likely at last to accrue from the mission of Colonel Pottinger in the year 1831, to the Court of Sind, undertaken by orders from the East India Company. The object of the embassy was to throw open the navigation of the mighty river, the Indus, to the merchants of India and Europe: this point is now gained, and the tolls to be levied on all vessels entering or leaving the Indus, are agreed upon; but this toll is not to be considered as a source of revenue to the traders.—An official communication has been received, we understand, by Colonel Pottinger, from the sons of the late Morad Ali, the new Sovereign of Sind, by a vakeel or envoy extraordinary; a treaty has been drawn up and forwarded for the ratification of the Governor-General. It would appear that a small British force will be stationed at the mouth of the Indus for the protection of the trade at that place, and to superintend the collection of the taxes. The object thus attained is viewed as one of great national importance, and which, when contemplated in conjunction with steam navigation in the Red Sea, will probably, in no very long time, open a wide field for British enterprise. Too much praise cannot be awarded to Colonel Pottinger for

the wise and prudent management of a very difficult negotiation.—[Morning Chronicle.]

Iron Railroad.—A trial has been made in France of a new description of Iron Railroad, the invention of Messrs. Piot and Ronen. It took place a few days ago, near Vincennes, and was considered as successful. The advantage consists in the comparative saving of expense, and the susceptibility of receiving carriages of a very simple construction.

The Rhine.—The Cologne Gazette says—"The steamboats continue to be crowded with passengers. It is calculated that the number of persons who have travelled by the steamboat this year only, between Mayence and Cologne, is above 120,000.

It is worthy of remark, that with all the expense Russia is at in improving her roads, they are not made to join those of Poland to the possessions of Prussia. In their present state the Russian army cannot come within two days' march of the frontier of Prussia.

FOREIGN VARIETIES.

Bronze Medals of the Kings of France.—It is in contemplation in Paris, to strike 74 medals, with a view to illustrate the principal events connected with the French Monarchy. This plan was, in fact, conceived by Louis XIV. Napoleon adopted it with enthusiasm, and Charles the Tenth gave orders for its execution. It is now to be carried into effect by some speculators, but the Minister of the Interior has given his authority for the medals to be struck at the Royal Mint, and some of them have already been struck. The two figures of Louis XIV. and Henry IV., which are finished, are said to be beautifully executed.—[Athenæum.]

Captain Ross's Narrative of his Four Years' Residence in the Arctic Regions will be published in December.

Irishmen in Office.—The three Secretaries of State, Lords Palmerston and Duncannon, and Mr. Spring Rice, are Irishmen; so also are the Marquis Wellesley, viceroy of Ireland; Lord Aylmer governor-general of Canada; Lord Clare, governor of Bombay; Marquis of Sligo, governor of Jamaica; General Bourke, governor of New South Wales; and Sir Dudley St. Leger Hill, governor of Lt. Lucia. The number of distinguished Irishmen high in office is at the present day greater than ever it was in the history of the country.

Mount Blanc.—Dr. Martin Barry, a Scotch gentleman, has just succeeded in an ascent of Mount Blanc. He accomplished it on the 16th September.—[Helvetic.]

The paintings and statues sent to St. Petersburg, from Derezyn, the residence of Prince Eustache Sapieha, have been distributed amongst the different Royal Palaces. The statue of Orpheus, by Canova, now forms one of the ornaments of the Hermitage.—The Emperor has presented some of the magnificent vases in porphyry to his brother-in-law, the Hereditary Prince of Prussia.

The separate fund for enabling the British and Foreign Bible Society to supply the emancipated negroes who are enabled to read with Psalters and Testaments falls very far short of the expectation generally entertained: the sum wanted is £20,000, but not more than a fourth of this has been subscribed.

Sir John Hobhouse, who has been above three months a Cabinet Minister, is only said to have been twice at his office.

The elder member of the ducal family of Berkenfeld, William Duke of Bavaria, has just ceded his domains at Banz, in the Upper Palatinate, and his appanage of 225,000 florins, to his grandson, Duke Maximilian of Bavaria, brother-in-law of the King. He has reserved for his own use 1,800 florins.

Among the various changes that have lately taken place in the public offices, that of the removal of the Exchequer Office from the Palace yard is one.

The front walls of these houses were erected by Mr. Groves, the architect, who always refused to acknowledge it, in consequence of the ridicule thrown upon its style by the witty R. B. Sheridan: these are now down, and exhibit the old Gothic buildings, formerly the palace of Edward the Confessor, likewise the stabling of the Protector Cromwell.

* All of which may be found in this number of the Journal, except the field notes of the Engineer, which will be published next week.

NEW-YORK AMERICAN.

NOVEMBER 15—21, 1834.

LITERARY NOTICES.

SOPHOCLES.—Translated by T. Franklin, D. D. 1 vol. Harpers' Classical Family Library.—We have here the only seven that have come down to us out of the hundred and thirty plays of the immortal poet who carried the Greek Drama to perfection. "Sophocles," observes the accomplished professor to whom the public is indebted for these translations, "may with truth be called the prince of ancient dramatic poets: his fables (at least, of all those tragedies now extant) are interesting and well chosen; his plots regular and well conducted; his sentiments elegant, noble, and sublime; his incidents natural; his diction simple; his manners and characters striking, equal, and unexceptionable; his choruses well adapted to the subject; his moral reflections pertinent and useful; and his numbers, in every part, to the last degree sweet and harmonious. The warmth of his imagination is so tempered by the perfection of his judgment, that his spirit, however animated, never wanders into licentiousness; while, at the same time, the fire of his genius seldom suffers the most uninteresting parts of his tragedy to sink into coldness and insipidity. His peculiar excellence seems to lie in the descriptive; and, exclusive of his dramatic powers, he is certainly a greater poet than either of his illustrious rivals. Were I to draw a similitude of him from painting, I should say that his ordonnance was so just, his figures so well grouped and contrasted, his colors so glowing and natural; all his pieces, in short, executed in so bold and masterly a style, as to wrest the palm from every other hand, and point him out as the Raphael of the ancient drama."

Elevation and purity of style, with great precision and completeness of form in his dramas, and marked distinctness and individuality in his characters, were the qualities which with so critical a people as the Greeks, placed Sophocles first among his illustrious contemporaries. The melting tenderness of Euripides and the savage grandeur of Eschylus—of whom Schlegel says that Tragedy sprang from his head in full armor, like Pallas from the head of Jupiter—seem neither to have delighted the fastidious Greeks so much as the harmonious blending of the great qualities of a dramatic poet, which critics have allowed to meet in Sophocles, and which, notwithstanding the inexhaustible invention of the former and the majestic simplicity of the latter, have secured for the illustrious pupil of Eschylus the preference of the judicious in all ages. The public at large have now an opportunity of becoming familiar with the great master of the Greek Drama, whose remains are here given in a form so cheap as to come within the means of every reader.

THE KNICKERBOCKER MAGAZINE, No. 5, VOL. IV. FOR NOVEMBER.

THE AMERICAN MONTHLY MAGAZINE, No. 20, VOL. IV. FOR NOVEMBER.

The improved and improving character of the first of these periodicals is so generally admitted and commented upon, that it is unnecessary to add our opinion to the general voice. But a bad accident which happened lately to the accomplished Editor of the New Monthly, and prevented the appearance of one of the numbers at the usual time, has attracted our attention particularly to the one before us.—The temporary omission of the October number is amply compensated for by the talent and scholarship displayed in that before us. There is indeed a tone and character about the American Monthly, which if they do not rank it above its competitors, certainly make it stand by itself as a marked, as well as able publication. They spring from the severe taste and ample resources of its editor, who,

infuses the soul of a scholar, and spirit of a man of varied talents into his excellent publication. The work has now gone on for nearly two years, continually making new readers for itself, and fixing the predilection of those who always sustained it. We have already taken pleasure in extracting the eloquently written sketches, entitled, "Passages from the life of Mary Queen of Scots," as they have from time to time appeared in this Magazine, and we now give in an abridged form, an attractive article from the same gifted hand. It is entitled

The Queen's Remorse.

The twelfth hour of the night had already been announced from half the steeples of England's metropolis, and the echoes of its last stroke lingered, in mournful cadences, among the vaulted aisles of Westminster. It was then, as now, the season of festivity, the high tides of the banquet and the ball, that witching time of night. No din of carriages, or glare of torches, disturbed the sober silence of the streets, illuminated only by the waning light of an uncertain moon; no music streamed upon the night-wind, from the latticed casements of the great, who were contented, in the days of their Lion Queen, to portion out their hours for toil or merriment, for action or repose, according to the ministration of those great lights, which rule the heavens with an indifferent and impartial sway, and register his brief career of moments, to the peer as to the peasant, by one unvarying standard. A solitary lamp burned dim and cheerlessly, before a low-browed portal in St. Stephen's; and a solitary warder, in the rich garb still preserved by the yeomen of the guard, walked to and fro, with almost noiseless steps, his corselet, and the broad head of his shouldered partisan, flashing momentarily out from the shadows of the arch, as he passed and repassed beneath the light, which indicated the royal residence, distinguished by no prouder decorations, of her, before whose wrath the mightiest of Europe's sovereigns shuddered. A pile of the clumsy fire-arms then in use, stacked beneath the eye of the sentinel, and the dark outlines of several bulky figures, outstretched in slumber upon the pavement, seemed to prove that some occurrences of late had called for more than common vigilance in the guarding of the palace. The prolonged cry of the watcher, telling at each successive hour, that all was well, had scarcely passed his lips, before the distant tramp of a horse, and the challenge of a sentry, from the bridge, came heavily up the wind. For a moment, the yeoman listened with all his senses, then, as it became evident that the rider was approaching, he stirred the nearest sleeper with the butt of his heavy halbert. "Up, Gilbert! up man, and to your tools, ere they be wanted.—What though the earl's proud head lie low, he hath friends and fautors enough in the city, I trow, to raise a coil whenever it lists them?"—The slumbers of the yeomen were exchanged, on the instant, for the guarded bustle of preparation; and, before the horseman, whose approach had caused so much excitement, drew bridle at the palace gate, a dozen bright sparks glimmering under the dark portal, like glow-worms beneath some bosky coppice, announced the readiness of as many levelled matchlocks.

"Stand, ho! the word!"

"A post to her Grace of England,"—was the irregular reply, as the rider, hastily throwing himself from off his jaded hackney, advanced towards the yeoman.

"Stand there!—I say—no nearer on your life! Shoot, Gilbert, shoot, an he stir but a hand-breadth!"

"Tush! friend, delay me not!"—replied the intruder, halting, however, as he was required to do—"My haste is urgent, and that which I bear with me passeth ceremony. A letter to the Queen! On your heads be it if I meet impediment. See that ye pass it to her Grace forthwith."

"A letter—ha!—there may be some device in this—yet pass it hitherward." A broad parchment, secured by a fold of floss silk, with its deeply sealed wax attached, was placed in his hand. A light was obtained from the hatch of a caliver, and the superscription, evidently too important for delay, hurried the guards to action. "The Earl of Nottingham,"—it ran—"to his most high and sovereign lady, Elizabeth of England. For life! for life!—Ride, and run, haste, haste, posthaste, till this be delivered."

The chamberlain, so great was considered the urgency of the matter, was summoned from his pillow, and he with no small trepidation, proceeded at once to the apartment of Elizabeth. His hesitating

tap at the door of the ante-chamber,—occupied by the ladies whose duty it was to watch the person of their imperious mistress by night,—failed indeed to excite the attention of the sleeping maidens, but caught at once the ear of the extraordinary woman whom they served. "Without there!"—she cried in a clear unbroken tone, although full sixty winters had passed over her head.

"Hunsdon! so please your Grace, with a despatch of import from the Earl of Nottingham!"

"God's death! ye lazy wenches! hear ye not that man without, that I must cleave my throat in clamoring? Up, hussies up, or by the soul of my father, ye shall sleep for ever." The frightened girls sprang from their couches at the raised voice of the angry queen, like a covey of partridges at the yelp of the springer, and for a moment all was confusion.—"What now, ye fools,"—she cried again in harsh and excited accents, that reached the ears of the Earl without,—"Hear ye not that my chamberlain awaits an audience? Fling yonder robe of velvet o'er our person, and rid us of this night gear—So!—the mirror now! my ruff and curch! and now—admit him!"

"Admit him!—An it lists your Grace, it were scarce seemly in ladies to appear thus disarrayed."

"Heard ye—or heard ye not!—I say admit him! Think ye, old Hunsdon cares to look upon such trumpery as ye, or must I wait upon my wenches' pleasure? God's head, but ye grow malapert!"

The old queen had not yet ceased, before the door was opened; and, although the ladies had taken the precaution of extinguishing the light, and seeking such concealment as the angles of the chamber afforded, the sturdy old earl—who, notwithstanding the queen's assertion, had as quick an eye for beauty, as any younger gallant—could easily discover that the modesty, which had demurred to the admission of a man, was not by any means uncalled for or over squeamish. Had he been, however, much more inclined to linger by the way, than his old fashioned courtesy permitted, he would have been a bold man to delay, for twice, ere he could cross the floor to her chamber, did his name reach his ears in the impatient accents of Elizabeth.—"Hunsdon! I say—Hunsdon! 'sdeath, art thou crippled, man?"

"So! give us the letter—there! Pause not for thy knee, man; give us the letter!"—and tearing the frail band, by which it was secured, asunder, she was in a moment entirely engrossed, as it would seem, in its contents. Her countenance waxed paler and paler as she read, and the shadows of an autumn morning flit not more changeably across the landscape, as cloud after cloud is driven over the sun's disk, than did the varying expressions of anxiety, doubt, and sorrow, chase one another from the speaking lineaments of Elizabeth.

"Hah!" she exclaimed after a long pause—"This must be looked to—see that our barge be manned forthwith, and tarry not for aught of state, or ceremony. Thyself will go with us, and stop not thou to don thy newest fashioned doublet; this is no matter that brooks ruffling!"—"Sdeath man 'tis life or death!" and now begone, Sir! we lack our fireworkman's service!"

An hour had not elapsed, before a barge, easily distinguished as one belonging to the royal household, by its decorations, and the garb of the rowers, shot through a side arch of Westminster bridge, and passed rapidly under sail and oar, down the swift current of the river, now almost at ebb tide. It was not, however, the barge of state, in which the progresses of the sovereign were usually made; nor was it followed by the long train of vessels freighted with ladies of the court, guards, and musicians, which were wont to follow in its wake. In the stern sheets sat two persons; a man advanced in years, and remarkable for an air of nobility, which could not be disguised even by the thick boatcloak he had wrapped about him, as much perhaps to afford protection against the eyes of the inquisitive, as against the dense mists of the Thames,—and a lady, whose tall person was folded in wrappings so voluminous, as to defy the closest scrutiny. At a short distance in the rear, another boat came sweeping along, in the crew and passengers of which it would have required a penetrating glance to discover a dozen or two of the yeomen of the guard, in their undress liveries of gray and black, without either badge or cognizance, and their carbines concealed beneath a pile of cloaks. It was Elizabeth herself, who in compliance with the mysterious despatch she had so lately received, was braving the cold damps of the river, at an hour so unusual, and in a guise so far short of her accustomed state.

The royal barge was darting with a speed that

increased at every instant, before the esplanades and frowning artillery of the Tower; the short waves were squabbling and splashing, beneath the dark jaws and lowered portcullis of the traitor's gate, that fatal passage through which so many of the best and bravest of England's nobility had entered, never to return.

Brief as was the moment of their transit in front of that sad portal, Hunsdon had yet time to mark the terrible expression of misery, almost of despair, that gleamed across the features of the queen. She spoke not, but she wrung her hands with a sigh, that uttered volumes of repentance and regret, too late to be availing; and the stern old chamberlain, who felt his heart yearn at the sorrows of a mistress, whom he loved no less than he revered her, knew that the mute gesture, and the painful sigh were extorted from that masculine bosom, only by the extremity of anguish. She had not looked upon that "den of drunkards with the blood of princes," since it had been glutted with its last and noblest victim. Essex, the princely, the valiant, the generous, and the noble—Essex, the favorite of the people, the admired of men, the idol, the cherished idol, of Elizabeth, had gone, a few short moons before, through that abhorred gateway—had gone to die, had died by her unwilling mandate. Bitter and long had been the struggle between her wounded pride, and her sincere affection; between her love for the man, and her wrath against the rebel; thrice had she signed the fatal warrant, and as often consigned it to the flames; and when at length her indignation prevailed, and she affixed her name to the fell scroll, which once executed she never smiled again, that indignation was excited not so much by the violence of his proceedings against her crown, as by his obstinate delay in claiming pity and pardon from an offended but indulgent mistress.

Onward! onward they went. The barge was at her moorings by the water-gate of Nottingham house, and the queen had made her way unannounced and almost unattended, to the sick chamber of the aged countess.

The sick woman had been for weeks wasting away beneath a slow and painful malady; her strength had failed her, and, for days, her end had been almost daily expected. Still, with that strange and unnatural tenacity, through which the dying sometimes cling to earth, even after every rational hope of a day's prolonged existence has been extinguished—she had hovered as it were on the confines of life and death, the vital flame flickering like that of a lamp,—whose aliment has long since been exhausted,—fitfully playing about the wick, which can no longer support it. Her reason, which had been partially obscured during the latter period of her malady, had been restored to its full vigor, on the preceding evening; but the only fruit of its restoration was the utmost anguish of mental suffering, and conscientious remorse. From the moment when the messenger, whose arrival we have already witnessed, had been despatched on his nocturnal mission, she had passed the time in fearful struggles with the last foe, wrestling as it were bodily with the dark angel; now pleading with the Almighty, and adjuring him, by her sufferings, and by her very sins, to spare her yet a little while; now shrieking on the name of Elizabeth, and calling her, as she valued her soul's salvation, to make no long tarrying. In the opinion of the leeches, who watched around her pillow, and of the terrified preacher, who communed with his own heart and was still, her life was kept up only by this fierce and feverish excitement.

At a glance she recognized the queen, before another eye had marked her entrance. "Hah!" she groaned in deep sepulchral tones—"She is come, before whose coming my guilty soul had not the power to pass away! She is come, to witness the damnation of an immortal spirit! To hear a tale of sin and sorrow, that has no parallel! Hear my words, O queen, hear my words now—and laugh—laugh if you can—for by Him who made us both, and is now dealing with me according to my merits, never! never shall you laugh again! Hereafter, you shall groan, and weep, and tremble, and curse yourself, as I do!—Laugh, I say, Elizabeth of England, laugh now, or never laugh again!"

For a moment the spirit of the queen, manly and strong as it was, beyond perhaps all precedent, was fairly overcrowded, and cowed, by the fierce intensity of the dying woman's manner. Not long, however, could that proud soul quail to any created thing.

"Fore God, woman!" she cried—"thou art bewitched, or desperately wicked! What in the fiend's name mean ye?"

"In the fiend's name truly—for he alone inspired

me!—Look here—and then—pardon me, Elizabeth of England, in God's name, pardon me."

As she spoke, she held aloft, in her thin and bird-like fingers, a massive ring of gold, from which a sapphire of rare price gleamed brilliantly, casting a bright dancing speck of blue reflection upon her hollow, ghastly features. "Know you"—she screamed—"this token?"

"Where got you it, woman? Speak, I say, speak! or I curse you! Where got you that same token?" The proud Queen shook and shuddered as she spoke, like one in an ague fit.

"Essex!"—sighed the dying countess through her set teeth—"the murdered Essex!"

"Murdered! God's death thou liest!—He was a traitor—done to death—Oh God! Oh God—I know not what I say!"—and a big tear-drop, the first in many a year, the first perhaps that ever had bedewed that iron cheek, slid slowly down the face of Elizabeth, and fell heavily on the brow of the glaring sufferer, who still held the ring aloft, in hands clasped close in attitude of supplication. "Speak"—she said again in milder accents—"speak, Nottingham, what of—of Essex?"

"That ring he gave to me, to bear it to thy footstool, and to pray a gracious mistress' favor to an erring, but a grateful, servant."

"And thou—woman—thou"—absolutely shrieked the Queen.

"Gave it not to thee—that Essex might die, not live"—was the steady reply—"Pardon me before I die—pardon me, as God shall pardon thee?"

"God shall not pardon me—woman—neither do I pardon thee! He—an he will—may pardon thee—but that will I do never! never! By the life of the Eternal, never!" and in the overpowering fury and agitation of the moment, she seized the dying sinner with an iron gripe, and shook her in the bed, till the ponderous fabric creaked and quivered. Not another word, not another sob passed the lips of the old countess—her frame was shaken by a mightier hand than that of the indignant Queen; a deep, harsh, rattling came from her chest, she raised one skinny arm aloft, and after the jaw had dropped, and the glaring eyeball fixed, that wretched limb stood erect, appealing, as it were, from a mortal, to an immortal judge.

The paroxysm was over. Speechless, and all but motionless, the miserable queen was borne by her attendants to the barge; the tide had shifted, and was still in their favor, though their course was altered. On their return, they again passed the triumphant fleet of Cavendish, bearing the mightiest sovereign of the world, the envied of all the earth, a wretched, feeble, heart-broken woman, grovelling, like a crushed worm, beneath the bitterest of human pangs, the agonies of self created and self merited misery. A few hours found her outstretched upon the floor of her chamber, giving way to anguish uncontrolled and uncontrollable. Refusing the earnest prayers of her women, and of her physicians, to suffer herself to be disrobed, and to recline upon her bed;—feeding on tears and groans alone;—uttering no sound but the name of Essex, in one plaintive, and oft-repeated cry;—mocking at all consolation;—acknowledging no comforter except despair;—ten long days and nights, she lingered thus in pangs a thousand times more intolerable than those which she had inflicted on her Scottish rival; and, when, at length, the council of the state assembled, in her last moments, around the death bed of a sovereign truly, and not metaphorically, lying in dust and ashes,—she named to them as her successor in the kingdom, the son of that same rival. Who shall say that the death of Mary Stuart went unavenged? H.

THE POLITICAL GRAMMAR OF THE UNITED STATES, 1 vol.—Harpers.—There is but one fault that we can discover in this work, upon a rapid glance at its contents: A political grammar should have been got up in a cheaper form, so that it could be disseminated—could be showered among the people. The only way upon which the great question of Reform can be carried is to drill the laboring classes thoroughly upon the rudiments of sound politics—upon the constitution itself. To facilitate such an object—to bring political instruction to the aid of political liberty—has been the object of the author of this volume, which he addresses, as a text book, to young men, either in private education or public reading. The intention is perfectly good, as far as it goes; but it might be bettered by reducing the size of the volume and striking off a new edition in the cheapest possible form. Let the people but have political light and political right will follow of a certainty. †

A TREATISE UPON THE PRACTICE OF THE COURT OF CHANCERY WITH AN APPENDIX OF FORMS; by MURRAY HOFFMAN, ESQ., in 2 vols. vol 1., 8vo. New York: HALSTEAD & VOORHIES—1833.—In the hope of a review from an able hand, we have delayed a notice of this work much too long; a circumstance, however, to which the author is probably quite indifferent, since the profession for whose use it was designed, have done it simple and substantial justice by adopting it as their guide in the very important branch of law of which it treats. It is not a disparagement of others to say, that as a learned chancery lawyer, its author has no superior in the country. His long experience and very extensive practice as a master, united with strong judgment, have given to his opinion on points of practice almost the weight and authority of judicial decisions. No man, therefore, could be better qualified for the important task which our author has undertaken, and which he has so well executed; and when his second volume is published it will supply what has long been much needed, a thorough guide to the Chancery lawyer. The volume before us gives evidence of great erudition, and the topics to which it relates are clearly and thoroughly treated. Altho' the work is chiefly of a technical character, yet the general reader will find in the introduction and first chapter a very interesting outline of the history of the Court of Chancery in this State, and of its present condition. In reference to the great ends attained by this Court, the author remarks, with equal eloquence and truth, that "no code of law, no code of jurisprudence, from the crude institutions of barbaric ignorance, to the scientific compilations of modern knowledge, exhibits a system of such pure morality, so consistent with the dictates of a sound, unbiassed reason; so founded upon the everlasting principles of truth; so righteous and so wise. The doctrines of the Court of Equity are the most unrestrained productions of the morality and intellect of man, directed to the regulation of his civil duties, that the world has yet known."—The Annals of the Court of Chancery are of great interest, and its mutations from the most corrupt to the purest tribunal of England, as set forth in Parkes' History of the Court of Chancery, form a striking contrast with its progress in this country, where it has long and purely subserved the best purposes, though even now embarrassed by its immense accumulation of business. To the numerous class interested in its practice, this work will prove an invaluable auxiliary.

Our editorial table, somehow or other, does not exhibit it wanted supply of new publications to-day. But, in lieu of other matter, our readers will not quarrel with us for citing here some extremely interesting passages relating to the life of Mirabeau which we find given in the number of Blackwood which came last to hand, as entirely original. †

He was born in 1764, and came into the world with such an enormous head, that the first words his father heard when his infant was brought to him was "Don't be frightened!" At the age of three years the child had the small-pox, which so disfigured and cicatrized his face, that his father writes to his brother, "Your nephew is as ugly as Satan." At the age of seven, he received confirmation; and it was on that occasion, that he made the singular remark for a child, reported by himself: "It was explained to me that God could not make contradictions; for instance, a stick with only one end. I asked, if miracle was not a stick with one end. My grandmother never forgave me." Even before this period the severities of his father towards him began; we find him on all occasions urging his tutor to harshness and rigor: yet he seems, even from his earlier years to have discovered his wonderful faculties: indeed his *bon mots* would do honor to a grown man. His father writes; "My son grows fast, his prattle increases, and his face grows uglier every day; he is the ugliest and the wittiest. His mother had been talking to him of his future wife; he replied, he hoped she would not judge him by his face. What should she judge you by then, said his mother. The insin-

will help the outside, was his reply." We find another anecdote, a little posterior, which is quite in character with those sudden bursts of nobleness, which threw a splendor on, and, in some measure, redeemed his after career. "The other day," says his father, in a letter to his uncle, "he gained a prize; it was a hat, and turning towards a youth present, who had only a cap, and putting the hat on his head, 'Here take it,' said he, 'I have not two heads.' He seemed to me then the emperor of the world. His attitude had something divine; I wept and pondered, and the lesson was to me very good."

Perhaps no child in his infancy ever showed in so remarkable a degree what he would be as a man, as did Mirabeau. The following sentences from his father's letters would seem sometimes to describe the man. In one place the Marquis says, "he has a mind all athwart, fantastic, tumultuous, unmanageable, and tending to vice, even before he knows what it is." In another place, "the imp has a haughty heart under the jacket of a child, a strange instinct of pride, noble nevertheless; an embryo ambition that would swallow the whole world, before it is twelve years old." Again, "he has an intelligence, a memory, a capacity, altogether astonishing; but I know, from the physical conformation of such characters, that there is no making any thing of them; to brutal appetites they will return, and carry them to excess; and as pride never abandons them, even on the wheel, they will make themselves base with the base, vain with the vain, fierce with the fierce; and even pique themselves on surpassing the very hogs; there are excrements in all races." So atrociously does this man express himself when writing of his son, and yet it is impossible to deny him a profound penetration into human nature.

JENNING'S LANDSCAPE ANNUAL—GRENADA.—This costly publication, shown us, among several others of the same kind by Mr. Colman this morning, is so far beyond all of its class in beauty and interest, that we would recommend every person of taste a peep into it. It consists wholly of Moorish Views in Grenada, from drawings by David Roberts, illustrated by Thomas Roscoe.

The American Turf Register and Sporting Magazine, for November, contains its usual variety of matter, and is embellished with a plate, and contains a memoir of the celebrated imported Horse Messenger.

FOREIGN INTELLIGENCE.

TEN DAYS LATER FROM EUROPE.—By the packet ship *Caledonia*, Capt. GRAHAM, arrived on Sunday in 26 days from Liverpool, we have London dates of the 20th and Liverpool of the 21st, inclusive. They contain very little political news of interest.

By this arrival we have the calamitous intelligence of the destruction of five of the buildings in which the two houses of the British Parliament have for ages been accustomed to assemble. The occurrence is attributed altogether to accident, but it very naturally excited the greatest sensation in London.—The loss of the buildings, as architectural productions, are not lamented—for they were both paltry in style, inconvenient in their arrangements, and in every way but little creditable to the national taste; but there were ancient and powerful associations connected with these dusky halls that would render it impossible to contemplate their ruins without emotion. "Here," says Bell's Messenger, "within these walls the most memorable of freedom's battles were fought—here the Great Charter of English liberty was first unfolded for the protection of the people—and here an humble member of the House of Commons—Hampden—dared to brave the power of a royal despot. Within the now bare, blackened, and roofless walls of St. Stephen's Chapel did William Rufus, with the nobles of his court, prostrate himself in prayer, and Edward III. gave to heaven those which were not devoted to the happiness of his subjects. The House of Lords too—the first legislative chamber in the world—was not without a host of recollections which rendered it an object of venerable respect in the eyes of the country. Here stood ELIZABETH, in all the pride of royal triumph, announcing the destruction of the Spanish Armada—whose foundering fleet formed the never-to-be-forgotten needle work decoration of the lofty walls;—here WILLIAM III. gave the Bill of

Rights to Englishmen;—and here the final words were spoken which gave toleration to the Dissenter, emancipation to the Catholic, and freedom to the slave."

Other journals, though they unite in lamenting the loss of public Records, which is said to be great and irreparable, rejoice in the destruction of "these ugly, dark, inconvenient and unhealthy buildings;" and seem busied alone in devising some new place for Parliament to assemble in. The King it seems, in his good-natured off-hand way, has offered his new palace, but the people want his Majesty to keep this costly toy, and let them have the old palace of St. James. The injury done by the fire, apart from the destruction of invaluable documents, is estimated at half a million sterling.

One of the precious and irreparable relics, which has perished with the House of Lords, is the splendid tapestry which recorded the great achievement from which the rise of the naval glory of England is to be dated—the defeat of the Spanish Armada.—That tapestry was executed by the celebrated Francis Spiering, from designs by Cornelius Vroom, and originally belonged to the Earl of Effingham, the Lord High Admiral of England, and Commander in Chief of the gallant little fleet that swept the colossal Armada from the seas. It was purchased of the Lord High Admiral by James I., but was not put up in the House of Lords until the Commonwealth, two years after Charles, I. had been brought to the scaffold. The room in which it was originally hung was a smaller room than that which it lately ornamented, and where it was not placed until 1800, the House of Lords having met before the union with Ireland in a room not so large or commodious as that which it has occupied ever since that event, was formerly the Court of Requests. At that time also considerable alterations were made in the House of Commons, in consequence of the accession of a hundred new members.

BURNING OF THE HOUSES OF PARLIAMENT.—Between 6 and 7 o'clock on the evening of the 16th October, a fire burst out from one of the apartments connected with the House of Lords: the burning spread with fearful rapidity, and soon consumed the Houses of Lords and Commons, the Library of the latter, many of the Committee Rooms, the Painted Chamber, and a number of other offices. The house of Mr. Ley, Clerk of the Commons, and all the habitations situated between the Lord's Journal Office, and the Speaker's house, with the greater part of the Speaker's house itself were burnt. The conflagration ultimately extended all round the new front buildings of the Lords, utterly consuming the rooms of the Lord Chancellor, Mr. Courtney, and the other office ranging round to Hayes' Coffee-house.—Bellamy's kitchen and rooms are destroyed, Westminster Hall is saved: and the Courts of Law have escaped, though their roofs were stripped off and water poured in by the engines. Westminster Abbey was untouched, the wind having blown from the S. W. and West. Great exertions were made to preserve papers, records, and books from the Libraries; but as yet it is impossible to say what is the extent of the damage.

The following is the Official Report upon the damage done to the buildings, furniture, &c. of the two Houses of Parliament, the Speaker's official residence, the official residence of the Clerk of the House of Commons, and to the Courts of Law at Westminster Hall, occasioned by the fire on the 19th day of October, 1834, as far as can at present be ascertained.

House of Peers.—The House Robing Rooms, Committee Rooms in the west front, and the rooms of the resident officers, and the Octagon Tower at the south end of the building—totally destroyed.

The Painted Chamber—totally destroyed. The north end of the Royal Gallery abutting on the Painted Chamber—destroyed from the door leading to the Painted Chamber as far as the first compartment of columns.

The Library and the adjoining rooms, which are now undergoing alterations, as well as the Parliament Offices and the Offices of the Lord Great Chamberlain, together with the Committee Rooms, Housekeeper's Apartments, &c. in this part of the building are saved.

House of Commons.—The House, Libraries, Committee Rooms, Housekeeper's apartments, &c. are totally destroyed (excepting the Committee Rooms, Nos. 11, 12, 13 and 14, which are capable of being repaired.)

The official residence of Mr. Ley (Clerk of the House)—this building is totally destroyed.

The official residence of the Speaker.—The State Drawing Room under the House of Commons is much damaged, but capable of restoration.

All the rooms from the oriel window to the south side of the House of Commons are destroyed.

The Levee Rooms and other parts of the building, together with the public galleries and part of the Cloisters, very much damaged.

The Courts of Law.—These buildings will require some restoration.

Westminster Hall.—No damage has been done to this building.

Furniture.—The furniture, fixtures, and fittings to both the Houses of Lords and Commons, with the Committee Rooms belonging thereto, is, with few exceptions, destroyed. The public furniture at the Speaker's house is in great part destroyed.

The Courts of Law.—The furniture generally of these buildings has sustained considerable damage.

The strictest inquiry is in progress as to the cause of this calamity, but there is not the slightest reason to suppose that it has arisen from any other than accidental causes.

Office of Woods, &c., 17th October, 1834.

A FIRE at Liverpool on the 10th ult. which broke out in the extensive warehouse in Lawncote's-hey, in the warehouse of Thomas Dover & Co. and in its progress, burnt 1500 bales of cotton, 900 hhds. of sugar, and 150 hhds of molasses. Loss estimated at 40,000l, partly insured. Most of the cotton belonging to Sands, Hodgeon, Turner & Co. and Robert Wilson.

Mr. Livingston had returned to Paris, and in reply to a report, that "in order to put an end to the question of claims between the two Governments, and to counteract the possibility of new obstacles on the part of the Chamber, the Cabinet of Washington will reduce its claims by one-third." The Paris Constitutional of Oct. 14, states that "it has been authorized by Mr. Livingston, the American Minister, to declare that he has received no instructions from the Government of the United States to agree to any compromise whatever, relative to the 25,000,000 claimed of France, and further, that Mr. Livingston is sure no such instructions will ever be transmitted to him."

Accounts from Madrid bring the conclusion relative to the exclusion of Don Carlos and his progeny from the right of succession to the throne of Spain. The project of law presented by the government on this subject has been unanimously approved of by the Chamber of Procuradores.

Munich accounts states that the negotiations for the marriage of Queen Donna Maria, of Portugal with Augustus, Duke of Leuchtenburg are finally concluded.

PORTSMOUTH, Oct. 18.—This morning the *Soho* steamer, Capt. Fraser, arrived from Lisbon, having left on Sunday last, at 4 A. M. She brought letters from Oporto, where she stayed four hours, and from Vigo, at which place she was fourteen hours.

A deep and general feeling of regret was becoming very prevalent, both in Lisbon and Oporto, at the death of Don Pedro, it being believed that he was really sincere in his determination to carry on all necessary reforms in the spirit of the charter; which it is much feared Donna Maria will not do, under the tutelage of Tapia and Palmella, who are secretly disciples of the old Absolute school. The Duke of Palmella is the most intimate confidant and adviser of the young Queen. The country continued in a tranquil state. The army was so well disposed towards the present state of the Government, that not the slightest apprehension of disaffection existed, should Don Miguel make the rash attempt again to enter the country. The harvest had been abundant.

There was no later news in Paris from Madrid, than the 9th.

The packet ship *Europe*, A. C. Marshal, arrived at Liverpool on the 19th September, having the remarkable short passage of 17 days from this port.

Extract of a letter from Zara, dated August 29:—"The Austrian commercial brig *Ciro*, in her passage from Venice, observed on the 10th instant; before

sunrise, a ship in flames to the southeast of Scoglio Saniago. Her captain immediately made all sail for the unfortunate object, and arrived in time to receive the crew, consisting of ten men. She proved to be the American brig Ontario, bound from Mobile, North America, to Trieste. She had been struck with lightning, and the flames spread with such rapidity that it was impossible to overcome them. The crew conveyed the crew to the island of Lessina, where the authorities supplied them with the means of proceeding to Trieste.

The Revenue Accounts of England present a decrease on the last quarter, as compared with the corresponding one of last year, of £330,064. The result for the year exhibits an increase of £313,448, as compared with the previous one. This arises principally from the Customs.

The rate of postage on foreign papers has been reduced in England to a moderate sum, so that American newspapers may now be sent there without incurring an unreasonable charge.

A new bridge is about to be erected across the Thames, from the Lambeth to the Westminster side of the river, near the Mill-bank Penitentiary.

The gallant and the spirited Duchess d'Angoulême, whom Bonaparte pronounced to be the only "man" in the Bourbon family, is at present in Hungary. She was at Offen on the 24th of September. Her husband and father-in-law remain in Bohemia.

The Polish inhabitants still suffer from the persecution of the Government. Their torments under the new Minister of the Interior, M. de Rohow, instead of diminishing as they had been led to hope, have been increased. Many persons have been arrested, and put into close confinement. Among them are M. Eugene Syczanicki and M. Joseph Mikorski, who had been married only a few days. The only crime, it is said, of which they are accused is their having sent relief to some of their unfortunate countrymen in foreign lands.

A letter from Algiers, dated 27th ult., announces the arrival of Mr. Thomas Campbell, author of "The Pleasures of Hope," &c., in that colony.

Mexico.—An arrival at Philadelphia, from Vera Cruz, brings intelligence from Mexico to the 17th of October. Tranquillity continues to prevail throughout the country—but it is the quiet of a despotism, and no one can calculate its termination.—A decided opposition to the government already begins to manifest itself; but it seems it has as yet made but little head.

According to the Censor of Vera Cruz of the 6th October, it would appear that a few prisoners of State had been released from the fortress of San Juan de Ulloa, and among the number were the distinguished Senators, Alpucho and Cuco.

Many distinguished patriots who, trusting to the promises of the Santanistas, with regard to the preservation of free institutions, had remained neutral during the last disturbances, being now unwilling to submit to a political and religious system of intolerance, had also left the country. The Ex-Vice-President Farías, after having been exposed to the grossest insults from an excited mob, during his journey from Mexico to Tampico, had embarked for New Orleans.

The President had made several important nominations in the various branches of the administration, removing from their situations those individuals suspected of devotion to the late federal government.

SUMMARY.

The second Session of the 23d Congress commences two weeks from next Monday. Some of the members are already on their way to the Capital, or have arrived there.

A letter received in Boston, from Marseilles, announces the death of George B. Adams, Esq. United States Consul at Alicante, Spain, Sept. 10. Mr. Adams was a native of Boston, but had resided in Spain for the last eighteen years.

The Governor of Georgia, in his Message to the Legislature, states, that the aggregate amount of the sales of negroes belonging to that State, is one hundred and eighteen thousand one hundred and forty-eight dollars.

The Norfolk Beacon says:—The Lynchburg Virginian describes an extensive cotton factory to be

erected in that town; and regards it as the commencement of a new era in that vicinity. We wish success to the undertaking.

Buenos Ayres Steamboat.—The Alexandria Gazette of Saturday says:

"We learn that the steamboat Potomac, formerly running between this place and Norfolk, has been purchased by the Buenos Ayres Steamboat Company of Boston. It is intended to run her between Buenos Ayres and Monte Viedo, and she is to be commanded by Capt. Richard Sutton, formerly of the Marco Bozzaris. The Potomac is now undergoing repairs, and is expected to sail about the 1st of December."

Capt. Sutton has the exclusive steam navigation granted him, by the Legislature of Buenos Ayres, of the river Plata for ten years, and we trust he will make it a valuable mode of travelling between the two cities, and a profitable one to himself, and the owners of the boat.—[Com. Adv.]

Steam-ship Connecticut.—Yesterday afternoon a number of underwriters and others visited, by invitation, this vessel. All were highly gratified, and we have no doubt from the remarks of those on board, that steam vessels navigating the sea will hereafter be taken at the same risk, by insurance companies, as merchant vessels. The Connecticut is copper fastened and newly coppered, and in every respect completely fitted for her intended station, and being substantially planked up under the guards renders her additionally safe as a sea boat. She leaves hence positively on Tuesday, the 18th instant, and has superior accommodations for 100 passengers, about 50 having already taken berths. Her boilers, piston, machinery, &c., are in perfect order; and that no detention for want of fuel may occur, a vessel has already sailed for Key West with a supply of coal for her in case of need. There have been no pains spared to render the Connecticut every way calculated for the trade she is intended for, and we hope her trips between New Orleans, Metamoras and Tampico will equal the most sanguine expectations of her enterprising owners. She is to be commanded by Captain Meole, a well known and experienced shipmaster.—[Gazette.]

We listened with much interest to a sermon delivered before the New-York Young Men's Temperance Society, at the brick Church on Sunday week last, by Rev. Dr. Spring. The house was filled at an early hour, and it was with difficulty that all could be accommodated with seats. Although so much has been said upon the subject of Temperance, yet the Doctor threw around it such an interest as to rivet the attention of his hearers. He observed that there were now in the United States seven thousand Temperance Societies, embracing one million two hundred thousand members.—[Com. Adv.]

Col. White, the Delegate in Congress from Florida, who is now in Europe, has written home that the capitalists of England are turning their attention to the establishment of a direct trade from London and Liverpool, to the Florida ports. He mentions one line of vessels already projected to St. Marks and Pensacola, and one to Apalachicola. There is no doubt that the interest of the planters in Florida, Georgia, Alabama, and other States that have access to the ports of the Gulf of Mexico, would be largely benefited by direct and regular intercourse with Great Britain. Mobile offers inducements of the highest order, and is destined to support a very extensive and constantly increasing commerce.—[Mobile Register.]

REV. MR. MORTIMER.—We cannot refrain from an expression of sympathy with our Moravian brethren, on the loss of their excellent and venerable minister, the Rev. Benjamin Mortimer, who expired on Monday, the 10th instant, after a short but painful illness, in the 67th year of his age. Mr. Mortimer came to this country from England, in the year 1791. After filling the station of teacher of the United Brethren at Nazareth Hall, Pennsylvania, he commenced his missionary labors among the Indians of this country, which he continued, without intermission, for a period of fourteen years. In 1812 he was called to the Pastoral care of the United Brethren in this city, in which station he remained for seventeen years, in the faithful and affectionate discharge of his duties. The few remaining years of his life he spent in retirement, enjoying the affectionate esteem of a numerous circle of friends of all denominations. He departed this life in humble reliance on the merits of his Saviour, and leaves a deeply afflicted family to mourn his loss.—[Churchman.]

Six of the Nuns of the Charlestown Convent, have joined the Ursuline Nunnery in Quebec.

Great Emigration to the West.—The following extracts, one from the Miami of the Lakes, published in Perrysburg, (Ohio) dated October 21st, another from the St. Louis Republican of October 17th, and a third from an interior town of Missouri, will give our readers some notion of the emigration to the West.

"The number that arrive and depart daily from our town, for the purpose of locating in the valley, is almost incredible. A wag at our elbow, while we were standing upon the porch of one of our public houses in this place, remarked, as we stood gazing at the long train of covered wagons, as they came pouring into the town, that he verily believed 'the whole East had broken up.' And well indeed he might suppose so, as the spectacle certainly justified the belief. To the farmer in the East, who wishes to better his fortune by emigration, we say, the Valley of Miami is the place for you; near a good and never failing market, and as productive a soil as any part of the West can boast of. In addition to the above, we add that a more delightful region we were never in."—[Miami of the Lake.]

The census just taken shows a population in Detroit of 4910.

The Editor of the New Orleans Advertiser incidentally remarks:—

"The most permanent population of our city does not exceed 50,000, from which deduct 30,000 colored, which will leave a white population of 20,000. Of these we may say 15,000 are Catholics, and 5,000 Protestants—and of these again there are at least 6,000 communicants of the first denomination, and 600 of the latter. There are in all 6 Catholic churches and chapels, attended by, as far as we can learn, 20 priests; 10 Protestant churches, attended by 7 clergymen. The usual estimate, for most religious countries, is, we believe, a church for every 1000 inhabitants."

Business of Franklin, Mass.—It is stated that in the town (or township) of Franklin near Wrentham, Mass. containing a population of about 1,700 persons, the value of the straw hats manufactured by the females is between 75,000 and 80,000 dollars a year.

Dividend.—The Aetna Insurance Company have declared a dividend of four per cent. for the last six months, payable on the 15th inst.

On the late re-organization of the marine corps, eight or ten lieutenants were to be appointed, for which stations there were three or four hundred applicants.

The Rev. Doctor Ludlow, of Albany, has received and accepted a call to the Presidency of the University of Pennsylvania. The departure of this estimable man and distinguished divine, is a source of much regret among the Albanians.

A run upon the Quebec Bank has taken place, and was not over at the last accounts. The Montreal Bank has also been a sufferer by the same operation. In three days the latter has paid out £12,000 in specie. The bills of that Bank are passing for goods at 5s. 2d. and 5s. 6d. only.

[From the Norfolk Beacon.]

We are authorized to state that the Rev. Dr. Duncachet has resigned the Rectorship of Christ Church in this borough, and accepted the invitation to the Rectorship of St. Stephens Church in the city of Philadelphia, vacated recently by the death of the Rev. Dr. Montgomery.

The gallopade of Meteors, which kicked up such a flurry in the heavens last autumn, has it seems, been repeated this year upon the anniversary of the first dance. This occasion was anticipated by Professor Olmstead of Yale College and other scientific men. The Professor, who witnessed the phenomenon, assisted by Mr. Loomis, a teacher in the college, and Mr. Haile, a member of the senior class, says that the presence of the moon permitted only the large and more splendid meteors to be seen. The number of them, though smaller than that of last year, was much above the common average. They began to be frequent as early as four minutes past 1 o'clock when a fire ball of unusual splendor blazed forth as a signal. From this period they continued to fall at pretty uniform rate until daylight was far advanced. They estimated that a thousand fell during the night. Their directions were more remarkable than the number, and afforded more unequivocal evidence of the identity of the phenomenon with that of last year. They appeared as 'fore, to radiate from a common centre, and that there was again in the Constellation of Leo.

"In more externals the Chippewas are not essentially different from other tribes of the Algonquin stock in the Western country. And the points in which a difference holds may be supposed to have been, for the most part, the effects of a more ungenial climate. They are, to a less extent than most of the tribes, cultivators of the soil, and more exclusively hunters and warriors. Living in a portion of the continent remarkable for the number of its large and small lakes, they find a common resource in fish, and along with this enjoy the advantage of reaping the wild rice. Their government has been deemed a paradox, at the same time exercising, and too feeble to exercise, power. But it is not more paradoxical than all patriarchal governments, which have their tie in filial affection, and owe their weakness to versatility of opinion. War and other public calamities bring them together, while prosperity drives them apart. They rally on public danger with wonderful facility, and they disperse with equal quickness. All their efforts are of the partisan, popular kind; and if these do not succeed they are dispirited. There is nothing in their institutions and resources suited for long-continued, steady exertion. The most striking trait in their moral history is the institution of the Totem—a sign manual, by which the affiliation of families is traced, agreeing more exactly, perhaps, than has been supposed with the armorial bearings of the feudal ages; and this institution is kept up with a feeling of importance which it is difficult to account for. An Indian, as is well known, will tell his specific name with great reluctance, but his generic or family name, in other words, his Totem, he will declare without hesitation, and with an evident feeling of pride. None of our tribes have proceeded farther than the first rule steps in hieroglyphic writing; and it is a practice in which the Chippewas are peculiarly expert. No part of their country can be visited without bringing this trait into prominent notice. Every path has its blazed and figured trees, conveying intelligence to all who pass, for all can read and understand these signs. They are taught to the young as carefully as our alphabet, with the distinction, however, that hieroglyphic writing is the prerogative of the males. These devices are often traced on sheets of birch-bark attached to poles. They are traced on war clubs, or canoe paddles, bows, or gun stocks.—They are often drawn on skins, particularly those used as back dresses by warriors. They have also other hieroglyphic modes of communicating information, by poles with knots of grass attached to them, or rings of paint, and often antlers, or animal heads suspended by the banks of rivers.—[Schoolcraft's last work.]

FOREIGN VARIETIES.

THE LORD CHANCELLOR'S LECTURES.—Interchange—Restrictions.—That production may take place in two different ways,—either as the immediate fruit of native industry, or as something obtained from abroad in exchange for that,—and that whatever tends to direct production and exchange into other channels than those into which they fall when left free and unimpeded causes the industry of the community to be employed to less advantage than it would otherwise be, being once established, it becomes a necessary branch of the inquiry to examine the effects of a system of bounties and prohibitions.

In the least hurtful shape in which bounties and prohibitions can be applied, setting aside the expense of superintendence, they merely occasion a transfer of property, as it were, from the right hand to the left, as if, supposing a pair of shoes and a pair of stockings to be purchased at 5s. each, and government should allow a bounty of 2s. 6d. upon the one, and impose a duty of 2s. and 6d. upon the other. Ten shillings, it is plain, would procure one pair of each; but the maker of the shoes, being enabled by means of the bounty to produce them at half the former cost, could afford to sell them at 2s. 6d., while the maker of stockings, unable to produce them at less than the former cost, must add the 2s. 6d. to their former price, and would not sell them for less than 7s. 6d. Bounties in this country have been mostly applied to the encouragement of the fisheries, not so much with a view to make fish and oil cheap as for the improvement of the shipping interest. This plea I shall examine by and by, merely remarking at present, that a larger quantity of labor and capital is thus forced in one direction than would naturally flow into it, a loss is occasioned to the community, and if such large quantity of labor and capital is not so forced in that direction, then the shipping interest is no better off with the bounty than without it, and consequently the money is wasted.

Such being the operation of bounties and prohibitions upon the products of the same country, let us see what are their effects when applied to the transactions of one country with another. Admitting that it is desirable to have commodities at as little cost as possible, and admitting also, as has been fully proved, that no commodities will be imported from abroad except they can be obtained at less cost than at home, it must follow, that in whatever degree the business of production and exchange are turned out of the course which they would naturally take, in the same degree the advantages arising from production and exchange are sacrificed, or at least postponed, to something else. Whether there is anything for which they ought to be so postponed is a consideration not for political economy, but for politics.

Let us suppose that linens might be manufactured on the continent as cheaply as in this country—say at 30d. per yard, but that our government, desirous of encouraging the home manufacture, granted a bounty of 2d. a yard upon exportation. The effect would be, that the French would cease to manufacture linen because they could obtain it from us for 28d., and they might employ the capital thus withdrawn to the production of silk, and England would be paying the expense of transport both upon the linen she exported and the silk she might take in exchange. Thus her means of enjoyment would be diminished. The false reasoning which has led to these equally false principles of foreign trade is, that an increase of production in some particular commodity must be a benefit to the country. Thus the grower of corn or the manufacturer of silk may have persuaded the imposition of restrictions in his favor, because by them he might be enabled to grow more corn or to produce more silk. But the true light in which to view such application would be as to their effect upon the interest of the community at large.

With respect to one great argument in favor of the continuance of bounties and prohibitions—namely, that their withdrawal would occasion great distress—it may be observed, that what is thus lost in one direction is often gained in another. If the withdrawal of the bounty upon the manufacture of silk should cause it to go over to France, it would most likely occasion a rise in the demand for cotton to supply the French. To plead, however, as a barrier to all change, that it would produce distress to individuals, is to put a stop at once to all the talking and writing about the general happiness,—to argue that all alteration, all improvement ought to be prohibited; for what are the events in which the interests of some individuals do not require to be sacrificed? In introducing salutary reforms it is certainly desirable that as little injury should be inflicted as possible, but whenever they appear to stand in competition, it would be contrary to all the rules of enlightened legislation and true morality to sacrifice the greater interest to the less.

A bounty to one portion of the community is necessarily attended with a prohibition to the remainder. Now the granting of a right can never be justified unless the good conferred by it is more than equivalent to the corresponding evil. There is no subject upon which the policy of the restrictive and prohibitive system has been maintained with more obstinacy and sophistry than that of corn. Corn, however, will no longer be imported from abroad than it is cheaper for the community to do so; and if it is right that the community should have the benefit of this cheaper production in other commodities, why should it be denied them in one where, from the greater consumption, the advantage is likely to be of greater importance? Two reasons alleged by the advocates for restriction, which I did not notice in a former lecture, are, first, the power which we should put into the hands of other nations, by giving them the supply of our markets with the first necessities of life, of reducing us at any time to extremities; secondly, the injustice of denying to farmers and landlords a similar monopoly to that which is in certain cases enjoyed by merchants and manufacturers. As to the first of these arguments, it is by no means established that war would stop our supplies of corn, as was evidenced in the late war, which was perhaps more general, more protracted, and conducted with stronger feelings of animosity than any on the records of history; nor is it yet certain that the country supplying the corn is not almost as dependent upon the other country for a vent for its produce as the purchasing country is for a supply. Besides, if this is to be admitted as a valid reason against the importation of corn, it may be admitted as a valid reason against foreign commerce altogether. The most consolatory conclusion to which the true theory of foreign commerce has

given birth is, that nations have an interest in loving one another. Instead of providing against the effects of war by making ourselves independent of other nations, it should be our study, by extending our relations and our concerns with them, to engage their interests in the endeavor to prevent it. With respect to the second argument, it is to be observed, that if it is good for the producers of corn, it is good for every other species of producers whatever; and it moreover supposes some peculiar gain to the merchant and the manufacturer out of the monopoly, and a corresponding evil to the grower of corn, in neither of which suppositions is there the shadow of truth.

Talleyrand.—We have received a book, called the *Life of Prince Talleyrand*, accompanied with a portrait. We have not read it through, but the pages we have read have filled us with disgust.—Theft, the most heartless seduction, murder, and infamous treachery, are amongst the crimes laid to the charge of the eminent person whose history this professes to be. It he have been guilty of these various offences, compared to him the most depraved villains who have expiated their crimes on the gallows—the Burks and the Bishops of our times—are poor contemptible drivellers in iniquity. It is not possible that French society, bad as it was before the revolution, could have tolerated such a monster, and it is not possible, if only the tenth part of the crimes here attributed to the person named were true, or possessed the shadow of credibility, that he could be received at this day into any society. All men and all women must shrink from him with instinctive horror, as they shrink from death. If the stories here told be not true, the inventor or compiler of them is more depraved than the individual he describes. In either case it is a disgrace to our literary men that such a work should have found a translator. Our readers, remembering the testimony to Talleyrand's character, borne as well by the Duke of Wellington as Earl Grey, cannot fail to be aware of the caution with which such scandalous anecdotes as those which this book contains ought to be received.—*Courier*. [From the little we have read of the book we are inclined to concur in the judgment which the *Courier* pronounces upon it. It professes to be "neither libel nor panegyric," but the gross caricature which faces the title page, and which purports to be a portrait of Talleyrand, is sufficient to rouse the suspicions of every one that the work is not so free from libel as from panegyric.]

The Duke of Wellington's demand of 20,000*l.*, alleged to be due to him for arrears of pay, as Inspector General of the Belgian fortresses, has been refused by the Minister of War, on the ground that his Grace has no claim on the present Government of Belgium, never having been recognized as holding any commission and appointment under Leopold; urging, that had such sum been due to the "Chief of the Holy Alliance," his demand should have been made on the Government of William of Holland, and not on the Belgian Treasury.

In the year 1792 the fatal effects of the system of imprisonment for debt were first pointed out by a committee of the House of Commons, of which Mr. Burke and Mr. Fox were members. The report states that there were in prison 1,957 prisoners, 1,803 wives, and 4,088 children. That for debts under £20 the law charges were £9,250, and the sums received £1,948; and for these debts under £20 there were 610 prisoners, some of whom had been imprisoned nine years for £410., and that a woman had died in Horsham gaol, after having been imprisoned forty five years for £19.

On the important subject of poor laws in Ireland, the *Quarterly Review* has the following striking remarks:—"A little more delay, and the great agitator will step in, and, with a transition which to him is easy and natural, will declare himself the advocate of a poor law; and, by forcing it on an unwilling government, secure to himself all the credit and gratitude that must spring from its concession, and thus seat himself more firmly in the hearts and affections of the Irish people. If the government wish to give permanence to the dangerous power which that individual now wields, they cannot take a more direct course than by allowing him this last and greatest advantage over them. While he is yet professedly hostile to it, they might, if not as deficient in decision as in policy, by coming forward with this great measure of practical relief to the mass of the Irish people, alienate them from the agitator and his plots, and win their regard and affections for British connection and the imperial le-

glature. Will they let the moment go by which must determine the destinies of Ireland, perhaps of Britain likewise?"

Saandham.—"Immortalized by an extraordinary circumstance, Saandham, among foreigners, has unaccountably changed its name to Saardham, probably in compliment to the czar carpenter! The aspect it offers, when approached by Beverwyck, is as singular as the fact which made it so renowned. On a space of less than two leagues, without trees or hills, are crowded 2000 mills, some of which are of a prodigious height. In casting the eye over this moving forest, you behold, at short distances, small standards and flags of different colors, fixed on the tops of houses, with garlands of flowers and ribands interlaced on the wings of the mills whirling in their circuit, while crowns of the most brilliant hues, suspended at the extremities of their sails, describe all larger circles. This is the way by which the Saandhamites announce their marriages; each flag indicates a nuptial, and every mill belonging to the families of the *nouveaux mariés* carries the same trophies. The aristocratic miller, by this means, exhibits his wealth, and attracts his clients and friends. On the same horizon, and in the middle of this joy, the fixed wings of other mills show the deaths of their proprietors."—[Gordon's Belgium.]

Discrimination.—Mr. Baron Bolland, in the course of his evidence in the great will cause at Lancaster, stated, as a proof of Mr. Maraden's sanity, that he, the learned baron, had sent him a volume of his own poems, "which he would not have done, had he conceived him to be a man of inferior intellect." Were Mr. Hazelwood still living, what an additional feather would this be in the cap of the Roxburg club.

On Tuesday week a foot-race took place on Kersal-moor, between the two celebrated jumpers, Benjamin Hart and the "Mountain Stag" for £30 a-side. The distance was 200 yards, and they were to start on the signal of a pistol, which twice missed fire, by which two false starts were made. The third time the Mountain Stag got the start by about a yard; Hart, however, recovered this advantage before they got half the distance, and won cleverly by four or five yards, in the astonishing short space of twenty-one seconds. The betting at starting was 5 to 4 on Hart.—[Manchester Courier.]

Utility of knowing English.—There is a story of an adventure happening to a poor Highlander from not being well acquainted with the English language. He came up to London, and was greatly distressed for want of victuals. One day, seeing a person with a friendly expression of countenance, he stated to him his lamentable case. The man asked him why he did not go to the shop of a penny cook, where it is usual for poor people to get food. It is here necessary to state, that in these shops poor people giving a couple of pence, get a piece of bread, a portion of meat, and half a seer of beer or barley water; this kind of shop is called a penny cook's. The Highlander, forgetting the name penny cook, from his ignorance of the language, thought it was *penny cut*, and going further on, he asked where the penny cut shop was. A man (whom he addressed) thought that he wanted to get either his hair cut or to be shaved, and pointed out a barber's shop. The Highlander, going to the shop knocked at the door, and was admitted by the barber, who seated him on a chair. The tonsor then filled an ewer with hot water, put a lump of soap into it, and making a lather, placed it on the table before the Highlander, and went up stairs for his razor and other shaving apparatus. The Highlander, taking the soapuds water for broth, began to drink it, and swallowed three mouthfuls; and mistaking the lump of soap for a potato, and being exceedingly hungry, he chewed and ate it. Up on the barber's coming down stairs, and seeing what had happened, he was petrified with astonishment. The Highlander taking twopence from his pocket, laid them on the table, saying, "I am much obliged to you; the broth was very good, but the potato was not sufficiently boiled."—[Old Magazine.]

Local Proverbs.—In the Isle of Man a proverbial expression forcibly indicates the object constantly occupying the minds of the inhabitants. The two deamaters, or judges, when appointed to the chair of judgment, declare they will render justice between man and man as "equally as the herring-bone lies between the two sides;" an image which could not have occurred to any people unaccustomed to the herring fishery. There is a Cornish proverb. "Those who will not be ruled by the rudder must be ruled by the rock;" the strands of Cornwall, so often covered with wrecks, could not fail to impress on the imagination of its inhabitants the two objects

from whence they drew this salutary proverb against obstinate wrong heads.—[D. Israel's Curiosities of Literature.]

Morning Calls.—"The ancient custom of *bon-hommie*, paying visits on the first day of the year to your friends and acquaintances, is still kept up at Brussels with great precision. At an early hour, when light is visible, the whole genteel male population of the city is in movement, and every carriage and horse in requisition for the occasion. The pedestrians may be seen crossing each other at every corner, the great contest being, who shall first deliver the cards. A man in good condition will, in the course of the morning's round, *pousser* four score or one hundred billets in these visits. A novel and ingenious mode of acknowledging these calls was adopted this year (1828) by a citizen who, being encumbered with flesh and keeping no carriage, found his physical powers unequal to the task of leaving his name at the doors of his numerous friends in person. He therefore stationed his servant in his hall with a plentiful supply of visiting cards, to be exchanged for those left for him."—[Gordon's Belgium.]

Imposition of Servants.—"The wages of a cook *à la bourgeoise* are ten or twelve Napoleons; a house maid, eight; a footman, from fifteen to twenty. Belgian domestics, though not so expert as English in doing the work of a house, and perhaps more capricious in their tempers, are less dainty in their food, and consequently less expensive; but they contract so many bad habits in the service of the English, that they find some difficulty in again getting placed with their countrymen, and this they tell you with great coolness, and make their demands accordingly.—The cook is so confident that you will submit to be fleeced, that, in engaging with you, she will say, 'Mais, madame, combien pour profit?' which, Anglicised, means, 'To what extent may I impose on you?'—[Gordon's Belgium.]

Napoleon had a French cook, who undertook to dress a fowl for his Imperial Majesty's dinner, in a different manner every day, for a whole year; he fulfilled his promise, and succeeded in gratifying the Emperor's palate in 365 different ways, every one of which was perfectly unexceptionable.

It is stated in a Havre paper, that Dr. Antomarchi, the medical attendant of Napoleon at St. Helena, and who closed the eyes of that great man, after death had closed his career in his island prison, is about to embark for the United States; where he is to act in the capacity of household Physician to Joseph Bonaparte.

East India Prices.—Cheese brings 87 1/2 cents a pound in India. Ham the same. Raspberry jam readily sells for \$5 33 each jar. Salad oil brings \$2 66 a pint. A jar of pickles containing two pounds often sells for \$15 00. Harness leather is very scarce and produces immense profits.

The rate of postage on foreign papers has been reduced in England to a moderate sum, so that American newspapers may now be sent there without incurring an unreasonable charge.

A small vessel, called the *Kaliopapa*, named after the King of Otaheite, has brought up to Sydney, 55 tons of sugar made from the sugar cane grown in that Island. It is said to be very fine, and equal in quality to the Mauritius sugar, though not so large in the grain.

The advices from Naples continue to speak of the ravage of the recent eruption. The habitations of 180 families have been swallowed up, and 800 individuals bereft of an asylum. One of the principal dangers during the eruption was, that the inflammable matter would reach the magazine of powder, the explosion of which would have produced incalculable mischief.

General Mina, late an unhappy exile in England, has been reinstated by the Spanish government in his former honors.

The fisheries in the Gulf of St. Lawrence have almost entirely failed.

The Pimento Tree.—One of the most valuable trees of Jamaica is the pimento, which flourishes spontaneously and in great abundance on the north side of the island; its numerous white blossoms, mixing with the dark green foliage, and with the slightest breeze diffusing around the most delicious fragrance, give a beauty and charm to nature rarely equalled, and of which he who has not visited the shady arbors and perfumed groves of the tropics can have little conception. This lovely tree, the very

leaf of which, bruised, emits a fine aromatic odour, nearly as powerful as that of the spice itself, has been known to grow to the height of from thirty to forty feet, exceedingly straight, and having for its base the spinous ridge of a rock, eight or ten feet above the surface of the hill or mountain. A single tree will produce 150 of the raw, or 100 pounds of the dried fruit. The indigenous forest and even exotic trees of Jamaica, grow to a prodigious height; the palmetto royal is frequently found one hundred and forty feet; the vast trunks of the ceiba, (wild cotton tree) and fig trees, often measure ninety feet from the base to the limbs, and the trunk of the former, when hollowed out, has formed out a boat capable of holding one hundred persons. There is a great variety of timber for agricultural and household purposes, and some exquisitely beautiful cabinet woods.—[Montgomery Martin's History, Volume 2.]

It is related in Bulwer's "France" that at the battle of Jemappe, Dumourier had for his aids-de-camp, two of the most beautiful, the most accomplished young women in the society of the time.—Equally chaste and warlike, these modern Camillas felt a veneration for the profession of arms—they delighted in the smoke of the cannon and the sound of the trumpet. Often a general told me, in the most desperate crisis of the battle, he has heard their slender voices reproaching flight and urging to the charge: "Où allez-vous, soldats? ce n'est pas lo l'ennemi! En avant! suivez!" and you might have seen their waving plumes and amazonian garb amidst the thickest of the fire.

TO A LADY, GARDENING.—By THOMAS MOORE.

O could we do with this world of ours
As thou dost with thy garden bowers,
Reject the weeds and keep the flowers,
What a heaven on earth we'd make it!
So bright a dwelling should be our own,
So warranted free from sigh or frown,
That angels soon would be coming down,
By the week or month to take it.
Like those gay flies that wing through air;
And in themselves a lustre bear
A stock of light, still ready there.
Whenever they wish to use it.
So in this world I'd make for thee,
Our hearts should all like fire-flies be,
And the flash of wit or poetry
Break forth whenever we choose it.
While ev'ry joy that glads our sphere
Hath still some shadow hovering near,
In this new world of ours we'd rear,
Such shadows will all be omitted:
Unless they're like that graceful one,
Which, when thou'rt dancing in the sun,
Still near thee, leaves a chain upon
Each spot where it hath fitted!

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.

Published at 35 Wall street, N. Y., by
D. K. MINOR & J. E. CHALLIS.

UTICA AND SCHENECTADY RAILROAD COMPANY.

Call for Second Instalment on Stock.
THE Stockholders in the Utica and Schenectady Railroad Company are requested to pay on or before the twentieth day of December next, the sum of Three Dollars on each Share of Stock in the Company held by them respectively under the penalty (provided by law in case of non-payment) of the forfeiture of all previous payments made thereon.

Stockholders residing in the city of New York, or within said State and south of the counties of Columbia, Greene and Delaware, are requested to make said payments to the Cashier of the Phoenix Bank, at the said Bank in the city of New York; and all other Stockholders in said Company are requested to make said payments to the Treasurer of said Company at the Albany City Bank or at the Commercial Bank, in the city of Albany; but any Stockholder residing west of the counties of Albany, Schenectady or Saratoga may make such payments by depositing the same to the credit of the said Treasurer in the Ontario Branch Bank, in the city of Utica, or in the Herkimer County Bank, at Little Falls, or in the Montgomery County Bank, at Johnstown, provided a certificate of such deposit (with the name of the Stockholder by or for whom such deposit is made) be forwarded to said Treasurer, so as to be received by him on or before the 25th day of December next.

Albany, November 12, 1834. By order,

GIDEON HAWLEY,
Treasurer of the Utica and Schenectady Railroad Company.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

—Railroad Spikes of every description required, made at the Albany Spikes Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sep. 12-1y

MECHANICS MAGAZINE.
THE NUMBER FOR OCTOBER 31, will be ready for delivery to subscribers on Monday next. It contains numerous articles, and a concise account of the FAIR of the AMERICAN INSTITUTE held at NIBLOS' GARDENS, illustrated with numerous engravings.

MECHANICS' and OTHERS who feel interested in endeavoring to abolish the abominable "State Prison Monopoly" are requested to forward to the Editor such facts as come within their knowledge, and they will be published if authenticated.

The Mechanics' Magazine and Register of Inventions and Improvements is published by the Proprietors, D. K. MINOR & J. E. CHALLIS, at No. 35 Wall-street, New York: in weekly sheets of 16 pages, at 64 cents—in monthly parts of 64 pages, at 34 cents—in volumes of 384 pages, in cloth boards, at \$1.75—or at \$3 per annum, in advance.—JOHN KNOTT, (formerly proprietor of the London Mechanics' Magazine,) Editor.

AGENTS FOR NEW PUBLICATIONS.
HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications:

The New York American Daily, at \$10.00—Tri-Weekly, at \$3.00—Semi-Weekly, at \$4.00 in advance.

The American Railroad Journal, Weekly, at \$3.00 per annum.

The Mechanics' Magazine, two volumes a year, at \$3.00 per annum.

The Quarterly Journal of Agriculture and Mechanics, at \$5.00 per annum, or \$1.25 per number.

The Family Magazine, 416 pages a year, at \$1.50 in advance.

The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25.

The Ladies' Companion, of 34 pages a month, at \$3.00 per annum, in advance.

The Rochester Gem, at \$1.50 in advance.

All Communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834.

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER. a3

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 134 Water street, corner of Maidenlane. J31 6t

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 tr RM&F

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Tro' N. Y. July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J32 1am

H. BURDEN.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
 No. 264 Elizabethstreet, near Bleecker street,
 New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J35 tr

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m23

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	length of 14 to 15 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do. do.	
40 do. 1 1/2 do. do.	
800 do. 2 do. do.	
800 do. 2 1/2 do. do.	
soon expected.	

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 3 3/4, 4, and 4 1/2 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.
 Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d7meowr

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy; also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
 Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This Instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

German town, February, 1833.

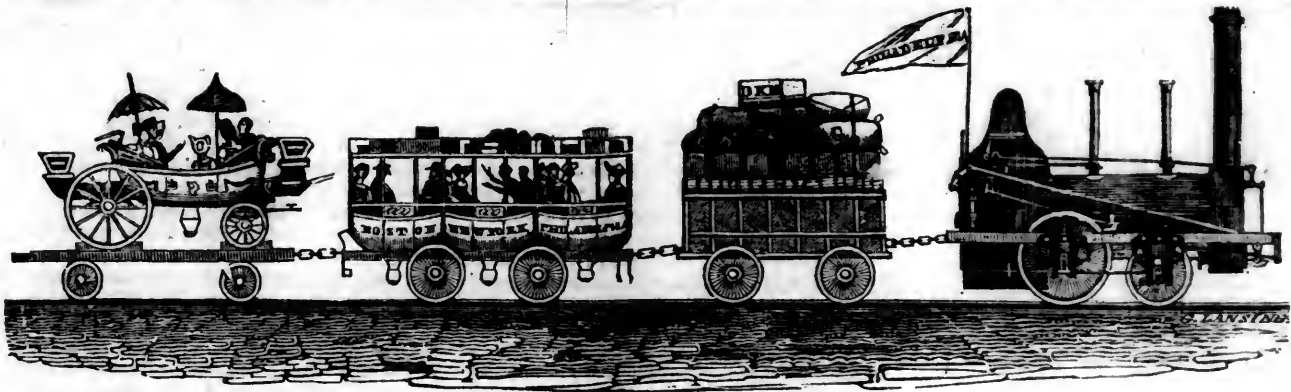
For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.

German. and Norrist. Railroad,

m1 ly



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, NOVEMBER 29, 1834.

[VOLUME III.—No. 47.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 29, 1834.

We alluded some days ago to the project referred to in the annexed extract which supplies some additional particulars.

Junction of the Mediterranean and Red Seas.—Egypt, Sept. 10 1834.—All the generations which have succeeded each other in Egypt have imagined that immense advantages would result from the junction between the Mediterranean and the Red Seas; and long ago commercial Europe has been aware of the immense profits that might be derived from such an opening. This great work, to the execution of which the European powers ought to have jointly contributed many years ago, is at length about to be effected. It is already commenced, thanks to Mehamit Ali. There is not however, to be a canal.—The isthmus has again been explored by scientific men, and they are apprehensive of its inundation; therefore, a railroad is to be made, which is to take its rise at Choubrah, pass 20 min. distance of Cairo, and running along the flanks of Motakam, will finish at Suez. The merchant vessels will be unladen at Alexandria, and the goods will be conveyed by steam boats by the canal of Mack-Modie, as far as Alfe, thence to Choubrah upon the Nile. There they will be placed in waggons, and forwarded to Suez, for embarkation, upon steam vessels, which are already employed in conveying goods from that place to Bombay, Mr. T. Galloway, the engineer, embarked yesterday for Malta, in the Phoenix brig of war, which his Highness has placed at his disposal. He will proceed from Malta to England without delay. The principal object of his mission is relative to a treaty with the East India Company on the subject of the transit duties to be levied on merchandise. This distinguished officer, who is son to one of the first engineers in England, will, we hope, be back again in less than a year. He will bring with him men and materials to complete this great work.—The house of Galloway, Thibaldi, and Co., of Alexandria, has received a commission from the Viceroy for this great undertaking, which will require a capital of 15 millions. France is too much interested, on account of her growing commerce with India, and her direct commercial intercourse with Egypt, in the success of this grand universal work, not to hasten to do all in her power to aid it with her credit.—[*Courier de Lyon.*]

The Village Record states that the citizens of that neighborhood are making great exertions with reference to a Railroad from Port Deposit to Philadelphia, by extending the West Chester Railroad to the former place.—[*Pennsylvania Inquirer.*]

NEW-YORK AND ERIE RAIL ROAD.

The friends of this truly splendid work will soon be gratified with the report of Judge WRIGHT, which will, probably, be presented to the Legislature at an early period of its session. The report will, as we understand, show the route altogether more feasible than was anticipated. It is, therefore, now only necessary for the Legislature to act promptly and liberally towards the Southern section, as it has long since done to the Northern, to ensure a speedy completion of the work; and that they will pursue such a course, we can hardly for a moment doubt. They must, at all events, feel the necessity of action—prompt and decided action—when they see and realize the untiring perseverance of our natural rival, Pennsylvania, to divert from us, and secure for herself, the rich and increasing trade of the Great West.

The following extracts, from a Report to the President and Directors of the Sandy and Beaver Canal Company, will give some idea of their determination to be successful rivals.

[From the Commercial Philadelphia Herald, of Nov. 12.]

This work, designed as the connecting link between our State improvements and the Ohio Canal, thereby securing to us the vast trade of Ohio, Indiana, Kentucky, &c. commences near the town of Bolivar, on the Ohio canal, and debouches into the Ohio River, about 30 miles below Pittsburgh. It is in extent about 76 miles, and is estimated to cost about \$1,250,000.

In the year 1828 the route was surveyed under the direction of Major Douglass, and a favorable report obtained; since then, sectional and conflicting interests have created doubts as to the adequacy of the supply of water, and the scheme so fraught with interest to our State improvements, and so closely allied to the growth and prosperity of our city, has been suffered to lie dormant. In order, however, to set all doubts at rest on the subject, the Directors of the Company have thought proper to have a re-survey made. For this purpose the services of two engineers from this State (E. H. Gill and H. Hage) were obtained during the past summer, who give it as their opinion that the supply of water is fully ample for all the wants of an extensive trade. I am informed the line is to be placed under contract immedi-

ately, so that the period is not now far distant when the immense products of the far West shall find our market.

The charter of the company holds out the strongest inducements to capitalists; from it we extract the following section—

"That when the Canal shall have been completed 20 miles from the Ohio Canal, said company shall be entitled to collect and receive the tolls accruing on the Ohio Canal, on all freight and passengers that may be transported thereon, and which have been transported not less than twenty miles upon said Sandy and Beaver Canal, to the Ohio Canal, and to receive the toll on all freight and passengers that may be transported thereon, and discharged and landed in said Sandy and Beaver Canal, at any point not less than 20 miles from the Ohio Canal, for the term of seven years from and after the completion of the twenty miles of Canal as aforesaid."

REPORT.

The summit of the Canal drains eighty square miles of country, and is fourteen miles in extent, ten miles of which are located over ground exceedingly favorable for the retention of water—being a tough clay, mixed with a small portion of gravel. The top water line of the Canal is depressed to a plane, lower than the surface of the adjoining country, and as the cutting is deep, and the ground gradually rises as it recedes from the line, no allowance can be requisite for losses by leakage. This portion of the route is frequently intercepted by small, but durable streams, and the soil being extremely springy, there is every reason to believe that it will afford an ample supply for all losses that can possibly be sustained by evaporation. The remaining four miles of this, and three on the adjoining levels, dependent on the summit for their supply, are of a character somewhat different, and will require some allowance for leakage and evaporation. * * *

After enumerating the different streams from which water is to be drawn, it says—

This amount being inadequate to accommodate the trade that may be anticipated, it becomes necessary to resort to reservoirs, which, during the dry season, will supply the deficiency. Numerous and eligible sites, for this purpose, present themselves; the most favorable of which are on the West Fork of Little Beaver Creek, and Cold Run. The first of these will flood 300 acres, and contain 105,937,920 cubic feet of water, having an average depth of 8.10 feet above the highest plane of the summit level. The other is intended as an auxiliary, to connect with the former, by means of a short feeder; will inundate about 96 acres, and contain 33,711,680 cubic feet of water—having an available average depth of 806 cubic feet, amounting in all to 139,649,600 cubic feet. If from this amount we deduct twelve inches in depth for evaporation, &c., we shall have left for navigation 134,943,744 cubic feet; being sufficient to pass 102,83 boats per day—this, added to the 1,745 boats per day, in the foregoing statement, gives a supply sufficient to accommodate over 120 boats per day, during the dry season. The estimated cost of

constructing these reservoirs, and the Mahoning feeders, is as follows:

WEST-FORK RESERVOIR.

68,000 cubic yards embankment, at 30 cents,	\$13,600
500 linear feet of pipe at 5.40	2,700
672 perches wall " 2.00	1,344
200 " " " 3.00	600
Sluice gates, &c. &c.	1,000

\$10,244

COLD RUN RESERVOIR.

12,684 cubic yards feeder excavation, at 8 cts.	1,014 72
47,000 cubic yards embankment, at 16	7,520
214 linear feet pipe at 5.40	1,155 60
400 perches wall, at 2.00	800
200 " " " 3.00	600
Sluice gates, &c.	500
Waste weir in feeder	150

\$11,740 32

MAHONING FEEDER TO WEST FORK.

24,700 cubic yards excavation, at 12 cents	2,964
9,000 cubic yards embankment, 15	1,350
Waste weir	200

\$4,514

MAHONING FEEDER TO DAVIS' BRANCH.

85,700 cubic yards excavation, at 12 cents	10,284
27,000 cubic yards embankment, 15	4,050
Bridge at deep cut	150

\$14,484

49,982 32	
4,998 23	

Add 10 per cent. for contingencies . . .

Total estimated cost . . . \$54,980 55

THE EASTERN DIVISION

of the canal descends rapidly from the summit level, for about one mile and a half, whence it enters the valley of the Middle Fork of Little Beaver Creek. This stream affords, at all seasons, an ample supply of water to meet the demands of leakage, evaporation, and lockage, and as it approaches the Ohio River the flow is greatly augmented. The valley of the stream offers eligible sites for the construction of dams, and, from its general formation, is well adapted to the purpose of slack-water navigation. Should the canal be extended up the Ohio River, it will be fully equal to its wants.

ON THE WESTERN DIVISION

of the line, a portion of the levels near the summit, or Middle Division, will require to be fed from the upper level. Loss by leakage and evaporation of this portion has been accounted for in our foregoing calculations.

The valley of Sandy Creek, through which this division is located, is peculiarly favorable for the construction of a canal. From the numerous streams that intersect the creek, in its meanderings, there can be no doubt as to the abundance of the supply of water for this division.

The country through which the whole line passes, offers, in general, facilities for the construction of the work in question, that are not usually met with. Timber and stone, of a superior quality, are found in abundance. Hydraulic lime is frequently met with; and we have no hesitation in saying, that the improvement can be constructed at a moderate cost, compared with works of a similar extent.

All which is respectfully submitted.

E. H. GILL, } Engineers.
HOTHER HAGE. }

New Lisbon, O., Oct. 13, 1834.

Report on the Survey of a Canal Route to connect the Waters of Lake Michigan and the Illinois River, 1831.

WASHINGTON, May 20, 1832.

SIR.—In obedience to the orders of the Chief Engineer, dated the 27th of April, 1831, I proceeded to Cook county, State of Illinois, to complete a survey, (commenced by Messrs. F. Harrison and W. B. Guyon, assistant civil engineers in the service of the United States, in the summer of 1830,) the object of which was the selection of a route for a canal to unite Lake Michigan with the Illinois river. The results of the survey, exhibited in nine sheets of maps, and the same number of sheets of profiles, with a memoir explanatory of the same, I now have the honor to lay before you.

The route examined commences on Chicago creek, which empties into Lake Michigan about six miles above its mouth; thence in a westerly direction across the low ridge dividing the head waters of the above mentioned creek from Des Plaines river, till it strikes into the valley of the Des Plaines, near its junction with Mud Lake, down this valley on the left bank of the river for twenty-six miles, when it crosses to the right bank, along which it continues to the junction of the Kankakee river, the united streams from the Illinois. The valley of the Des Plaines is, on an average, about two miles wide, bounded by bluffs from 20 to 60 feet high; the soil is generally poor, the rock, (sandstone,) in a great portion being very near the surface, and in the remainder gravelly, with a thin covering of soil; timber is scarce, and of an inferior quality. The river is a succession of rapids from its head to the mouth of the De Page; then to the Kankakee, the current is very sluggish.

From the junction of the Des Plaines and Kankakee, the line runs on the right bank of the Illinois, generally in an open prairie, to the foot of the rapids, crossing no stream of any consequence except the Fox.

The valley varies in breadth from one to three miles; it is bounded by high and steep bluffs; the soil is generally of good quality, and timber is plenty, especially on the left bank. The rapids commence about 27 miles below the mouth of the Kankakee, and continue with little interruption for 15 miles. During high water, steamboats drawing not more than four feet can ascend to the mouth of the Fox, 8 miles above the foot of the rapids.

When the Indian trade was extensively carried on upon the Illinois and its tributaries, boats ascended the Illinois and Des Plaines to Mud Lake, and then dragged across to Chicago creek, and descended to Lake Michigan. In the spring, when the water was high, no portage was necessary, and boats carrying as much as six tons, passed from Mud Lake to the creek without difficulty.

Map No. 1 exhibits the survey of Chicago creek, together with eight miles of the canal route; the profile of the latter is on sheet No. 1.

The survey of the creek commences at its mouth, which is obstructed by a bar. At the time it was sounded, during the summer of 1831, there was two feet water, but it is constantly altering, and sometimes completely closed. From the bar, the water of the lake gradually deepens, and 445 yards from its mouth there is 18 feet water.

The creek, from its mouth to Fort Dearborn, a distance of 467 yards, runs parallel to the lake, (course nearly north,) from which it is separated by a narrow sand bank; its average width 100 yards; the depth varies from 6 to 15 feet. From the fort of the village of Chicago, the course is west, distance 1150 yards, average width 70 yards, and from 15 to 26 feet deep; at this point the stream forks. From the village the main branch has a course east of south for 3200 yards, average width 60 yards, depth 17 feet; thence to the point where the line of levels commence, the course is south of west, distance 5230 yards, average width 44 yards, depth varying from 26 to 10 feet. The creek heads about 2500 yards from the above mentioned point, in low wet ground, which extends in a westerly direction for about 4 miles to Mud Lake, which communicates with the river Des Plaines.

Mr. Guyon commenced his line of levels at Chicago creek, at the mouth of a broad slough, marked on the map stake, No. 1, 2-55 feet above the surface of the water in the creek, which is the same as the surface of the lake. The line runs from 5½ miles over an open prairie, when it strikes upon the shore of Mud Lake, to which it is parallel for 2½ miles, when it comes upon the left bank of the Des Plaines, along which it continues for ¾ of a mile; the ground to the south of the line, for the last two miles, is high and wooded.

The total distance is 8½ miles; the highest point above the lake is 100 feet.

Map No. 2.—From the 8½ miles to the 18½ miles of the main line, and from B M 3 to the termination of the feeder line from the Calamitic river. The profile of the main line on sheets 1 and 2, that of feeder on sheet 3.

From the 8½ mile to the 135th picket, six miles, the line is on a prairie, and nearly parallel to the river, when it enters a thick wood, in which it continues to B M 6, a distance of 4 miles: for the last two miles at the foot of a high ridge, which commences opposite the 12th mile, it is indented with numerous ravines, and runs parallel to the river for 6 miles, when it turns abruptly to the east, forming the north bank of the Ausoganashkee swamp; from B M 6 an offset was made to B M 8 of feeder line: the level of 10 feet above the lake can be kept up.

Map No. 3.—From the Calamitic river to B M 3; this, with the portion on map, No. 2, comprises the feeder line, distance 18½ miles: the profile is shown on sheet 3.

The feeder line commences at the junction of the Calamitic river with Stony creek, marked on the map B M No. 1, running along the low grounds of Stony creek, Grassy lake, and the Ausoganashkee swamp: from picket 120 to 181, it was run on the slope of the bluff for convenience; a lower level can be had, as will be seen on reference to the offsets on profile 3.

From picket 20 an offset was run to a point on the Calamitic, marked on the map A; its surface here is 0-69 feet higher than at B M 1, and 2-81 feet above Lake Michigan. At this point the river was gauged, and, according to Mr. Guyon's calculation, it discharges 286-95 cubic feet of water per second: from the 183d picket an offset was made to the Des Plaines river: its surface is 5-32 feet above the Calamitic, and 7-20 feet above Lake Michigan.

On the 21st of October, 1829, Dr. Howard, United States civil engineer, gauged the Des Plaines at Lawton's trading house, and made the discharge 26-80 cubic feet per second. On the 8th of Aug. 1831, Messrs. Harrison and Guyon gauged it at the same place, and made the discharge 15-14 cubic feet per second. Mr. Lawton stated to them that he had seen the river lower.

Map No. 4.—From the 18½ mile to B M 10; the profile on sheet 2.

From picket 185 to B M 7, the line crosses the Ausoganashkee swamp, which is here 1443½ yards wide. The ground for the first 166 yards is dry and firm, as the swamp expands considerably at its mouth; by crossing further up, the distance across it might be greatly diminished. From B M 7 to stake 18, the line runs on a prairie, with the exception of the first quarter of a mile, which is on wet ground, covered with wood. Here the bluff forms the river bank, and the line is on the slope for seven eighths of a mile, when the bluff recedes from the river, and the line comes on a level open ground, which continues to the 27½ mile, crossing two sloughs, through which the water flowing from the bluff is discharged into the river: from the 27½ mile the line is on the slope of a mound for 770 yards; thence, on low marshy ground, to stake 30, crossing three streams with rocky bottoms. From stake 30 to 31 the ground is open and dry: the line might have been nearly straight from stake 24 to 30: from stake 31 to B M 10 the line is on a gentle slope; near the B M it crosses a ravine 35 feet wide and 5 feet deep. This is the termination of Mr. Guyon's survey, being 29 miles and 423½ yards from the commencement at Chicago creek.

The balance of the route was surveyed and levelled by myself, assisted by Mr. Chauncey Barnard, jr.; the distances are computed from B M 10, map No. 4: from B M 10 to B M 22, 14½ miles. The first 12 miles of the profile on sheet 4, the balance on sheet 5.

From B M 10 to B M E the line runs on a descending plain, covered with short grass; the soil is generally wet, and rock is found

from 6 to 18 inches from the surface; the bluff gradually recedes from the river, leaving a wide bottom. It is rocky and thinly wooded. At B M E the line crosses the Des Plaines; the banks are rocky, and the streams divided in two channels by a rocky island; the first is 19½ yards wide, and 1 foot 6 inches deep; the island 24½ yards wide, its highest point 9 feet above the surface of the river; the second channel is 22½ yards wide, and 2 feet deep; the bed of the river is rock, and the current rapid; the surface 63.05 feet below Lake Michigan. The bluff on the west side of the river forms the bank, and the line runs on the slope for 1½ miles; it is rocky, with a thin covering of gravel; it then crosses a small stream, through which the water flowing from the upper prairie is discharged. From this point the bluff gradually recedes from the river, leaving a wide bottom, intersected by numerous low gravel ridges, upon which the line runs to the 8½ miles to the north of the line, and opposite to the 8th mile is an isolated hill 500 yards long and 40 feet high, called Mount Joliet: from the 8½ mile, the line runs on the slope of a gravel ridge for 660 yards, when it crosses low ground three-eighths of a mile wide, to the foot of a high ridge that extends to the river, and continues along its base to B M 17, on the north bank of the Joliet river, which is 25½ yards wide, and 1 foot 2 inches deep, with a gravelly bottom, and no perceptible current: the surface is 77.47 feet below Lake Michigan. From B M 18 (south bank of the Joliet) to the 11½ mile, the line is on a sloping ground, crossing a wide ravine, which is said to communicate with the river De Page; thence, to the 13½ mile on the slope of the river bank, a narrow wet bottom intervenes between the bank and the river: it then comes on a level open ground, which continues to B M 22, crossing two small streams.

Map No. 6.—From B M 22 to the 27½ mile, 13½ miles, and feeder line, to the De Page, 1½ miles. The profile of the first 9½ miles on sheet 5, the balance on sheet 6; profiles of feeder line on sheet 9.

From B M 22, the line for 1 mile is on open, level ground; thence to B M 24, on the slope of the bluff, which is thinly wooded; thence to B M 25, on a gravelly ridge: at B M 24 the bluff turns to the north, leaving a wide bottom through which the river De Page runs. At the junction of this stream with the Des Plaines, there is an Indian village.

From B M 25 a line was run to ascertain if the De Page could be used as a feeder. The rise in the 1½ miles is 11.3 feet; (at B M A,) the stream was gauged on the 12th July, 1831; its discharge was 62.24 cubic feet per second; it must be remarked that the summer of 1831 was unusually wet. On the 23d July, 1830, it was gauged at Walkin's, 3 miles above B M A, by Messrs. Harrison and Guyon; the result was 27.75 cubic feet per second. The season, however, was uncommonly dry.

At B M 25, the main line crosses the De Page: it is 35½ yards wide, and 1.1 foot deep, with a rocky bottom and a gentle current; its surface 79.32 feet below Lake Michigan. It then crosses a bottom 183 yards wide, that is inundated during high water, then, to the 18th mile, on dry, level, wooded ground, along the foot of the bluff, which here forms the river bank; thence to the 19th mile, on the slope of the bluff, which is broken, and covered with heavy timber, principally oak, ash, and walnut. Here the river turns nearly at a right angle, the bluff keeping parallel to it; the line continues on the slope of the bluff to B M 31, where the timber ends. Opposite this the Des Plaines unites with the Kankakee, and the Illinois is formed. From B M 31 to 200 yards below B M 32, the line runs on a steep, broken clay bank, the river running at the foot of it; then, for half a mile on the slope of a gravel ridge, when it descends, crossing a small gully into a prairie, on which it continues to B M 33. From B M 32 the bluff recedes from the river, and gradually descends to the general level of the country, as it approaches the Au Sable river.

From B M 33 to the Au Sable, the line is on an undulating prairie; it then crosses the river, (the Au Sable,) to B M 34. The stream is 19½ yards wide, 2.10 feet deep, rocky bottom, and very little current; the surface is 83.46 feet below Lake Michigan. Its banks, below this point, are thickly wooded. From B M 34 to the 27½ mile, the line passed over a prairie, the surface very irregular, caused by numerous gravel ridges.

Map No. 7.—From the 27½ mile to the 41½ mile: 13½ miles profile of the first 8½ mile on sheet 6, the balance on sheet 7.

From the 27½ mile to B M 35, the line runs at the foot of a ridge, the ground gradually descending to the river; thence to B M 36, on the slope of the same ridge, when it turns to the north, in order to avoid a low bottom made by Nettle creek and Little Maison river, which unite about 100 yards below the bench mark. Between B M 36 and 38, both streams are crossed; the first is 13 feet wide and 1 foot deep, passing through a deep ravine 150 yards wide; the second is 23 feet wide, and 2½ feet deep; the ravine through which it runs is 245 yards wide. From B M 38 to 39 it runs on the slope of a gravel ridge, between which and the river a low bottom intervenes, which is overflowed during the spring freshets from B M 39 to the 33½ mile on the slope of the river bank; then to the 36th mile on a prairie intersected with gravel ridges. It then crosses a marsh three-quarters of a mile wide, to a dry gravel ridge, thinly wooded, on the slope which it continues to the 37½ mile; thence, on a wet bottom, to the 41½ mile, crossing two streams; on the left of the line is a high bluff, broken by numerous wide and deep ravines. It is thinly wooded, and chiefly white oaks; the soil of the bottom is alluvial, and covered with very high rank grass.

Map No. 8.—From the 41½ to the 52½ miles, 11½ miles. The profile of the first 6½ miles on sheet 7, the balance on sheet 8.

From the 41½ mile to B M 44, the line continues on the bottom, (the surface irregular, caused by ridges putting out from the bluff, and extending to the river—between these ridges the ground is marshy,) crossing two streams, the first ten feet wide and 6 inches deep, the second 38 feet wide and 3 feet deep, running in a ravine 149½ yards wide: the surface of the water is 102.20 feet below Lake Michigan; this gives the surface of the Illinois, it being so high as to back up the water in the creek. Bituminous coal, of an excellent quality, is found in the banks of the stream. From B M 44 to 45 the line runs on open ground, crossing three small streams; thence to the 50th mile, on a gentle slope: B M 48 is on the bank of a brook 20 feet wide; thence, on a flat prairie, to the 52½ mile, crossing two branches of the Chicago road, the first leading to a ford, and the second to the ferry of the Illinois.

Opposite the 49th mile, the bluff begins to recede from the river in a northwest direction. The grand rapids of the Illinois commence opposite the 46½ mile; and from this point to the foot of the rapids, a distance of about 16 miles, during the low stages of water, the river is only navigable for small boats.

Map No. 9.—From the 52½ mile to the termination of the survey, 10 miles and 579½ yards; feeder line up the Fox river, from the point marked A on the map, to the head of the principal rapid, 4 miles and 649 yards. Profile of main line on sheet 8, profile of feeder on sheet 9.

From the 52½ to the 53½ mile, the line runs on a dry level prairie, when it commences to descend to the Fox river, the east bank of which is a gradual slope, the west rocky and nearly perpendicular. Where the line crosses the river, it is 125½ yards wide, its surface 127.11 feet below Lake Michigan; in ordinary stages of the water it is fordable, but, owing to heavy rains, it was, at this time, 6 or 8 feet above low water mark.

A line was run on the west bank of the Fox

to the head of the principal rapid, a distance of 4 miles 649 yards; its surface at that point was 96.52 feet below the lake, making a rise of 30.59 feet. The stream was so much flushed that it was useless to gauge it, but I was informed it discharged a large quantity of water at all seasons.

From the 53½ mile to the 54½ mile, the line is on a dry prairie, crossing a ravine 33½ yards wide; its banks are rocky; a great deal of water passes through it, being the drain of a large prairie; from the 54½ to the 55th mile, the rock (soft sandstone) is very near the surface, and, in some places, is visible. Thence, over a sandy ridge, through a gap of a rocky ridge, to the 57th mile; then to B M 51, on open, level ground, crossing a stream, which is the outlet of a large swamp, at the foot of the bluff. From B M 51 to the 58½ mile, the line is on marshy ground; and midway between the bluff and Buffalo rock, an isolated rocky hill about one mile long, and a quarter of a mile wide in its broadest part; its south side forms the bank of the Illinois; thence, on a dry gravel ridge, to the 60½ mile, when it crosses a slough 266½ yards wide, through which, during the spring freshets, the water from the river passes into the marsh at the foot of the bluff. From this point to the 62d mile, the line runs on a dry gravelly ridge, when it descends on a bottom, which is overflowed during extraordinary freshets, and continues on it for three-quarters of a mile, when it strikes upon the Illinois river.

This point is at the foot of all the rapids, and boats that can pass over the bars at Beard's ferry, Fort Clark, and the Little Vermillion river, can ascend to this point. The surface of the water is 139.64 feet below Lake Michigan; but from what I learned from persons living in the neighborhood, the river was from 12 to 15 feet above low water mark. The total length of the line, from its commencement on Chicago creek to this point, is 24 miles and 123½ yards.

I was desirous of running a line from the 60½ mile to the mouth of the Little Vermillion river, three miles below the termination of my line, along the foot of the bluff, but owing to the heavy rains, it was impracticable to effect it, the marshes along the bluff being impassable without swimming. The canal commissioners of the State of Illinois designated the mouth of the Little Vermillion as the termination of the canal. I have the honor to be, very respectfully, your obedient servant,

H. BELIN, Ass't Civil Engineer.

To Lieut. Col. J. J. ABERT,
Topographical Bureau, Washington, D. C.

Fifth Annual Report of the Chief Engineer of the Baltimore and Ohio Railroad.

Engineers' Office, Baltimore and Ohio Railroad,
Baltimore, Oct. 1, 1834.

To PHILIP E. THOMAS, President &c.

Pursuant to the regulations prescribed, I have now the honor to present the Fifth Annual Report of this department.

When the last annual report was made, the Surveying party were engaged in the definitive location and staking out for contract of the second and third divisions of the adopted route of the lateral railroad to the City of Washington; the surveying of the first and fourth divisions having been previously completed. This service was effected in October last, so that at the close of that month the entire line, from its intersection with the Baltimore and Ohio Railroad, to the northeastern boundary line of the City of Washington, being about 29 miles, was prepared for contract. During the succeeding month the surveying party completed the staking out of the lateral boundaries of cut and fill, as well as of those of the lands requisite for the roadway. That part of the line of this road situated within the limits of the City of Washington, and called the fifth, or city, division, has not yet been definitively located; the route has, however, been traced

and estimated as far as New-Jersey Avenue, at the intersection of H street, distant from the aforesaid limits a fraction more than one mile. The position of the line within the territorial bounds of Washington, so as best to promote the accommodation of the public, will soon claim attention—to effect this object the concurrence of the municipal authorities of that city will be requisite.

In the month of December last a survey was directed by the board, and executed by this department, in order to ascertain if several miles of the line in the vicinity of Bladensburg could be changed and laid upon other ground without material injury to the road, so as to meet the views contained in a petition preferred upon the subject by an extensive proprietor, through whose lands the route had been laid and staked out for contract. Upon this survey, my report, with the relative calculations and drawings, was made on the 28th of that month, and the board made no change in the line as it had previously been run.

In the inclement weather of January, the route of the Baltimore and Ohio Railroad between the upper Point of Rocks and Miller's Narrows, that is, $8\frac{1}{2}$ continuous miles of the distance between the Point of Rocks and Harper's Ferry, was, under instructions received from thee, surveyed by this department, for the purpose of ascertaining the relative merits of a line proposed by the Chesapeake and Ohio Canal Company, as a substitute for the line run by Caspar W. Wever and approved by me, as stated in my last annual report. A report, with the requisite calculations and drawings, being made, the line, as proposed by the Canal Company, was, with certain modifications suggested on the part of the Baltimore and Ohio Railroad Company, finally assented to and adopted by both companies as the route upon which the railroad should be constructed. It was accordingly staked out for contract, in the month of April, and the boundary stakes of cut and fill, as well as those of the lands for condemnation and occupancy by the road, were planted.

During the month of August last, a survey and report was made of the graded surface of $4\frac{1}{8}$ miles of the Baltimore and Ohio Railroad, including the narrow passes along the Potomac between the Point of Rocks and Harper's Ferry, which had been undertaken by the Chesapeake and Ohio Canal Company, and the work was found to be then very nearly completed.

In addition to the rough drafts executed during the progress of the surveys, the following described maps and profiles have been made during the year, and, as marked, remain on file in this office, viz.:

Five maps and profiles, together representing the line of location of the lateral railroad to Washington, as staked out for contract: these maps are designated by the initial letters, Lat. R. Rd. to Wn. and are numbered from 1 to 5 inclusive. Their horizontal scale is 13.2 inches to the mile, and the vertical scale of the profiles an inch to 50 feet.

The maps comprising the location of the 6th division of the Baltimore and Ohio Railroad, from the Point of Rocks to Harper's Ferry, on a scale of 26.1 inches to the mile horizontal, and one inch to 40 feet vertical. These maps exhibit the relative positions of the railroad and canal, and are each marked with the letters and words, B. & O. R. Rd. on Potomac, and numbered from 2 to 10 inclusive. In addition to the lettering and numbering, there is also a title placed upon the first map of each set.

A map and profile of the sixth division of the Baltimore and Ohio Railroad, extending from the Point of Rocks to Harper's Ferry bridge, has been engraved on a scale of 2 inches to the mile horizontal, and 1 inch to 100 feet vertical, and accompanies this report.

A sheet of drawings descriptive of the Rolled Malleable Iron Rail of 40 lbs. per yard,

adopted for the Washington Railway, is likewise annexed to this report.

The field and office operations within the year having been adverted to, it may be added, that in their performance, generally, I have been essentially and efficiently aided by Benjamin H. Latrobe, Principal Assistant Engineer, who was charged with the immediate command of the parties on duty, and by William P. Swann, Henry R. Hazlehurst, and James Murry, Assistant Engineers of much merit.

The process of construction as regards the graduation and masonry was commenced upon the 1st division of the Washington Railroad about the time of submitting the last annual report, as will be seen on a reference to it; and soon afterwards, the lettings for these operations were extended as far as to the line of the District of Columbia, comprising, inclusive of three principal cuts, the conducting of which is under the superintendency of agents approved by the board, a length of line equal to about 26 miles. Upon these 26 miles all the masonry, excepting "the Thomas Viaduct" at the Patapsco, has been completed. The graduation upon the same has likewise been finished, except only at the three cuts alluded to, viz.: at Merrill's ridge, Patuxent ridge, and Snowden's ridge. It is confidently expected that the graduation at these ridges will be completed by the first of December next, and that the arches of the viaduct over the Patapsco will be closed about the same time. It is believed that seldom or never has so great a quantity of work been performed in so short a time, upon any line of internal improvement.

Very soon after, the $8\frac{1}{2}$ miles of the Baltimore and Ohio Railroad, between the upper Point of Rocks and Miller's Narrows, were prepared for contract, the graduation and masonry were commenced, and the work has progressed so rapidly that it is already completed.

Materials have likewise been procured, and are in the course of delivery, for laying down the first track of railway upon the Washington Railroad, and the first track upon the sixth division of the Baltimore and Ohio Railroad, and contracts have been made for the construction of these respective tracks upon the plans matured by this department; and it may be here stated that the breadth of track between the iron rails of the Washington road is 4 feet $8\frac{1}{2}$ inches, (allowing a flange play of one inch,) and that the distance of the two tracks apart is to be six feet, measured from centre to centre of the rails. It is believed that a single track will be finished to Harper's Ferry Bridge during the present season; and that such progress in the same time will be made in the construction of the railway upon the Washington lateral road, that a track will be opened and travelled from Baltimore to the line of the District of Columbia by the first of July next.

For a detailed statement of the operations connected with the construction of the graduation, masonry, and railway of both roads, I refer to the report of Caspar W. Wever, superintendent of construction, which will contain all the information under this head that could be desired.

Before dismissing the subject of construction, I would, however, respectfully suggest that unless the 3 miles of the line in the District of Columbia, and the additional part within the territorial limits of Washington of one mile or more, shall be soon entered upon with a view to the extension of the road to, and into, the city, much disadvantage to the public will be experienced, whilst the revenue of the 26 miles constructed to the District line must be rendered less productive.

The construction and improvement of railway machinery, both as regards cars and locomotive engines, have steadily and successfully advanced, under the particular direction of

George Gillingham, superintendent of machinery, and of the general superintendency of this department, aided by Ross Winans, assistant engineer of machinery, who possesses mechanical genius of a high order, as also does the contractor and manager in the company's machine shop, Phineas Davis. The annual report of the superintendent of machinery will detail the operations of his department with minuteness, for which reason, my observations touching this branch of the service may be the more general, and will mostly relate to the advances in improvement.

It was stated in my last annual report, that a second locomotive engine had, in the year preceding, been built by Phineas Davis, and placed upon the road; the "Atlantic" engine, which had previously been put upon the road, having been the first one of any efficiency, produced by the call of the board, for locomotive steam engines of American manufacture, to burn Anthracite coal. This second engine was described in that report, so far as to indicate the points of difference in construction between it and the "Atlantic" engine, previously built. It was stated that the new engine had cranks upon the axles of the road wheels instead of a spur and pinion, as in the "Atlantic," and that upon the failing of the crank axle it was resolved to gear with the spur and pinion, placing the pinion upon a shaft distinct from the axle of the road wheels. It was likewise mentioned, that the separate shaft for the pinion was adopted to obviate the strains upon the gear observed to take place in the Atlantic engine, from the unavoidable jolts of the road wheels upon the axle of which the pinion was placed. This action had been such as to break the cogs of the spur and pinion wheels. The separate shafts being geared to the axle of the road wheels by a connecting rod, would not be subject to the jolting action, but would revolve smoothly upon its bearings in the side frame, resting upon the springs. On repairing this engine, (which had been called the Indian Chief,) it was accordingly so modified, and again put in motion, with its appellation changed to that of "the Traveller." The Traveller came into action immediately after the compilation of my last annual report. Its movements were important, as testing the virtue of the modified gearing, and indicating the form of construction to be given to the new engines. Upon sufficient trial, it was satisfactorily shown that the theory of a separate shaft was fully sustained in practice, and therefore this arrangement obtains in all the engines subsequently built, two of which, the "Arabian" and the "Mercury," by Davis & Gartner, have been put in motion recently. No fracture or failure in the spur or pinion has happened since the change to a separate shaft was made, and all the parts of this gearing work and wear smoothly, and apparently as advantageously as if in stationary engines.

Some other modifications have been introduced, such as in the dimensions of the boiler and cylinders, the form and number of tubes in the boiler, the proportion of connecting rods, and other appendages, the position of the springs, and the transmission of the waste steam from the cylinders to the fan, or blowing apparatus, and of the water to the boiler; all of which aimed at an increase of durability and power without increasing the weight of the whole machine beyond that of the "Traveller," or of causing more than two tons weight to bear upon the railway at any one wheel, a limit not observed in the present arrangement of that engine.

A brief description of the three successively built engines, the Atlantic, the Traveller, and the Arabian, will now be given, in order that their distinctive differences may be more apparent.

The Atlantic has an upright tubular boiler, 51 inches in diameter, and 69 inches in height

above the grate: the diameter of the fire place is $46\frac{1}{2}$ inches, and its height 22 inches: the height or length of the tube is 16 inches, having each a diameter at the lower end of $1\frac{1}{2}$ inches; and at the upper end of $1\frac{1}{4}$ inches; the tubes are of hammered iron, and 282 in number; they terminate at top in a hot air chamber, the upper plane of which is about 3 inches below the level of the surface of the water in the boiler. The diameter of this chamber is $46\frac{1}{2}$ inches, and its height 6 inches. The hot air passes thence upwards to the top of the boiler, through the steam chamber, having a diameter equal to that of the boiler, and a height of 22 inches, by means of a cylindrical passage 13 inches in diameter, communicating directly with the smoke stack or chimney, of equal diameter. The top of the chimney is about 14 $\frac{1}{2}$ feet above the level of the railway. The two steam cylinders stand upright, close to the boiler, are each 10 inches in diameter, and have a 20 inch stroke of piston. The power is communicated by means of connecting rods and two cranks to a shaft that carries a spur wheel 23 inches in diameter, which wheel drives a pinion 14 inches in diameter, on the axle of the forward road wheels of the engine, and causes these road wheels to advance upon the railway two revolutions for each double stroke (i. e. once up and once down) of the pistons. The diameter of all the road wheels is 35 inches, and the power is geared to one pair only. A fan wheel, propelled by the waste steam from the cylinders, is employed to create a blast to urge the fire and effect a combustion of the Anthracite coal, that being the fuel used.

The *Traveller* engine varies in point of construction from the *Atlantic*, having the pinion removed from the axle of the road wheels, and placed upon a separate axle or shaft posited about three feet forward from, parallel to, and in the same horizontal plane with, the front axle of the road wheels. The length of this shaft is the same with that of each of the two axles of the four road wheels, and it is furnished with a crank at each extremity, outside of the frame of the engine, as is likewise the two axles of the road wheels, so that by means of horizontal connecting rods, the shaft and the two axles revolve in unison, and thus the adhesion upon the railway of all the four road wheels of the engine will be employed, when required. In case the load is such that the adhesion of one pair of wheels only is sufficient, one of the connections may be dispensed with, and the shaft will then be connected only with the axle of the forward pair of wheels. The power is communicated to the pinion on the shaft in the same manner as in the *Atlantic*, and as in that engine, each double stroke of the pistons effects two revolutions of the road wheels. The side pieces of the frame of the *Traveller* are plated with rolled iron; the bearing boxes work in slides; and the springs are placed above the boxes and underneath the side pieces: arrangements that are superior to those of similar parts in the *Atlantic* engine.

The *Arabian* has a boiler similar to that of the *Atlantic* or the *Traveller*, already described, except in the number and dimension of the tubes, their arrangement with that of the upper part of the boiler, and a slight change in the dimensions of the latter. The diameter of the boiler is 52 inches, and the height 64 inches diameter of fire place; 48 inches, and height 22 inches. The number of tubes is 400, with a diameter at the lower end of $1\frac{1}{2}$ inches, and at the upper end of 1 inch; length of tubes 31 inches, six or seven inches of which extend above the level of the water surface in the boiler. A part of the upper head of the boiler, 4 feet in diameter, is depressed 11 inches, at which level it receives the upper ends of the tubes, thus forming, as it were, within the steam chamber, a cylindrical hot air chamber, extending from the tubes to the top of the boiler, of the dimensions just indicated, and

communicating directly with the smoke stack, which latter is enlarged near its base, and appropriately attached to the cylindrical sides of the hot air chamber. This attachment is such that the smoke stack can be removed at pleasure, upon which the upper ends of the tubes will be exposed to view, and being thus easily accessible, they can be taken out and replaced with new tubes with the utmost facility, when repairs are required. An important improvement in the boiler, it is believed, has thus been effected in the *Arabian* engine. The diameter of the steam cylinders is 12 inches, and their depth, or length of stroke, is 22 inches. The power is transmitted through similar gear to a separate shaft, and thence to all the road wheels of the engine, as in the *Traveller*. In the *Traveller*, the springs are underneath the side pieces of the frame, but in the *Arabian*, this fixture is improved, the springs being now placed above the frame, as in the *English* plan. The valve gear for reversing motion has likewise been advantageously modified in the *Arabian*, being now such that the effort applied to shift the cam frames from one cam to the other, operates simultaneously and alike upon both ends of the frame, effecting the object with more certainty and despatch. Improvements have, moreover, been made in the fastenings, connections, and rubbing parts of these machines, at once securing to the new engines superior stability and duration.

Improvements of some value have also been matured and adopted, having regard to the economy of steam. In the *Arabian*, the steam is conveyed to the working cylinders by passing it down, inside the boiler, to the parts in contact with the cylinders, whence the steam is conveyed into the cylinders with the least loss from condensation. The waste steam, in its transmission from the cylinders to the fan-wheel, is made to pass in a hollow belt encircling the boiler, in which belt, the water pipes leading from the supply pumps are enclosed, and likewise make an entire circuit of the boiler, by which arrangement a portion of the heat of the waste steam is transferred to the water in the tubes, and with the water, is impelled into the boiler. The fan-wheel, upon the vanes of which the waste steam acts, is so contrived and fixed, that the whole or any part of such steam, at pleasure, can be made to propel the fan, thus enabling the attending engineer to control the blast, and by that means to regulate the heat of the fire, so as to generate the quantity of steam required by the emergency.

Hitherto, the successful combustion of Anthracite coal in locomotive engines has been attained only upon the *Baltimore* and *Ohio* Railroad, in Cooper's tubular boiler, assisted by an artificial blast; and such a blast is made with the utmost economy, by means of the fan-wheel driven by the directly applied power of the waste steam, or the steam after it has performed its office as a prime mover within the cylinders. This manner of creating the blast is an invention of Phineas Davis, to whom a patent has issued.

In relation to the adopted improvements in the boiler, it may be stated that the comparatively inaccessible position of the tubes in the *Traveller* engine would render their repair difficult, and as these repairs must become inevitable, a change in the tubular arrangement, giving more facility of approach, was desirable. The suggestion at first presented went to an elongation of the tubes to the upper head of the boiler: a bold, and perhaps hazardous step, since so considerable a portion of their length would be above the water, and be surrounded only by steam. To attain the object of accessibility, and yet avoid the risk alluded to, determined the depressed position of that portion of the head of the boiler in which the tubes are inserted, and being of less diameter than before, passing through 24 inches of water, having only about 7 inches of

their length above the plane of the water, and that enveloped in steam, sudden injury from intense heat is not experienced: much of the heat is parted with below the steam chamber, and within it the ebullition of the water acts as a further protection to the tubes.

Whilst the size of the fireplace and the external dimensions in the boiler in the *Arabian*, differ immaterially from the corresponding parts of the *Atlantic* and *Traveller* engines, there has been a decided improvement in the external appearance generally of the new engines, every part being now more tastefully formed and arranged. For these useful, and at the same time pleasing, yet not costly, embellishments of the engines, as well as of the coaches, we are much indebted to the talents and refined taste of John H. B. Latrobe, Esq.

The quantity of fire surface, or area exposed to radiant heat, in the *Arabian*, is about 30 $\frac{1}{2}$ square feet, and the area in the tubes in contact with the heated air that passes through them, is 304 $\frac{1}{2}$ square feet, amounting, in all, to 335 square feet of fire surface. With a boiler and fireplace so arranged and furnished, the generation of steam is sufficiently rapid and voluminous to supply the cylinders, enlarged as they are, to 12 inches diameter, with a 22 inch stroke, at a pressure of 50 lbs. upon the circular inch, and for any velocity upon the road that will be convenient, as is evident from an experiment, in which this engine conveyed at the rate of $11\frac{3}{4}$ miles per hour, on a level part of the road, a train weighing, including cars, but excluding the weight of the engine and tender, 112 tons 18 cwt. 1 qr. the supply of steam being redundant, and pressure 50 lbs. to the circular inch. With this load, the engine advanced, but at a diminished speed, to the summit of 10 feet high in the deep cut, upon the railway, ascending at the rate of 17 feet per mile; and curved with a radius rather less than 1000 feet.

The entire weight of the *Arabian*, with its complement of fuel and water in the boiler, is 7 $\frac{1}{2}$ tons; of which there rests upon the forward pair of wheels 3 tons 13 cwt., and upon the after pair 3 tons 13 cwt. The distribution of the weight is, therefore, judicious, and the engine will be less injurious to the railway than the *Traveller*, weighing 7 tons 11 cwt. 2 qrs., in which 4 tons 11 cwt. 3 qrs. are placed upon the forward wheels, and 2 tons 19 cwt. 3 qrs., upon the hinder wheels. It will be noticed, that whilst the *Arabian* is of less weight than the *Traveller*, by only 1 cwt. 2 qrs., yet no one wheel of the *Arabian* bears upon the railway with as much weight as a single wheel of the *Traveller*, by 7 cwt. 1 qr. 14 lbs. This equalization of weight upon all the wheels is a manifest improvement in the *Arabian*, where the adhesion of the weight of the whole engine can be employed in the traction: and it is believed that more than two tons weight should not be allowed to bear upon the rail through one wheel, however high may be the degree of perfection aimed at in the construction of the wheel or of the railway, whilst if either is less substantial, the weight should, if possible, be less than 2 tons, or not exceeding $1\frac{1}{2}$ tons.

The *Arabian* is beautiful in appearance, and excellent in performance, having a power of steam and of traction, leaving nothing further on that score to desire. This engine was put upon the road, for the first time, about the 14th of July last, and very soon a crank gave way from a flaw, until then unperceived; on the defect being repaired, the engine was directed to the service of daily leading the *Frederick* train of passenger coaches between this City and the planes at Parr's Ridge, a distance of about 41 miles, going and returning daily, making about 82 miles per day. In this work the *Arabian* was still employed, when I had the honor to submit my special report upon this engine, dated the 1st of September of the present year, in which it was stated that the

engine had then performed upwards of 40 trips to and from plane No. 1, having run about 3500 miles with passenger trains without the loss of a trip, and without any repairs. In the same successful manner, were completed 51 trips, when in returning upon the 52d, and after running 4200 miles without any repair, the engine was thrown from the road upon the fracture of a flange caused by impingement against a stone. The Traveller engine was then placed in the line for a day or two, until the Mercury, an entirely new engine, was placed upon the road, when the latter superseded the former in this service. The Arabian was soon repaired and again placed upon the road.

From what has been related, it will appear that the Company had fully succeeded in procuring the construction, in this country, of locomotive steam engines fitted to use Anthracite coal as the fuel, and capable of plying successfully upon a railway having quickly turning curves, upon radii even so small as 400 feet; that these engines have all the power requisite upon railways, and that they appear to be substantial and durable. No further achievement in this branch might, therefore, seem practicable or even desirable. It is, however, believed, that a conclusion to this effect would be precipitate, if not erroneous. True, we can employ any of the usual kinds of fuel, wood, coal, coke, and do now use Anthracite alone; we generate a superabundance of steam; we have power in abundance, and have speed at command; the machinery is beautiful and works admirably; yet, have we not more steam, more power, a greater weight of engine, than is requisite for the conveyance of passengers? We have. The question, however, is, whether an engine of a weight no more than sufficient in point of adhesion for this purpose, and weighing only 5, or at the utmost 6½ tons, can be constructed, having at the same time, sufficient strength and durability of parts, and a capacity to furnish steam enough to maintain a proper rate of speed. To ascertain this point, it is in contemplation to plan an engine, geared as the Arabian is, but with parts diminished in size to the greatest extent consistent with the proper degrees of power. When this plan shall be perfected, with every reasonable prospect of success in the valuable qualities aimed at, a practical trial of it in the construction and use of an engine, will be recommended. Meanwhile, as engines of the description recently made, and in progress of construction, appear to be of excellent quality, and, in the transit of commodities, will, from their great power of steam and adhesion, be most economical, no intention is entertained of recommending any relaxation in the business of their fabrication at present. At the same time, seeing a possibility that lighter engines may be made successful in the passenger service, and well knowing that such will be less injurious to the rails, and to the wheels, an anxiety is felt not to lose sight of the project of a more complete adaptation of the weight to the strength of the resisting materials.

Coaches for passengers have claimed the serious attention of the engineers and officers of this Company within the past year: and it has been found, on trial, that a coach upon eight wheels is easier, and every way more comfortable, to the passengers, cheaper in cost of construction and repairs, and less injurious to the railway, in proportion to the number of persons carried, the motion being more smooth and steady than those of four wheels. When eight wheels are employed, each end of the coach is supported by a frame having four wheels, the two pairs of which may be as near together as will permit the flanges of the wheels, two and two, to revolve, without being in contact with each other. In this way each set of four wheels will traverse a curved road easier than when the axles are further apart, as they necessarily must be in a coach with

only four wheels. The coach has strong side frames of wood, plated with iron, and rests with bolsters upon the wheel frames, to which it is attached by means of a rose or centre bolt, permitting each set of wheels to assume, independent of the other, any direction the road may require. These coaches may have apartments to contain from 8 to 12 persons each, whilst the number of apartments in a coach may be 3, 4, or even 5. Coaches with eight wheels will be safer from accident, it is believed, than with four wheels; in fact, they are much more convenient and appropriate, in all respects, for railway conveyance; and this kind of coach has accordingly been adopted.

Steel springs are still being placed upon the burthen cars as well as upon the coaches, and with evident economy in every respect.

Wheels of cast iron upon the cars of burthen, as well as upon the coaches, have stood the test of experience, and have come up to our most sanguine expectations. This description of road wheels has, in a word, been entirely successful. The method of completing the chilling process by means of the introduction of a malleable iron ring into the casting, mentioned in the last annual report as invented by Phineas Davis, has been successful. At first the ring was found to have been placed too near the face of the wheel, and the consequence was, that the thinness of the chilled metal caused it to give way from the action upon the iron rail. To remedy this defect, the ring was made of rather smaller wire, and, in casting, was removed further from the face of the wheel; this modification proved altogether successful, and the most economical wheel possible for railroads has thus been perfected. The wheels for burthen cars and for coaches are cast in the same chill, and are 30 inches in diameter, with 12 arms. The ring is of round wire half an inch in diameter, and it does not approach nearer to the face of the wheel than half an inch. The wheel of the burthen car weighs 222 lbs., and of the passenger coach 260 lbs. In the cast iron wheel of three feet diameter, for the locomotive engine, the size and position of the malleable ring has not yet been satisfactorily determined. In the wheels of this kind last put in use, and within a few days past, the ring is of less thickness than previously used, being reduced from $\frac{3}{4}$ to $\frac{2}{3}$ of an inch, at the same time that it has been placed further from the flange, and $\frac{1}{4}$ of an inch further from the face of the wheel, being now $\frac{2}{3}$ instead of $\frac{1}{2}$ an inch from the exterior of the rim. It was found that with the larger ring lying under the coned part, next to the base of the flange, having the chilled metal only $\frac{1}{2}$ an inch in thickness, immediately over the ring, the rim cracked, and by degrees gave way, to the great injury of the wheel, and in one instance so weakened it, that, upon striking a stone, the flange gave way. This was the casualty in which the Arabian engine was thrown from the road, as already mentioned. Previous to this occurrence, symptoms of defect in the face of those wheels had been observed, and was attributed to the true cause, being the same as had been effectually remedied in the wheels of the cars and coaches, and engine wheels were immediately cast, containing a ring of smaller diameter placed further from the face of the wheel and from the flange. It is believed, that this arrangement and change of size of the ring will obviate the recurrence of the defect that had been experienced. Other and further precautions, however, to strengthen and render more durable the engine wheels, have been matured, and will be adopted in all future castings of them, and it is not doubted that the cast iron wheel of not more than 35 inches diameter can be made secure, and safely used upon the engines, as has that description of wheel, 30 inches in diameter, been most successfully upon the cars and coaches. Nor will the duration of

the cast wheel be less than was estimated in my report upon the Washington Lateral Railroad. I am happy further to add, in this place, my conviction that the estimates for the construction of that road, and for the cost of the motive power and machinery upon it, will not be transcended.

Patterns for the cast iron fastenings of the rails, and for the turn-outs upon the lateral road, are in progress of completion, under the immediate care of the assistant engineer of machinery, Ross Winans, with whose assistance, these fixtures, and the form of the rail, have been matured. The turn-outs will be such as are best calculated to facilitate the passings of locomotive engines.

As regards the business of transit and of revenue within the year, upon the Baltimore and Ohio Railroad, I refer to the report which will be made by the able and very vigilant superintendent of transportation, William Woodville.

Respectfully submitted,

J. KNIGHT, Chief Engineer.

A Few Words in Behalf of Mathematical Science.

[From the London Mechanics' Magazine.]

MR. EDITOR,—Will you permit a foreigner (a Swiss) to make a few remarks on Mr. Cheverton's article on the value and importance of mathematical science.

In the first place I must state, that had it not been for the false aspersions he has heaped upon some of the most illustrious of my countrymen, and more particularly on that excellent man Euler, I should have left him to enjoy all the honors and benefits that may arise to him from the said article.

In the first observation he makes upon Euler, he says, "the most valuable method of determining the longitude was at last accomplished through practical means, and by practical men. Euler aimed to produce an achromatic lens as well as Dollond, but it was the latter who succeeded; and their respective modes of proceeding mark both the character and comparative value of their efforts."

Well, in all this there is, perhaps, nothing very extraordinary (upon the supposition that Mr. Cheverton's statement is true.) Euler belonged to that useless race of men called mathematicians (according to the Chevertonian philosophy), and Mr. Dollond (Mr. John Dollond I presume he means) was certainly a first rate optician; not only so, but also (much to his discredit, no doubt,) a clever mathematician, and an able astronomer.

Mr. James Gregory, professor of mathematics in St. Andrew's, as it appears from his "Optica Promota," showed how a telescope with specula might be constructed; but this unfortunate mathematician being neither an artist, nor having any turn for practical mechanics, was himself incapable of realizing his own invention by an actual construction, although he had demonstrated that to form a perfect image of the object the speculum must have the form of a parabola. I might here, Mr. Editor, pause to inquire whether the arts or science at this period were in advance: but the question would carry its answer along with it. The unfortunate Gregory could not find a single artist in his own country that could grind a speculum for him. Poor Scotland! this appears to be a stain upon your escutcheon. But why, it may be asked, did not Gregory apply to some of the English artists? The

answer is easily given. They were not, at this period, one jot farther advanced in the arts than their northern neighbors.

Soon after the period just alluded to, the immortal Newton found himself compelled to relinquish for a time his philosophical pursuits, and betake himself to the mechanical art of grinding specula. His first attempt was to construct a reflecting telescope according to the principles of his friend Gregory, that is, with a parabolic speculum. In this, however, he did not succeed; but he succeeded in making two reflectors with his own hands, which he presented to the Royal Society in 1672, the great speculums of both being of a spherical figure, although he was fully aware of the superiority of the parabolic form. During the interval he was employed in making his reflectors, he tried his hands upon constructing a refracting telescope which had been prepared by Descartes, the object of which was to grind the lenses into one of the figures of a conic section; and when employed in this pursuit, he made his grand discovery of the various refrangibility of the rays of light, from which he concluded, that the errors arising from the spherical figure of the lens were small in comparison with those which arose from refrangibility. He therefore gave up the attempt of constructing refracting telescopes, considering that the divergency of the rays of light, arising from the difference of their refrangibility, was always in proportion to the refracting powers of the medium. In consequence of this opinion of Sir Isaac Newton respecting refracting telescopes, all attempts to construct them free from the effects of refrangibility were, for a period of nearly seventy years, laid aside. However, some time about the year 1753, Mr. John Dollond, after many optical experiments, discovered that the refractions of two prisms, when made of different kinds of glass, might be equal, and that the difference of their refrangibility might be considerable; and that there might be equal divergency with different degrees of refraction; in short, that refraction might be produced without colors. Acting from these principles, Mr. Dollond was the first artist that produced a correct achromatic refracting telescope. And here I will ask Mr. Cheverton, if the odium, which he attaches to Euler on this head, ought not on all these accounts to have been fathered upon Newton?

I wait for his reply. I have lots more in store for him.

I am sir, yours, &c,

LEWIS FRIEND.

St. John's Wood, Aug. 9, 1834.

A Few More Words in Behalf of Mathematical Science.

[From the London Mechanics' Magazine.]

MR. EDITOR,—As I find I must be absent from London for two or three weeks, I will not have an opportunity during that time, of continuing my appeal in behalf of mathematical science; and as my last short article will hardly be a mouthful for your highly gifted correspondent, Mr. Cheverton, I beg leave to give him one morsel more before I take my departure.

LEWIS FRIEND.

St. John's Wood, Aug. 17, 1834.

Notwithstanding the opinion expressed by Sir I. Newton on the effects of refrangibility

on the refracting telescope, Euler, it appears, (although a rigid disciple of the Newtonian philosophy,) was not satisfied; for we find that in 1747 he tried to prove the possibility of destroying the effects of colors on the focal image, by imitating the structure of the eye, which he considered to be the most perfect of all optical instruments.* He proposed to construct a convex lens, having its cavity filled with water, from which he expected to produce distinct vision, freed from the effects of refrangibility, and also from the aberration produced by the spherical figure of the lens. He, however, did not altogether succeed—in all probability for the same cause that Gregory failed.

truth; he was not a practical optician; pure intellect was the region of all his speculations. In 1752, Mr. John Dollond communicated to the Royal Society of London, a paper endeavoring to show that the principles advanced by Euler were quite at variance with those deduced from Sir I. Newton's experiments on the refrangibility of light; although, at the same time, it was doubtful if either the one or the other of their theories were consonant with the laws of nature. On this subject the scientific world were much divided in their opinions. At last Mr. Dollond, in order to satisfy himself, had recourse to experiments, the result of which was, that he found that he was wrong himself, and that Euler was right. Being thus cured of his former prejudices, although not liking the expedient of enclosing water in the lens, he at last, after four or five years of fatiguing research, succeeded in constructing an achromatic refracting telescope, in the way mentioned in my first article. And here, Mr. Editor, I cannot help thinking, that although Euler did not succeed, still the discoveries he made as to the method of destroying the errors arising from the effects of colors on the extremities of the focal image were the means of directing Mr. Dollond in his construction of the first refracting telescope, which he produced in the year 1757. However, be that as it may, he was more fortunate than Mr. James Gregory; he lived to see, and was one of the first to congratulate Mr. Dollond on his great achievement. He was too much of a sage to indulge in any peevish reflections on this seeming triumph of Mr. Dollond. Different was the fate of Mr. James Gregory: he did not live to see a construction of his reflector, according to his own principles, although Newton with his own hands had attempted it. However, in 1724, Mr. James Short, a first rate artist, and highly celebrated for his mathematical and astronomical attainments, succeeded in constructing a telescope according to the principles of the first inventor.

What Mr. Cheverton means when he says that the most valuable method of determining the longitude is by means of the telescope constructed upon the principles of Mr. Dollond, I am at a loss to guess. Does he mean that of finding the longitude at sea? If so, I am compelled to inform him that he knows nothing about the matter. Hadley's reflecting quadrant and sextant, as improved by Ramsden's dividing engine, must rank as

* I do not know what Euler's opinion on this head might have been 19 years afterwards, when, unfortunately for himself and science, he became totally blind.

† The writer of this article has had considerable practice, both at sea and land, in taking and working lunar observations.

one of the greatest mechanical discoveries that ever was made in aid of nautical (or, I might add, practical,) astronomy. It is now universally used at sea for determining the longitude. While mentioning the names of Dollond, Short, Hadley, and Ramsden, those of Graham and Bird ought not to be forgotten; they equally distinguished themselves in their various mechanical and optical discoveries. The only charge that can be brought against them that can diminish their reputation in Mr. Cheverton's estimation, is that they were all more or less addicted to the useful studies of geometry and astronomy. Indeed, I have heard that one of them (whose name perhaps it would be improper to mention) indulged himself in the sinful practice of acquiring a knowledge of the higher analysis.

I shall have yet something further to say at a future opportunity; meanwhile, I beg to subscribe myself, Mr. Editor, your very obedient servant,
LEWIS FRIEND.

MECHANIC POWERS.—An experiment was made at Brussels on the 16th, at the house of the mechanician Lemaire, rue de l'Esquylier, No. 10, with a machine moved by a force not hitherto employed in mechanics. That force is Galvanism, which develops the magnetic property of iron. The new machine is composed of a flying (volant) horizontal wheel of copper, in the plane of which is placed a bar of iron, rendered magnetic by a galvanic pile. The bar carries round the wheel between two fixed magnets, but as soon as the ends of the bar reach the points of equilibrium, the electric current changes its relations, and replaces by repulsion the attraction which directs the bar. The latter, in consequence of the accelerated motion it has acquired, passes the position of equilibrium, and continues its rotary motion in the same direction. The experiment had complete success. The machine moved upwards of an hour, and its accelerated motion excited hopes that it may be ere long employed to move considerable masses. The great magnetic energy given to magnetism by a galvanic current is already well known, and be that, however, as it may, mechanics will henceforth be in possession of a new power. The machine, constructed with great care and success by Lemaire, was the invention of a Professor of Brussels, M. Guillery.—[Courrier Francaise, Aug. 4, 1834.]

It may be made a question, whether the machine put into operation at Brussels can, with strict propriety, be designated a new mechanic power, whatever may be the useful purposes to which it may be applied. The latter is, indeed, the only important subject of inquiry as regards that or any other invention or discovery.

Is there not a real and long known mechanic power, which has yet never been enumerated amongst those so entitled? We answer, there is such a power, and it is the pendulum. And more, the pendulum is the power of all others by which the greatest weight can be raised and moved by the least force. In many situations also, the pendulum could be applied to great effect, as, for instance, in stone quarries, in warehouses, to facilitate innumerable operations, in the lading and unlading vessels at wharves, &c.

Though simple in itself, very few persons reflect that in moving a pendulum, every

point in it is actually raised, as the axis is a radius of a circle, the centre of which is the point of suspension. The pendulum again is a power admitting the aid indefinitely of accelerated motion, admitting, however, that moving on the principle of the sling, as the motion would be accelerated, a centrifugal force would be produced in direct ratio with the rapidity given to the machine.

These hints on the pendulum are thrown out as recalled to the mind of the writer when translating the account of the Belgian machine, and may have been, and probably actually have been, suggested by others, as the subject seems too obvious not to have occupied minds engaged on the subject of mechanic forces.—[Nat. Intel.]

To the Editor of the N. Y. American :

The practicability and safety of navigating our coast by steam, being fully established by the success of the line of Steamers between this port and Charleston. I beg, through the medium of your Journal, to call public attention to the immediate formation of a line between New York and New Orleans, via the isthmus of Florida, by which the mails and passengers can be transported in nine days from port to port.

Two separate companies have already been started, one in Boston, the other in Savannah, with the intention of applying next winter to the Assembly of Florida, for an act of incorporation to construct a Railroad from the St. John's of Mexico. It will require time to construct a railroad; and the distance by land is so short, that the line might at once be formed, by placing post coaches and horses on the road across the Isthmus, which would run over a high dry ridge, and would be made at an expense of \$50 to \$100 per mile; and from much conversation with merchants of New Orleans and Savannah, I feel authorized to say, that provided the whole line is arranged, the former will provide steamers to run between the Savannah and New Orleans, and the latter transport the mail and the passengers from the Savannah to the St. John's River in a steamer, and provide post coaches to take them across the Isthmus.

The communication between New York and Charleston is already established, and materials exist for the formation of the remainder of the line, if brought together: and in the hopes that something may be done at once to connect this city with the Great Cotton Market of the South, I annex the outlines of the proposed route. Yours,

New York, 24th Nov., 1834.

R. P.

Memo. of proposed route.

	miles.	hours.
New York to Charleston,	650	90
Charleston to Savannah,	90	12
Savannah to forks of Black Creek, (tributary to the St. John's River,)	210	30
Navigable for Steamers of the largest class.		
Forks of Black Creek to Suwannee river on Gulf of Mexico,	50	12
A harbor has lately been discovered at the mouth of the Suwannee admitting vessels of 12 or 14 ft. draught. Suwannee river to New Orleans	500	72
	1500	216
Or		9 days.

There are convenient bays every 30 or 40 miles all along the Gulf of Mexico, which would afford safe harbors of Refuge in case of storm.

Railroad Accident and escape from Danger.—The Gazette mentions that on Tuesday afternoon, the half past two o'clock car from Newark, was driven,

by the carelessness of the driver, into the aperture occasioned by opening the drawer of the bridge over the Passaic, for a vessel to pass, with a concussion that injured many of the passengers, about twenty in number, severely. Fortunately, the frame work of the bridge sustained the car, and probably saved the lives of many, as the distance the horses were precipitated was about twenty feet or more. The escape is almost miraculous, and there should be some regulation as to opening the drawer at this bridge, as the declivity is sufficient to very much increase the speed or velocity of the car.

[From the Baltimore American.]

The investigation which has been made in reference to the late outrage and murders on the line of the Washington Railroad have led to the arrest of several persons, but nothing has yet transpired which implicates any one in the deed of blood.—From the number of persons concerned in it,—from twenty to thirty have been seen in and about the shanty at the time of the murders,—there is hardly a possibility that the miscreants can escape detection.

From the Gazette we learn that on Saturday night the rioters forcibly entered a tavern kept by Mrs. Harrison, 18½ miles on the Washington turnpike, usually called the half-way, of which they kept possession, appropriating to their own use every thing which they wished. Another party broke into Mr. Wheelock's store, one mile this side of Mrs. Harrison's, and took away all the goods which they could find, the larger quantity having been previously removed by the owner.

The citizens of Ann Arundel county have met at Waterloo, and have established a guard to assist in keeping the peace, which, with the effort of private individuals and other measures now in progress, it is thought will restore tranquility.

P. S.—The last accounts,—received since the above was in type,—represented that the infuriated wretches at the scene of the late outrage continued in a state of high and violent excitement, and seem determined to set at defiance all restraint or law.—They have now become the terror of the surrounding country, and there no longer remains any question but that the most prompt and efficient measures have become indispensable for their apprehension and punishment.

A detachment from the Light Brigade, with Captain Bouldin's troop of the Third Brigade, under the command of Lieut. Col. Campbell, has been ordered to the Washington Railroad, and will leave the depot in Charles street at 9 o'clock (or soon after) this morning.

It is hoped that the companies detached will be full and there is no doubt that the service for which they are detailed will be well performed.

SCULPTURE.—The eyes of amateurs have been lately agreeably directed to an excellent bust of the venerable John Watts by HUGHES, exhibited for a few days past in the Exchange; and we have now to mention that FRAZEE has (through the liberality of Mr. George Rapelje of this city) just completed a work, which, though unambitious of its kind, is yet one of the most tasteful and delicately finished productions of his chisel.

It is a monument erected in Grace Church to the lamented Mr. Colden, bearing upon it a fine medalion likeness of that distinguished citizen, and graced with the following inscription:

To the memory of
CADWALLADER D. COLDEN,
For several years Mayor of this city, a Senator of this State,
And one of its representatives in the Congress of the U. S.
His talents and public services added a lustre to these and many other honors and trusts bestowed upon him by his native city.
He was alike eminent for legal learning and eloquence,
for ardent love and pursuit of general science,
and for successful application of all his acquirements to the best interests of his country.
As his philanthropy and patriotism
commanded the confidence and attachment of his fellow citizens;
so his kindness, frankness, and generosity,
won the warm affections of his family and numerous friends.
By one of whom, who, having witnessed most nearly,
can best estimate his worth,
this monument is erected.

Earthquake in Santa Martha.—Advices from Angostura give some particulars of the destruction of Santa Martha by earthquake, respecting which so many reports have been current. They are furnished by advices from Caracas, which mention that at the latter end of May the eruption of a frightful volcano, preceded and succeeded by forty-

five shocks of earthquake, had caused a part of the town to be submerged. Almost all the buildings had been destroyed, both great and small, but it was not suppressed the loss of life had been great, as the population had fled to the woods by which the surrounding heights were covered. Some few houses remained standing among the mass of ruin, but the whole neighborhood was one scene of desolation and misery, and the inhabitants depending upon chance for a precarious subsistence.

TEMPERANCE SOCIETIES AND TEMPERANCE REFORM which have produced so vast an amount of unquestionable good in this country, where first they were seriously undertaken, are, we are glad to find, making their way successfully in England.—It is another installment paid of the debt we owe to the mother country, for the many benefits derived from her precepts, and her example; that we have thus given her the theory and the practice of Temperance Societies.

We have before us some letters and statements on this subject, from Birmingham, which, as most of our readers know is a large manufacturing city of England, very populous, and the mass of its population operatives. Subject as this mass is to be thrown out of employment by any checks or disasters in trade, and—by reason of great competition and of the mischievous construction of the poor laws, which have been perverted to support able bodied working men, instead of the cripple, the aged, or the infirm—receiving in the best times barely wages enough to support life—it will be at once perceived that to such a population the temptations to intemperance as drowning for a time at least the sense of suffering and the hopelessness of want, must be very powerful. If then the voice of the advocate of temperance can be made to prevail there—and the ascertained facts be circulated which prove that strong drinks are more fatal to comfort, health and happiness, than even the lowest wages—a great step will be already gained in the good cause. That such is actually the case now in Birmingham, will be gathered from the extract we subjoin:

Extract of a letter from Mr. Chapman, dated Birmingham, 27th August.

I have already told you, that Mr. Livesey's admirable lectures had made a deep impression, and from what I had heard, I suggested the probability, that if some mechanics, pupils of Mr. Livesey, and accustomed to discussion from Preston, were to come here, our men might catch the flame, and then we might go on with our own lamps. A few friends met, and at length we agreed to try the effect. Mr. Livesey sent us a blacksmith, a shoemaker and tailor, and what between the fire of the blacksmith, theawl of the shoemaker, and the needle of the tailor; Birmingham is in a tremendous storm. Our friends commenced on Tuesday evening, the 12th instant, at the large chapel, in Livery street, which we engaged for the occasion. Here, also, on Wednesday, Thursday, and Friday evenings to crowded meetings of mechanics, did our Temperance heroes defend themselves against all gainsayers. They are advocates of the most exclusive system a Recluse could desire; they touch "neither wine nor strong drink." After all this, I hoped, though not confidently, that we had gained a point, and I ventured to give notice on Friday evening, (as our Preston friends were to return next day,) that the Birmingham mechanics should have an opportunity of trying their skill on the following Tuesday evening; when the evening arrived, the chapel was crowded, and after having persuaded one mechanic to take the Chair, and another to commence addressing the audience, we soon got to work, and a glorious night it was. I had adopted this plan before, telling the men that it was their meeting, they should have a mechanic in the Chair, which was adopted each night. My old friend Brittain, whose interesting letter you must have seen, presided the first night; on another, a notorious but reformed drunkard, a razor grinder, was our *Præses*, and remarkably well they managed. On another occasion a button maker, and at another, a tailor. Before the meeting closed on Tuesday night, I informed the audience, that I had procured the use of the chapel for the week, and if they wished the meetings to continue, they need only to say so; a burst of acclama-

tion at once settled the point, and up to Friday night, they have been kept up with unabated energy; I then postponed them until yesterday evening, (Tuesday,) when we had another meeting equally full and encouraging. This advance is ascribable to two causes. 1st, The searching character of the addresses, with respect to the nutritious qualities of ale, by the Preston mechanics; and 2d, The interest men feel in hearing discussions by those of their own class. In Lancashire, they now use a term peculiar to themselves;—they call an abstinent, a *tee-totaller*; that is, he totally abstains from all intoxicating drinks. The pressing of this point, so directly crossed the path of our prejudices, that it could not but produce discussion, discussion has lead the trial, and trial to conviction in many, that strong drinks are wholly unnecessary. Of course, there are complicating opinions, but not one apologist now rises for spirit-drinking! This is a great advance of public opinion. Still, of course, there are many who indulge in this vicious habit; but the time appears just approaching when drinking to excess in public will not be tolerated, and when private tipping will have very few admirers. I anticipate this change from the way in which the Temperance reform, will probably be ultimately worked in England. There is an energy of character in English mechanics, which when once roused, is not easily controlled. Many events of late have proved this. But hitherto, all their movements have been accompanied by intemperance, and their efforts have been directed to the removal of effects, leaving the causes untouched. Bubble after bubble has floated before them, and they have as eagerly chased them; yet they have not advanced one step; at least, their wives and children are as short of clothes, and their cottages of furniture, as ever. And why this? simply because, no matter what, their wages were, they went in drink; and for this the Tailor and the Shoemaker contended just as regularly as the Blacksmith, or the Sawyer. Now the following is seen through: The heaven is working; one workman tells another; the points are discussed; but what chance has an emaciated body, and an empty purse with a worthless character, against health, and comfort, and respectability? These are witnesses, which laugh opposition into nothingness.—But these witnesses are sure, and they are working too: and what master, who can have a steady, sober, good workman, will be plagued with a drunkard? It is like a smart, active little enemy battering the hide of an unwieldy antagonist. He stands no chance. Now this feeling is precisely what has commenced here. It will be carried to other large towns by mechanics: and so spreading from one town to another, the cause will advance with giant steps. From the large towns, it will drop into the small ones; and from them into the villages. In the meantime, the tree will bring its fruit to perfection; and the more it bears, the more it will thrive. The real property of this country is so great, that it can almost accomplish any thing possible; it has performed prodigies, while a canker worm has been consuming its vitals—while two millions of pounds sterling have every week been spent or sacrificed to the demon INTemperance. But when this maelstrom to all prosperity shall cease, when popular opinion set in, in another opposite direction, who shall tell the effect?

The writer then enters into further reasoning on the subject, all expressive of his faith that "the little cloud which has crossed the western ocean, spreading far and wide, and distilling the dews of mercy," will prove a mighty instrument in advancing the great cause so dear alike to humanity and religion.

In a subsequent letter of 22d Sept., the same ardent friend of the cause writes,—

"Temperance is going on here finely. It is indeed Temperance! No half way measures will do. Our new converts outrun the old ones, and the old find they must become abstinents, or give it up, so far behind does the zeal of the *tee-totallers* leave half-measure men. By the bye, I am surprised to find that our best men are more and more convinced that even ale is not necessary, but absolutely injurious, though taken moderately. They explain the objection to it to be, that it produces inability to take sufficient eatables, particularly at breakfast. You would be delighted to see the energy of our mechanic's now. They fixed to have two open-air meetings yesterday (Sunday) in two of the worst parts of the town. Scarcely a night now passes but they have a meeting: I have a small still which I carry to these meetings and use in extracting the spirit from ale, in the presence of the people, and

then I burn the Devil. The effect of this is tremendous."

The writer expresses his confidence, that the spirit which animates the mechanics of Birmingham, would soon extend to other large towns, and thence into the villages and hamlets. In conclusion, he relates the following anecdote:

At a late and large Temperance meeting, held at Livery street Chapel, Birmingham, England, while Mr. Chapman the Secretary was speaking, an old soldier who sat before him, interrupted him by calling out, "he had often proved a glass of rum to be a good thing; and that he had served in the hot and in the cold, particularly in the Indies." "Very well," said Mr. C., "there are many here who can recollect that when Bonaparte was in Egypt, there was a strong force marched across the Great Desert of Arabia to meet him on the sands of Egypt." "Yes," cried the veteran, "I do for one, and was one who was in that march." "Well then," said the Speaker, the meeting rising in excitement as he proceeded, "I ask you now, my old friend, whether in consequence of the difficulty of carriage, the army, though subjected to the severest fatigue and incessant toil, were without any spirit rations at all?" "That's true," cried the veteran. "Yes," said Mr. C., "and Sir James McGregor, the Surgeon General of the forces, repeated that the effect was such, that though the men marched under a burning sun of from 114 to 118 deg. of Fahrenheit, THE INDIAN ARMY WAS NEVER SO HEALTHY." Thunders of applause hailed the testimony; while a great point was gained in another view of the case. The meeting had before it a living witness to the truth of a statement, which, though made without reference to Temperance Societies, proves beyond the power of contradiction, that the principles are as the basis of the earth itself.

Might we not here borrow from Birmingham, the excellent notion of mechanics meeting, for the discussion and advancement of the doctrines of temperance? In this way, good men are good examples, although a rolling ocean intervene, act and re-act upon each other, in the promotion of a great common cause.

Description of Panama.—"Panama is principally built of stone, stuccoed. The houses are spacious and substantial, and generally three stories in height, as the place is not subject to violent earthquakes. The city bears a look of departed grandeur. The churches are spacious, and are built in the fantastic style of architecture introduced into Spain by the Moors. There are a number of extensive convents, most ruinous and untenanted. In one of them that overlooks the walls of the city and the bay, a few sorrow, withered, and melancholy looking nuns were occasionally to be seen at the windows. The Government houses is a fine stone building; but a tank of hewn stone in which a fountain (now dry,) formerly played, the broken marble pavement of the grand hall, the defaced balustrades of richly carved stone, and the once painted ceilings now mouldy discolored, and crumbling, only showing in spots traces of the original designs, all tell of decay and poverty.

"The general aspect of the city comports with the desolate appearance of the public edifices: every thing has the same look of decay. Grass springs up between the stones of the pavement; the stucco has fallen in patches from the walls of the houses; troops of the black carrion vulture sit ranged in files along the roofs, or hop unconcernedly about the streets, as they are never molested, being the only scavengers; the inhabitants, sorrow and miserable from the effects of the noxious climate, stroll listlessly along the streets, or sit in the doorways and balconies dozing away life. The city is said to contain seven thousand inhabitants, of which about seven-eighths are black and brown. No such thing as a hotel or tavern is known in the second floor of a house large enough to have quartered a regiment.

"Panama is a walled town; and that part of the walls which borders on the bay, is very fine masonry, thirty feet broad at the top, forming a beautiful promenade, commanding a view of the lovely bay, and much frequented during the fine season. Very few cannon are remaining on the walls, which are undetermined in two or three places by the tide. On the left of the town stretches a long beautiful beach of fine white sand, narrow, and bordered by a dense thicket of luxuriant foliage, as if vegetation grudged space for the flow of the tide. At intervals, the thicket is interrupted by the palm thatched cottages of the natives, overshadowed by lofty cocoa nut

trees, in front and on the right, as far as the eye can reach, the bay is dotted with small, green, fairy-looking islands, all together forming a picture whose beauty I have rarely seen equalled. The pearl fishery is still pursued in these islands, and large quantities of beautiful pearls are annually procured. Foreign vessels are forbidden to touch at these islands without special permission from government, under pain of forfeiture. Green turtle are abundant about these islands, but the islanders will not suffer them to be caught, as they assert that the sharks feed on them; and that, by lessening the supply, these voracious fish will be rendered ravenous, and more likely to attack the divers. As it is, accidents happen often. The bay is the resort of immense flocks of pelicans and other water fowl, which find in the abundance of fish an easy subsistence; and which, at sunset, wing their way in long-drawn lines, from the shore to their roosts in the islands, and by their noiseless and even flight to their places of rest, add to the idea of repose which the whole scene at this hour so strongly suggests."—[Terry's Travels in South America.]

Russian Tyranny.—THORN, SEPT. 26.—General Biernacki.—It is our painful task to announce the death of the brave Polish General Biernacki, brother of the Minister of Finance of the national government. He expired in the Russian dungeons, at Zamosc. The name of this General ought to be well known in France. He distinguished himself in the wars of Italy and Poland; he fought gallantly at Trebia by the side of Dombrowski, and in 1812 he commanded the advanced posts of General Reginier at Kalisch. In this battle he was dangerously wounded, and taken prisoner by the Russians.—Joseph Biernacki appeared again in the revolution of 1830, and put himself at the head of a *corps d'armée* in the district of Kalisch. When the brute force of the Autocrat triumphed in Poland, the General, seeing it impossible to escape, retired to his estates, and remained unmolested. In 1833, Major Wrinicki, returned to Poland from France. He remained concealed upon the property of Joseph Biernacki. The government having obtained possession of this fact ordered the arrest of General Biernacki, and that honorable man, refusing to denounce the patriot, was, by military commission, sentenced to three years' confinement in the dungeons of the fortress of Zamosc. He has fallen a victim to the severity of Russia, leaving a wife and four children to deplore his loss. Major Wrinicki was shot some time ago.

Important Invention.—Dr. Majendie has made a report to the Academie des Sciences upon an instrument invented by Dr. Hérisson, called the Sphygmometre, which shows the rate of the pulse, its rhythm, and anomalies. In pursuance of the conclusions of the eminent reporter, the Academy passed a vote of thanks to the author of this most useful and ingenious discovery. Dr. Hérisson has published a memoir, showing the results of his several applications of this instrument in studying the disease of the heart. After six years of clinical researches, supported by numerous anatomical proofs, it is found capable of distinguishing organic affections from cases which only assume the appearance of such affections. As the Sphygmometre gives the numerical force of the pulse, it has now become possible, according to the observations of Dr. Hérisson, to prevent such attacks of apoplexy as arise from a too great determination of the blood towards the head. By this instrument also, may be calculated the effect of blood-letting upon the strength of a patient. It is, therefore, a most important invention, and must excite the attention of all persons, whether French or foreigners, who are capable of appreciating its qualities.—[Galignani's Messenger.]

A Lapland Summer, including also what in other countries is called Spring and Autumn, consists of fifty-six days, as follows:

June 23,	Snow melts,
July 1,	Snow gone,
9,	Fields quite green,
17,	Plants at full growth,
25,	Plants in full blow,
Aug. 2,	Fruits ripe,
10,	Plants shed their seeds,
18,	Snow.

From this time to June 23, the ground is every where covered with snow, and the water with ice.

The Royal Yacht Club, at the close of the present season, consisted of 148 members, owning 101 vessels of 10,000 tons burden, and employing, during the season, not less than 1200 seamen.

NEW-YORK AMERICAN.

NOVEMBER 22—28, 1834.

LITERARY NOTICES.

THE CONSTITUTIONAL GUIDE; comprising the Constitution of the United States, with Notes and Commentaries from the writings of Story, Kent, Madison, &c. Compiled by R. K. Moulton. New-York, G. & C. Carvill & Co.—We rejoice at finding that so many persons are turning their attention to the study and exposition of the Constitution, looking upon the spirit which prompts these researches and publications as surely indicating a salutary bias of the public mind towards such inquiries.

The Guide here offered by Mr. Moulton is an excellent one; differing, at the same time, in many particulars from any we have seen before. The text of the Constitution is carefully printed in exact and literal conformity with the original MS. on file in the State Department; and to each article notes are annexed at the bottom of the page from the Federalist, the Commentaries of Judge Story, those of Chancellor Kent, and from Wheaton's Reports, shewing the actual construction given to every provision which has been made the subject of a question. There are too dissertations in the same form of Notes, by the Compiler, in more immediate reference to questions of recent occurrence, which evince patient research, and, as we view it, a just perception of the true spirit and intent of the Constitution. Among these original views, we particularize as especially deserving of notice, an examination of the doctrines of the Protest—an inquiry into the right of the President to dismiss at pleasure all or any officers for opinion's sake—and a discussion of his claim to direct the conduct of Executive officers in matters confided by law to their individual discretion. Much as all these points have been mooted, there will be found strength and originality in the exposition of them by Mr. Moulton.

A second part of this volume, and making nearly one half of its bulk, is devoted to "a Legislative and documentary history of the Banks of the U. States," with notes and comments by Mr. M. The same searching spirit, fairness of investigation, and decision in the statement of conclusions drawn after laborious investigation, are apparent in this, as in the former part of the book; which, as a whole, we cordially recommend to all who would have a great deal of good doctrine and useful information in a small compass.

SELF-CONTROL, a Novel; by MARY BAUNTON, 2 vols.; KEY & BIDDLE, Philadelphia.—This republication of a novel of some standing and of approved merits, is well-timed and judicious. Its title denotes its moral; which is the necessity and advantage of accomplishing that most difficult of all victories—the mastery of one's self. It is not, however, a prosing homily; but a tale full of incident and adventure.

THREE YEARS IN THE PACIFIC, including notices of Brazil, Chili, Bolivia and Peru, by an Officer of the U. S. Navy; 1 vol. 8vo; Philad., Carey, Lea and Blanchard.—This is an agreeable volume, written in a sketchy, off-hand style, and presenting the impressions of an observing and intelligent man on the passing scenes of the countries—new yet in so many respects even to us, the inhabitants of the same continent—through which he flitted.

It has the merit of vivacity, without the pretension of judging in a ten days visit, the manners, habits, intelligence, &c. &c., of a whole nation.

NOUVELLE ET SIMPLE METHODE DE LANGUE FRANÇAISE; par E. C. S'ALME. New York: CHARLES DE BEHR.

FIRST GUIDE TO THE ITALIAN LANGUAGE; by L. L. DAPONTE. New York: CHARLES DE BEHR.

The first of these Grammars, or Guides to a for-

sign language, is only adapted to such as have already acquired some knowledge of French. For these, and for those to whom French is a native language which they have nevertheless not studied, this Simple Method will be of use.

The First Guide to the Italian Language is short, clear and explanatory, without being incumbered with rules, or uninteresting dissertations. It is a little pamphlet, in English, which the frequenters of the Opera, among others, might find benefit in studying.

THE PROTESTANT EPISCOPAL PULPIT, for November; N. York, JOHN MOORE.—This number has a sermon by the late Dr. Jas. Montgomery, of St. Stephen's Church, Philadelphia, (formerly of Grace Church here,) on the "Service of the Church," its meaning, excellence, &c. Prefixed to the sermon, is a feeling and interesting memoir, by Bishop Doane of New Jersey, of his departed friend and fellow laborer in the vineyard.

VATHEK, AN ORIENTAL TALE, BY MR. BECKFORD, 1 vol. 18mo. Carey, Lea & Blanchard.—This is the second American from the last London edition of the most admired work of the accomplished author of "Italy," corrected by himself. The work to which Byron allowed that he was indebted for the best of his Eastern imagery, has been long enough before the public to be established as a classic.

FEMALE CONVENTS, or Secrets of Nunneries disclosed, compiled from the MS. Memoirs of Scipio Ricci, Catholic Bishop of Pistoia, by Mr. DE PORTER; N. York, D. Appleton & Co.—This is not a work of imagination or of bigotry, but the result of developments forced upon the attention of a Catholic community by the persevering efforts of an Apostolical Bishop, to make his religion and those who are set apart and dedicated to it, what they should be—pure and holy. To say that it proves the tendency to abuse, disorder, and crime, of monastic institutions, is only to repeat what all reflecting Protestants who understand human nature, were before apprised of. The object of its present publication here, would seem, by a prefatory address, to be, to put Protestant parents in America on their guard against the great efforts said to be making to spread the monastic and religious institutions of Catholicism among us. In this view it is a fair, and, at the same time, formidable publication—for its authenticity, we apprehend, is undeniable, and its developments certainly most startling.

CALAVAR, OR THE KNIGHT OF THE CONQUEST, a Tale of Mexico; 2 vols. Carey, Lea & Blanchard, Philadelphia.—We have not had time to read this novel, but a friend in whose taste and judgment in such matters we confide, has sent us the following notice of it. We learn from the National Gazette that Calavar is the subject of a commendatory article in the forthcoming number of the American Quarterly Review:

"Dr. Bird, has given to the world a romance entirely free from those errors and imperfections which disfigure, in a greater or less degree, every other American novel. Unquestionably he has taken time to accomplish this: he is evidently divested of that short-sighted ambition which has been injurious to at least one distinguished American writer, and which will ruin all who continue its pursuit—the ambition of writing novels as fast as Sir Walter Scott; but he can rest from his present labor with the reflection that the time occupied in literary composition bears an auspicious proportion to the time which the work produced may be expected to endure. Of novels, especially, we believe it is true, that those which are soonest written will be soonest forgotten—always excepting the works of the author of Waverley, whose pre-eminent genius seems to place him beyond general rules: and our American writers need no counsel so much as this—read, revise and correct deliberately before you publish.

Calavar is not only singularly free from those imperfections which are the inevitable result of hasty or careless composition; but it is, moreover, singularly finished and complete in those particulars where novels, usually, are utterly defective. The "unities" are perfectly preserved throughout: poetical probability is never transgressed: curiosity is satisfied: and the quaint language of three centuries ago is sustained with unwavering consistency, and with a force and elegance of composition rarely, if ever, surpassed. It is without question the best American novel that has yet appeared; and what we principally wonder at is that a writer of such exalted abilities should have kept the world so long in ignorance of the extent of his power.

One thing that we specially like in Calavar, is the omission of quotations at the beginnings of the chapters. Scott had genius and taste sufficient to make this sort of caption a positive embellishment; and Bulwer has imitated him with some success; but, for the most part, all others, by attempting the imitation, have merely illustrated the difference between reality and appearance—sense and nonsense.

TRAVELS IN THE EQUATORIAL REGIONS OF SOUTH AMERICA, BY ADRIAN R. TERRY, M. D.; 1 volume; COOKE & Co., Hartford.—Americans are allowed, we believe, to be the most locomotive people on the face of the earth; but as book-making is not one of their propensities, they so seldom give the result of their observations to the public, that almost all our impressions of foreign countries come through the medium of the British press: A medium not altogether so candid and impartial, judging by the view it gives us of things in this country, that we can rely with confidence upon the coloring which it imparts to objects. It is, therefore, with peculiar pleasure that we always take up a book of travels by an American; for if we can never become acquainted with the manners and customs of other people without swallowing a certain quantum of national prejudice administered by the writer, it is certainly some recommendation that the potion should be manufactured at home by a countryman. The work of Dr. Terry, however, is remarkably free from any of those narrow views which impair the value of so many books of travel. It contains a great deal of valuable information in relation to a country whose interests are becoming daily more interwoven with ours; and its various sketches of scenery and manners in South America are thrown off with great ease and a total want of pretension. Travelling on horseback in so unsettled and romantic a country, must, to a young and adventurous spirit, have been extremely delightful; and we only regret that Doctor Terry has not enriched and imparted stronger character to his work, by the more frequent introduction of those little personal adventures among wild scenes and encounters with strange people, which, while they create a degree of interest in the author himself, serve to convey the most vivid impressions of those with whom he associated. It is this happy, dramatic faculty which gives such a charm to the delineations of Spanish life, and such an interest to the various wanderings of the author of "A Year in Spain." The work before us, though we do not know that its essential value would be improved, would certainly be rendered more entertaining by a greater infusion of such material, though it is by no means wholly deficient in it at present. We have already given some brief extracts from it among our miscellanies, but the following account of an exploring tour into the crater of Pinchachinca, with the other descriptive passages here selected, will bear their own recommendation with them.

Before day-break we were again on our way, wishing to arrive at the top of the mountain as soon as possible, for early in the morning the crater is generally free from the mist which fills it at a later hour. The height of the mountain at the edge

of the crater, is about 15,800 feet above the level of the sea. Mules can approach within about 500 feet of the top; the rest of the ascent must be accomplished on foot. At about sunrise we left our mules and commenced the ascent. The hill is very steep, and composed of small loose masses of lava, which afford but an insecure footing, and together with the rarity of the air render the ascent exceedingly toilsome. Sor Negrete, although, somewhat in the vale of years, astonished us by the vigor with which he pushed up the hill, proving himself fully equal in activity to any of us. When we arrived at the top of the hill the mist had not filled the crater, and we could see to its bottom, from various crevices in which a dense white smoke was issuing.—A stifling smell of sulphurous acid filled the air, and increased the oppression of breathing caused by its rarity. In various parts of the mountainous regions of South America, more especially in Peru, there appears to exist a cause, in addition to the rarity of the air, which oppresses the breathing; the effect of this appears to be far more severe than that produced by the rarity of the air merely. Both are called *zoroehi*. The one of which I now speak has been attributed to arsenical vapor; it certainly bears no fixed relation to the elevation, many of the places where it is more severe, being less elevated than when the oppression of the lungs is comparatively slight. Many interesting facts in relation to its effects, were related to me by my companion from Guayaquil, who had travelled much in Peru. He particularly mentioned a small circular plain (the precise location of which in Peru has escaped my memory) surrounded by hills, and only at an elevation of a little more than six thousand feet above the sea, where the *zoroehi* is so severe that it is necessary to let your horse or mule proceed on a walk. A brisk pace for a few yards, will cause them to fall instantly dead. This accident had occurred to this gentleman twice while in Peru; once, if I do not misremember, at this very place. There are reasons which will suggest themselves to every physiologist and chemist, which render it more likely that carbonic acid gas is the agent in the production of this effect, than arsenical vapors.

In the crevices of the black and fantastically-shaped volcanic rocks which arose round the edge of the crater, were small masses of snow and ice; but generally the top of the mountain was free from them. The crater is an immense, yawning abyss, not having the circular form which is generally described as the figure of volcanic openings, but partaking more of the aspect of a ravine. We judged the depth of it to be from fifteen hundred to eighteen hundred feet; and from the point where we stood, could see no obstacle to prevent our reaching the bottom, by following the course of a kind of ravine which was free from large rocks, and which, although rather steeper than the hill on the outside, afforded much better footing. Our Indians had not yet arrived at the top, but we determined to descend quickly, lest the mist should fill the crater; and if we came to any obstacle which we needed the crowbar and cords to overcome, we could wait for them. But we were soon destined to encounter an obstacle against which crowbar and cords were of no avail, and which put a period to our expedition. After we had descended about six hundred feet, we came to a precipice of eight hundred or a thousand feet perpendicular height, the base of which appeared to rest nearly in the bottom of the abyss. In vain did we search for some less precipitous part by which we might descend: the sloping hollow here terminated, and on each side rose high walls of rock, continuous with the face of the precipice. It was an awful place upon which we stood. Life of every kind seemed to have fled in terror from the dangerous vicinity. Not the smallest plant, not even a blade of grass was to be seen. Even the lichens, those children of barren rocks, refused to clothe the scorched and blackened surface of the crags. Not the chirp of a bird, nor the hum of an insect, was to be heard in this abode of silence; and even the condor shunned to soar within reach of the noxious breath of its vapors. Below us lay the mouldering fires of the volcano, and on the opposite side rose black and ragged cliffs, a fit boundary for such a view.

While we were gazing on this, to me, novel and extraordinary scene, the mist began to drive up the chasm from the lower land in which the ravine terminates, and we were soon completely enveloped in a thick fog, which prevented us from seeing a dozen yards in any direction. The mist had a very sensible warmth, compared to the sharp mountain air which we had been breathing a few minutes before. Had we been inclined to trust our lives to the

strength of a hide rope, in so long and perilous a descent as that of the cliff before us, the quantity we had with us would not have not availed. There was not enough to reach half way down. Our prospect being destroyed by the mist, and all hope of reaching the bottom by this road gone, we turned to ascend; and on arriving at the top, found our Indians waiting for us. In reply to our questions why they did not come down, they replied that they were afraid, that yonder was the abode of devils; and truly, it had a most devilish smell.

Dr. Terry has no doubt that, by making a circuit of several miles, and following up the course of the ravine, the bottom of the crater might be reached.

Our other extracts are unavoidably crowded out to-day, but they shall appear hereafter.

THE LAST DAYS OF POMPEII, by E. L. Bulwer; 2 vols.—New York: Harper & Brothers.—There are few of our readers who are not familiar with the theme of Pompeii. With the descriptions of its temples and private dwellings—the new offering upon the altar, and the half drunk wine upon the social board—the priest that ministered and the reveler that quaffed—that were all laid bare to modern eyes after being buried for seventeen centuries. The story, of skeletons found in every familiar position—the sentinel still standing at his post, and the miser clutching his money bags and apparently striving to pierce his way through the dense cloud of ashes by which this devoted city was overwhelmed;—the beauty by her toilet—the butler in the wine vault, and the baker with his scorched loaves, seemingly just taken from the oven beside him—mingles with the most thrilling memories of our childhood, and invests the fate of Pompeii with an interest that can never grow stale.

It is these desolated dwellings and mouldering skeletons—which the labors of sixty years have gradually disinterred from their frightful tomb—that the genius of Bulwer has attempted to re-animate with the sounds and motions that long ago were so fearfully stilled. To say that he has completely succeeded would be awarding him praise such as none but Shakespeare and Scott have yet exacted: to say that he has wholly failed, would be equally far from the truth. The conception of his story is original and striking. The characters are just the phantasmagoria that should move athwart the gloom of such awful scenes; but it must be confessed, that with all the minute topographical details and learned illustration that he has brought to his difficult, perhaps impossible task, the execution still falls short of reality. He has achieved a gorgeous picture: he gives us a splendid dramatic representation of 'The Last Days of Pompeii'; but it is not those days themselves which we live over. The tinge of pedantry—sometimes scholastic, and sometimes dandyish—which colors all of Bulwer's brilliant writings, is not indeed so apparent in a work where classical lore must be continually in requisition; but the want of simplicity, which is his greatest defect, prevents the seal of truth from stamping what is otherwise a masterly production. No one can read this work without the liveliest admiration for the powers of its author; but no one will, on a single page, forget the author, in his ideal characters. The feminine devotedness of the high-souled Ione—the classic elegance and Promethean spirit of her Athenian lover—that delicate and elaborately finished creation, their blind attendant—the astute wiles and magnificent proficiency of the groveling but haughty Egyptian, who is so admirably grosped with them—Olynthus, the heroic Christian, and Lydon, whose springy step we can almost behold in the gladiatorial arena—Nothing can be finer than the drawing of any or all of these, for they are all struck from the canvass with the hand of a master—but they are all pictures. Like Mordaunt in the Disowned—Devereux, Isora, Eugene Aram, and all of Mr. Bul-

wer's most prominent characters, they excite admiration rather than sympathy; they belong to poetry rather than to life. "The last days of Pompeii," however, will, we conceive, take rank with either of these works, unless it be perhaps the last, which is certainly a prodigious favorite in this country. Our national taste is decidedly for the strange, the wild, and the unnatural. Byron is the most popular of poets among us; and there is no writer of fiction whose works are desegated as widely through the Union as those of Bulwer. He is indeed, we have good reason for believing, a greater favorite in this country than in his own; and as his new work has been there received with the utmost praise, its success here is undoubted. It will be read with pleasure, as one of the most brilliant productions of the day; and it will be resorted to as illustrating some of the most interesting passages of Pliny and Dion Cassius; and offering with "Valerius," and "The Epicurean" the happiest representation of ancient manners through the medium of fiction.

As in a late number of the American, a notice has been taken of Mr. Allston's picture of "Belshazzar's," it will be agreeable to our readers to peruse the following extract relating to that production from Dunlap's forthcoming history of American art and artists?

MR. DUNLAP'S work is looked for with so much interest that we consider ourselves happy in being able to anticipate its publication even with so slight a morceau.

"Although my large picture (Belshazzar's Feast) is still unfinished, yet I ought perhaps to say something about it, as many inquiries have been made respecting my progress in it, and the probable time of its being completed. In assigning this reason for speaking of it in this place, I do not mean to admit any right in the public to be made acquainted with it; for so far, it is wholly a matter between the subscribers and myself. Still I am not disposed to withhold all information from a very natural curiosity. On some accounts I cannot but feel gratified with the general interest that has been manifested in relation to it. All, however, that I can now say, is, that so soon as it is in my power to apply myself without interruption to the completion of the picture, I shall do it with the utmost alacrity; and that when circumstances will admit of this, it will not take a long time to finish it. If the subscribers to it have been anxious for its completion, many and many-fold greater has been my desire to see it done; and great indeed would be the relief to my mind. I could long ago have finished this and other pictures at large, had my mind been free: for indeed I have already bestowed upon it as much mental and manual labor as, under another state of mind, would have completed several such pictures. But to go into the subject of all the obstacles, and the hindrances upon my spirit, would hardly be consistent with delicacy and self respect. Nor could I be far enough understood if I should do it, to answer by it any essential purpose. Those feelings which are most intimately blended with one's nature, and which most powerfully and continuously influence us, are the very feelings which it is most difficult to give any distinct apprehension of to another. For this reason then, as well as for the other assigned by me, I will be silent respecting them. I may add, however, in conclusion, that I have the prospect of a time, not very far distant, when I expect to be in a condition to complete this picture; an event which is not possible for any one to desire more than myself."

Mrs. Butler's Journal.—This work will be issued from the press, *verbatim et literatim*, from Mrs. Butler's original notes, penned at the time of which she speaks. The London edition will be word for word, the same as the American edition; the printed sheets being sent from the city as soon as worked off, to the English publisher. The publication will be simultaneous on both sides of the Atlantic.—If on greater familiarity with America, its manners and customs, the first impressions of the authoress are modified, it will be so stated in notes without meddling at all with the body of the work.—[Philadelphia Paper.]

FOREIGN INTELLIGENCE.

LATER FROM FRANCE.—By the Rhone, from Havre, Paris papers to the 23d ult. are received. We take our extracts from the Journal of Commerce. There is very little of general interest in our papers, which, however, are not later than the 16th.

Extract of a letter of the 17th inst. from Cambo, in the Basses-Pyrenees:—"General Mina is still here. His health has undergone a considerable change for the better, and his friends and medical attendants believe that in a few days he will be able to enter upon the campaign. He has, however, not been allowed to resume his usual food, though he mounts on horseback, and talks very cheerfully of himself and his prospects. But, in the opinion of every body, a capital fault has been committed by the Spanish Government in not giving to Mina the undivided command over the revolted provinces.—Half the chances of success are thrown away by this half distrust—half confidence.

Extract of a letter of the 18th inst. from Boulogne.—"The members and subscribers of the Humane Society here, accompanied by several of the authorities, took advantage of the gale, or rather tempest, yesterday, to make trial of the life boat which had just arrived. She acted extremely well, ploughing through the tremendous breakers as they rolled towards the shore, and in almost every respect answered the humane purpose for which it is intended.

The *Semaphore* of Marseilles of the 19th instant has the following:—"M. Ferino, the Receiver General for the Bouches du Rhone, will shortly go to Paris to confer with the Minister of the Finances as to establishing a Bank at Marseilles. It appears that this useful institution will be immediately set on foot in this town. The capital will be two millions of francs."

Accounts from Dieppe and Havre state that considerable damage was done by violent tempests at these ports. The terrace of the bathing-house at Dieppe has been undermined in many places, and the engine-house has been sapped to such an extent that it is only supported by props hastily set up. Great numbers of North American birds have taken refuge in that town. At Havre considerable damage has been done on the beaches of Perrey and Saint-Adresse.

LATER FROM LIVERPOOL.—By the *Roscoe* we have our London papers to the 24th, and Liverpool papers to the 25th. They are absolutely barren of news. In Spain and Portugal affairs remain *in statu quo*. The marriage of *Donna Maria* seems to be calculated on with the son of *Beauharnois*—the French minister having remonstrated in vain against it, had left Lisbon.

The death of Earl Derby, remarkable chiefly for his marriage with Miss *Farren* the actress, whom he survived—and for his passion for fighting cocks, he carried so far, as when lately he could not go out, to have them brought ready trimmed and gaffed into his drawing room, and then have a set-to—occurred about the middle of October. He was the grand father of Mr. Stanley.

[From the London Courier of 23d Oct.]

PROROGATION OF PARLIAMENT.—Parliament was prorogued this day. The ceremony took place in the Lords' Library, which had been fitted up for the occasion, the members of the House of Commons entering on one side, and the Lord Chancellor and the Peers on the other.

The Lord Chancellor arrived very shortly after two o'clock, and took his seat on the temporary Woolpack prepared for the occasion. The other Commissioners (the Earl of Mulgrave and Lord Auckland) having taken their seats, the Royal Commission for proroguing the Parliament was read.

When the commission had been read, the Lord Chancellor said, "In virtue of this commission to us directed, and in obedience to his Majesty's command, this Parliament is prorogued until Tuesday, the 25th of November."

No mention was made of any other place for holding the Parliament, the words referring to it being "our said Parliament at Westminster."

The attendance of the Peers was more numerous than we recollect for some time past on the mere formal prorogation of Parliament. Among them were Lord Shelton, Lord Strangford, the Earl of Westmorland, Lord Burghersh, the Marquis of Conyngham, &c.

The Commons were represented by Mr. Ley, the Clerk of the House. Sir James Graham and Mr.

Stewart Mackenzie were the only members whom we recognised. Lady Burghersh and Lady Manners Sutton were also present.

Governor-General of India.—It was generally circulated on Tuesday evening, at the west end of the town, that the noble Secretary of State for Foreign Affairs (Lord Palmerston) had obtained that splendid prize the Governor-Generalship of India.

We have to record another failure to-day—that of a West India produce broker, in Mincing lane.—[Chronicle.] [This house is, we believe, that of Field & Co. We understand also that an American house, trading under the firm of Jansen & Co., has stopped. Some alarm, we believe, prevails in the city on account of these and other failures, and a great scarcity of money is felt.]—*Courier* of 22d ult.

Burning of "Windsor Castle."—A very absurd report has been afloat the whole of this morning that Windsor Castle had been burnt to the ground. We have made every inquiry on the subject, and learn that the rumor originated in a house having caught fire in the Vauxhall-road, adjoining to the public house called the Windsor Castle.—[Sun.]

Another paper says: "Not only in the city, but at various parts of the town, it was currently reported that Windsor Castle was on fire at 3 o'clock this morning, which gained credit for some time. On an inquiry at the coach-offices, it was found to be a public house, called the Windsor Castle, which was on fire. Thus ended the hoax."

Birmingham Musical Festival.—We learn that the net proceeds of this festival, after defraying all expenses, amount to above £7000, which sum goes to the Birmingham General Hospital.

The death of the Earl of Derby, at the age of 82, is mentioned in the Liverpool papers with expressions of regret, as he possessed the best breed of cocks in the Kingdom.

M. Marin.—This celebrated French sculptor, well known by his statue of Tourville, and other works of great merit, died last week in Paris, at the age of seventy-one.

Algiers.—The Algerine Colonization Company is finally constituted. A great number of colonists have set out with their families to occupy, as farmers, some of the lands belonging to the company, which possesses above 30,000 acres in the environs of Algiers. The provinces have concurred with the capital in this great and useful enterprise. The house of Barbet alone has taken 120 shares of 1000 florins each.—[*Messenger*, Sept 19.]

PARIS, OCT. 22.—Last year, a Polish gentleman having caught a stork upon his estate, near Lemberg, put round its neck an iron collar, with the inscription *Hec ciconia ex Polonia*, (this stork comes from Poland,) and set it at liberty. This year the bird returned to the same spot, and was again caught by the same person. It had acquired a new collar of gold, with the inscription, *India cum dona remittit ciconiam Poloniam* (India sends back the stork to the Poles with gifts.) The gentleman, after having shown the inscription to his neighbors, again set the bird at liberty.

SUMMARY.

THE GREAT ECLIPSE, which, by a mistake of the date, we made—in a notice of it some days ago—to happen on the 5th of the present month, will occur on the 30th, and be total in the southern parts of the Union.

Already several scientific gentlemen are on their way South, to make observations on this rare and interesting phenomenon.

Professor *Alexander*, of Princeton, has gone to Effingham county, in Georgia, where the darkness will be total.

Captain *Talcott*, of the United States Engineers, will make his observations at Norfolk, Va., where the obscuration will be considerable; and Mr. *Hussler* on Long Island, from his coast surveying station.

Mr. *R. T. Paine*, of Boston, who has charge of the astronomical department of that excellent publication the *American Almanac*, goes to Beaufort, S. C., the most eligible place in the Atlantic States for observing this grand spectacle.

The total import of specie into the United States, since the 1st December, 1833, is stated in the Washington Globe to be \$19,640,576 82. The amount of the new gold coinage to the 15th inst. is \$2,835 900.

Carpenter *McCleery*, Esq. has become part proprietor of the Lancaster Union, a very decided Whig journal, published at Lancaster, (Pa.)

The late *Jona han Burrall*, whose death was noticed in this paper on Saturday, is thus justly spoken of by the *Goshen Democrat*.

The character and public services of Mr. Burrall require from us something more than the usual obituary notice. At the age of 23 he joined the northern army, then engaged under General Schuyler, in the memorable campaign of 1776. His peculiar abilities and acquisitions attracted immediate notice, and procured for him the situation of Assistant Paymaster of the forces. He remained in this office until the close of the revolutionary war, when he was chosen by Congress one of the commissioners for settling the accounts of the Commissary and Quartermaster's Departments. He was afterwards appointed Assistant Post master General. Upon the establishment of the Bank of the United States, Mr. Burrall was selected as Cashier of the Branch in the city of New York, and subsequently received from Governor Clinton a nomination as one of the managers of the State lotteries, at a time when public confidence in them had been shaken and the influence of high purity of character was requisite to restore it.

In these, and several other responsible stations in life, he exhibited great strength of understanding, persevering industry, and the most distinguished integrity. His acquisitions in literature were respectable, and in science large and accurate. He united, to a vigorous mind, an amiable temper, and a marked and most undeviating adherence to truth, which won for him during life, and will secure to his memory, the respect and affection of all who knew him.

Death of one of the African Princes.—Charles Bolio, son of Wead Bolio, of Grahway, one of the African Princes sent to this country to be educated, under the care of the Maryland State Colonization Society, died at Baltimore, on Tuesday morning, from an effusion upon the lungs.

Dr. Alfred Perkins, of Norwich, Ct. whose death was mentioned in our paper last week, besides several private benefactions, made the following bequests for public objects:

\$10,000 to the Library of Yale College,
\$3,000 to the Home Missionary Society,
\$1,000 to the Bible Society,
\$1,000 to the Colonization Society,
\$500 to the Sabbath Schools of New London County.

[From the Charleston Courier of 17th inst.]

A new steamboat, called the *David Crockett*, built by Mr. Poyas, was plying about our harbor yesterday, in order to try her machinery. The *David Crockett* is constructed on a similar principle to that of the Connecticut boat, noticed in our paper some days since, having the wheel in the stern, and like her, is intended to navigate the rivers of Georgia. She is bound to Darien, via Savannah, and will be employed the ensuing season, in towing boats between Darien and Macon, in connexion with the Pioneer line from Macon to Charleston, via Darien.

Lake Steamboat.—A new boat called the *Charles Townsend*, burthen 325 tons, was launched at Buffalo on the 8th inst., to be finished for the earliest spring business.

Newark Carriages.—It is worth mentioning both as an evidence of the great demand for Newark Carriages, and the pressing business of the manufacturers that one large House in this town have been compelled, by their previous engagements, to turn away orders to the amount of \$100,000, within three months! We may also mention, as a handsome compliment to the skill and taste of the manufacturers in general that a large dealer in Carriages of New Haven, himself an extensive manufacturer, declared, in this town, last week that he came to Newark for his best carriages—they being superior to those made elsewhere.—[*Newark Daily Advertiser*.]

American Champaign.—The vine appears to be successfully cultivated for wine in the vicinity of Baltimore. Mr. G. Fitzhugh writes to the Baltimore American that about 20,000 vines, principally the *Herbement*, *Lenoir*, *Catawba*, *Bland*, and *Isabella*, all natives, have been planted within the last four years. The American also acknowledges the present of a bottle of sparkling *Herbement*, made in August, 1832, and bottled in March, 1833, which "resembles champaign in color, flavor, and briskness, and is superior to much that is sold under the fascinating name of the French favorite." It is declared to be the pure juice of the native grape. The Burgundy and Champaign districts of France are about latitudes 47 and 48.

It is stated, that near Cumberland the Potomac passes through Strata of bituminous coal 20 feet thick, where the coal may be thrown directly into the boats. Well may Baltimore and the cities in the District of Columbia be anxious speedily to extend the canal to these rich treasures.—[Alexandria Gazette.]

A convention of "Scientific Practitioners of Medicine in the State of Ohio," is appointed to be held at Columbus, on the 5th of January.

The River.—The recent rains have caused a considerable rise of the river; and we have no hesitation in assuring persons to the eastward, who are interested, that they may now rely upon having a good navigable state of the river, during the remainder of this month—probably the first two weeks of December, and perhaps even longer. It is but seldom that the navigation of the Ohio is interrupted by ice before the 10th of December. In 1796, however, it closed in November, and remained closed until February, 1797.

Georgia Legislature.—A bill to alter the Constitution, so as to change the meetings of the General Assembly from Annual to Biennial after 1835, and to elect the Judges of the Superior Courts, and the Attorney-General, and the Solicitor-General for four years, was before the Georgia Legislature and will probably pass.

U. S. NAVAL LYCEUM.—A communication has been received from our Charge des Affairs at Constantinople, (Comodore Porter) by which it appears that he has caused to be purchased on his own account by our Consular Agent at Salonica, and has transmitted as a present to the United States Naval Lyceum, a very ancient and valuable specimen of Grecian Sculpture. The precious relic of ancient art is now on board the frigate United States in charge of Captain Ballard.

INTERESTING CEREMONY.—The remains of twenty eight seamen and marines, who perished by the explosion of the United States Receiving Ship *Fulton*, in June, 1829, were disinterred and removed on Wednesday last, under the escort of a marine guard, followed by the officers of the station, and a detachment of seamen and marines, to the Naval Hospital burying ground, and deposited in a stone vault prepared for the purpose, preparatory to the erection of a monument to their memory.

Yale College.—Number of graduates, 533. Fresh man Class 69, less by about 50 than last year. Number of Students from Connecticut 172, other Eastern States 67, New York city 12, other parts of New York 52, New Jersey 4, Pennsylvania 7, Maryland 5, Virginia 5, North Carolina 3, South Carolina 5, Georgia 5, District of Columbia 3, Louisiana 2, Michigan Territory 2, South America 2, Mississippi, Alabama, Illinois, Kentucky, Tennessee, Ohio, West Indies, 1 each.

The Theological Department has 53; the Law School 45. The Medical School had not assembled in time to be included in the catalogue.

Brown University.—The whole number of students at this Institution, as appears by the catalogue recently published, is 167. Seniors 32, Juniors 36, Sophomores 56, Freshmen 42.

Williams College.—From the catalogue of this Institution just published, it appears that the number of students is 120, viz., Seniors 21, Juniors 40, Sophomores 27, Freshmen 32.

The Rev. William Suddards, of Ohio, has accepted the unanimous call to the Rectorship of Grace Church, Philadelphia.

[FOR THE N. Y. AMERICAN.]

Mr. Editor: Will you oblige an old subscriber by deciding to which century the 1st January, 1800, belongs—whether to the 18th or 19th? Q.

This is a question that has been often asked, but not satisfactorily answered. If the computation be made from Zero, then the hundredth year is finished on the 31st December 99. So again, counting January 1 as the first day of a new year, December 31 would be the 365th day, and that completes a year. Hence we conclude that the 1st of January, 1800, was the first day of the 19th century.—[Ed. N. Y. Am.]

THE HERO OF FIVE WARS.—The Mercantile of this morning gives some interesting details respecting an old soldier who commenced his campaigns under the Pretender, in the battle of Preston Pans—fought under Braddock in the old French war,—was a sergeant under Wayne in the Revolution,—was wounded in the great Indian war of 1791-2 and finally took a part in the affair of New Orleans. In each of these five wars he saw active services, was several times wounded and taken prisoner, and was once sergeant of a Forlorn Hope. The appeal appended to the following paragraph in the Mercantile cannot be made in vain!

Sergeant Andrew Wallace.—This revolutionary soldier, who is now 105 years old, and who has served his country as a soldier in her different wars for 29 years, will be during the afternoons and evenings of the present week at Peale's Museum, for the purpose of receiving the contributions of the charitable to enable him to return to his home in the interior of Pennsylvania. He first entered the army in 1754, about the commencement of the French war. In 1776 he enlisted in Pennsylvania, in the regiment commanded by "Mad Anthony," as Gen. Wayne was usually called, where he was appointed a Sergeant, which he continued to the end of the war. He was at the little known, bloody affair of the "Three Rivers," at the "Iron Hills," and at the battle of the Brandywine he bore the wounded Lafayette off the ground. He was at the massacre of Paoli, and is supposed now to be the only survivor of that bloody day. His brother was amongst the killed. He was at the battle of Germantown and Monmouth, and was taken prisoner whilst on a foraging party in New Jersey. After his exchange, he was Sergeant of the Forlorn Hope, at the storming of Stony Point. He was afterwards at the Cowpens, at Eutaw, and at the siege of Yorktown. After the peace, he again enlisted and was wounded by a ball in his right arm, at the battle of St. Clair's Defeat, in 1791. He was in the battle with the Indians at Rusee Debouch under Gen. Wayne, and finally was at New Orleans in 1812-13. At the age of 84 he was discharged from the service on account of disability.

To the above we need not add one word calling upon our citizens to bestow a portion of their superfluity upon this old soldier.

Naval.—The U. S. ship *St. Louis*, Capt. McCauley, with Com. Henly on board, bound to the West Indies, has gone to sea from Hampton Roads.

Naval.—The barque *Flora*, at Boston, passed on the 8th October, the United States frigate *United States*, Captain Ballard, from Mahon, going into Gibraltar.

The United States brig *Enterprise* was spoken, September 2, in latitude 2 deg. north, longitude not given, by the English sloop of war *North Star*, and was expected to arrive about the 15th of September at Rio Janeiro.

Quick Passage.—The packet ship *Ontario*, Capt. Sebor, made her passage from New York to Portsmouth, in eighteen days to an hour, and without reefing a top sail.

Packet ship Sampson.—A London paper of Oct. 17th, says:—"The large American packet ship *Sampson*, a regular New-York "liner," was hauled out of the St. Catherine's Dock, with upwards of two hundred and fifty steerage passengers on board, consisting of mechanics, tradesmen of small capital, agriculturists from various countries, and others, many with their families, who intended settling in the United States and British North America.—There are in addition forty respectable cabin passengers. This ship, which is bound direct for New York, takes out a greater number of emigrants than any other vessel which has left the port of London during the present year."

The new state prison erecting by the State of New Jersey, at Trenton, is expected to be completed next summer. It is estimated to cost \$148,000, to complete which sum \$58,000 is still wanting.

Rapid travelling.—We received from the Post Office yesterday a letter written at Chester, Pennsylvania, Oct. 15, and post marked Oct. 16—having been only thirty-three days on the road. Nothing less than one of the largest extra allowances, we should think, could have procured such despatch.—[National Intelligencer.]

The elegant house of R. H. Gardiner, Esq. of Gardiner, Me. was destroyed by fire, 11th inst.

French Land Titles.—We understand that an aged French gentleman has just arrived in New York, from France, in search of lands he claims in Michigan. He holds an ancient patent from the King of France, Louis (number unknown to us), for a tract *eighteen miles square*, in the interior of Michigan. The lands are represented to us as highly valuable, much of the tract being under improvement. The gentleman is wealthy, and intends proceeding forthwith to the investigation of his title.

There are, if we mistake not, more of these ancient royal grants extant; and to what number they may reach, or what portion or section of the old French possessions they may be found to cover, is yet problematical. Gov. Cass, we believe, recently discovered one duly recorded at Quebec, covering a part of his valuable possessions in Michigan, including the front portion of his farm.—[Buffalo Whig.]

The corner-stone of the Chapel of the Military Academy at West Point, now erecting under the authority of Congress, was laid, at the request of the Commandant and Superintendent, and of the Chaplain, with appropriate religious exercises, by the Right Rev. Benjamin T. Onderdonk, D. D., on Wednesday, 12th instant.

The Right Reverend Bishop Brownell of Connecticut, and the Rev. R. A. Henderson of Philadelphia, sailed from this port, on Monday last, in the ship *Louisville*, for New Orleans. The Bishop is accompanied by his wife, who seeks the restoration of her health by a winter's residence in the South, while he is engaged in the duties of his office in the States of Louisiana, Alabama, and Mississippi.—Mr. Henderson goes to take charge of the French Evangelical Church in the city of New Orleans.—We congratulate the Church, in that region, upon an event which promises to give permanency to her institutions, and to extend the influence of religion in that region.—[Churchman.]

Eastern Steamboat.—A new boat is in forwardness on the stocks at Portland, intended to supply the place of the old and popular Chancellor Livingston, on the Portland and Boston route. She is expected to be ready to take her place on the route early in the spring. She is of ample dimensions, and will be well calculated both for freight and passengers. Her length will be 160 feet, breadth 27, and depth 10, and her tonnage over 400.

Melancholly Shipwreck.—The brig *George P. Stephenson*, Captain Joseph Curtis, of and from Baltimore, bound to Rio Janeiro, was capsized 6th inst. at 4, P. M. lat 35 30, lon 71, in a gale, from N N W under a close reefed maintopail. The mainmast and foretopmast was cut away, when she righted, full of water—the hatches broken open, both boats stove to pieces, and every thing washed from the decks. Capt. Curtis and his wife, two seamen and a boy, were drowned. The two officers—Mr Joseph Gavet and Joseph Richardson—and the remainder of the crew, succeeded in lashing themselves in the fore rigging. The next day the cook and one boy died; and the remainder survived on the wreck, without a drop of water, until the 14th, at 1, P. M. when we were kindly taken off by Captain Thomas R. Shapter, of the brig *Cornelia*, of and for New York from Rio Janeiro, where we arrived on the 21st inst. The officers and crew return their sincere thanks to Captain Shapter for his kind treatment while on board his vessel.

Tobacco.—The Ohio Tobacco crop, is said to be much less injured by the frost than was supposed; all the earlier and more valuable portion of it having been secured before the appearance of frost. The amount of the present crop will, it is estimated, exceed that of last year, which was over 10,000 hogshead. Much of it is now ready for market.

The Georgia Cotton Crop.—The accounts from Georgia respecting the Cotton Crop, are very contradictory. We yesterday were put in possession of two letters, which differ very materially in their views. One dated Macon, 7th inst. states that it is the opinion of intelligent men that the receipts there will not exceed 50,000 bales, against 71,000 last season, and giving it as the belief of the writer, that there would be a falling off of 75,000 bales in the State. The other, under date of 10th November from Augusta, alludes to the reports of the shortness of the crop, and says it is the opinion of many that it will be within 20 a 25,000 bales of last year, and that if the weather continues fine, there would be several weeks picking. We leave those acquainted with the subject, to judge which is most correct.

FOREIGN VARIETIES.

The following is a short description of the two Houses of the British Parliament before the late calamitous event had reduced them to a heap of ruins:

House of Lords.—This House was originally the old Court of Requests, in which the Masters of the Court received the petitions of the subjects to the King. The Court or Hall was fitted up in its recent manner on the occasion of the Union of Great Britain and Ireland.

The House in which the Peers carried on the business of the nation was not the whole of the old Court of Requests, for part of the north end was formed into a lobby, by which the Commons passed into the Upper House.

The throne was new on the accession of his late Majesty George IV.

The House of Lords was a very handsome, if not a splendid room. It was of an oblong description, rather smaller than that of the Commons. In the front next to Abingdon street it was decorated with pinnacles.

The celebrated tapestry of the old House of Lords, representing the defeat of the Spanish Armada, after being taken down and cleaned, was used to decorate the walls of the one which has unfortunately fallen a prey to fire. The tapestry was greatly admired. It was divided into compartments by frames of brown stained wood; each compartment containing a portion of the story. The heads which formed the border to these compartments were portraits of the several gallant officers who commanded in the English fleet on that memorable occasion.

The throne was a large armed chair, beautifully carved and richly gilt. It was ornamented with crimson velvet and embroidery. It was always kept covered except when the King came down or when there was a Commission to give assent to Bills.

Between the House of Lords and Commons was the Painted Chamber, where all the conferences between the two houses were held. The room is said to have been Edward the Confessor's bed-chamber.

The mass of buildings in the Old and New Palace-yards, which constituted the ancient Palace of the Monarchs of England, erected by Edward the Confessor, were mostly consumed by fire in the year 1512; the Court afterwards removed to Whitehall and St. James's.

House of Commons.—This house was originally a chapel built by King Stephen, and dedicated to St. Stephen; hence the name of St. Stephen's Chapel, so frequently applied to this building. It was rebuilt in 1347, by Edward III., and created by that monarch into a collegiate church, under the government of a dean and twelve secular priests. Being surrendered to Edward VI. he gave it to the Commons for their sittings, and it has been applied to that use ever since.

The old House of Commons was formed within the chapel, chiefly by a floor raised above the pavement, and an inner roof, considerably below the ancient one. On the union with Ireland the house was enlarged by taking down the entire side walls, except the buttresses which supported the original roofs, and erecting others beyond, so as to give one seat in each of the recesses thus formed, by throwing back part of the walls. A gallery ran along the west end, and the north and south sides were supported by slender iron pillars, crowned with gilt Corinthian capitals. The whole house was lined with oak.

The Speaker's chair stood at some distance from the wall, towards the upper end of the room; it was slightly ornamented with gilding, having the King's arms at the top. Before the Speaker's chair, with a small interval, was a table, at which three clerks of the house sat, when parliament was sitting, their business being to take minutes of the proceedings, to read the bills and petitions, &c.

On the table the Speaker's mace was placed, unless the house was in committee. In that case it was put under the table, and the Speaker then left the chair.

Between the table and the bar was an area, in which a temporary bar was placed, where witnesses were examined. There were five rows of seats on each side and at both ends, upon which members sat. The seat on the floor on the Speaker's right hand, was called the Treasury Bench, on which the chief members of the administration sat; and the opposite seat was occupied by the leading members of the opposition. The gallery on each side was appropriated also for the members, and the front gallery for strangers—the last seat being devoted to reporters.

The chapel, as finished by Edward III., is represented as being of such beauty that antiquaries have

again and again regretted it should have undergone any alteration to form it into the House of Commons. When the inner walls were unmasked at the period of the Union with Ireland, by removing the wainscot to make the alterations, a great part of the decorations remained. The interior of the walls and roof of the chapel were curiously wrought and ornamented with a profusion of gildings and paintings. It appears to have been divided into compartments of gothic shape, each having a border of small gilt roses. At the east end, including about a third of the length of the whole chapel, which part was most likely enclosed for the altar, the entire walls and roof were covered with gilding and paintings, and presented in the mutilated state in which they were seen during the alterations above alluded to a superb and beautiful remnant of the fine arts as they existed in the reign of Edward III. This, however, as respected the paintings, could not be very advanced, for according to the authority of Lord Oxford, no mean writer upon the subject of the fine arts, in his highly entertaining work "Anecdotes of Painting," the arts had made but little progress in this country at that remote period. The gilding was remarkably solid and highly burnished, and the color of the paintings vivid, both being nearly as fresh as when they were executed. One of the paintings is represented as possessing merit even in the composition; the subject was, "the Adoration of the Shepherds." The Virgin was not devoid of beauty or dignity.

The west front of the chapel was to be seen until the destruction of Thursday night, and it had a fine Gothic window.

Beneath the house, in passages or apartments appropriated to various uses, were to be seen considerable remains, in great perfection, of an under chapel of curious workmanship, and the entire side of a cloister, the roof being of great beauty. A small court of the palace was not disturbed at the Union; and it, with other buildings, formed part of the dwelling of the Speaker. Between the house and the Thames the Speaker's garden is situated. Within the house were a great many rooms for the officers of state, clerks, &c., besides numerous committee rooms. In the year 1816, the floor was newly laid.

The Libraries.—The libraries, especially that of the House of Lords, were exceedingly extensive, consisting not only of books connected with legislation and public records, but upon general literature. Many of the books were superbly bound. During the session peers frequently came to read in the library in a morning. It was only in the course of last session or the session before, when Lord Ellenborough, having occasion to refer to a volume in the library during a discussion, passed an eulogium on the excellent collection of books which their lordships possessed.

Edinburgh Scientific Meeting.—A grand meeting of delegates from the schoolmasters and professors of Scotland is held annually in the great hall of the High School at Edinburgh. The object of this assembly is to examine the accounts of the society for making provision for retired members of the scholastic profession. The number of *savans* and foreigners from all parts of Great Britain and Europe, who came to attend the scientific congress and the dinner given to Lord Grey, were very numerous. After the business of the day had been gone through, a considerable number of the members dined together at the Waterloo Tavern. Among the toasts given was one to the University of France, and another to M. Guizot, Minister of Public Instruction. These toasts were highly applauded. M. Mallac, one of the directors of the *Revue du Progrès Social*, who had been deputed by M. Guizot to proceed to Edinburgh to study and report upon the organization of the Scotch schools, returned thanks, and dwelt upon the immense progress that had been made in France, as to education, since the revolution of July: he terminated by proposing the following toast:—"To the prosperity of the primary schools of Scotland." Thus the alliance between England and France becomes daily more national. It is not only recorded in treaties brought about by diplomacy, but it has penetrated into the hearts of the people, and is manifested in the acts of practical life. [Journal des Debats.]

King George's Sound.—The last account from New South Wales furnish some interesting intelligence respecting the new settlement at King George's Sound. The town of the colony, which is called Albany, is situated on the N. E. side of Princess Royal Harbour, a fine basin of about twelve miles in circumference, and three or four miles

across. It is, however, very shoal, excepting in a small place in the site of the town, where a few ships, not drawing more than sixteen or eighteen feet of water, may ride in perfect safety. The entrance into the harbor is very narrow, and precludes the effect of all high and stormy winds. The allotments of land are given gratis in the town, as well as the beach allotments and the suburban allotments of six acres for country-houses. All other lands may be purchased for five shillings per acre. Some of the land is very rich, and, with little labor, would prove of the finest cultivation. Many sloping valleys of rich pasture had been discovered, enjoying a fine, mild, and agreeable climate. The good land on the hills was very thickly overgrown with trees. Sheep and cattle thrive exceedingly well on the wild herbage of the country. The Devon and Durham heifer, and the pure Merino sheep landed in the settlement in September last, were in the finest possible condition. All vegetables, whether imported from England or elsewhere, thrive with the greatest luxuriance. Olives, grapes, gooseberries, currants, roses, orange trees, China tea plants, mangoes, guavas, &c. were growing well. The entire population of the settlement, exclusive of the military, was eighty persons. The most friendly intercourse had been established with the aborigines, who appeared to be of a milder character than in the other parts of New Holland. They were much attached to the settlers, and six or eight were constantly employed in working in the governor's garden. The native pigeon and the quail were numerous. The colony of the society of Friends had taken 80,000 acres on the bank of the French river, at the head of Oyster Harbor.

Conch Divers of the Bahamas.—In December 1821, one of his Majesty's ships, in going into the harbour of New Providence, struck on a bank, and rubbed off a sheet or two of her copper. The following morning, one of the divers being sent for, and supplied with hammer, nails, and sheet of copper, sunk himself to the keel, and after two or three breathings at the surface of the water, made good the defects! He was afterward required by the commanding officer to bend a hawser into the chain-cable near the anchor, as it lay at the bottom in nearly four fathoms water. This he accomplished with much ease, and a seaman-like bend it proved on the anchor being hove up. These divers, who are black men, and generally natives of the outer island, are nearly six feet in height, with broad shoulders, and so accustomed to diving for conchs from their infancy, in from two to ten fathoms water, that they have habituated themselves to continue under water for as long a time, perhaps, as the pearl divers of India. They often take with them a hammer, and on finding a conch will break its shell, take out the fish, and prepare it for dressing before they rise; they will also take a bottle of any drinkable liquid, with the cork wired, and sink to the bottom in three or four fathoms, and, with the corkscrew, draw the cork, drink its contents, and rise with the empty bottle! Porter is always the beverage they solicit on these occasions. [Nautical Magazine.]

Persian Manufactures.—Persia during the days of her prosperity, was greatly distinguished as a manufacturing country. Her fabrics, suited to the oriental taste, have supported not only the ostentatious magnificence of her Court and great men, but those of Turkey, Tartary, and even those of Northern Africa. The women of the wandering tribes weave from the wool of the sheep those carpets which we call *Turkey*, from the place of their immediate importation. They form throughout the East the most important branch of ornamental furniture. The carpets manufactured in Khorassan possess the highest reputation. The next staple consists of silk fabrics, rich and ornamented, particularly brocade and embroidery. Sometimes the tissue is entirely silk, sometimes mixed with cotton and wool. Under the Ahasyde dynasty the precincts of the Court contained great works of tapestry composed with silk and wool embellished with gold; but this art, though not entirely lost, languishes for want of encouragement. Arms, particularly sarbes of a superior quality, and richly embellished with gold, silver and precious stones, are prepared on a great scale to meet a sure demand; and in this branch no decline has been observed. The manufacture of earthenware is very extensive throughout Persia.—and some of its products almost rival the porcelain of China. These, with shawls made from the goats' wool, leather paper, and jewellery, complete the list of her principal manufactures.

Count Mathuschevitz's stud have sold for 2,500 guineas.

The following epitaph has just been placed on the tomb of Gaspard Hauser, buried at Anspach:—*Hic jacet Gaspardus Hauser, enigma sui temporis, Ignota natiuitas, occulta mors, 1833.*—Here lies Gaspard Hauser, the enigma of his age. His nativity unknown; his death concealed.

Halley's Comet.—Seeing in your paper an extract from a New York paper, stating that Halley's comet was visible in the constellation Taurus, I beg leave to state that that comet will not be visible to this, previously to August 1835, and that its nearest approach to the earth will take place on the 6th of October, 1835, when it will be nearly vertical in this latitude, and will be visible in the evening, in the constellation of the Great Bear, never setting for several days.—[Correspondent of a Dublin paper.]

Number of Places of Worship.—It appears from a Parliamentary return just published, that in 188 parishes of England, each containing a population of a thousand persons, or upwards, there are 2523 churches or chapels connected with the Establishment, and 3438 Dissenting places of worship. The churches have sitting rooms for 1,856,103 persons, but there is no statement as to the capabilities of the chapels. In the diocese of Chester, in which this town is situated, there are in the 257 parishes with 1000 inhabitants or upwards, 351 places of worship belonging to the Establishment, and 439 belonging to the Dissenters. The churches will seat 220,542 persons.

It is stated in a late publication in England on Temperance, that the "United Kingdom pays annually fifty million pounds sterling for spirits, wine and malt liquor, and consumes, in the same period, as much of these fiery liquids as would make a river of three feet deep, sixty feet wide, and eighty-four and a half miles long."

Prince Esterhazy, it is stated, will not return to London; his estates, it is said, produce to him a revenue of 2,000,000 florins, or about £230,000 sterling; and his debts, which have been chiefly contracted by his father, amount to 1,800,000 florins.—His fine estates are well known, and his sheep are numbered at 3,000,000; and these supply annually from 40,000 to 50,000 hundred weight of wool.

Count Mazzinghi.—This eminent composer has lately been recognized as the rightful heir to a title which had been considered lost for upwards of forty years. Mr. Mazzinghi repaired from London to Florence, and made good his claim, when the title of a Tuscan Count was conferred on him. From Florence he went to Rome, and was received by his Holiness the Pope most graciously. Mr. Mazzinghi has been a member of the Royal Society of Musicians 47 years, and, notwithstanding his newly-acquired honors, he has expressed a wish that his name should remain on the list as heretofore, among so many old friends and associates, whom he respects; but, as Count Mazzinghi, he begs to present the society with a donation of 25*l*. Mr. Mazzinghi married a daughter of the late Mr. Hodges, the eminent distiller, with whom he received a handsome fortune, which will fully enable him to support his title.

The musical world has, within the space of a few months, lost two of its brightest ornaments—Choron and Boieldieu. The former had acquired, by long study, a knowledge of the science of music which even his enemies admitted to be unprecedented in depth and correctness; the latter, gifted by nature with the most extraordinary musical talents, has left behind him a great name, and added much to the deservedly high musical reputation of France. For some months he had been confined to his room, and after long and painful sufferings he expired at his house at Jarey on the 10th of the last month, surrounded by sorrowing relations and friends. It is reported that a monument will be raised to his memory by subscription.

Such is the demand for the popular perfume eau de Cologne, that there are said to be not less than forty "Jean-Marie Farinas" who deluge Europe with it in its genuine and spurious state.

Wooden Rustic Work for Gardens.—The advantages of wooden rustic work is that it can be adapted to a great variety of purposes. Thus very beautiful and even architectural temples may be formed of unbarked wood. Ornamental doors, every description of garden seats, and flower baskets and vases of very elegant forms, may be composed of the same material. Shady walks also, having the pleasing gloom and enriched effect of a Gothic cloister, may be made of wooden rustic work. I allude more particularly to what I call wood mosaic, which is, I

believe, rather a modern invention. It is formed of split sticks of various lengths and sizes, and having bark of different colors. The pieces are nailed to any flat surface of wood, and very beautiful and elaborate pattern may be produced by arranging the pieces according to their sizes and the various colors of the work. Garden seats and vases of almost any shape may be covered with this kind of mosaic work, but as it is not durable when exposed to the weather, it is most suitable for the inside of summer houses and garden temples. In such situations the richest specimens might be introduced, and if varnished over they would last for a number of years. There are some handsome and rather costly specimens of this kind of ornament in the flower garden of Bagshot Park.—[Gardner's Mag.]

Method of Preserving Flowers with their Natural Colors.—A method has since been mentioned to me, by which the colors of the flowers of plants are well preserved. The process was this:—the paper being first heated before the fire, or in an oven, the plant recently gathered is placed between two hot sheets, and pressed. It is requisite, however, that the paper, in the same heated state, be renewed at intervals, on account of the expressed juices from the stalks and leaves fermenting, which might otherwise injure the plants. There is also a method of preserving plants in flower, by which their natural form, as well as colors, can be preserved. It consists in placing the plant in a jar, and pouring finisand upon it, until the whole plant is covered: it is then to be placed, still kept in the jar, into an oven; after which, being taken out, and the sand removed, the plant is found preserved both in its form and color.—[Bennett's Wanderings in New South Wales.]

The following beautiful stanzas, to the memory of Sir John Stevenson, are extracted from the concluding volume of Moore's Irish Melodies.

Silence is in our festal halls—
O Son of Song! thy course is o'er;
In vain on thee and Erin calls,
Her minstrel's voice responds no more—
All silent as the Eolian shell
Sleeps at the close of some bright day,
When the sweet breeze, that wak'd its swell
At sunny morn, hath died away.
Yet at our feasts, thy Spirit long,
Awak'd by music's spell, shall rise,
For name so link'd with deathless song
Partakes its charms and never dies;
And ev'n within the holy fane,
When music wafts the soul to heaven,
One thought to him, whose earliest strain
Was echoed there, shall long be given.
But where is now the cheerful day,
The social night, when, by thy side,
He who now weaves this parting lay,
His skillful voice with thine allied,
And sang those songs whose every tone,
When bard and minstrel long have past
Shall still, in sweetness all their own,
Embalin'd by fame, undying last.
Yes, Erin, thine alone the fame,—
Or, if thy bard have shar'd the crown,
From thee the borrow'd glo' / came,
And at thy feet is now laid down.
Enough, if Freedom still inspire
His latest song, and still there be,
As evening closes round his lyre,
One ray upon its chords from thee.

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER. a3

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane. J31 6t

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal-pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company.

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

	Ninety-five tons of 1 inch by 1/2 inch.	Flat Bars in length of 14 to 16 feet counter sunk holes, ended at an angle of 45 degrees with splicing plates, nails to suit.
200	do. 1 1/2 do. 1 do.	
40	do. 1 1/2 do. 1 do.	
800	do. 2 do. 1 do.	
800	do. 2 1/2 do. 1 do.	

soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, 5, 6, and 8 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.
Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71meowr

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all Instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane-sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germanstown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.

German. and Norrist. Railroad,

OFFICIAL

DEPARTMENT OF STATE,
Washington, November 21st, 1834

Information has been received from the United States Consulate at Guadaloupe, under date of the 12th ultimo, that a Proclamation has been issued by the Lieutenant Governor of the Island of Dominica, authorizing the importation, in that Island, in vessels of all nations, duty and tonnage free, of the following articles, the growth, produce, or manufacture of any foreign country whatever, that is to say—flour, shingles of all descriptions, staves of all descriptions, pitch white, and yellow pine lumber, and lumber of all other kinds, wood hoops, beef, pork, and every species of salt, dried and pickled fish; such importation to continue for the period of six months, from the 27th of October, 1834.

EXCHANGE.—Believing that the Merchants, Traders, and others of this city may be benefited by a statement of the Rates of Exchange, similar to the plan adopted by Boston Banks, we have obtained a list of rates as at present charged by the PHENIX BANK of this city.

The arrangements of the Phenix Bank for Collecting Bills and Notes, extend to every State and Territory of the Union, we have found it necessary therefore to condense our table by inserting the maximum and minimum rates on each State. The variations arising from the greater or less difficulty of collecting on some of the towns and places of the interior and off the direct mail routes.

Toronto, Upper Canada.....	2
Maine.....	0 20
New Hampshire.....	1 22
Vermont.....	1 22
Massachusetts.....	1 22
Rhode Island.....	1 22
Connecticut.....	1 22
New York.....	1 22
Pennsylvania.....	1 22
New Jersey.....	1 22
Delaware.....	1 22
Maryland.....	1 22
District of Columbia.....	1 22
Ohio.....	1 22
Indiana.....	1 22
Illinois.....	1 22
Missouri.....	1 22
Michigan.....	1 22
Virginia.....	1 22
Kentucky.....	1 22
North Carolina.....	1 22
South Carolina.....	1 22
Tennessee.....	1 22
Georgia.....	1 22
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The inner column shows the rate for the greater portion of places in a State—the outer, for more inaccessible points.

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, of any part of the country.

Published at 35 Wall street, N. Y., by
D. K. MINOR & J. E. CHALLIS.

MECHANICS MAGAZINE.

THE NUMBER FOR OCTOBER 31, will be ready for delivery to Subscribers on Monday next. It contains numerous articles, and a concise account of the FAIR of the AMERICAN INSTITUTE held at NILES' GARDENS, illustrated with numerous engravings.

MECHANICS and OTHERS who feel interested in endeavoring to abolish the abominable "STARK PAINSON MONOPOLY" are requested to forward to the Editor such facts as come within their knowledge, and they will be published if authenticated.

The *Mechanics' Magazine* and *Register of Inventions and Improvements* is published by the Proprietors, D. K. MINOR & J. E. CHALLIS, at No. 35 Wall-street, New York: in weekly sheets of 16 pages, at 64 cents—in monthly parts of 64 pages, at \$1 cents—in volumes of 384 pages, in cloth boards, at \$1.75—or at \$3 per annum, in advance.—JOHN KNIGHT, (formerly proprietor of the London *Mechanics' Magazine*), Editor.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spiko Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833.

A29 RM&F

LONG ISLAND RAILROAD COMPANY.

NOTICE IS HEREBY GIVEN, That the undersigned Commissioners, appointed by an act of the Legislature of the State of New-York, passed April 24, 1834, will receive subscriptions to the capital stock of the Long Island Railroad Company, being One Million Five Hundred Thousand Dollars, divided into shares of fifty dollars each, agreeably to the charter of said Company, on the 15th, 16th, and 17th days of December next, from nine in the morning to three in the afternoon of each day, at the following places, viz.—At the Dry Dock Bank, No. 333 Pearl-street, in the city of New-York—at the Apprentices' Library in the city of Brooklyn, county of Kings—at the Court House, in and for the county of Queens—at the Inn of William Griffing, in the town of River Head, county of Suffolk—at the House of Thomas Hallack, in Smithtown, in said county of Suffolk.

Subscribers are required by the Charter of the Company to pay to the Commissioners at the time of subscribing five dollars on each share.

Copies of the Charter can be had upon application at the Dry Dock Bank, 333 Pearl-street, New-York.

Samuel Hicks	Benjamin Strong
John Lorimer Graham	Joseph Moore
Edwin Hicks	Edmund Frost
Singleton Mitchell	Nicholas Wyckoff
William F. Hydenburgh	James H. Weeks
Joseph H. Goldsmith	Valentine Hicks

13nov Dec. 18

UTICA AND SCHENECTADY RAILROAD COMPANY

Call for Second Instalment on Stock.
THE Stockholders in the Utica and Schenectady Railroad Company are requested to pay on or before the twentieth day of December next, the sum of Three Dollars on each Share of Stock in the Company held by them respectively under the penalty (provided by law in case of non-payment) of the forfeiture of all previous payments made thereon.

Stockholders residing in the city of New York, or within said State and south of the counties of Columbia, Greene and Delaware, are requested to make said payments to the Cashier of the Phenix Bank, at the said Bank in the city of New York; and all other Stockholders in said Company are requested to make said payments to the Treasurer of said Company at the Albany City Bank or at the Commercial Bank, in the city of Albany; but any Stockholder residing west of the counties of Albany, Schenectady or Saratoga may make such payments by depositing the same to the credit of the said Treasurer in the Ontario Branch Bank, in the city of Utica, or in the Herkimer County Bank, at Little Falls, or in the Montgomery County Bank, at Johnstown, provided a certificate of such deposit (with the name of the Stockholder by or for whom such deposit is made) be forwarded to said Treasurer, so as to be received by him on or before the 25th day of December next.

Albany, November 12, 1834. By order,
GIDEON HAWLEY,
Treasurer of the Utica and Schenectady Railroad Company.

nov17d&Ctdce20

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Esq., M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon Dale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, {
January 29, 1833.

AGENTS FOR NEW PUBLICATIONS.

HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications:

The New York American Daily, at \$10.00—Tri-Weekly, at \$5.00—Semi-Weekly, at \$4.00 in advance.

The American Railroad Journal, Weekly, at \$3.00 per annum.

The *Mechanics' Magazine*, two volumes a year, at \$3.00 per annum.

The Quarterly Journal of Agriculture and Mechanics, at \$5.00 per annum, or \$1.25 per number.

The Family Magazine, 416 pages a year, at \$1.50 in advance.

The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25

The Ladies' Companion, of 54 pages a month, at \$3.00 per annum, in advance.

The Rochester Gem, at \$1.50 in advance.

All Communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834.

nov6 Ctf.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS; upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

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347 N. Market st. (opposite Post Office).
Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better interest can be done in the execution.

* Mr. Thorburn is also Agent for the following publications, to wit:—New York Farmer and American Gardener's Magazine; *Mechanics' Magazine* and *Register of Inventions and Improvements*; *AMERICAN RAILROAD JOURNAL* and *Advocate of Internal Improvements*; and the *NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly*; either oral of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabeth street, near Bleecker street,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
J25 tf

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited.
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INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

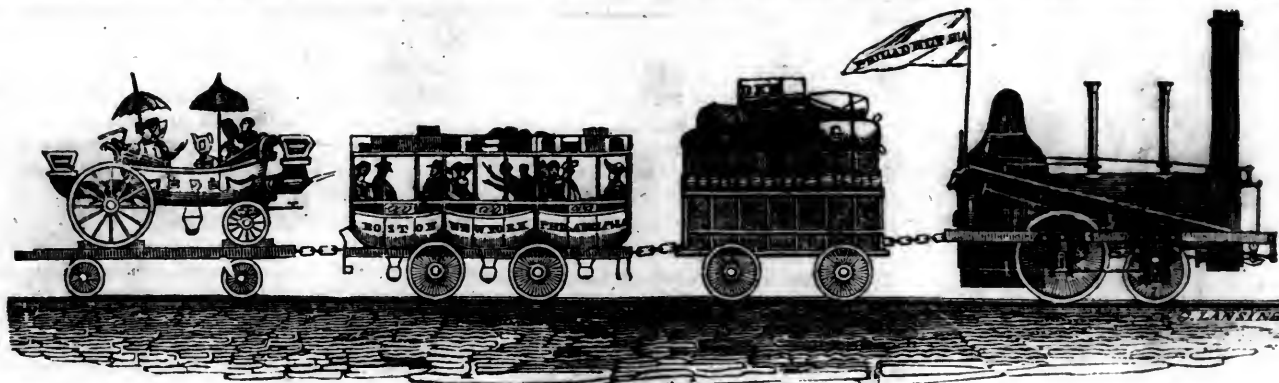
Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same.
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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, DECEMBER 6, 1834.

[VOLUME III.—No. 48.]

For Contents, see last page.

RAILROAD CONVENTION.—After the Journal was on the press, and a part of it worked off, we received the annexed circular calling a convention at Bath, Steuben county, for the purpose of deliberating upon and adopting measures in relation to the **NEW-YORK AND ERIE RAILROAD**. We have only time and space now to say, that we shall refer more particularly to it in our next—and, in the mean time, use our best exertions to promote the object in view.

At a meeting of the Inhabitants of the county of Steuben, friendly to the proposed Railroad through the Southern tier of Counties, held at the Court-house in Bath, on Tuesday, the 25th of November, 1834, Henry A. Townsend was appointed Chairman, and John Cooper, Jr., Secretary.

On motion, resolved,—That the different Counties of the State of New-York, friendly to the construction of the New-York and Erie Railroad, be invited to meet in convention, at the Court-house, in the village of Bath, on Wednesday, the 17th day of December, 1834, at 10 o'clock in the forenoon, for the purpose of adopting suitable measures for promoting this great and important work.

Resolved,—That a Committee of three be appointed to correspond with the friends of the Railroad throughout the State, consisting of Wm. S. Hubbell, Wm. W. McCay, and Henry W. Rogers, Esquires.

On motion, the following persons were selected as delegates, to represent this county in said convention:

Wm. W. McCay, Wm. Kernan, Henry A. Townsend, Ira C. Clark, John Cooper, Jr., Joseph Loghry, Ralph Babcock, Wm. Woods, Wm. Goff, Wm. S. Hubbell, Ira Davenport, John R. Gansevoort, John E. Evans, Paul C. Cook, Levi Davis, Henry S. Williams, John M. Burney, Wm. Steele, Henry W. Rogers, John Magee, Lemuel B. Searls, John Knox, George C. Edwards, Henry Switzer, Lazarus Hammond, Grattan H. Wheeler, James Manderson.

The Members of the Board of Supervisors of said County of Steuben were also added to the above delegation.

Resolved,—That the proceedings of this meeting be signed by the Chairman and Secretary, and published in the papers of the county.

HENRY A. TOWNSEND, Chairman.
JOHN COOPER, Jr. Secretary.

NEW-YORK AND ERIE RAILROAD.—By the annexed extract from the proceedings of the Board of Associates, on Monday last, it will be seen that our citizens begin to move in favor of this important work. It could hardly be otherwise; and it would be a libel upon the intelligence and liberality of the business men of this city to suppose that they would withhold, from

such a work, a favorable expression of opinion—or all proper aid, when the proper time shall arrive for its construction. That time, as we believe, has arrived. Additional channels of communication are needed; and, as increased speed is required, as well as an extension of the period for the transaction of business, to keep pace with neighboring States, it follows, almost of course, that this Railroad should be prosecuted with all possible expedition.

Whereas the immense augmentation which has been experienced in the extent, wealth and prosperity of the city of New York, since the completion of the Canals of this State, signally demonstrates the value and necessity of artificial channels of commercial communication connecting the metropolis with the populous and fertile regions of the interior:

And whereas several rival works leading into the State of Ohio, from ports on the Atlantic sea-board south of this city, are now constructing and are rapidly advancing to completion, under the direction of various companies incorporated and powerfully patronised by the States of Pennsylvania, Maryland, and Virginia, seeking to divert from the city of New York the extensive and lucrative commerce which it has heretofore enjoyed with the rich and rapidly increasing States and Territories north of the Ohio River, avowedly relying for success upon the greater severity of climate and more northerly latitude of the State of New York closing the navigation of its canals during a large portion of the year:

And whereas it has become vitally important to the commerce of this city to obviate the difficulties and disadvantages to which it is thus subjected, which object can only be attained by opening additional channels of trade and intercourse by means of Railroads leading directly from the Bay of New York to the navigable Lakes and Rivers of the West, and which shall be available for commercial purposes at all seasons of the year:

And whereas the Legislature at its last session directed the route of a Railroad to be surveyed under the direction of the Executive, through the Southern Counties of the State from the Hudson River, near the city of New York, to Lake Erie, for the purpose of ascertaining whether the public interest would be promoted by a subscription on the part of the State, to a portion of the capital stock of the New York and Erie Railroad Company, incorporated in the year 1832, for the purpose of constructing such road; by which subscription the commonwealth at large might participate in the burthens and benefits of that undertaking,—or in what other mode the general objects sought to be accomplished by that act of incorporation might properly be encouraged by the public authorities:

And whereas by means of such survey it has been satisfactorily ascertained, that if the State shall co-operate and participate in the enterprise, the whole of the road can be completed within four years from the first day of May, 1835, and a communication thereby provided by which passengers and merchandise may be cheaply, rapidly and regularly transported, at all seasons of the year, in less than forty hours, from the city of New York to the southern shore of Lake Erie, connecting the line of the route with the Alleghany River, and thus communicating directly with the valley of the Ohio:

And whereas the inhabitants of this city are deeply interested in the prosecution and speedy accomplishment of this most important undertaking, tending, as it inevitably must, to attract and secure forever to this port the vast and expanding trade of the most fertile, populous and valuable portion of the continent, thereby augmenting the commerce, prosperity and wealth of this emporium to an incalculable extent:

Therefore Resolved, (if the Board of Aldermen concur herewith,) that it be referred to a joint Committee of three members from each Board, to report resolutions signifying the sense which the Common Council of this city entertain of the necessity, importance and value of the proposed work, and to inquire and report what measures, if any, the city may properly adopt to promote and secure its speedy execution.

We insert the following communication with much pleasure, as it refers to a subject which has been frequently treated of in this Journal. It will, we hope, elicit further information from American engineers, and we again call upon them to furnish us with the result of their reflections and investigations. The request of the writer shall be attended to, and we trust he will favor us with further communications.

On Railroad Undulations. By JOHN THOMSON, Civil Engineer, Nashville, Tennessee. To the Editor of the American Railroad Journal.

Experiments have been made on the Liverpool and Manchester Railroad, by Mr. Badnall and others, for the purpose of showing the advantages of undulations on railroads. These experiments, and the results attempted to be deduced from them, are well known to engineers. The principles which Mr. Badnall attempts to deduce from these experiments have been considered visionary by many practical and scientific men. The question has attracted greater attention in England than in this country. The system has found its supporters and its opponents, who not unfrequently have employed ridicule and sarcasm instead of cool and rational argument.

It must be confessed, that the experiments above alluded to are not satisfactory. They seem to prove too much; as we ought to conclude from many of those experiments, that a car passing over an undulating road would acquire an additional velocity at every undulation, and would thus be moved by a kind of accelerating force as long as the undulations continued. The results of the experiments also are not sufficiently uniform,

and indicate something defective in the mode of making the experiments. We may add also, that Mr. Badnall has not been successful in his theoretical deductions. We may quote for example the following:

"Let P be the pressure or weight of a given body resting on a horizontal plane, and let S be the quantity taken off that pressure, (or let it be the diminution of pressure,) when the body is placed on an inclined plane, and let a be the angle of inclination with the horizon; we then have in all cases

$$S : P :: \text{height} : \text{base}.$$

$$\text{But height} : \text{base} :: \text{tang. } a : 1$$

$$\text{therefore } S : P :: \text{tang. } a : 1$$

$$\text{consequently } S = P \text{ tang. } a."$$

That this conclusion is erroneous may be shown by supposing a body of a given weight to be supported on an inclination of 45 deg. In that case we have tang. $a = 1$, and consequently the above equation becomes $S = P$, that is, the diminution of pressure is equal to the whole weight of the body, and therefore the body rests on the plane without pressure upon it, which is manifestly an error.

But notwithstanding, there is enough in the experiments of Mr. Badnall, and in the nature of the subject generally, to invite the attention of engineers. That a body may be passed from one point to another, in the same horizontal plane, along a descending and an ascending path, in a shorter time than another body, moving in a straight horizontal line, and impelled at first by the same horizontal force, is true in theory, and no mathematician would controvert a principle so well known in mechanics. But whether the same will hold in practice, where the resistance of friction and of the atmosphere, &c. are to be taken into consideration, remains a question.

In further remarking on this subject, we shall adopt particular examples, which will perhaps answer the purpose of the present investigation better than a more general method.



Let AB and BC be two inclined planes, meeting at the point B , and suppose the length of each to be 95 feet, the height BD 9 feet, the descent will therefore be 1 in 106, or 50 feet in the mile nearly. The distances along the inclined planes CB and BA , and along the straight line CA , will be nearly the same, and equal to 1908 feet. Put g = force of gravity, f = any other accelerating force, t = time, v = velocity, and s = space.

Suppose a body at C to pass from C to B by the force of gravity, without resistance of an kind from friction, &c. the time of descent will be $t = \sqrt{\frac{2s}{g}} = 79.2$ seconds,

and the time in passing along the two planes CB , BA , will consequently be 158.4 seconds, supposing the angle at B slightly rounded. It is evident that the body at C may be removed in this way from the point C to A , without the application of any other force than that of gravity. Let us now suppose the body to be removed from C to A along the straight line CA . To do this, either an impulsive or an accelerating force will be necessary, the force of gravity, of course, not acting in this direction. To find

the amount of accelerating force that will move the body from C to A along the straight line, in the same time that it passes along

the inclined planes, we have $f = \frac{2s}{t^2} = .152$.

If we assume the weight to be removed 100 tons, the above force, compared with the force of gravity, will be expressed by 1057 pounds. This will be the accelerating force necessary to overcome the vis inertiae of the above weight, so as to move it in a straight line from C to A , in the same time that it would pass by the force of gravity along the inclined planes. If we assume the resistance of friction of rail cars equal to the 240th part of the weight, the friction from a weight of 100 tons will be 933 lbs. Hence it is evident, that to overcome for the above space and time the vis inertiae of a train of cars weighing in all 100 tons, it will require a greater force than that necessary to overcome the resistance of friction.

Let us now assume a case in practice: suppose two trains of cars to pass by locomotive power from C to A , one train along the inclined planes, the other along the horizontal plane ADC . Here a variety of accelerating and resisting forces are to be taken into consideration, and compared together, as they operate on each roadway. The resistance of friction may be considered the same on the level and on the inclined planes, since the pressure on an inclined plane, and consequently the friction, is as the cosine of inclination; and as the angle of inclination in the present case is very small, its cosine approaches very nearly to unity. The resistance of the atmosphere may also be considered nearly equal in both cases; at least, in practice, the difference is probably of little consequence. In regard to the resistance of inertia, the inclined plane has the advantage of the horizontal; as, on the former, it may be considered as overcome by the force of gravity. There is one resisting force operating on the inclined planes, which does not exist on the horizontal. It results from a change of direction from CB to BA ; but as we have supposed the angle at B to be rounded, the only resistance will arise from an increase of pressure, and consequently of friction, in passing over the curve at B . Let us suppose the whole line CB and BA to be a circular curve, DB and BC the co-ordinates which are given. The radius of curvature will then be 50566 feet. And supposing an average velocity of 20 miles per

hour, we have $f = \frac{v^2}{R} = .017$. If the weight

moved be 100 tons, the above force, compared with the force of gravity, will be expressed by 118 lbs. This will be so much additional weight in passing the curve, and consequently the additional resistance of friction will be about one half pound. It is evident, therefore, that this resistance may also be neglected in comparing the advantages and disadvantages of the inclined and horizontal planes.

Let us now suppose the train of cars that move along the inclined planes to be propelled by a force of steam just sufficient to overcome the resistance of friction, atmosphere, &c. In that case we may suppose the whole mass to move (as in theory) without resistance, and by the force of gravity

alone. The train would therefore move from C to A in 158 seconds, as above shown. But the same force of steam would not be sufficient to move the train along the horizontal plane, as the resistance of inertia for a given space and time was shown to be greater than that of friction. A slow progressive motion might be given to the cars by a small increase of the force of steam, but it would require more than double the force necessary to overcome friction, in order to move the train along CD and DA , in the same time with the train moving along CB and BA . It should also be observed, that the velocity acquired in passing along CD and DA in 158 seconds, is nearly 16½ miles per hour, when the velocity of a locomotive may generally be considered as nearly uniform. It is evident, therefore, that for the distance and inclination here supposed, and for initial movements, one concave undulation, (if it may be so called,) has the advantage of a straight horizontal surface.



Again, let us suppose a case in which a number of undulations may be taken into consideration. Let two bodies be supposed to move with equal and uniform velocities along the horizontal plane from E to C , one then passing along the inclined planes CB , BA , AK , the other passing along the horizontal line CG , the bodies moving without resistance from friction, &c. Assume the length and inclination of the planes the same as before, and let the initial uniform velocity from E to C be taken for example, $v = 6$, or 4 miles per hour nearly. Then having f and s given, to find the time of passing down the inclined plane CB , we have $\frac{1}{2}ft^2 + vt = s$, from which $t = 61.9$ seconds.

Hence the time in which the body passes along the two inclined planes CB and BA , will be 123.8 seconds. But the body moving along the horizontal plane CA , with the uniform velocity above given, will pass from C to A in 318 seconds, almost three times greater than the time of passage on the inclined planes. Now suppose the angle at A to be rounded, the body which moves along the inclined planes will pass the point A with the same original velocity with which it first started at E , because nothing has occurred to destroy that velocity. Hence it follows, that the body will pass the second equal concave undulation AK and G in the same time it passed the first, and so on for succeeding undulations. It appears also that the mean velocity along the inclined planes, of the length and height already given, is nearly three times greater than that along the horizontal plane, the original impulsive force having acted equally on both bodies. It follows also that the mean velocity along the inclined planes, for a given number of undulations, is a constant quantity, and not an accelerated velocity. It is evident, also, that if the inclined planes had been reversed, that is, if CB had been an ascending plane from C , instead of a descending one, the motion of the body, moving along the inclined planes, would have been retarded in the same ratio that we have seen it accelerated; and hence the advantage of increased velocity is only gained by having the inclined planes below the general horizontal plane.

The above being true in theory, the question now presents itself—will the same principles hold in practice? It would seem, on

a general view of the subject, that the action of the impelling and resisting forces, as they occur in practice, could scarcely be so unequal as entirely to destroy the advantages of inclined planes of moderate length and height. If models may be considered as giving any thing like correct ideas of practical operations, (and it must be confessed they are not always to be relied on,) any one may satisfy himself of the general truth of increased velocity, as above stated, by simply propelling two small rollers, of equal dimensions, with the same impulsive force, one to pass along a horizontal plane, the other along an undulating surface, which may easily be prepared for the purpose.

It is not at all inconsistent with the principles of Dynamics, but in perfect accordance with them, that two bodies may be impelled horizontally with the same motive force, and yet one pass between two given points, in the same horizontal plane, in less time than the other body moving in a straight line. It is true, that a straight line between two points given in space is the line of quickest passage, when a single given force acts alone. But in the present question, two principal forces are always supposed to act—the motive force and the force of gravity.

In practice, the action of the force of steam is not always regular. When the piston has acquired a very rapid motion, the actual pressure of the steam in the cylinder becomes less, not so much from a difference of pressure in the cylinder and boiler, as from the fact, that steam is not generated with sufficient rapidity to keep up the usual pressure in the boiler. Hence it is, that when a locomotive passes down an inclined plane, the actual motive force of the steam will be lessened, when a very rapid velocity has been acquired near the foot of the plane. But it is altogether probable that, on planes varying from 800 to 1200 feet in length, and of an inclination of about 50 ft. in the mile, the average force of steam would be abundantly sufficient to pass a loaded train over a concave undulation, in less time than it would pass the same distance in a horizontal line, if we suppose the force of steam sufficient to give the train a velocity of 10 or 12 miles per hour on a level road.

But, in all cases in practice, care should be taken to adjust the length and height of undulations, so that the velocity acquired at the foot of the planes should not be greater than what might be deemed safer under all circumstances.

Upon the whole, gentle undulations, where the ground will permit, seem to be well calculated for steam or horse power. Much may be saved in the expense of grading, and water will always be prevented from lodging on the roadway.

In locating the planes for undulations, care should be taken so to adjust them, that a car, in passing over them, may first descend, and then ascend to nearly its former level. The nature of the ground in all places frequently permits this; for instance, in crossing a ravine, or small creek bottom, where the length of the planes may be from 100 to 300 yards. When it is necessary to extend the length of the planes to half a mile, or more, it is evident that the ascending and descending grades should be so adjusted, that the force of steam alone, and not momentum, may be depended upon, for passing the load up the ascending plane.

Fifth Annual Report of the Superintendent of Graduation, Masonry, and Construction of the Baltimore and Ohio Rail Road.

Office of the Superintendent of the Graduation, Masonry and Construction of the Baltimore and Ohio Rail Road. 1st Oct. 1834.

To PHILIP E. THOMAS, President, &c.

SIR—As a full and detailed report in relation to the work placed under my superintendence will necessarily be made, as soon as it shall have been completed, and as the entire road to Harper's ferry is now almost finished, as well as the graduation and masonry of that part of the Washington road that has been authorised to be put under contract, I consider it only necessary in this report to give you a general view of the condition of the work at the present time, and to state the periods when the same will be finished.

The entire graduation and masonry of the Baltimore and Ohio Rail Road, as far as to Harper's ferry, is completed, except that it may yet be necessary to remove a few points of projecting rocks on the north side of the road, between the Point of Rocks and the ferry.

The materials for the construction of the rail tracks on this road have been provided, and the greater portion of them distributed along the line of the work.

The laying of the rails has been commenced at different points, and will be completed by the end of next month. Materials of the best quality are in a course of preparation for the horse path, and will be applied as fast as the laying of the rails advances, so that the whole road will be ready for travel and traffic within a few days after the laying of the rails shall have been finished.

The graduation of the Washington Rail Road is completed as far as to the district line, with the exception of the deep cuts. These, it is confidently expected, will also be finished by the first day of January next.

The masonry on this road is all completed except the "Thomas Viaduct," over the Patapsco, and this stupendous structure, it is not doubted, will be finished in due time to receive the rails, with the other parts of the road.

The masonry on this road, between its deflection from the Baltimore and Ohio Rail Road and the line of the District of Columbia, will be about 39,000 perches. It has been executed in the most substantial and permanent manner; and so far it has shown no indication of the least imperfection, either as regards its foundations, materials or construction. Indeed, I believe that it may safely be asserted, that there is not any better executed stone work, either as respects durability or appropriateness to the purpose intended, in this country.

The requisite materials for laying down the rails, on the entire line of this road, are nearly all distributed along the road, except the iron rails and their necessary fixtures, only a part of which have been received.

The whole have, however, been ordered, and we have assurances that they will be received by the time they may be wanted. The actual laying of the rails, at several points along the Washington road, has been commenced under three different contractors, and the whole will be completed by the 1st day of July next, or earlier, should the iron arrive in time.

If the Board conclude within the present month, to authorise the graduation of that part of this road lying within the District of Columbia, it may also be completed by the middle of next summer, so as to have the rails laid there and the whole line in operation for travel and transportation within less than one year from this date.

Respectfully submitted,

GASPAR W. WEVER, Superintendent, &c.

Office of the Treasurer of the Baltimore and Ohio Railroad Co. 1st October, 1834.

PHILIP E. THOMAS, Esq. President.

SIR: The following statement in relation to

the fiscal operations of the Baltimore and Ohio Railroad Company during the past year is respectfully submitted. Your obt^d serv^t,

W. H. MURRAY, Treas^r, &c.

The Baltimore and Ohio Railroad Company, in account with William H. Murray, Treasurer.

To Cash paid Chesapeake and Ohio Canal Company, for graduation of that portion of the 6th Division, between the Point of Rocks and Harper's Ferry, undertaken by that Company,	\$155,166.67
Cash paid Graduation and Masonry on that part of the Road not undertaken by the Chesapeake and Ohio Canal Company,	106,537.92
Cash paid construction of Depots, Stables, Turnouts, Sidelings, and Engine house,	11,676.19
Cash paid materials for Rail Tracks,	5,163.17
Cash paid construction of Carriages, Wagons, &c.	69,683.60
Cash paid construction of Locomotive Engines,	16,426.99
Cash paid Engineer department,	5,492.51
Cash paid damages and right of way,	8,864.00
Cash paid for Patent Rights,	2,500.00
Cash paid Law Expenses,	2,002.75
Cash paid Office Expenses, Salaries, and Contingencies,	5,540.70
Cash paid Instalments on the Washington Railroad Stock,	\$75,520.00
Cash advanced to the Washington Railroad,	28,406.67
Cash paid Union Bank, loan refunded,	200,000.00
Cash paid Mechanics Bank, loan refunded,	75,000.00
Cash paid Interest on State and City Stocks, and to Banks,	32,424.87
Cash paid expenses of Transportation, per return of the Superintendent,	\$88,416.74
Cash paid Horse Feed on hand, provided for the next winter's consumption,	6,928.04
	95,344.78
Cash paid repairs of Railroad and Machinery	38,845.67
Materials on hand for future use,	990.50
	39,836.17
Unexpended balances in the hands of disbursing officers,	33,130.57
	\$1,268,717.46
By Balance on hand at the credit of the Company, as per last Annual Report,	\$54,820.97
Cash received for Instalments on 29,895 Shares of Stock, at \$5.00,	149,475.00
Cash received, being the final payment upon 5,000 shares, owned by the State of Maryland,	125,000.00
Cash received, being the final payment upon 5,000 shares owned by the City of Baltimore, say proceeds of sale of \$175,000, five per cent. Stock, issued by the City,	175,750.08
Cash received from sale of forfeited Stock,	940.00
Cash received for revenue from 30th September, 1833, to 30th September, 1834, per return of Superintendent,	205,436.58
Arrearages of revenue not collected last year,	17,537.34
Cash received for Bonds issued to Union Bank of Maryland, applicable to the payment of Instalments on Stock in the Washington Railroad,	500,000.00
Balance,	59,761.49
	\$1,268,717.46

The Company have acquired since the last annual report, in addition to the real estate which it then owed, the following pieces of property, viz.:

1st. Three lots in the town of Berlin, situated half way between the Point of Rocks and Harper's Ferry. This purchase will afford a convenient depot immediately where the railway is crossed by a county road, which opens a communication with Loudoun county, in Virginia, and the Middletown Valley, in Maryland.

2d. That piece or parcel of land lying between the Baltimore and Ohio and the Washington Railroads, at the point of their separation near the Viaduct over the Patapsco.

3d. A lot of ground adjoining the land heretofore conveyed to the Company by James Carroll, for the Mount Clare Depot. This lot is situated north of that depot, and affords a convenient communication with Pratt street.

W. H. MURRAY, Treas'r, &c.

The Baltimore and Ohio Railroad Company, Washington Branch, in account with Wm. H. Murray, Treasurer.

Cr.

By Cash Received on 10,000 Shares of Stock, being \$50 per Share, \$500,000.00

Cash received from the sale of Stock, received from the State of Maryland, 350,000.00

Cash received from the Mechanics' Bank of Baltimore, as a loan, 75,000.00

Cash received from the Baltimore and Ohio Railroad Company, 28,406.67

\$953,406.67

Dr.

To Cash paid Engineer department, \$27,812.35

Cash paid for Right of Way, 71,651.23

Cash paid for Graduation and Masonry, 698,950.61

Cash paid Department of Construction, being for materials for Rail track, 56,096.54

Cash paid Department of Machinery, including purchase of patents, 3,437.50

Cash paid Interest on Loans, 13,658.29

Cash paid Law expenses, 675.00

Cash paid Office expenses, Salaries, and Contingencies, 4,102.51

Unexpended balances in the hands of disbursing officers, 44,591.68

Balance on hand this day, 32,430.96

\$953,406.67

W. H. MURRAY, Treas'r.

Harper's Ferry and Baltimore.—The portion of the Ohio Railroad between the Point of Rocks and Harper's Ferry, a distance of twelve miles, is on the point of completion. It will be opened for travel and transportation on Monday, 1st Dec., when there will be a perfect railroad communication from Baltimore to Harper's Ferry, of eighty-two miles in length. The extension of the improvement to that important point will materially augment the business of the Road, and benefit, in a corresponding degree, the trade of our country.—[Balt. Am.]

Railroad Accident.—On the afternoon of Tuesday last, one of the cars on the Newark Railroad, was driven, by the carelessness of the driver, into the aperture occasioned by opening the draw of the bridge over the Passaic, for a vessel to pass, with a concussion that injured many of the passengers, about twenty in number, severely. Fortu-

nately, the frame work of the bridge sustained the car, and probably saved the lives of many, as the distance the horses were precipitated was about twenty feet or more. The escape is almost miraculous, and there should be some regulation as to opening the draw at the bridge, as the declivity is sufficient to very much increase the speed or velocity of the car.

Railroad Accident.—Yesterday morning between 9 and 10 o'clock, as the train of cars from Westborough were passing through Natick, a short distance above the centre of the town, the engine came in contact with the chaise of Mr. David Rice of that town, who was crossing the track, and not seen till the moment. The horse was killed instantly, the chaise was dashed in pieces, and Mr. Rice seriously injured on his head, though it is thought he may recover. The passengers united in freeing the engineer from the imputation of blame.

23d CONGRESS—Second Session.

Monday, December 1, 1834.

This day commenced, at the Capitol, in the City of Washington, the Second Session of the Twenty Third Congress.

PRESIDENT'S MESSAGE.

Fellow Citizens of the Senate, and House of Representatives:

In performing my duty at the opening of your present session, it gives me pleasure to congratulate you again upon the prosperous condition of our beloved country. Divine Providence has favored us with general health, with rich rewards in the fields of agriculture and in every branch of labor, and with peace to cultivate and extend the various resources which employ the virtue and enterprise of our citizens. Let us trust that in surveying a scene so flattering to our free institutions, our joint deliberations to preserve them may be crowned with success.

Our foreign relations continue, with but few exceptions, to maintain the favorable aspect which they bore in my last annual message, and promise to extend those advantages which the principles that regulate our intercourse with other nations are so well calculated to secure.

The question of the northeastern boundary is still pending with Great Britain, and the proposition made in accordance with the resolution of the Senate, for the establishment of a line according to the treaty of 1783, has not been accepted by that government.—Believing that every disposition is felt on both sides to adjust this perplexing question to the satisfaction of all the parties interested in it, the hope is yet indulged that it may be effected on the basis of that proposition.

With the governments of Austria, Russia, Prussia, Holland, Sweden and Denmark, the best understanding exists. Commerce with all, is fostered and protected by reciprocal good will, under the sanction of liberal conventional or legal provisions.

In the midst of her internal difficulties, the Queen of Spain has ratified the Convention for the payment of the claims of our citizens arising since 1819. It is in the course of execution on her part, and a copy of it is now laid before you for such legislation as may be found necessary to enable those interested to derive the benefits of it.

Yielding to the force of circumstances, and to the wise counsels of time and experience, that power has finally resolved no longer to occupy the unnatural position in which she stood to the new governments established in this hemisphere. I have the great satisfaction of stating to you that in preparing the way for the restoration of harmony between those who have sprung from the same ancestors, who are allied by common interests, profess the same religion, and speak the same language, the U. States have been actively instrumental. Our efforts to effect this good work, will be persevered in while they are deemed useful to the parties, and our entire disinterestedness continues to be felt and understood. The act of Congress to counterveil the discriminating duties, levied to the prejudice of our navigation, in Cuba and Porto Rico, has been transmitted to the Minister of the United States, to be communicated to the Government of the Queen. No intelligence of its receipt has yet reached the Department of State. If the present condition of the country permits the Government to make a careful and enlarged examination of these important portions of its dominions, no doubt is entertained that their future intercourse with the United States will be placed upon a more just and liberal basis.

The Florida archives have not yet been selected and delivered. Recent orders have been sent to the

agent of the United States at Havana, to return with all that he can obtain, so that they may be in Washington before the session of the Supreme Court, to be used in the legal questions there pending, to which the Government is a party.

Internal tranquillity is happily restored to Portugal. The distracted state of the country rendered unavoidable the postponement of a final payment of the just claims of our citizens. Our diplomatic relations will be soon resumed, and the long subsisting friendship with that power affords the strongest guarantee that the balance due will receive prompt attention.

The first instalment due under the convention of indemnity with the King of the Two Sicilies, has been duly received, and an offer been made to extinguish the whole by a prompt payment—an offer I did not consider myself authorized to accept, as the indemnification provided is the exclusive property of individual citizens of the United States. The original adjustment of our claims, and the anxiety displayed to fulfil at once the stipulations made for the payment of them, are highly honorable to the government of the Two Sicilies. When it is recollected that they were the result of the injustice of an intrusive power, temporarily dominant in its territory, a repugnance to acknowledge and to pay which would have been neither unnatural nor unexpected, the circumstances cannot fail to exalt its character for justice and good faith in the eyes of all nations.

The treaty of Amity and Commerce between the United States and Belgium, brought to your notice in my last annual message, as sanctioned by the Senate, but the ratification of which had not been exchanged, owing to a delay in its reception at Brussels, and a subsequent absence of the Belgian Minister of Foreign Affairs, has been, after mature deliberation, finally disavowed by that government as inconsistent with the powers and instructions given to the Minister who negotiated it. This disavowal was entirely unexpected, as the liberal principles embodied in the convention, and which from the ground-work of the objections to it, were perfectly satisfactory to the Belgian representatives, and were supposed to be not only within the powers granted, but especially conformable to the instructions given to him. An offer, not yet accepted, has been made by Belgium to renew negotiations for a treaty less liberal in its provisions, on questions of general maritime law.

Our newly established relations with the Sublime Porte, promise to be useful to our commerce, and satisfactory in every respect to this government. Our intercourse with the Barbary Powers continues without important change, except that the present political state of Algiers has induced me to terminate the residence there of a salaried consul, and to substitute an ordinary consulate, to remain so long as the place continues in the possession of France. Our first treaty with one of these powers—the Emperor of Morocco—was formed in 1786, and was limited to fifty years. That period has almost expired. I shall take measures to renew it with the greater satisfaction, as its stipulations are just and liberal, and have been, with mutual fidelity and reciprocal advantage, scrupulously fulfilled.

Intestine dissensions have too frequently occurred to mar the prosperity, interrupt the commerce, and distract the governments of most of the nations of this hemisphere, which have separated themselves from Spain. When a firm and permanent understanding with the mother country shall have produced a formal acknowledgment of their independence, and the idea of danger from that quarter can be no longer entertained, the friends of freedom expect that those countries, so favored by nature, will be distinguished for their love of justice and their devotion to those peaceful arts, the assiduous cultivation of which confers honor upon nations and gives value to human life. In the mean time I confidently hope, that the apprehensions entertained, that some of the people of these luxuriant regions may be tempted, in a moment of unworthy distrust of their own capacity for the enjoyment of liberty, to commit the too common error of purchasing present repose by bestowing on some favorite leaders the fatal gift of irresponsible power—will not be realized. With all these Governments, and with that of Brazil, no unexpected changes in our relations have occurred during the present year. Frequent causes of just complaint have arisen upon the part of the citizens of the United States—sometimes from the irregular action of the constituted subordinate authorities of the maritime regions, and sometimes from the leaders or partisans of those in arms against the established government. In all cases, representations have been, or will be made, and as soon as their political affairs

are in a settled position, it is expected that our friendly remonstrances will be followed by adequate redress.

The Government of Mexico made known in December last, the appointment of Commissioners and a Surveyor, on its part, to run, in conjunction with ours, the boundary line between its territories and the United States, and excused the delay for the reasons anticipated—the prevalence of civil war.—The Commissioners and Surveyors not having met within the time stipulated by the treaty, a new arrangement became necessary, and our Chargé d'Affaires was instructed, in January last, to negotiate, in Mexico, an article additional to the pre-existing treaty. This instruction was acknowledged, and no difficulty was apprehended in the accomplishment of that object. By information just received, that additional article to the treaty will be obtained, and transmitted to this country, as soon as it can receive the ratification of the Mexican Congress.

The re-union of the three States of New Granada, Venezuela, and Ecuador, forming the Republic of Colombia, seems every day to become more improbable. The Commissioners of the two first are understood to be now negotiating a just division of the obligations contracted by them when united under one government. The civil war in Ecuador, it is believed, has prevented even the appointment of a commissioner on its part.

I propose, at an early day, to submit in the proper form, the appointment of a diplomatic agent to Venezuela. The importance of the commerce of that country to the United States, and the large claims of our citizens upon the government, arising before and since the division of Colombia, rendering it, in my judgment, improper longer to delay this step.

Our representatives to Central America, Peru, and Brazil, are either at, or on their way to, their respective posts.

From the Argentine Republic from which a Minister was expected to this Government, nothing further has been heard. Occasion has been taken, on the departure of a new Consul to Buenos Ayres, to remind that Government that its long delayed Minister, whose appointment had been made known to us, had not arrived.

It becomes my unpleasant duty to inform you that this pacific and highly gratifying picture of our foreign relations, does not include those with France at this time. It is not possible that any Government and people could be more sincerely desirous of conciliating a just and friendly intercourse with a friendly nation, than are those of the United States with their ancient ally and friend. This disposition is founded as well on the most grateful and honorable recollections associated with our struggle for independence, as upon a well grounded conviction that it is consonant with the true policy of both. The people of the United States could not, therefore, see without the deepest regret, even a temporary interruption of the friendly relations between the two countries—a regret which would, I am sure, be greatly aggravated if there should turn out to be any reasonable ground for attributing such a result to any act of omission or commission on our part. I derive, therefore, the highest satisfaction from being able to assure you that the whole course of this Government has been characterised by a spirit so conciliatory and forbearing as to make it impossible that our justice and moderation should be questioned, whatever may be the consequences of a longer perseverance on the part of the French Government in her omission to satisfy the conceded claims of our citizens.

The history of the accumulated and unprovoked aggressions upon our commerce, committed by authority of the existing Governments of France, between the years 1800 and 1817, has been rendered too painfully familiar to Americans to make its repetition either necessary or desirable. It will be sufficient here to remark, that there has, for many years, been scarcely a single administration of the French Government by whom the justice and legality of the claims of our citizens to indemnity, were not, to a very great extent, admitted; and yet near a quarter of a century has been wasted in ineffectual negotiations to secure it.

Deeply sensible of the injurious effects resulting from this state of things upon the interests and character of both nations, I regarded it as among my first duties to cause one more effort to be made to satisfy France, that a just and liberal settlement of our claims was as well due to her own honor as to their incontestable validity. The negotiation for this purpose was commenced with the late Government of France, and was prosecuted with such success, as to leave no reasonable ground to doubt, that a settlement of a character quite as liberal as that which was

subsequently made, would have been effected, had not the revolution, by which the negotiation was cut off, taken place. The discussions were resumed with the present government, and the result showed, that we were not wrong in supposing, that an event by which the two governments were made to approach each other so much nearer in their political principles, and by which the motives for the most liberal and friendly intercourse were so greatly multiplied, could exercise no other than a salutary influence upon the negotiation. After the most deliberate and thorough examination of the whole subject, a treaty between the two governments was concluded and signed at Paris on the 4th of July, 1831, by which it was stipulated that "the French Government, in order to liberate itself from all the reclamations preferred against it by the citizens of the United States, for unlawful seizures, captures, sequestrations, confiscations, or destruction of their vessels, cargoes, or other property, engages to pay a sum of twenty-five millions of francs to the United States, who shall distribute it among those entitled, in the manner and according to the rules it shall determine;" and it was also stipulated on the part of the French Government, that this twenty-five millions of francs should "be paid at Paris in six annual instalments of four millions one hundred and sixty-six thousand six hundred and sixty-six francs and sixty six centimes each, into the hands of such person or persons as shall be authorized by the Government of the United States to receive it." The first instalment to be paid "at the expiration of one year next following the exchange of the ratifications of this convention, and the others at successive intervals of a year, one after another, till the whole shall be paid. To the amount of each of the said instalments shall be added interest at four per centum thereupon, as upon the other instalments then remaining unpaid, the said interest to be computed from the day of the exchange of the present convention."

It was also stipulated on the part of the United States, for the purpose of being completely liberated from all the reclamations presented by France on behalf of its citizens, that the sum of one million five hundred thousand francs should be paid to the Government of France, in six annual instalments, to be deducted out of the annual sums which France had agreed to pay, interest thereupon being in like manner computed from the day of the exchange of the ratifications. In addition to this stipulation, important advantages were secured to France by the following article, viz.: "The wines of France, from and after the exchange of the ratifications of the present Convention, shall be admitted to consumption in the States of the Union, at duties which shall not exceed the following rates by the gallon, (such as it is used at present for wines in the United States,) to wit: six cents for red wines in casks; ten cents for white wines in casks; and twenty-two cents for wines of all sorts in bottles. The proportions existing between the duties on French wines thus reduced, and the general rates of the tariff which went into operation the first January, 1829, shall be maintained, in case the Government of the United States should think proper to diminish those general rates in a new tariff.

In consideration of this stipulation, which shall be binding on the United States for ten years, the French Government abandons the reclamations which it had formed in relation to the 8th article of the treaty of cession of Louisiana. It engages, moreover, to establish on the long staple cottons of the United States, which, after the exchange of the ratifications of the present Convention, shall be brought directly thence to France by the vessels of the United States, or by French vessels, the same duties as on short staple cottons.

This treaty was duly ratified in the manner prescribed by the constitution of both countries and the ratification was exchanged at the city of Washington on the 2d of February, 1832. On account of its commercial stipulations it was, in five days thereafter laid before the Congress of the United States, which proceeded to enact such laws favorable to the commerce of France as were necessary to carry it into full execution; and France has, from that period to the present been in the unrestricted enjoyment of the valuable privileges that were thus secured to her. The faith of the French nation having been thus solemnly pledged, through its constitutional organs, for the liquidation and ultimate payment of the long deferred claims of our citizens, as also for the adjustment of other points of great and reciprocal benefits to both countries, and the United States having with a fidelity and promptitude by which their conduct will, I trust, be always characterized, done every thing that was necessary to carry the treaty into full and fair effect on their part, counted with the most

perfect confidence, on equal fidelity and promptitude on the part of the French Government. In this reasonable expectation we have been, I regret to inform you, wholly disappointed. No legislative provision has been made by France for the execution of the treaty, either as it respects the indemnity to be paid, or the commercial benefits to be secured to the United States, and the relations between the United States and that power, in consequence thereof, are placed in a situation threatening to interrupt the good understanding which has so long and so happily existed between the two nations.

Not only has the French Government been thus wanting in the performance of the stipulations it has so solemnly entered into with the U States, but its omissions have been marked by circumstances which would seem to leave us without satisfactory evidences, that such performance will certainly take place at a future period. Advice of the exchange of ratifications reached Paris prior to the 8th April, 1832. The French Chambers were then sitting and continued in session until the 21st of the month, and although one instalment of the indemnity was payable on the 2d of February, 1833, one year after the exchange of ratifications, no application was made to the Chambers for the required appropriation, and in consequence of no appropriation having then been made, the draft of the United States Government for that instalment was dishonored by the Minister of Finance, and the United States thereby involved in much controversy. The next session of the Chambers commenced on the 19th November, 1832, and continued until the 25th April, 1833. Notwithstanding the omission to pay the first instalment, had been made the subject of earnest remonstrance on our part, the treaty with the United States, and a bill making the necessary appropriations to execute it, were not laid before the Chamber of Deputies until the 6th of April, nearly five months after its meeting, and only nineteen days before the close of the session. The bill was read and referred to a committee, but there was no further action upon it. The next session of the Chambers commenced on the 25th of April, 1833, and continued until the 26th of June following. A new bill was introduced on the 11th of June, but nothing important was done in relation to it during the session. In the month of April, 1834, nearly three years after the signature of the treaty, the final action of the French Chambers upon the bill to carry the treaty into effect was obtained, and resulted in a refusal of the necessary appropriations. The avowed grounds upon which the bill was rejected, are to be found in the published debates of that body, and no observations of mine can be necessary to satisfy Congress of their utter insufficiency. Although the gross amount of the claims of our citizens is probably greater than will be ultimately allowed by the Commissioners, sufficient is, nevertheless shown, to render it absolutely certain that the indemnity falls far short of the actual amount of our just claims, independently of the question of damages and interest for the detention. That the settlement involved a sacrifice in this respect was well known at the time—a sacrifice which was cheerfully acquiesced in by the different branches of the Federal Government, whose action upon the treaty was required, from a sincere desire to avoid further collision upon this old and disturbing subject, and in the confident expectation that the general relations between the two countries would be improved thereby.

The refusal to vote the appropriation, the news of which was received from our Minister in Paris, about the 15th day of May last, might have been considered the final determination of the French government not to execute the stipulations of the treaty, and would have justified an immediate communication of the facts to Congress, with a recommendation of such ultimate measures as the interest and honor of the U. States might seem to require. But with the news of the refusal of the Chambers to make the appropriation, were conveyed the regrets of the King, and a declaration that a national vessel should be forthwith sent out, with instructions to the French Minister to give the most ample explanations of the past, and the strongest assurances for the future. After a long passage the promised despatch-vessel arrived. The pledges given by the French Minister, upon receipt of his instructions, were, that as soon after the election of the new members as the charter would permit, the legislative Chambers of France should be called together, and the proposition for an appropriation laid before them; that all the constitutional powers of the King and his Cabinet should be exerted to accomplish the object; and that the result should be made known early enough to be communicated to Congress at the commencement of the present session.

[See page 760.]

Animal Mechanics, or Proofs of Design in the Animal Frame. Part II., showing the Application of the Living Forces. [From the Library of Useful Knowledge.]

(Continued from page 695.)

OF THE CHANGES IN THE MATERIAL OF THE ANIMAL BODY DURING LIFE.—We have seen the motions performed in the animal body through the actions of the muscles and the play of the mechanical parts, and we have had occasion to reflect on the action of the heart, and the motion of the blood in the circulation; but these are as nothing, compared with the interest of our present subject—the changes going forward in the solid material of the frame. It is not surprising that the individual who retains every peculiarity of body and of mind, whose features, whose gait, and mode of action, whose voice, gestures, and complexion, we are ready to attest as the very proof of personality, should in the course of a few days change every particle of his solid fabric?—that he whom we suppose we saw, is, as far as his body is concerned, a perfectly different person from him we now see? That the fluids may change we are ready to allow, but that the solids are thus ever shifting seems at first improbable. And yet, if there be anything firmly established in physiology, if there be truth in the science at all, this fact is incontrovertible.

There is nothing like this in inanimate nature. It is beautiful to see the shooting of a crystal—to note, first, the formation of integrant particles from their elements in solution, and these, assuming a regular form under the influence of attraction or crystalline polarity, producing a determinate shape; but the form is permanent. In the different processes of elective attraction, and in fermentation, we perceive a commotion, but in a little time the products are formed, and the particles are at rest. There is in these instances nothing like the revolutions of the living animal substance, where the material is alternately arranged and decomposed. The end of this is that the machinery of the body is ever new, and possesses a property within itself of mending that which was broken, of throwing off that which was useless, and of building up that which was insecure and weak; of repelling disease, or of controlling it, and substituting what is healthful for that which is morbid. The whole animal machinery we have seen to be a thing fragile and exposed to injury; without this continual change of material, and this new modelling of that material, our lives would be more precarious; the texture of our bodies would be spoiled like some fine piece of mechanism which had stopped, and no workman would have science sufficient to reconstruct it. But by this process the minute particles of the body die successively; not as in the final death of the whole body, but part by part is deprived of its vitality, and taken away into the general circulation, whilst new parts are endowed with the property of life, and are built up in their place. By this revolution, we see nature, instead of having to establish a new mode of action for every casualty, heals all wounds, unites all broken bones, throws off all morbid parts by the continuance of its usual operations; and the surgeon, who is modest in his calling, has nothing to do but to watch, lest ignorance or prejudice interfere with the process of nature. This property of the living body

to restore itself when deranged, or to heal itself when broken or torn, is an action which so frequently assumes the appearance of reason, as if it were adapting itself to the particular occasion, that even the last great luminary in the science, Mr. John Hunter, speaks of parts of the body as “conscious of their imperfection,” and “acting from the stimulus of necessity,” thus giving the properties of mind to the body as the only explanation of phenomena so wonderful.

We make a moderate assumption, when we declare these changes to be under the guidance of the living principle. In a seed, or a nut, or an egg, we know that there is life, and from the length of time that these bodies will remain without change, we are forced to acknowledge that this life is stationary or dormant, and limited to the counteraction of putrefaction, or chemical decomposition; but no sooner does this principle become active, than a series of intestinal or internal changes are commenced, which are regularly progressive, without a moment's interruption, while life continues.

That principle, which may continue an indefinite number of days, months, or years, producing no change in all this time, begins at once to exhibit its influence, builds up the individual body, regulates the actions of secretion and absorption; and by its operation upon the material of the frame, stamps it with external marks of infancy, maturity, and age.

But let us examine the proofs of this universal change in the material of the body. It is not very long since a bone was supposed to be a concrete juice, and that the liquid parts were converted into solids, as we see mortar or Paris plaster from fluid assuming a solid form. But the anatomist began to observe that the bones were porous; that these pores admitted membranes and vessels; and some went so far before their brethren, as to assert that they saw arteries, veins, lymphatics, and nerves, going into the bone; in short, the opinion gradually grew stronger, that they were living parts, and subject to all the changes to which the softer parts of the living body were liable. An accident gave admirable proof of this. It was found that the bones of pigs, fed with the refuse of the dyer's vats, in which madder was contained, became tinged of a beautiful red color. It was this fact which ingenious physiologists made use of, and which enabled them to demonstrate the rapidity with which the old bone was carried away, and new bone substituted. The physiologist observed, that if he threw a bone into the fire, what is called the animal part was burned and dissipated, but there remained, imperishable by this process, a mass of earth, which proved to be the phosphate of lime. He thought of varying his experiment, and put the bone into acid, which dissolved that phosphate of lime, and left the bone to all outward appearance as before. It had its form, its membranes, its vessels, but when pressed it proved to be soft and pliant; the phosphate of lime having been dissolved and extracted, it was no longer capable of the office of a bone, to bear the weight and motions of the body. When the experiments with madder were resumed, it appeared that when this earth of bone was about to be secreted from the circulating vessels, and deposited in the membranes of the bone, it met with the coloring particles of the madder in the blood; and, as the chemist would

explain, the madder and the phosphate of lime were precipitated, and filled all the interstices of the membranes and vessels. We shall not stop here to inquire into the admirable manner in which this hardening material of bone is deposited for the purposes of strength; it is only the change upon the material which we have now to contemplate.

If this earth of bone so colored had been deposited for a permanency, and built into these cells and crevices, like brick and mortar, the color would remain; but, however deeply the bones of an animal may be tinged in this manner, the color is not permanent, unless the animal continues to be fed with the madder. If its food be pure of the madder, even for a few weeks, and if after this the animal be killed, its bones are white, that is to say, the old particles of phosphate of lime are carried away by absorption, and with them the coloring material; and that newer bone which is deposited by the arteries is untinged and pure, having no coloring material to attract.

It is unnecessary to follow out those curious experiments by which the physiologist has shown the rapidity of the formation of a new bone around the broken end of an old one, and the deep tinge such new bone takes, compared with the fainter color of that which had been perfect, previous to the feeding with madder; the manner in which, by feeding the animal alternately with madder and without it, he contrives to exhibit different colored layers in the growing bone. It is sufficient for our purpose to know, that the densest part of the animal frame is subject to change, like the most delicate texture of the body, and that the only means of arresting the motion is to deprive it of life; if a part of a bone be killed by the application of a cautery, that moment it becomes permanent, and is subject to no change, whilst all the parts around it are undergoing their revolutions.

The bones of the legs and thighs, which suffer the fatigue of motion, and which support the weight of the body, without diminishing in their length, or altering in the slightest measurable degree their proper form, are nevertheless undergoing an operation of repair, in which the old particles are withdrawn, whilst new ones replace them. We see with what care the walls of a house are shored up to admit of repair—how carefully the workman must estimate the strength of his pillars and beams—how nicely he must hammer in his wedges, that every interstice may be filled, and no strain permitted; and if this operation fail in the slightest degree, it is attended with a rent of the wall from top to bottom. We say, then, that by the very awkwardness of this process, in which, after all, there is danger of the whole fabric tumbling about the workmen, we are called upon to admire how the solid pillars in our own frame are a thousand times renewed, whilst the plan of the original fabric is followed to the utmost nicety in their restoration. And if it deviate at all, it is only in a manner the more to surprise us, since on examination it will be discovered to result from an adaptation of the strength of material to some new circumstance, the increasing weight it has to support, or the jar that it is subject to from the change in the activity or exercise of the body.

There is a disease of the bone which illustrates this in a surprising manner, and proves to us, that however diseased and monstrous

in its shape the bone may be, yet there is a natural law operating, which by its prevalence will overcome the morbid action, and from a shapeless mass restore the bone to its natural condition.

This disease is called *necrosis*, which word signifies the *death* of the bone merely; but it is death in very peculiar circumstances; a new bone is formed around the old one; a large and clumsy cylinder is fashioned of the earth of bone, in the hollow of which the shaft of the old bone is contained. After a long time the old bone comes out through this new case, and, with the aid of the surgeon, it is altogether withdrawn from the limb. During all this process the patient is capable of supporting his weight upon that limb, so that it resembles on a large scale that change which we have described as going continually on in the molecules of the bone; a new part is substituted, and the old taken away.

If workmen were to take away a pillar in the following manner, their work would resemble the process of necrosis: first, they must rear a hollow cylinder around the old pillar, resting on the plinth and base, and extending to the capital, and having secured the union of the cylinder at top and bottom to the extremities of the pillar, they must take away the shaft, or middle piece of the old pillar, by perforating the new cylinder.

The reader may easily imagine that when this process is completed in a man's limb, it will be as clumsy as the leg of an elephant, large, firm, and shapeless; but the extraordinary circumstance is still to be described. This new bone is gradually diminished in its exterior surface, and its hollow filled up, and thus by a change scarcely perceptible it resumes the form and dimensions of the original bone; and, after a time, the anatomist might examine this limb, and find, neither in the articulating surfaces, nor in the spines and ridges, nor in the points of attachment for ligaments and muscles, any thing to indicate the extraordinary revolution that had taken place.

What explanation have we to give of this change? There can be no doubt that the material is not the same; for we have the old bone in our hand, and the man is walking upon a new bone. Yet extraordinary, then, as this appears, it is not more inexplicable than the common phenomenon of the growth of an infant to maturity. There is a living principle which is permanent while the material changes; and this principle attracts and arranges, dissolves and throws off successive portions of the solids. There is a law influencing this living principle, which, in its operation on the material, shapes and limits the growth of every part, and carries it through a regular series of changes, in which its form and aptness for its office are preserved, whilst the material alone is altered.

The influence of disease will for a time disorder this modelling process, and produce tumors and distortions; but when at length the healthy action, that is the natural action, prevails, these incumbrances are carried away, and the fair proportions of the fabric are restored.

It is very pleasing to observe the different means employed where a slight change of circumstances demands it. This earth of bone—the phosphate of lime—is changing continually, but the teeth admit of no change; they consist of earth too—the phosphate,

carbonate, and fluato of lime. Bodies calculated for such violent attrition, and with a surface so hard as to strike fire with steel, would be ill accommodated with such a property of changing as we have seen in the bones. They must therefore fall out, and be succeeded by new ones; and this process, familiar as it may be, is very curious when philosophically considered.

There are no teeth whilst yet the infant is at the breast; and when they rise they are attended with new appetites, and a necessity for change of food. When perfected, they form a range of teeth, neat and small, adapted to the child's jaws and the size of its bones. Were they to grow at once, or to fall out at once, it would prove a disturbance to the act of eating. They fall in succession; their fangs are absorbed, they are loose and jangling, and are easily extracted. But now comes the question, why are these teeth of the infant old at six years? Why are those that are to succeed, and be stationary for a series of years, to germinate and grow at the appointed time, like the buds in the axilla of a leaf? And when fully formed, why do they remain perfect for sixty years instead of six, at the end of which term the first set were old and decayed? No difference can be observed in the material of the teeth of the first or second set. The one will be as perfect as the other after remaining a hundred years in a charnel house. Can any one refuse his belief, then, when he sees so accurate a mechanical adaptation of the teeth to their places and their offices; can he, we say, refuse assent to this also, that there is a law impressed, a property by which the milk teeth shall fail and be discharged from the jaw in six years, whilst the others will last the natural life of the adult, if not injured by accidents, to which all parts are subject? This is not the only instance in which parts of the body lie dormant for a term of years, and are at a particular period of life developed and perfected—and which have, we may say, their time of infancy, perfection, and decay, whilst yet there is no material deterioration observable in the general frame.

We are thus brought to the consideration of a question which has not yet been fairly stated.

Those who say that life results from structure, and that the material is the ruling part, bid us look to the contrast of youth and age. The activity of limb and buoyancy of spirit they consider as a necessary consequence of the newness and perfection of organization in youth. On the other hand, a ruined tower, unroofed, and exposed to be broken up by alternation of frost and heat, dryness and moisture, wedged by the roots of ivy, and tottering to its fall, they compare with old age—with the shrunk limbs, tottering gait, shrivelled face, and scattered grey hair of the old.

But in all this there is not a word of truth. Whilst there is life and circulation there is change of the material of the frame, (and there is a sign of this if a broken bone unites, or a wound heals.) Ascribe the distinction to the rapidity of change, to the velocity of circulation, or to the more or less energy of action; but with the antiquity of the material it can have nothing to do. The roundness and fullness of flesh, the smoothness, transparency, and color of the cheek, belong to youth, as characteristic of the time of life, not as a necessary quality of the material!

Is there a physiognomy in all nature—among birds, and beasts, and insects, and flowers—and shall man alone have no indication of his condition in the outward form and character?

The distinctions in the body, apparent in the stages of life, have a deeper source than the accidental effects of the deterioration of the material of the frame. The same changes which are wrought on the structure of the body in youth, and in the spring of life, are going on in the last term of life; but the fabric is rebuilt on a different plan. The law of the formation is still inherent in the life which has hurried the material of the body through a succession of changes; and each stage, from the embryo to the fetus, the fetus to the child, from that to adolescence, to maturity, and to the condition of old age, has its outward form, as indicative of internal qualities, but not of the perfection or imperfection of the gross material. We might as well consider the difference in the term of life of the annual or biennial plant, as compared with the oak, or the ephemeral fly as compared with the bird that hawks at it, to be in the qualities of the matter which forms them, as that the outward characters of the different stages of human life arose from the perfection or imperfection of the material of the body. Not only has every creature its appointed term of life, but we have shown that parts of the human body do not, in this respect, bear a relation to the whole: organs are changed and disappear; others, in the mean time, at their regulated period, shoot to perfection, and again decay before the failure of the body. What can more distinctly show that it is the principle of life that directs all; and that on it the law is imprinted which orders our formation, and all the revolutions we undergo. The material of the body, solid and fluid, is moved by this influence, and varies every day, part by part dying every hour, and renewed, until the series of its changes on the gross material of the body is accomplished in an entire and final separation.

The grand phenomena of nature make powerful impression on our imagination, and we acknowledge them to be under the guidance of Providence; but it is more pleasing, more agreeable to our self-importance, it gives us more confidence in that Providence, to discover that the minutest changes in nature are equally His care, and that "all things do homage."

Although it be true that every thing in nature, being philosophically contemplated, will lead to the same conclusions, yet the occurrences around us steal so imperceptibly on our observation, all the objects of nature, or at least vegetable and animal productions, grow up by so slow a process by our side, that we do not consider them at all in the same way as we should do if they started suddenly upon our vision.

It is this familiarity with the qualities of a living body, and a habit of seeing without reflection, which has made it necessary to carry the reader through so long a course of observation and reasoning to excite attention to the admirable structure of his own frame, and its adaptation to the earth we inhabit—to perceive that every thing is formed with a strict relation to the human faculties and organs, to extend our dominion, and to multiply our sources of enjoyment. It is by seeing the plan of Providence in the establishment of relations between the condition

of our being and the material world, that we learn to comprehend that unity of design in the creation in which we form so great a part.

This exaltation of our nature is not like the influence of pride or common ambition. We may use the words of Socrates to his scholar, who saw in the contemplation of nature only a proof of his own insignificance, and concluded "that the gods had no need of him," which drew this answer from the sage: "The greater the munificence they have shown in the care of thee, so much the more honor and service thou owest them!"

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sion. Relying upon these pledges, and not doubting that the acknowledged justice of our claims, the promised exertions of the King and his Cabinet, and, above all, that sacred regard for the national faith and honor for which the French character has been so distinguished, would secure an early execution of the treaty in all its parts, I did not deem it necessary to call the attention of Congress to the subject at the last session.

I regret to say, that the pledges made through the Minister of France have not been redeemed. The new Chambers met on the 31st July last, and although the subject of fulfilling treaties was alluded to in the speech from the throne, no attempt was made by the King or his Cabinet to procure an appropriation to carry it into execution. The reasons given for this omission, though they might be considered sufficient in an ordinary case, are not consistent with the expectations founded upon the assurances given here, for there is no constitutional obstacle to entering into legislative business at the first meeting of the Chambers. This point, however, might have been overlooked, had not the Chambers, instead of being called to meet at so early a day, that the result of their deliberations might be communicated to me, before the meeting of Congress, been prorogued to the 29th of the present month—a period so late that their decision can scarcely be made known to the present Congress, prior to their dissolution. To avoid this delay, our Minister in Paris, in virtue of the assurance given by the French Minister in the United States, strongly urged the convocation of the Chambers at an earlier day, but without success. It is proper to remark, however, that this refusal has been accompanied with the most positive assurances, on the part of the Executive Government of France, of their intention to press the appropriation at the ensuing session of the Chambers.

The executive branch of this government has, as matters stand, exhausted all the authority upon the subject with which it is invested, and which it had any reason to believe could be beneficially employed.

The idea of acquiescing in the refusal to execute the treaty will not, I am confident, be for a moment entertained by any branch of this government; and further negotiation is equally out of the question.

If it shall be the pleasure of Congress to await the further action of the French Chambers, no further consideration of the subject will, at this season, probably be required at your hands. But if, from the original delay in asking for an appropriation, from the refusal of the Chambers to grant it when asked, from the omission to bring the subject before the Chambers at their last session, from the fact that, including that session, there have been five different occasions when the appropriation might have been made, and from the delay in convoking the Chambers until some weeks after the meeting of Congress, it was well known that a communication of the whole subject to Congress at the last session was prevented by assurances that it should be disposed of before its present meeting, you should feel yourselves constrained to doubt whether it be the intention of the French Government in all its branches to carry the treaty into effect, and think that such measures as the occasion may be deemed to call for, should be now adopted, the important question arises what those measures shall be.

Our institutions are essentially pacific. Peace and friendly intercourse with all nations are as much the desire of our government as they are the interest of the People. But these objects are not to be permanently secured, by surrendering the rights of our citizens, or permitting solemn treaties for their indemnity in cases of flagrant wrong, to be abrogated or set aside.

It is undoubtedly in the power of Congress serious-

ly to affect the agricultural and manufacturing interests of France, by the passage of laws relating to her trade with the United States. Her products, manufactures, and tonnage, may be subjected to heavy duties in our ports, or all commercial intercourse with her may be suspended. But there are powerful, and, to my mind, conclusive objections to this mode of proceeding. We cannot embarrass or cut off the trade of France, without, at the same time, in some degree, embarrassing or cutting off our own trade. The injury of such a warfare must fall, though unequally, upon our citizens, and could not but impair the means of the Government, and weaken that united sentiment in support of the rights and honor of the nation which must now pervade every bosom.

Nor is it impossible that such a course of legislation would introduce once more into our national councils, those disturbing questions in relation to the tariff of duties which have been so recently put to rest. Besides, by every measure adopted by the Government of the United States with the view of injuring France, the clear perception of right, which will induce our own people, and the rulers and people of all other nations, even of France herself, to pronounce our quarrel just, will be obscured, and the support rendered to us in a final resort to more decisive measures, will be more limited and equivocal. There is put one point in the controversy, and upon that the whole civilized world must pronounce France to be in the wrong. We insist that she shall pay us a sum of money which she has acknowledged to be due; and of the justice of this demand there can be but one opinion among mankind. True policy seems to dictate, that the question at issue should be kept thus disencumbered, and that not the slightest pretence should be given to France to persist in her refusal to make payment, by any act on our part affecting the interest of her people. The question should be left as it is now, in such an attitude that when France fulfils her treaty stipulations, all controversy will be at an end.

It is my conviction that the United States ought to insist on a prompt execution of the treaty, and in case it be refused, or longer delayed, take redress into their own hands. After the delay on the part of France of a quarter of a century in acknowledging these claims by treaty, it is not to be tolerated that another quarter of a century is to be wasted in negotiating about the payment. The laws of nations provide a remedy for such occasions. It is a well settled principle of the international code, that where one nation owes another a liquidated debt, which it refuses or neglects to pay, the aggrieved party may seize on the property belonging to the other, its citizens or subjects, sufficient to pay the debt, without giving just cause of war. This remedy has been repeatedly resorted to, and recently by France herself, towards Portugal, under circumstances less unquestionable.

The time at which resort should be had to this, or any other mode of redress, is a point to be decided by Congress. If an appropriation shall not be made by the French Chambers at their next session, it may justly be concluded that the Government of France has finally determined to disregard its own solemn undertaking, and refuse to pay an acknowledged debt. In that event, every day's delay on our part will be a stain upon our national honor, as well as a denial of justice to our injured citizens. Prompt measures, when the refusal of France shall be complete, will not only be most honorable and just, but will have the best effect upon our national character.

Since France, in violation of the pledges given through her minister here, has delayed her final action so long that her decision will not probably be known in time to be communicated to this Congress, I recommend that a law be passed authorising reprisals upon French property, in case provisions shall not be made for the payment of the debt at the approaching session of the French Chambers. Such a measure ought not to be considered by France as a menace. Her pride and power are too well known to expect any thing from her fears, and preclude the necessity of a declaration that nothing partaking of the character of intimidation is intended by us. She ought to look upon it as the evidence only of an inflexible determination on the part of the United States to insist on their rights. That Government, by doing only what it has itself acknowledged to be just, will be able to spare the United States the necessity of taking redress in their own hands, and save the property of French citizens from that seizure and sequestration which American citizens so long endured without retaliation or redress. If she should continue to refuse that act of acknowledged justice, and in violation of the law of nations, make reprisals on our part the occasion of hostilities against the United States, she would but add violence to injustice, and could not fail to expose herself to the just censure of civilized nations, and the retributive judgments of Heaven.

Collision with France is the more to be regretted, on account of the position she occupies in Europe in relation to liberal institutions. But, in maintaining our national rights and honor, all Governments are alike to us. If, by a collision with France, in a case where she is clearly in the wrong, the march of liberal principles shall be impeded, the

responsibility for that result, as well as every other, will rest on her own head.

Having submitted these considerations, it belongs to Congress to decide, whether, after what has taken place, it will still await the further action of the French Chambers, or now adopt such provisional measures as it may deem necessary and best adapted to protect the rights and maintain the honor of the country. Whatever that decision may be, it will be faithfully enforced by the Executive, as far as he is authorized so to do.

According to the estimate of the Treasury Department, the revenue accruing from all sources, during the present year, will amount to twenty millions six hundred and twenty-four thousand seven hundred and seventeen dollars, which with the balance remaining in the Treasury on the first of January last, of eleven millions seven hundred and two thousand nine hundred and five dollars, produces an aggregate of thirty-two millions three hundred and twenty-seven thousand six hundred twenty-three dollars. The total expenditure during the year for all objects, including the public debt, is estimated at twenty-five millions five hundred and ninety-one thousand three hundred and ninety dollars, which will leave a balance in the Treasury on the first of January, 1835, of six millions seven hundred and thirty-six thousand two hundred and thirty-two dollars. In this balance, however, will be included about one million one hundred and fifty thousand dollars of what was heretofore reported by the Department as not effective.

Of former appropriations it is estimated there will remain unexpended at the close of the year, eight millions two thousand nine hundred and twenty-five dollars, and that of this sum there will not be required more than five millions one hundred and forty-one thousand nine hundred and sixty-four dollars, to accomplish the objects of all the current appropriations. Thus it appears that after satisfying all those appropriations, and after discharging the last item of our public debt, which will be done on the first of January next, there will remain unexpended in the Treasury an effective balance of about four hundred and forty thousand dollars. That such should be the aspect of our finances is highly flattering to the industry and enterprise of our population, and auspicious of the wealth and prosperity which await the future cultivation of their growing resources. It is not deemed prudent, however, to recommend any change for the present in our import rates, the effect of the gradual reduction now in progress in many of them, not being sufficiently tested to guide us in determining the precise amount of revenue which they will produce.

Free from public debt, at peace with all the world, and with no complicated interests to consult in our intercourse with foreign powers, the present may be hailed as that epoch in our history the most favorable for the settlement of those principles in our domestic policy, which shall be best calculated to give stability to our Republic, and secure the blessings of freedom to our citizens. Among these principles, from our past experience, it cannot be doubted, that simplicity in the character of the Federal Government, and a rigid economy in its administration, should be regarded as fundamental and sacred. All must be sensible that the existence of the public debt, by rendering taxation necessary for its extinguishment, has increased the difficulties which are inseparable from every exercise of the taxing power; and that it was, in this respect, a remote agent in producing those disturbing questions which grew out of the discussions relating to the tariff. If such has been the tendency of a debt incurred in the acquisition and maintenance of our national rights and liberties, the obligations of which all portions of the Union cheerfully acknowledged, it must be obvious, that whatever is calculated to increase the burdens of Government without necessity, must be fatal to all our hopes of preserving its true character. While we are felicitating ourselves, therefore, upon the extinguishment of the national debt, and the prosperous state of our finances, let us not be tempted to depart from those sound maxims of public policy, which enjoin a just adaptation of the revenue to the expenditures that are consistent with a rigid economy, and an entire abstinence from all topics of legislation that are not clearly within the constitutional powers of the Government, and suggested by the wants of the country. Properly regarded, under such a policy, every diminution of the public burdens arising from taxation, gives to individual enterprise increased power, and furnishes to all the members of our happy Confederacy, new motives for patriotic affection and support. But above all, its most important effect will be found in its influence upon the character of the Government, by confining its action to those objects which will be sure to secure to it the attachment and support of our fellow citizens.

Circumstances make it my duty to call the attention of Congress to the Bank of the United States. Created for the convenience of the Government, that institution has become the scourge of the People. Its interference to postpone the payment of a portion

of the national debt, that it might retain the public money appropriated for that purpose, to strengthen it in a political contest—the extraordinary extension and contraction of its accommodations to the community—its corrupt and partisan loans—its exclusion of the public directors from a knowledge of its most important proceedings—the unlimited authority conferred on the President to expend its funds in hiring writers, and procuring the execution of printing, and the use made of that authority—the retention of the pension money and books, after the selection of new agents—the groundless claim to heavy damages, in consequence of the protest of the bill drawn on the French Government, have, through various channels, been laid before Congress. Immediately after the close of the last session, the Bank, through its President, announced its ability and readiness to abandon the system of unparalleled curtailment, and the interruption of domestic exchanges, which it had practiced upon from the 1st of August, 1833, to the 30th June, 1834, and to extend its accommodations to the community. The grounds assumed in this announcement, amounted to an acknowledgment that the curtailment, in the extent to which it had been carried, was not necessary to the safety of the Bank, and had been persisted in merely to induce Congress to grant the prayer of the Bank in its memorial relative to the removal of the deposits, and to give it a new charter. They were substantially a confession that all the real distresses which individuals and the country had endured for the preceding six or eight months, had been needlessly produced by it, with the view of affecting, through the sufferings of the people, the legislative action of Congress. It is a subject of congratulation, that Congress and the country had the virtue and firmness to bear the infliction; that the energies of our people soon found relief from this wanton tyranny, in vast importations of the precious metals from almost every part of the world; and that at the close of this tremendous effort to control our Government, the Bank found itself powerless, and no longer able to loan out its surplus means. The community had learned to manage its affairs without its assistance, and trade had already found new auxiliaries; so that on the first of October last, the extraordinary spectacle was presented of a National Bank, more than one half of whose capital was either lying unproductive in its vaults, or in the hands of foreign bankers.

To the needless distress brought on the country during the last session of Congress, has been added the open seizure of the dividends on the public stock, to the amount of one hundred and seventy thousand and forty one dollars, under pretence of paying damages, costs, and interest, upon the protested French bill. The sum constituted a portion of the estimated revenues for the year 1834, upon which the appropriations made by Congress were based. It would have as soon been expected that our collectors would seize on the customs, or the receivers of our land offices on the monies arising from the sale of public lands, under pretences of claims against the United States, as the Bank would have retained the dividends. Indeed, if the principle be established that any one who chooses to set up a claim against the United States, may, without authority of law, seize on the public property or money wherever he can find it, to pay the claim, there will remain no assurance that our revenue will reach the Treasury, or that it will be applied after the appropriation to the purposes designated in the law. The paymasters of our army, and the pursers of our navy, may, under like pretences, apply to their own use monies appropriated to set in motion the public force, and in time of war leave the country without defence. This measure resorted to by the Bank is disorganizing and revolutionary, and if generally resorted to by private citizens in like cases, would fill the land with anarchy and violence.

It is a constitutional provision that "no money shall be drawn from the Treasury but in consequence of appropriations made by law." The palpable object of this provision is to prevent the expenditure of the public money, for any purpose whatsoever, which shall not have been first approved by the Representatives of the People and the States in Congress assembled. It vests the power of declaring for what purposes the public money shall be expended, in the legislative department of the government, to the exclusion of the executive and judicial, and it is not within the constitutional authority of either of those departments, to pay it away without law, or to sanction its payment. According to this plain constitutional provision the claim of the Bank can never be paid without an appropriation by act of Congress. But the Bank has never asked for an appropriation. It attempts to defeat the provision of the constitution,

and obtain payment without an act of Congress. Instead of awaiting an appropriation passed by both Houses, and approved by the President, it makes an appropriation for itself, and invites an appeal to the judiciary to sanction it. That the money had not technically been paid into the Treasury, does not affect the principle intended to be established by the constitution. The Executive and Judiciary have as little right to appropriate and expend the public money without authority of law, before it is placed to the credit of the Treasurer, as to take it from the Treasury. In the annual report of the Secretary of the Treasury, and in his correspondence with the President of the Bank, and the opinion of the Attorney General accompanying it, you will find a further examination of the claims of the bank, and the course it has pursued.

It seems due to the safety of the public funds remaining in that Bank, and to the honor of the American People, that measures be taken to separate the Government entirely from an institution so mischievous to the public prosperity, and so regardless of the Constitution and laws. By transferring the public deposits, by appointing other Pension Agents, as far as it had the power, by ordering the discontinuance of the receipt of Bank checks in payment of the public dues after the first day of January next, the executive has exerted all its lawful authority to sever the connexion between the Government and this faithless corporation.

The high-handed career of this institution imposes upon the constitutional functionaries of this Government, duties of the gravest and most imperative character—duties which they cannot avoid, and from which I trust there will be no inclination on the part of any of them to shrink. My own sense of them is most clear, as is also my readiness to discharge those which may rightfully fall on me. To continue any business relations with the Bank of the United States that may be avoided without a violation of the national faith, after that institution has set at open defiance the conceded right of the Government to examine its affairs, after it has done all in its power to deride the public authority in other respects, and to bring it into disrepute at home and abroad; after it has attempted to defeat the clearly expressed will of the people by turning against them the immense power intrusted to its hands, and by involving a country otherwise peaceful, flourishing, and happy, in dissensions, embarrassment, and distress—would make the nation itself a party to the degradation so sedulously prepared for its public agents—and do much to destroy the confidence of mankind in popular governments, and to bring into contempt their authority and efficiency. In guarding against an evil of such magnitude, considerations of temporary convenience should be thrown out of the question, and we should be influenced by such motives only as look to the honor and preservation of the republican system. Deeply and solemnly impressed with the justice of these views, I feel it to be my duty to recommend to you, that a law be passed authorizing the sale of the public stock; that the provision of the charter requiring the receipt of notes of the Bank in payment of public dues, shall, in accordance with the power reserved to Congress in the 14th Section of the charter, be suspended until the Bank pays to the Treasury the dividends withheld; and that all laws connecting the Government or its officers with the Bank, directly or indirectly, be repealed; and that the institution be left hereafter to its own resources and means.

Events have satisfied my mind, and I think the minds of the American People, that the mischiefs and dangers which flow from a National Bank far overbalance all its advantages. The bold effort the present Bank has made to control the Government, the distresses it has wantonly produced, the violence of which it has been the occasion in one of our cities famed for its observance of law and order, are but premonitions of the fate which awaits the American people, should they be deluded into a perpetuation of this institution, or the establishment of another like it. It is fervently hoped, that, thus admonished, those who have heretofore favored the establishment of a substitute for the present bank, will be induced to abandon it, as it is evidently better to incur any inconvenience that may be reasonably expected, than to concentrate the whole monied power of the Republic in any form whatsoever, or under any restrictions.

Happily it is already illustrated that the agency of such an institution is not necessary to the fiscal operations of the Government. The State Banks are found fully adequate to the performance of all services which were required of the Bank of the United States, quite as promptly, and with the same cheapness. They have maintained themselves, and dis-

charged all these duties, while the Bank of the United States was still powerful, and in the field as an open enemy: and it is not possible to conceive that they will find greater difficulties in their operations, when that enemy shall cease to exist.

The attention of Congress is earnestly invited to the regulation of the deposits in the State Banks, by law. Although the power now exercised by the Executive Department in this behalf, is only such as was uniformly exerted through every Administration from the origin of the Government up to the establishment of the present Bank, yet, it is one which is susceptible of regulation by law, and, therefore, ought so to be regulated. The power of Congress to direct in what places the Treasurer shall keep the moneys in the Treasury, and to impose restrictions upon the Executive authority in relation to their custody and removal, is unlimited, and its exercise will rather be courted than discouraged by those public officers and agents on whom rests the responsibility for their safety. It is desirable that as little power as possible should be left to the President or Secretary of the Treasury over those institutions—which, being thus freed from Executive influence, and without a common head to direct their operations, would have neither the temptation nor the ability to interfere in the political conflicts of the country. Not deriving their charters from the national authorities, they would never have those inducements to meddle in general elections, which have led the Bank of the United States to agitate and convulse the country for upwards of two years.

The progress of our gold coinage is creditable to the officers of the mint, and promises in a short period to furnish the country with a sound and portable currency, which will much diminish the inconvenience to travellers of the want of a general paper currency, should the State banks be incapable of furnishing it. Those institutions have already shown themselves competent to purchase and furnish domestic exchange for the convenience of trade, at reasonable rates, and not a doubt is entertained that, in a short period, all the wants of the country in bank accommodations and exchange will be supplied as promptly and cheaply as they have heretofore been by the Bank of the United States. If the several States shall be induced gradually to reform their banking systems, and prohibit the issues of all small notes, we shall, in a few years, have a currency as sound, and as little liable to fluctuations, as any other commercial country.

The report of the Secretary of War, together with the accompanying documents from the several bureaux of that Department, will exhibit the situation of the various objects committed to its administration.

No event has occurred since your last session rendering necessary the movements of the army, with the exception of the expedition of the regiment of dragoons into the territory of the wandering and predatory tribes inhabiting the western frontier, and living adjacent to the Mexican boundary. These tribes have been heretofore known to us principally by their attacks upon our own citizens and upon other Indians entitled to the protection of the United States. It became necessary for the peace of the frontiers to check these habitual inroads, and I am happy to inform you that the object has been effected without the commission of any act of hostility. Col. Dodge, and the troops under his command, have acted with equal firmness, and an arrangement has been made with those Indians, which it is hoped will assure their permanent pacific relations with the United States, and the other tribes of Indians upon that border. It is to be regretted that the prevalence of sickness in that quarter has deprived the country of a number of valuable lives, and particularly that General Leavenworth, an officer well known and esteemed for his gallant services in the late war, and for his subsequent good conduct, has fallen a victim to his zeal and exertions in the discharge of his duty.

The army is in a high state of discipline. Its moral condition, so far as that is known here, is good, and the various branches of the public service are carefully attended to. It is amply sufficient, under its present organization, for providing the necessary garrisons for the sea-board and for the defence of the internal frontier, and also for preserving the elements of military knowledge, and for keeping pace with those improvements which modern experience is continually making. And these objects appear to me to embrace all the legitimate purposes for which a permanent military force should be maintained in our country. The lessons of history teach us its danger, and the tendency which exists to an increase. This can be best met and averted by a just caution on the part of the public itself, and of those who represent them in Congress. [See page 764.]

NEW-YORK AMERICAN.

NOVEMBER 29—DECEMBER 5, 1834.

LITERARY NOTICES.

THE INFLUENCE OF MORAL CAUSES UPON OPINION, SCIENCE, AND LITERATURE: BY G. C. VERPLANCK, L. L. D. Amherst College. New York: H. Lud. wig.—This is a discourse delivered by Mr. Verplanck before the Literary Societies of Amherst College, and at their request in August last. It treats of high matters in a high and worthy strain; and if its counsels be as advisedly acted on as they are eloquently enforced, they cannot fail to produce public benefit, while conferring individual happiness and renown.

The study of Truth is the great lesson inculcated throughout these pages—and the dictum alike wise and true, that "the Creator seems to have ordained a connexion between Truth and Goodness, so that as Truth is the natural teacher of Goodness, Goodness again is the surest guide to Truth," is enforced by the analogy of nature and the harmony of the universe, as well as by the adaptation of the moral nature of man to his physical condition.

To Truth, sought in the spirit of humility—sought as Newton sought it, not for victory, but with an enduring and patient spirit, desiring to arrive at that knowledge, which is not only Power but Virtue—how fine a tribute is paid in the following extract:

The implicit devotion to truth is not only a positive virtue in itself, but it includes or implies many others. It implies, of course, if not an entire exemption from the malignant, envious, and selfish vices, at least the power of perceiving them in our own breasts, and of bringing them into subjection to reason and conscience whenever they impede the right exercise of the judgment. It implies also the possession and practice of several distinct and positive virtues. That patience of labor and endurance of disappointment, such as, in the active concerns of life, preserve the even balance of the faculties, fit them to all the duties of society, and bear the possessor steadily over the tossing billows of adversity, are also the great secret of scientific acquirement and discovery. It was in this alone that the meek-spirited Newton felt and confessed his superiority to common men. It was this unpretending virtue that gave energy and success to his unrivalled mathematical sagacity, and that combined the gigantic powers of his reason and invention with a laborious and unrivalled minuteness of observation and experiment. This virtue may be sometimes the offspring of an enthusiastic love of knowledge; but it is then most perfect and most beautiful when it grows up, side by side, and from the same root, with its twin virtue of Humility. The impatience of long-sustained attention, the avidity for plausible hypothesis, the disregard for facts that militate against favorite theories, are all of them the natural fruits of proud self-confidence. It is this inflated vanity that so often induces the moral or political reasoner to rear his theory upon so slight a foundation of reality, and when it is once reared, to repose so complacently upon his fancied laurels, or to rouse himself from his flattering dreams, only to heap scorn and obloquy upon the heads of those who oppose or who doubt. On the contrary, it is the deep felt sense, the familiar and intimate conviction, that man is but darkly and imperfectly wise, whilst nature is great, and its Creator infinite, that prepare the mind for laborious study and patient inquiry—for the ready sacrifice of long-cherished notions and of fancied learning—for the prostration and subjection of the whole man to truth, and to truth alone. But from this very lowliness springs up another, and an opposite, yet not contradictory virtue. It is that of manly independence of judgment. For, the truth, once found, is acknowledged without a rival, and estimated as above all price. What is it to such a meek but sincere inquirer, that the fashion of the world is against him—that grave authority frowns upon him—that old familiar friends denounce his motives, his judgment, or his character! He has sought for a better good than they or theirs can bestow, and he has gained it. He has labored to learn that which would make him wiser and better, and others happier.—That knowledge has seized upon his intellect and his affections as with a giant's grasp. It has entered into his soul as a beam of living light. There is no place left there for the creeping things of darkness, for fear, for selfishness, for vanity, for false shame. He

knows that the fabric of his belief is firm and solid; for its rests on the deep and low foundation of a humble, and therefore a true estimation of himself.—Founded as it is on the rock of humility, built up by patient industry, the breath of popular favor or censure passes by it unheeded, and the tempest of persecution beats on it in vain.

We must ask attention to another extract, which treats, almost too leniently, and yet with much skill, the dangerous dogma which would divest human belief of all moral character and responsibility, by teaching that it is wholly involuntary:

There is a dogma taught in some schools of metaphysics, that belief is wholly involuntary; and that as opinions must depend entirely upon the reasons presented to the mind's consideration, they can have no moral character, good or evil. If this doctrine be true, it would seem to follow, that belief and opinion must be just as independent of all moral influences in their origin and formation, as they are in their issue and character. This is a dogma that has passed from the books and schools of philosophy to the forum and the senate, furnished argument for the grave review and the popular harangue, and has served as the foundation of reasoning and declamation, sometimes in the cause of sceptical indifference, and sometimes, better employed, in the service of toleration and equal laws. It contains a remarkable mixture of truth and error, and the limits of each are indicated and well defined by the purposes to which the doctrine has been applied, and by the consequences deduced from it. As applied to enforce a liberal and just tolerance of sentiment towards difference of faith or opinion, it points out correctly the numerous sources of innocent error, from some one or other of which no mind can be wholly exempt.—there are the errors of involuntary ignorance; there are those springing from ideas early instilled by education, and strengthened by youthful associations—unfounded, unexamined, it may probably be—unsuspected, but yet inwrought deeply into our dearest sympathies and boat affections; there are errors from erroneous information, and facts believed on authority respectable in itself, or venerable in our eyes from gratitude or love, from custom or prejudice; errors, again, arising from the peculiar personal character of the individual, his turn of thought, his capacity for reasoning, his desires, appetites, habits, his very physical constitution, and circumstances in life.—Thus it may often happen that the mixture and association of the best sentiments and the most essential truths with baser materials, are often as real and as excusable causes of error as perfectly involuntary ignorance. Involuntary ignorance, moreover, in a being so limited as individual man, whilst the collective knowledge and the pressing duties of his species are so vast, is by no means confined to the least informed portions of society. It may be found where it is least expected, and often in company with large acquisitions in other respects. As, then, correct deductions can be drawn only from the facts and arguments actually comprehended by the mind, error may thus be pardonable, be innocent, be virtuous. In the honest language of the sternest and most uncompromising of modern controversialists, "though truth can be but on one side, sincerity may be on both." Such is the lesson of tolerance for his fellows, that the contemplation of man's weakness and fallibility ought to teach him. But a closer inspection of our own minds and hearts will show us yet other principles at work in the formation of opinion, always operating upon such opinions as are connected with the conduct and business of life, or the regulation of the heart and the desires—often affecting the speculative reason, and sometimes even the observations and conclusions of physical philosophy. The mind has a strange capacity of deceiving itself, as to what is, or is not, the just inference from the evidence within its reach. It can willfully turn away altogether from the most important considerations, or pass them over with a slight and careless glance. It can fasten its whole or its chief attention upon some single point favorable to its own preconceived notions, to the party it has espoused, to its accidental loves, or hates, or caprices. It can deceive itself by resting implicitly upon some single strong and easily comprehended argument, on the one side; whilst it impatiently turns away from the far stronger opposing demonstration that results from a numerous and complicated, but united authority of facts and reasons. It can view things, not as they appear in the clear, colourless ray of reason, but as they show discoloured by interest, prejudice, or ridicule, according as the fashion of the world throws

* Horsley.

upon them the many changing colors of its ever-turning prism. It can acquiesce in the first plausible conclusions that may coincide with the interests or the fancies of the individual, and resolve to think no further. It can obstinately shrink back from the painful task of unsettling early opinions, and plucking up maxims and doctrines that have been implanted early, and have entwined their roots with every fibre. The prejudiced individual may (to borrow the Baconian imagery) obstinately refuse to look forth into the broad day light, and perversely form his judgment of all things from those dim shadows that flit across the darkened cavern of his intellect, where he has erected the shrine of the idol of his secret worship, upon whose altars sometimes truth and sometimes virtue is the sacrifice. Facts may be assumed upon authority, without investigation, because we wish them to be true, and would rather take them as such, than undergo the labor of examination, with the hazard of enduring the mortification of finding them refuted. Nay more, experience has a thousand times shown, what otherwise would seem incredible, that when the strongest and clearest evidence has been forced upon the mind, its power can be completely deadened and resisted by mere habit, or pure mental indolence. Above all, words mere words, may be taken without ever weighing their real meaning, or considering whether they have any meaning at all, and pass so current for realities, that thus a man may go through life in the loud and fervent profession of doctrines or facts, without the slightest suspicion that he is utterly ignorant of what those facts or doctrines may be—without realizing them in any actual application to nature or life, and, it may be, in the daily contradiction of his personal conduct to the words constantly upon his tongue. Thus it is, in another view of the question, that error may be very far from guiltless; that the moral faculties have much to do in the formation of opinion and the discovery of truth. From all this it follows, that the true philosophy of the laws of belief, on the one hand, bids us beware of too hasty and confident a reliance on our own judgment, and, still more, of rash scorn for the minds, or hatred for the persons, of those who range themselves under opposing banners to our own on the great questions which divide society; whilst, on the other side, it teaches us no less imperatively that we are morally accountable for the right operations of our intellect, and the proper use of the means of ascertaining truth, placed within our reach.

We had marked further passages from this finely-wrought address, but are compelled to exclude them to-day, though we would draw attention to the brief and original view taken of the influence which, in this country particularly, moral causes should exert upon the genius and works of pure literature.

A GENERAL HISTORY OF QUADRUPEDS, embellished with three hundred and forty-four engravings, from the original of T. Bewick, by A. Anderson. 1 vol.—New York: J. BOOTH & SON.—This purports to be the second American from the eighth London edition, and is a very attractive book for young persons, by the cuts, which are quite good, and the biographies of the animals—among which the dog figures, as he should, pre-eminently. There are a few additions of American animals, such as the Mammoth, the Grizzly Bear, &c., with authentic notices of each.

THE AMERICAN FOREST, OR UNCLE PHILIP'S CONVERSATIONS WITH THE CHILDREN ABOUT THE TREES OF AMERICA; HARPER & BROTHERS, New York: forming vol. XXII. of the *Boys and Girls' Library of Useful and Entertaining Knowledge*.—Uncle Philip has unquestionably the gift—rare as it is valuable—of so imparting instruction as to make the pursuit of knowledge a pleasure rather than a task.

Uncle Philip has another characteristic for which we greatly commend him, that of making his books, wherever the subject will admit of it, conduce to inspire in American children and youth a desire to be well informed in all that relates to America.

Such is the little volume now before us, which treats about the trees of America—and in the shape of beguiling conversation and amusing anecdote, imparts knowledge at once useful and ornamental.

There is not one of the books from Uncle Philip's pen that might not be introduced, with great profit to

learners, as regular school books. The style is pure and plain, the information accurate, and the spirit always devout. We could not wish any thing better to masters or scholars, than that these books should be familiar in their hands.

THE NEW ENGLAND MAGAZINE, No. XLII, FOR DECEMBER.—This is a good number of this popular Magazine; and it contains besides its usual variety, one or two papers, to which we shall take pleasure in calling the attention of our readers hereafter.

POPULAR ESSAYS ON THE LAWS OF ACOUSTICS: by Joseph Tugno, M. D. Philadelphia.—This is a small pamphlet, which treats of the anatomy and physiology of the ear, and recommends itself to persons afflicted with deafness, by adducing seventy-seven cases of the removal of that infirmity, by a mode of treatment based on the principles advanced in the treatise.

REPUBLICATION OF THE LONDON, EDINBURGH, FOREIGN AND WESTMINSTER QUARTERLY REVIEWS.—This is indeed a cheap medium of coming at the writings of the best living critics and essayists of England. The works here embodied in one publication, embrace nearly the whole field of politics and literature. We conclude to-day's review with the following extracts from the number before us: they are taken from an article in relation to the Jacobites, based upon the recently published Memoirs of the Rebellion of 1745; by Robert Chambers."

The species of canine fidelity which actuated many of the adherents of Charles Edward, has been admired by romance-writers; it has indeed a claim to be among the first of savage virtues,—of those virtues, which are not founded upon any kind of reasoning, but are parts of the constitution of the human animal. In other words, when human beings are totally uncivilized, the presence of such a feeling, like the instinct of a dog, serves as something on the operation of which a fellow being can calculate, or in which he can repose trust. The reflections of these people on the hardships to which Charles was personally subjected as the natural consequence of his attempt, are among the most characteristic and innocent operations of this feeling.—In their eyes he was not only suffering injustice, he was not merely deprived of that piece of property to which he had a right;—an infraction an inexplicable infraction of the laws of nature had been committed, and they were as much astonished at the slight of hand transacted before them, as the Hindoo when he sees snow, or Galileo when he found nature indulging in a vacuum, after having disallowed it for four and-thirty feet. They saw the man filthy and in rage, reclining on a bleak hill, who ought to have been glittering in diamonds and reposing on the people, as their ballads frequently expressed, and as their novelists have repeated:—

'There did our young Prince lie down,
Whose home should have been a Palace.'

It is to the same principle, tinged perhaps with a feeling of a somewhat nobler order, that is owing the fact, honorable to the constancy of the poor to their creed, that a reward for Charles's head, sufficient to have enriched a district, was never competed for.

But the adherence to divine right was not the only circumstance calculated upon in this insurrection: a dazzling perspective of Dukedom and Marquises, made the motives of many of the adherents resemble those of their leaders. In England there existed a party of Jacobites; some of whom considered themselves of that creed by hereditary right, while others connected with the original body of patriots who harassed Walpole, finding themselves disappointed of office by Pulteney and Pelham, looked to the return of the banished family, as among other chances, one very likely to turn out in their favor.—Their chance, however, depended on the Pretender's coming over with a tolerable force; but he came alone, and therefore they were prudently silent.*

* It is generally understood that the Stuart papers, at present in the hands of the British government, throw a strange light on the motives of the representatives of many noble houses at this period! It is disgraceful to the persons to whom they are committed, that these papers are not published; but perhaps they would exhibit in too true colors the acts of hereditary aristocracy.

Scotland was at that time in a different situation.—One part of it was cut off from the laws; and the whole country when placed in juxtaposition with England felt itself poor. The poverty of Scotland at that period has generally been accounted for the removal of the Court. To a City of lackies the removal of a court is the abstraction of the daily bread of the community; but to a country of agriculturists and manufacturers, it is a good riddance. The poverty of Scotland arose not from the removal of one great court, but from the existence of many petty ones,—especially in that part which has been noticed as beyond the pale of laws. The consequence of the existence of heritable jurisdictions, was that each man, instead of gaining his livelihood as he thought best by his own industry, got his living from his chief, and gave his obedience in return. Independently of the moral influence of this state of society, the chiefs were left to the exercise of considerable terror over their slaves!

It would appear from the collection that some of Cumberland's officers were not more accomplished in kicking than in pillaging. A lady provides an auction roll looking document, which she unceremoniously entitles 'Copy of a list of what General Hawley took from me when I lent him my house at Aberdeen.' The list is very distinct and particular in the enumeration, and design 'One set colored table china, viz ten dishes, a soup dish, and four dozen and ten plates.' The General seems to have had an eye after both the useful and the ornamental. The list proceeds to enumerate 'Many dusting cloths, for he left none. An embroidered fire-screen. A repeating clock with the stand for it, which stood by the bed in which he lay. All the books. Three flutes, and music books. Two canes with ivory heads. Two maps. A large marble mortar and pestle. A very big copper fish-kettle with a fish drainer in it. Several larding pins, and a dozen of iron skewers.' The lady so pillaged, writes an account of the circumstances to her sister. It appears from the terms used that she was an Englishwoman.

"That you my dear Mrs. Bowdler, Miss Harriott, and my brother, have been all very much astonished at not having for so long a time heard from me, (especially as I have had several kind letters from you all,) I verily believe; but what is worse, the reading of this will give you and all my friends great concern, and surprise you very much, when I shall tell you that the day before the Duke of Cumberland came here, which was the 22d of February, Colonel Watson, one of General Hawley's aid-de-camps, my neighbor Mr. Thomson, and Provost Robinson, came to me and said that the College, which was designed for the Duke, was not found convenient, and that my house and Mr. Thomson's, was what they must have. It was no difficulty for Mr. Thomson to find a place to go to, because all his and his wife's relations live here, but that was not my case; however, those gentlemen told me that when I had found a place to put myself in, all the difficulty was over, for as to every thing that was in the house, greater care would be taken of it than of any other: for I might and ought to depend on it, that as I lent my house for their convenience, they would not let me be a sufferer in any respect; that as to my china and linen I must lock it up, and put my kitchen furniture in the cellar, that it might not be in their way, and lock them, only leaving them a place for their coats, and two maids in the house to do any thing for them, and make myself quite easy, for they would not stay above two or three days here.

* * * The very next morning after they came, before I was out of my bed, General Hawley sent two messengers, to command me to send him every key I had, and so I did, still thinking that when he had satisfied his curiosity, he would send them to me again; but about six o'clock in the afternoon, he sent one of his aide camps to me, (whose name is Wolf,) [The editor states that he has ascertained this person to have been distinct from the officer that was afterwards the celebrated General Wolfe,] who after telling me rudely enough, that he had a great deal of trouble to find me out, said, that he was come to let me know, that by the Duke and General Hawley's orders, I was to be deprived of every thing I had but the clothes on my back. Do not wonder that I thought this an uncommon hard sentence, for I am very sure that I never either said or did any thing that could offend any of them, or any of the inhabitants of the place. The gentleman told me, that indeed the General had been very strict in his inquiries about me, but he could not find any thing to lay to my charge. The next day, there was a petition read to the Duke, setting forth the cruelty of this sentence, and desiring that at least I might have

my clothes belonging to myself and my child, with my provisions, with what I could make plainly appear belonged entirely to me or other people. It was said he seemed quite amazed at it, and said he would take care that I should not be robbed; and indeed the said gentleman came to me again, and said the Duke had ordered that my things should not be taken from me, so I thought I might depend on this message; but General Hawley, who lived in my house, took care to prevent that, for he packed up every bit of China I had, which I am sure would not be bought for two hundred pounds, all my bedding and table linen, every book, my repeating clock, which stood by the bed in which he lay every night, my worked screen, every rag of Mr. Gordon's clothes, the very hat, breeches, night-gown, shoes, and what shirts there was of the child's, twelve teaspoons, strainer, and tongs, the jappanned board on which the chocolate and coffee-cups stood, and put them on board a ship in the night time, directed to himself at Holyrood house at Edinburgh."

The unfortunate writer after making a further doleful enumeration continues—

"I have sent to my landlord to desire him to take his house off my hands, for it is left in such a way that it is impossible for me to go into it again, nor am I any longer in a condition to keep it. I am putting away Bob's master and Appy."

This is the same General Hawley who rendered himself celebrated for the eccentric terms of his will, which, after observing, aptly enough it would appear, "As I began the world with nothing, and as all I have is of my own acquiring, I can dispose of it as I please," terminated with these words—"In witness whereof, I have hereunto set my hand and seal, having writ it all with my own hand, and signed each page; and this I did, because I hate all priests of all professions, and I have the worst opinion of all members of the law."

As a converse to this, see what Lord George Murray, Charles's Commander in Chief, says of his army—

"As to plundering, our men were not entirely free of it; but there was much less of this than could have been expected, and few regular armies but are as guilty. To be sure there was some noted thieves amongst the Highlanders, (those called our Huzzars were not better;) what army is without them? But all possible care was taken to restrain them. How often have I gone into houses on our marches, to drive the men out of them, and drubbed them heartily. I was even reproved for correcting them. It was told me that all the Highlanders were gentlemen, and never to be beat; but I was well acquainted with their tempers. Fear was as necessary as love, to restrain the bad and keep them in order."

A considerable portion of this collection consists of accounts of the barbarities after Culloden. There is no doubt that these were dreadful. The government side has been silent on the subject; but after making allowance for the exaggeration of party, there cannot be much doubt that the numerous narratives given from different sources in this collection, are in the leading particulars too surely true. They are wearisomely disgusting, and there is scarcely a passage within a hundred pages which it is not revolting to read. Perhaps it might interest the members of the Church of England, to find the Episcopal party the subjects of proscription, and the Presbyterians zealously following Scripture in visiting the sins of the fathers upon the children until the third and fourth generation. There are scarcely grounds for ascertaining the feelings of the individual whose ambition caused so much ruin, and in the absence of proof it would be unfair to decide; but a member of his own party, Dr. King, in his anecdotes, seems to lean against him when he says—"I never heard him express any noble or benevolent sentiment, the certain indications of a great soul and good heart; or discover any sorrow or compassion for the misfortune of so many worthy men who had suffered in his cause."

After these bloody details, a string of accounts of the "Prince's Wanderings and Escapes" will only interest the writers of romances. Such instances as the following, are specimens of princely ingenuity, which it may do no harm to those who may be in danger of being deprived of the occupation of governing nations, to read—

"Donald MacLeod said the Prince used to smoke a great deal of tobacco: and, as in his wanderings from place to place, the pipes behaved to break, and turn into short cutties, he used to take quills, and putting one into another, 'and all,' said Donald, 'into the end of the cuttie, this served to make it long enough, and the tobacco to smoke cool.' Donald added, that he never knew in all his life, any one better at finding out a shift than the Prince was, when

he happened to be at a pinch; and that the Prince would sometimes sing them a song to keep up their hearts."

PRESIDENT'S MESSAGE—continued from p. 761.

From the duties which devolve on the Engineer Department, and upon the Topographical Engineers, a different organization seems to be demanded by the public interest, and I recommend the subject to your consideration.

No important change has, during this season, taken place in the condition of the Indians. Arrangements are in progress for the removal of the Creeks, and will be soon for the removal of the Seminoles.—I regret that the Cherokees east of the Mississippi have not yet determined, as a community, to remove. How long the personal causes which have heretofore retarded that ultimately inevitable measure, will continue to operate, I am unable to conjecture. It is certain, however, that delay will bring with it accumulated evils, which will render their condition more and more unpleasant. The experience of every year adds to the conviction, that emigration, and that alone, can preserve from destruction the remnant of the tribes yet living among us. The facility with which the necessities of life are procured, and the treaty stipulations providing aid for the emigrant Indians in their agricultural pursuits, and in the important concern of education, and their removal from those causes which have heretofore depressed all and destroyed many of the tribes, cannot fail to stimulate their exertions and reward their industry.

The two laws passed at the last session of Congress on the subject of the Indian affairs, have been carried into effect, and detailed instructions for their administration have been given. It will be seen by the estimates for the present session, that a great reduction will take place in the expenditures of the department in consequence of these laws. And there is reason to believe that their operation will be salutary, and that the colonization of the Indians on the western frontier, together with a judicious system of administration, will still further reduce the expenses of this branch of the public service, and at the same time promote its usefulness and efficiency.

Circumstances have been developed, showing the existence of extensive frauds under the various laws granting pensions and gratuities for Revolutionary services. It is impossible to estimate the amount which may have been thus fraudulently obtained from the national treasury. I am satisfied, however, it has been such as to justify a re-examination of the system, and the adoption of the necessary checks in its administration. All will agree, that the services and sufferings of the remnant of our Revolutionary band, should be fully compensated. But while this is done, every proper precaution should be taken to prevent the admission of fabricated and fraudulent claims. In the present mode of proceeding, the attestations and certificates of judicial officers of the various States, form a considerable portion of the checks which are interposed against the commission of frauds. These, however, have been, and may be, fabricated, and in such a way as to elude detection at the examining offices. And independently of this practical difficulty, it is ascertained that these documents are often loosely granted; sometimes, even bank certificates have been issued; sometimes prepared papers have been signed without inquiry; and, in one instance at least, the seal of the court has been within reach of a person most interested in its improper application.

It is obvious that, under such circumstances, no severity of administration can check the abuse of the law; and information has, from time, been communicated to the Pension Office, questioning or denying the right of persons placed upon the pension list to the bounty of the country. Such cautions are always attended to and examined. But a far more general investigation is called for; and I therefore recommend, in conformity with the suggestion of the Secretary of War, that an actual inspection should be made in each State, into the circumstances and claims of every person now drawing a pension. The honest veteran has nothing to fear from such a scrutiny, while the fraudulent claimant will be detected, and the public treasury relieved to an amount, I have reason to believe, far greater than has heretofore been suspected. The details of such a plan could be so regulated as to interpose the necessary checks, without any burthensome operation upon the pensioners. The object should be two-fold—

1. To look into the original justice of the claims, so far as this can be done under a proper system of regulations, by an examination of the claimants themselves, and by inquiring, in the vicinity of their residence, into their history, and into the opinion entertained of their revolutionary services.

2. To ascertain, in all cases, whether the original claimant is living, and this by actual personal inspection.

This measure will, if adopted, be productive, I think, of the desired results, and I therefore recommend it to your consideration, with the further suggestion, that all payments should be suspended till the necessary reports are received.

It will be seen by a tabular statement annexed to the documents transmitted to Congress, that the appropriations for objects connected with the War Department, made at the last session, for the service of the year 1834, excluding the permanent appropriations for the payment of military gratuities under the act of June 8, 1832, the appropriation of two hundred thousand dollars for arming and equipping the militia, and the appropriation of ten thousand dollars for the civilization of the Indians, which are annually renewed, amounted to the sum of nine millions three thousand two hundred and sixty-one dollars, and that the estimates of appropriations necessary for the same branches of service for the year 1835, amount to the sum of five millions seven hundred and seventy-eight thousand nine hundred and sixty-four dollars, making a difference in the appropriations of the current year over the estimates of appropriation for the next, of three millions two hundred and twenty-four thousand two hundred and ninety-seven dollars.

The principal causes which have operated at this time to produce this great difference, are shown in the reports and documents, and in the detailed estimates. Some of these causes are accidental and temporary, while others are permanent, and aided by a just course of administration, may continue to operate beneficially upon the public expenditures.

A just economy, expending where the public service requires, and withholding where it does not, is among the indispensable duties of the Government.

I refer you to the accompanying report of the Secretary of the Navy, and to the documents with it, for a full view of the operations of that important branch of our service, during the present year. It will be seen that the wisdom and liberality with which Congress have provided for the gradual increase of our navy material, have been seconded by a corresponding zeal and fidelity on the part of those to whom has been confided the execution of the laws on the subject, and that but a short period would be now required to put in commission a force large enough for any exigency into which the country may be thrown.

When we reflect upon our position in relation to other nations, it must be apparent, that in the event of conflicts with them, we must look chiefly to our navy for the protection of our national rights.—The wide seas which separate us from other governments, must of necessity be the theatre on which an enemy will aim to assail us, and unless we are prepared to meet him on this element, we cannot be said to possess the power requisite to repel or prevent aggressions. We cannot, therefore, watch with too much attention this arm of our defence, or cherish with too much care any means by which it can possess the necessary efficiency and extension. To this end our policy has been hitherto wisely directed to the constant employment of a force sufficient to guard our commerce, and to the rapid accumulation of the materials, which are necessary to repair our vessels, and construct with ease such new ones as may be required in a state of war.

In accordance with this policy, I recommend to your consideration the erection of the additional Dry Dock described by the Secretary of the Navy, and also the construction of the Steam Batteries to which he has referred, for the purpose of testing their efficacy as auxiliaries to the system of defence now in use.

The report of the Postmaster General, herewith exhibits the condition and prospects of that Department, at the commencement of the present year, beyond its available means, of three hundred and fifteen thousand five hundred and ninety-nine dollars and ninety-eight cents, which on the first of July last, had been reduced to two hundred and sixty-eight thousand ninety-two dollars and seventy-four cents. It appears also, that the revenues for the coming year, will exceed the expenditures about two hundred and seventy thousand dollars, which, with the excess of revenue which will result from the operations of the current half year, may be expected, independent of any increase in the gross amount of postages, to supply the entire deficit before the end of 1835. But as this calculation is based on the gross amount of postages which had accrued within the period embraced by the times of striking the balances, it is obvious that without a progressive increase in the amount of postages, the existing re-

trenchments must be persevered in through the year 1836, that the Department may accumulate a surplus fund sufficient to place it in a condition of perfect ease.

It will be observed that the revenues of the Post Office Department though they have increased, and their amount is above that of any former year, have yet fallen short of the estimates more than a hundred thousand dollars. This is attributed in a great degree to the increase of the free letters growing out of the extension and abuse of the franking privilege. There has been a gradual increase in the number of executive offices to which it has been granted; and by an act passed in March, 1833, it was extended to members of Congress throughout the whole year. It is believed that a revision of the laws relative to the franking privilege, with some enactments to enforce more rigidly the restrictions under which it is granted, would operate beneficially to the country, by enabling the Department at an earlier period to restore the mail facilities that have been withdrawn, and to extend them more widely as the growing settlements of the country may require.

To a measure so important to the Government, and so just to our constituents, who ask no exclusive privileges for themselves, and are not willing to concede them to others, I earnestly recommend the serious attention of Congress.

The importance of the Post Office Department, and the magnitude to which it has grown, both in its revenues and its operations, seem to demand its re-organization by law. The whole of its receipts and disbursements have hitherto been left entirely to Executive control, and individual discretion.—The principle is as sound in relation to this as to any other Department of the Government, that as little discretion should be confided to the Executive officer who controls it, as is compatible with its efficiency. It is therefore earnestly recommended that it be organized with an Auditor and Treasurer of its own, appointed by the President and Senate, who shall be branches of the Treasury Department.

Your attention is again respectfully invited to the defect which exists in the Judicial System of the United States. Nothing can be more desirable than the uniform operations of the Federal Judiciary throughout the several States, all of which, standing on the same footing as members of the Union, have equal rights to the advantages and benefits resulting from its laws. The object is not attained by the judicial acts now in force, because they leave one fourth of the States without Circuit Courts.

It is undoubtedly the duty of Congress to place all the States on the same footing in this respect, either by the creation of an additional number of associate judges, or by an enlargement of the circuits assigned to those already appointed, so as to include the new States. Whatever may be the difficulty in a proper organization of the judicial system, so as to secure its efficiency and uniformity in all parts of the Union, and at the same time to avoid such an increase of judges as would incur the supreme appellate tribunal, it should not be allowed to weigh against the great injustice which the present operation of the system produces.

I trust that I may be also pardoned for renewing the recommendation I have so often submitted to your attention, in regard to the mode of electing the President and the Vice President of the United States. All the reflection I have been able to bestow upon the subject, increases my conviction that the best interests of the country will be promoted by the adoption of some plan which will secure, in all contingencies, that important right of sovereignty to the direct control of the People. Could this be attained, and the terms of those officers be limited to a single period of either four or six years, I think our liberties would possess an additional safeguard.

At your last session I called the attention of Congress to the destruction of the public building occupied by the Treasury Department. As the public interest requires that another building should be erected, with as little delay as possible, it is hoped that the means will be seasonably provided, and that they will be ample enough to authorize such an enlargement and improvement in the plan of the building as will more effectually accommodate the public officers, and secure the public documents deposited in it from the casualties of fire.

I have not been able to satisfy myself that the bill entitled "an Act to improve the navigation of the Wabash river," which was sent to me at the close of your last session, ought to pass, and I have therefore withheld from it my approval, and now return it to the Senate, the body in which it originated.

There can be no question connected with the administration of public affairs, more important or more difficult to be satisfactorily dealt with, than that which relates to the

rightful authority and proper action of the Federal Government upon the subject of Internal Improvements. To inherent embarrassments have been added others resulting from the course of our legislation concerning it.

I have heretofore communicated freely with Congress upon this subject, and in advertising to it again, I cannot refrain from expressing my increased conviction of its extreme importance, as well in regard to its bearing upon the maintenance of the Constitution and the prudent management of the public revenue, as on account of its disturbing effect upon the harmony of the Union.

We are in no danger from violations of the Constitution by which encroachments are made upon the personal rights of the citizens. The sentence of condemnation long since pronounced by the American People upon acts of that character, will, I doubt not, continue to prove as salutary in its effects as it is irreversible in its nature. But against the danger of unconstitutional acts, which, instead of menacing the vengeance of offended authority, proffer local advantages, and bring in their train to the patronage of the Government, we are, I fear, not so safe. To suppose that because our Government has been instituted for the benefit of the People, it must therefore have the power to do whatever may seem to conduce to the public good, is an error, into which honest minds are too apt to fall. In yielding themselves to this fallacy, they overlook the great considerations on which the Federal Constitution was founded. They forget that in consequence of the conceded diversities in the interests and condition of the different States, it was foreseen, at the period of its adoption, that although a particular measure of the Government might be beneficial and proper in one State, it might be the reverse in another—that it was for this reason the States would not consent to make a grant to the Federal Government of the general and usual powers of Government, but of such only as were specifically enumerated, and the probable effects of which they could, as they thought, safely anticipate; and they forgot also the paramount obligation upon all to abide by the compact, then so solemnly, and, it was hoped, so firmly established. In addition to the dangers to the constitution springing from the sources I have stated, there has been one which was perhaps greater than all. I allude to the materials which this subject has afforded for sinister appeals to selfish feelings, and the opinion heretofore so extensively entertained of its adaptation to the purposes of personal ambition. With such stimulants it is not surprising that the acts and pretensions of the Federal Government in this behalf should sometimes have been carried to an alarming extent. The questions which have arisen upon this subject have related—

1st. To the power of making internal improvements within the limits of a State, with the right of territorial jurisdiction, sufficient at least for their preservation and use;

2d. To the right of appropriating money in aid of such works when carried on by a State, or by a company in virtue of State authority, surrendering the claim of jurisdiction; and

3d. To the propriety of appropriations for improvements of a particular class, viz. for light-houses, beacons, buoys, public piers, and for the removal of sand bars, sawyers, and other temporary and partial impediments in our navigable rivers and harbors.

The claims of power for the General Government upon each of these points certainly present matter of the deepest interest. The first is however of much the greatest importance, inasmuch as, in addition to the dangers of unequal and improvident expenditures of public moneys, common to all, there is superadded to that the conflicting jurisdictions of the respective governments. Federal jurisdiction, at least to the extent I have stated, has been justly regarded by its advocates as necessarily appurtenant to the power in question, if that exists by the constitution. That the most injurious conflicts would unavoidably arise between the respective jurisdictions of the state and federal governments, in the absence of a constitutional provision marking out their respective boundaries cannot be doubted. The local advantages to be obtained would induce the state to overlook in the beginning the dangers and difficulties to which they might ultimately be exposed. The powers exercised by the federal government would soon be regarded with jealousy by the state authorities, and originating as they must from implication or assumption, it would be impossible to affix to them certain and safe limits. Opportunities and temptations to the assumption of power incompatible with state sovereignty would be increased, and those barriers which resist the tendency of our system towards consolidation greatly weakened. The officers and agents of the general government might not always have the discretion to abstain from intermeddling with state concerns; and if they did they would not always escape the suspicion of having done so. Collisions, and consequent irritations would spring up,—that harmony which should ever exist between the general government and each member of the confederacy, would be frequently inter-

rupted—a spirit of contention would be engendered—and the dangers of division greatly multiplied.

Yet we all know that notwithstanding these grave objections, this dangerous doctrine was at one time apparently proceeding to its final establishment with fearful rapidity. The desire to embark the federal government in works of internal improvement, prevailed in the highest degree, during the first session of the first congress that I had the honor to meet in my present situation. When the bill authorising a subscription on the part of the United States for stock in the Maysville and Lexington Turnpike Companies, passed the two Houses, there had been reported, by the committees of Internal Improvement, bills containing appropriations for such objects, exclusive of those for the Cumberland road, and for harbors and light houses, to the amount of about one hundred and six millions of dollars. In this amount was included authority to the Secretary of the Treasury to subscribe for the stock of different companies to a great extent, and the residue was principally for the direct construction of roads by this government. In addition to these projects, which had been presented to the two Houses, under the sanction and recommendation of their respective committees on Internal Improvement, there were then still pending before the committees, and in memorials to Congress, presented, but not referred, different projects for works of a similar character, the expense of which cannot be estimated with certainty, but must have exceeded one hundred millions of dollars.

Regarding the bill authorising a subscription to the stock of the Maysville and Lexington Turnpike Company, as the entering wedge of a system which, however weak at first might soon become strong enough to rive the bands of the Union asunder, and believing that if its passage was acquiesced in by the Executive and the People, there would no longer be any limitation upon the authority of the General Government in respect to the appropriation of money for such objects, I deemed it an imperative duty to withhold from it the Executive approval. Although, from the obviously local character of that work, I might well have contented myself with a refusal to approve the bill upon that ground, yet, sensible of the vital importance of the subject, and anxious that my views and opinions in regard to the whole matter, should be fully understood by Congress, and my constituents, I felt it my duty to go further. I therefore embraced that early occasion to apprise Congress, that, in my opinion, the Constitution did not confer upon it the power to authorise the construction of ordinary roads and canals within the limits of a State, and to say, respectfully, that no bill admitting such a power could receive my official sanction. I did so in the confident expectation that the speedy settlement of the public mind upon the whole subject would be greatly facilitated by the difference between the two Houses and myself, and that the harmonious action of the several departments of the Federal Government in regard to it, would be ultimately secured.

So far as it regards this branch of the subject, my best hopes have been realized. Nearly four years have elapsed, and several sessions of Congress have intervened, and no attempt, within my recollection, has been made to induce Congress to exercise this power. The applications for the construction of roads and canals, which were formerly multiplied upon your files, are no longer presented; and we have good reason to infer that the current of public sentiment has become so decided against the pretension as effectually to discourage its re-assertion. So thinking, I derive the greatest satisfaction from the conviction, that thus much at least has been secured upon this important and embarrassing subject.

From attempts to appropriate the national funds to objects which are confessedly of a local character, we cannot, I trust, have anything further to apprehend. My views in regard to the expediency of making appropriations for works which are claimed to be of a national character, and prosecuted under State authority, assuming that Congress have the right to do so, were stated in my annual message to Congress in 1830, and also in that containing my objections to the Maysville Road Bill.

So thoroughly convinced am I, that no such appropriations ought to be made by Congress, until a suitable constitutional provision is made upon the subject, and so essential do I regard the point to the highest interests of the country, that I could not consider myself as discharging my duty to my constituents in giving the Executive sanction to any bill containing such an appropriation. If the people of the United States desire that the public Treasury shall be resorted to for the means to prosecute such works, they will concur in an amendment of the Constitution, prescribing a rule by which the national character of the works is to be tested, and by which the greatest

practical equality of benefits may be secured to each member of the confederacy. The effects of such a regulation would be most salutary in preventing unprofitable expenditure, in securing our legislation from the pernicious consequences of a scramble for the favors of Government, and in repressing the spirit of discontent which must inevitably arise from an unequal distribution of treasures which belong alike to all.

There is another class of appropriations for what may be called, without impropriety, internal improvements, which have always been regarded as standing upon different grounds from those to which I have referred. I allude to such as have for their object the improvement of our harbors, the removal of partial and temporary obstructions in our navigable rivers, for the facility and security of our foreign commerce. The grounds upon which I distinguish appropriations of this character from others have already been stated to Congress. I will now only add that at the first session of Congress under the new Constitution, it was provided by law, that all expenses which should accrue from and after the 15th day of August, 1789, in the necessary support and maintenance and repairs of all light houses, beacons, buoys, and public piers, erected, placed, or sunk before the passage of the act, within any bay, inlet, harbor, or port of the United States, for rendering the navigation thereof easy and safe, should be defrayed out of the Treasury of the United States; and further, that it should be the duty of the Secretary of the Treasury to provide by contracts, with the approbation of the President, for rebuilding when necessary and keeping in good repair the light houses, beacons, buoys, and public piers, in the several States, and for furnishing them with supplies. Appropriations for similar objects have been continued from that time to the present without interruption or dispute.

As a natural consequence of the increase and extension of our foreign commerce, ports of entry and delivery have been multiplied and established, not only upon our seaboard, but in the interior of the country, upon our lakes and navigable rivers. The convenience and safety of this commerce have led to the gradual extension of these expenditures; to the erection of lighthouses, the placing, planting, and sinking of buoys, beacons, and piers, and to the removal of partial and temporary obstructions in our navigable rivers, and in the harbors upon our great lakes, as well as on the seaboard. Although I have expressed to Congress my apprehension that these expenditures have sometimes been extravagant and disproportionate to the advantages to be derived from them, I have not felt it to be my duty to refuse my assent to bills containing them, and have contented myself to follow in this respect in the footsteps of all my predecessors. Sensible, however, from experience and observation, of the great abuses to which the unrestricted exercise of this authority by Congress was exposed, I have prescribed a limitation for the government of my own conduct, by which expenditures of this character are confined to places below the ports of entry and delivery established by law. I am very sensible that this restriction is not as satisfactory as could be desired, and that much embarrassment may be caused to the Executive Department in its execution, by appropriations for remote and not well understood objects. But as neither my own reflections, nor the lights which I may properly derive from other sources, have supplied me with a better, I shall continue to apply my best exertions to a faithful application of the rule upon which it is founded. I sincerely regret that I could not give my assent to the bill entitled "An act to improve the navigation of the Wabash river," but I could not have done so without receding from the ground which I have, upon the fullest consideration, taken upon this subject, and of which Congress has been heretofore apprized, and without throwing the subject again open to abuse, which no good citizen, entertaining my opinions, could desire.

I rely upon the intelligence and candor of my fellow-citizens, in whose liberal indulgence I have already so largely participated for a correct appreciation of my motives in interposing, as I have done, on this and other occasions checks to a course of legislation which, without in the slightest degree calling in question the motives of others, I consider as sanctioning improper and unconstitutional expenditures of public treasure.

I am not hostile to internal improvements, and wish to see them extended to every part of the country. But I am fully persuaded, if they are not commenced in proper manner, confined to proper objects, and conducted under an authority generally conceded to be rightful, that a successful prosecution of them cannot be reasonably expected. The attempt will meet with resistance where it might otherwise receive support, and instead of strengthening the bonds of our confederacy, it will only multiply and aggravate the cause of disunion.

ANDREW JACKSON.

December 1, 1834.

FOREIGN VARIETIES.

Metternich's System of Government.—The *Augsburgh Gazette* contains the following reflections, occasioned by the 25th Anniversary of Prince Metternich's elevation to the high office of Prime Minister of Austria:

"The Prince assumed the direction of the foreign relations of the vast Austrian empire a few days after the battle of Wagram, when the political opinions of Europe were in a state of total disorganization. On the 7th of October, three months later, the Prince was officially appointed to the same Department, for which he had shown himself singularly qualified. At this time the power of Napoleon was at its height, and he wished to form an alliance with the nation which he had made so many attempts to weaken. Napoleon was crowned with power and glory; his power extended from the Vistula to Cadiz—from the German Ocean to the extremity of Calabria. That formidable empire seemed then daily to become more consolidated, and promised ages of domination to him and his posterity. Europe beheld with astonishment his rapid conquests, and the magic extension of his power. A few profound observers, and amongst the number was Prince Metternich, discovered the secret of the weakness of the French.

"Gradually, circumstances, unforeseen by the mass of mankind, brought about the overthrow of that gigantic empire. The legions which had penetrated to the Nile, and had marched in triumph from the Tagus to Russia, at last succumbed under the load of victories. Then Sovereigns and nations united in the most sacred bonds of brotherhood against the unprecedented favorite of fortune. The battle of Leipzig relieved Germany from the yoke which had pressed so heavily upon her. Her injured sons avenged the thousand wrongs she had received at the hands of the licentious French soldiery, and the capital of their late oppressors lay exposed to a deservedly terrible retribution.

"The Bourbons were restored to the throne of their ancestors, and, in an assembly of Sovereigns and statesmen, the most memorable in the history of the world, the affairs of Europe were brought back to their natural state. The nations were a second time thrown into alarm, and a second time they restored peace to the world. The man who had been the cause of so much bloodshed, so much misery, was consigned to a barren rock off the Atlantic, there to end his days, the prisoner of the nation which he most detested. The powers of Europe were then left in peace to turn their attention towards their people.

"Spain became a prey to civil war, in changing a long-established system of government for one which she did not understand, and she found herself obliged to return to the former state of things. The attempt at innovation of to-day will have the same end, for the moral state of Spain will not allow of such ameliorations.

"Portugal founded an empire in the New World, and she herself is now the victim of revolutionary measures. France, after a repose of fifteen years, was hurried into the course which formerly proved so disastrous to herself and Europe. The day of the popular triumph was the day of her ruin; the illusions have vanished, and she is now fast retrograding. Italy attempted to follow the example of France, but happily for herself she did not succeed in bringing about her own destruction.

"Turkey, distracted by foreign and domestic feuds, has lost many of her fairest provinces. Her hitherto natural enemy has now become her friend, and will remain such. The interests of Russia are now closely allied to those of the Porte. The Emperor Alexander died covered with glory, deplored by his people, and esteemed and regretted by Europe. Constantine abdicated the throne in favor of his younger brother Nicholas, who trod the Hydra of revolution under his feet, and has lately succeeded in restoring peace to Poland.

"In this short space of time England has had her Castlereagh, Canning, Liverpool, and Grey. Each successive administration has been hesitating between the aristocracy and democracy; but the door of the revolution has at last been opened.

"In 1810 Austria found her herself in a most critical position. Since the taking of Paris, until the present hour, she has followed the same political system. Her power and influence have changed, it is true; but neither reproach nor praise has been able to induce her to abandon her principles.

"The country is happy in the enjoyment of the greatest plenty—the necessities of life are cheap—and the people love their Emperor. The arts and sciences flourish, and commerce is in a flourishing

state all over the empire; the credit of the Government is good, and order and tranquility reign everywhere.

"Austria has always shown herself the implacable enemy of reckless innovations. The device on her standard is 'Undoubted Right,' and every one will rally round it in case of need.

"This undeviating policy of 25 years is a rare political phenomenon. History will mention it in terms of the highest praise, and the name of Metternich will ever be associated with the persevering character of his system."

Firemen of Paris.—It is almost superfluous to state that there is in Paris, and indeed, in every town of France, a corps of firemen, who are denominated *sapeurs-pompiers*. The men composing it are in general, carpenters. Their full dress consists of a military blue coat, with red epaulettes, blue trousers, gaiters, and a brass helmet, surmounted by bear skin, and ornamented with a scarlet plume. When off guard the helmet is changed for a cocked hat. Besides being similarly trained, they are armed like the soldiers of the line, with the musket, bayonet, and *briquet* (a short cut-and-thrust-sword). On summons to a fire the gorgeous helmet is put off, and replaced by a plain but serviceable brass casque, which guards the head against falling bricks, tiles or pieces of timber. The military coat is doffed, and a tight smart waistcoat with sleeves, substituted for it. If the fire be not of an extensive or very menacing character, three men only are told off from those on duty, and fly to the scene of action.—One of them bears an axe, a second a coil of rope, with hooks attached to it, the third a ladder. Of their knowledge, dexterity, activity and courage on arriving at the place where summoned, I shall not here stop to speak in the terms of eulogy, which on every occasion they merit, because the attempt would necessarily involve the discussion of the question whether or not their military habits do not conduce to their efficiency. At present I shall only add that every theatre, spectacle, and institution in Paris is day and night watched and guarded by one or more firemen, the number of them being always in proportion to the extent of the building or the hazard to which it is exposed. Besides the ordinary guard of firemen at every theatre in Paris, a reinforcement arrives an hour before the doors are opened, which is withdrawn an hour, I believe; after the termination of the performances. The well grounded sense of security with which the Parisian audience regard the most flaming incidents on the stage is hence easily accounted for, and it is indeed well worth the cost it occasions. It is impossible to pass down the Rue de la Paix, at five o'clock on any day without being struck with admiration at the order, yet business-like demeanour of the various detachments of firemen that at that hour issue from their barrack in that street, and proceed to their respective posts at the theatres. Even the houses of private individuals who give entertainments are placed for the moment under the safeguard of the nearest body or detachment of *sapeurs-pompiers*. In the Palaces, Houses of Legislation, and indeed every great building belonging to the State, including the residences or hotels of the Ministers, firemen are ever present. Every man who has been in Paris is capable of dilating on the advantages that obviously result from the maintenance of such a conservative body as that of which I speak—the *sapeurs-pompiers*. Its superiority in every thing (except perhaps the personal courage and devotion of the individuals) over the firemen of London requires not to those who have seen both to be demonstrated. The comparative absence of such a calamity as a fired dwelling house or other building in Paris is due, not so much to the solidity of the walls of the houses, as to the intelligence, sagacity, training, discipline, *sang froid*, and activity of the *sapeurs-pompiers*.—[Letter from Paris in the Morning Herald.]

Antiquities of Upper Peru.—In his very interesting *via voce* communications to the meeting at Edinburgh, Mr. Pentland stated, that all about the lake Titicaca he had discovered innumerable tombs, hundreds of which he had entered and examined. The monuments were of a grand species of design and architecture, resembling Cyclopean remains and not unworthy of the arts of ancient Rome or Greece.—They therefore, betokened a high degree of civilization; but the most extraordinary fact belonging to them was their invariably containing the mortal remains of a race of men of all ages, from the earliest infancy to maturity and old age, the formation of whose crania seemed to prove that they were an extinct race of natives, who had inhabited Upper Peru above a thousand years ago, and diff-

ering from any mortals now inhabiting our globe.—The site is between 14 deg. and 19 deg. of north latitude, and the skulls found (of which specimens are both in London and Paris) are remarkable for their extreme extent behind the occipital foramen, inasmuch that it could hardly be believed their owners could move in a perpendicular position.—For, two-thirds of the weight of the cerebral mass must have been deposited in this wonderfully elongated cerebellum; and as the bones of the face were also much elongated, the general appearance must have been rather that of some of the ape family than of human beings. In the tombs, as in those of Egyptian parcels of grain were left inside the dead; and it was another singular circumstance, that the maize or Indian corn, so left, was different from any that now existed in the country. Mr. Pentland entered into details to show that the extraordinary forms thus brought to the light of day from their long sojourn could not be attributed to pressure, or any external force, similar to that still employed by many American tribes; and adduced, in confirmation of this view, the opinions of Cuvier, of Gall, and of many other celebrated naturalists and anatomists.—On these grounds he was of opinion, that they constituted the population of these elevated regions before the arrival of the present Indian population, which, in its physical characters, its customs, &c., offered many analogies with the Asiatic races of the old world.

Singapore.—About ten P. M. on the 26th we anchored in Singapore-roads; and upon the following day I landed and took up my residence, with my friend Mr. Bowstead. The island of Singapore, at the part on which the settlement has been formed, has a very picturesque appearance, when seen from the ships at anchor in the roads, and does not prove less attractive to the stranger on landing; the government hill, with its neat bungalow and flag-staff, forms a prominent feature in the view; and the undulating character of the land, with the thickly timbered country in the distance, imparts a pleasing variety. Who can regard this settlement, so very recently established, yet now become a place of importance by the enterprise of British merchants, (almost unaided by any assistance from government,) without feeling how just the conclusion is, that commerce can elevate the most barren and unproductive spot to a place of high importance? Look at the magnificent private mansions, warehouses, and the extent of commerce, showing the present and increasing wealth of this rising settlement. The town is erected on the banks of a salt-water creek, more commonly named the Singapore river; one side contains the warehouses, stores, offices, &c. of the merchants, as well as the native streets, bazaars, &c.—Opposite to it is an extensive plain, adorned by several elegant mansions; and beyond the Kampong Glam, Malay town, with the residence of the sultan of Johore and his followers; from him the island was purchased by the British Government, for which he still receives the annual pension which had been stipulated at the time. Close to the creek, which has received the more dignified application of the "Singapore river," wharfs extend from and opposite to the warehouses of the merchants. The two most extensive and splendid buildings are those recently erected by Messrs Armstrong and Gemmil. The Commercial square, contains some very good buildings, used as offices, shops, and residences; the most conspicuous of which, for elegance, is the building used as offices and warehouses by the firm of Messrs. Rawson, Houldsworth, and Co. The river, at the lowest part of the settlement, always presents an animated scene, from the arrival and departure of native boats, with fruit, vegetables, and live stock, as well as from the number of sampans plying for hire, or attending upon the commanders of vessels, who employ them, in this sultry climate, in preference to exposing their crews to a tropical sun; many native boats lie waiting or delivering cargoes of the various productions of the fertile islands in the vicinity. At night, the flickering and brilliant lights from the numerous boats upon the river make an animated appearance.—[Benetti's Wanderings.]

Structure of Feathers.—Sir David Brewster communicated to the British Association a verbal account, which he illustrated by figures, of some curious results, which he had obtained respecting the structure of feathers. Dr. Paley and Dr. Roget had, as he mentioned, explained, generally, the beautiful mechanism by which nature enables the tender fabric of the vane of the feather to resist the action of the air, and to repair itself when divided. By the use of very fine microscopes of garnet and sapphire, Sir David succeeded in developing the mi-

nute structures by which the preceding mechanism operates; and he particularly described a singular spring, consisting of a number of slender fibres laid together, all of which resisted the division of the feather or the separation of its fibrils, and which again closed themselves together when their separation had been forcibly effected. He described the difference between down and feather, the former being intended either for ornament or warmth, and the latter for resisting the action of the air when a continued fabric was necessary. These observations were made chiefly on the large feathers from the wing of the vulture; but, generally speaking, the structure is the same in other feathers, though with various modifications. The curious property preserved by the fibrils of hooking themselves together when they had been separated, was mentioned as a singular provision of nature, though the author felt some difficulty in giving a perfectly satisfactory explanation of the manner in which it was effected.

Free Negro Labor.—According to a calculation which is considered to be correctly made, the island of Jamaica exported in 1823, with 342,382 slaves, 1,417,758 quintals of sugar, which was a year of great fertility in the West Indies; and Puerto Rico, with 45,000 slaves, at the highest calculation, produced 414,663 quintals; therefore Jamaica, with a number of slaves, nearly nine times greater, yielded only 3 1-2 times more sugar, which clearly shows that free labor in Puerto Rico contributes largely to produce even sugar. To the number of free laborers only can this difference be attributed, for it must be acknowledged that although the soil of Jamaica is not so fertile as that of Puerto Rico, yet the cultivation of the cane is better understood. In the same year, the three British islands of Barbadoes, St. Vincent's, and Grenada, which, with the exception of Jamaica, produce most sugar of all the British Antilles, with the labor of 128,000 slaves, yielded 784,567 quintals of sugar; that is to say, that with more than three times the number of slaves, they produced less than double the quantity of sugar raised in one year in Puerto Rico. The same year, the whole of the British West India colonies, with 627,000 slaves, yielded only 3,005,366 quintals of sugar; which proves that with 15 1-2 times more slaves, they only produced 7 1-2 times more sugar than Puerto Rico. In 1821, 428,962 quintals of sugar, 20,758 quintals, 96 lbs. of coffee, and 1320 quintals of cotton were produced in the island of Guadeloupe, by the labor of 87,998 slaves; while Puerto Rico, with about half the number of slaves, moderately worked, and humanely treated, produced, besides the quantity of sugar already stated, 25,000 quintals of coffee, 34,163 quintals of tobacco, and 9,166 quintals of cotton, together with cattle, pepper, rice, and many minor productions. This simple enumeration of facts is sufficient to establish the advantages arising from, and the extent of, free labor in Puerto Rico. —[Pinter's Account of Puerto Rico.]

Indian Method of Catching Fish.—By means of a plant the Indians have a sweeping method of catching fish, which we for the information of pond and river poachers in this country may give, "The *Hiary* (with which the Indians intoxicate fish) is a plant of the papilionacea order, bearing a small quantity of bluish blossoms, which produces pods about two inches long, less in the leaf than a goose quill, and enclosing about ten small gray leaves; leaf nine inches long, central stem with four spearpointed leaflets on each side, two inches long and one at the apex; root, when full grown, three inches in diameter, containing a gummy, milky juice, which is a powerful narcotic, and prepared by the Indians for fishing, by beating with sticks until reduced to a mass like coarse hemp; the *Hiary* root is then employed to saturate a corial (canoe) full of water until it is of a milky whiteness, then conveyed to the selected fishing spot, and the water sprinkled with the infusion (a solid cubic foot of the root will poison an acre of water surface;) in about twenty minutes ever fish within its influence rises to the surface, and is either taken by the hand or shot with arrows, neither deteriorated in quality nor tainted more rapidly than when hooked." —[Martin's History of the British Colonies.]

Never Squabble with a Wit.—Dr. Marmaduke Coghlin, the Chancellor of the Irish Exchequer, in a letter dated 1st April, (an ominous day,) 1736, observes to the Honorable Edward Southwell—"I see Sir Thomas Prendergrass has got nothing by his resentment against Dean Swift; and, indeed, I never knew any man a gainer by being provoked at a wit, for the laugh is always against you; and the only return from a wit is fresh satire."

LONDON SERRANADING IN 1703.—In a letter from Mr William Bird to Mr. Secretary Southwell, dated June, 1703, he says, "Lord Conway bid Mrs. Johnson adieu in the finest serenade I ever heard. It lasted from one to three o'clock, and brought all the ladies in Red Lion-square to their windows, and Mrs. Tempest took it ill that the compliment was not paid at her door."

Vanity.—In 1810, a notaire's clerk killed himself, leaving a piece of paper behind him, on which he declared, that having duly calculated and considered, he did not think it possible for him to be so great a man as Napoleon—therefore he put an end to his existence, —[H. L. Bulwer's France.]

UTICA AND SCHENECTADY RAILROAD COMPANY.

Call for Second Instalment on Stock.
THE Stockholders in the Utica and Schenectady Railroad Company are requested to pay on or before the twentieth day of December next, the sum of Three Dollars on each Share of Stock in the Company held by them respectively under the penalty (provided by law in case of non-payment) of the forfeiture of all previous payments made thereon.

Stockholders residing in the city of New York, or within said State and south of the counties of Columbia, Greene and Delaware, are requested to make said payments to the Cashier of the Phoenix Bank, at the said Bank in the city of New York; and all other Stockholders in said Company are requested to make said payments to the Treasurer of said Company at the Albany City Bank or at the Commercial Bank, in the city of Albany; but any Stockholder residing west of the counties of Albany, Schenectady or Saratoga may make such payments by depositing the same to the credit of the said Treasurer in the Ontario Branch Bank, in the city of Utica, or in the Herkimer County Bank, at Little Falls, or in the Montgomery County Bank, at Johnstown, provided a certificate of such deposit (with the name of the Stockholder by or for whom such deposit is made) be forwarded to said Treasurer, so as to be received by him on or before the 25th day of December next.

Albany, November 12, 1834. By order,
GIDEON HAWLEY,
Treasurer of the Utica and Schenectady Railroad Company.

nov 17d & Ct dec 20

LONG ISLAND RAILROAD COMPANY.

NOTICE IS HEREBY GIVEN, That the undersigned Commissioners, appointed by an act of the Legislature of the State of New-York, passed April 24, 1834, will receive subscriptions to the capital stock of the Long Island Railroad Company, being One Million Five Hundred Thousand Dollars, divided into shares of fifty dollars each, agreeably to the charter of said Company, on the 15th, 16th, and 17th days of December next, from nine in the morning to three in the afternoon of each day, at the following places, viz.—At the Dry Dock Bank, No. 333 Pearl-street, in the city of New-York—at the Apprentices' Library in the city of Brooklyn, county of Kings—at the Court House, in and for the county of Queens—at the Inn of William Griffing, in the town of River Head, county of Suffolk—at the House of Thomas Hallock, in Smithtown, in said county of Suffolk.

Subscribers are required by the Charter of the Company to pay to the Commissioners at the time of subscribing five dollars on each share.

Copies of the Charter can be had upon application at the Dry Dock Bank, 333 Pearl-street, New-York.

Samuel Hicks	Benjamin Strong
John Lorimer Graham	Joseph Moser
Edwin Hicks	Edmund Frost
Singleton Mitchell	Nicholas Wyckoff
William F. Blydenburgh	James H. Weeks
Joseph H. Goldsmith	Valentine Hicks.

13 nov 18 Dec 18

TOWNSEND & DUFFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Duffee, May & Co.* offer to supply Rope of any required length (without aplice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Esq. M. & H. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York,
January 29, 1835.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept 13-ly

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1835. A29 if RM&F

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabethstreet, near Bleeckerstreet,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J25 if

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.
Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.
Baltimore, May 1st, 1835.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m26

The frequent riots and outrages committed by the laborers on the Baltimore and Washington Railroad have induced the people residing in its vicinity to call a public meeting, to adopt measures to prevent a repetition of them. At this meeting a preamble and resolutions were adopted, which breathe a true American spirit.

It is time that the thousands who flee from beggary and want at home, to this country of peace and plenty, where they enjoy privileges in common with the native citizen, should be taught the necessity of obedience to the laws—and respect for the life and property of all. They must be taught that their having been slaves and paupers at home does not give them the right to murder our citizens, and take possession of their property, on their arrival here; that, although ours is a country which affords an asylum for the oppressed of all nations, NATIVE citizens are not yet prepared to yield every thing to those whom they have often, by their liberal charity, saved from suffering and even starvation. Let AMERICANS everywhere adopt a similar course towards those who show a disposition to trample on their inalienable rights and privileges; whilst to those who appreciate and respect our institutions, we would offer the enjoyment of every civil privilege secured by the most perfect constitution that was ever framed by man.

Washington Railroad Outrages.—At a large and respectable meeting of inhabitants of Anne Arundel and Prince Georges counties adjacent to the Baltimore and Washington Railroad, and held at Merrill's tavern on the 26th inst. Col George Cooke being called to the chair, and George L. Stockett, Esq. appointed Secretary. The following preamble and resolutions were unanimously adopted:

Whereas, a portion of Ann Arundel and Prince George counties, bordering on the Baltimore and Washington Railroad, has been the scene of successive riots, dangers and bloodshed since the commencement of said work down to the present time, and whereas, the recent scene of murders of the most wanton, diabolical and atrocious character upon respectable and unoffending citizens, scarcely paralleled in the annals of our history has given ample cause to our fellow citizens for alarm and apprehensions for the safety of our lives; and whereas, while they suffer themselves to remain exposed to the deep laid schemes of that population from which all these grievances emanate,

And whereas, it is known to be confined exclusively to that class of laborers which has been generally employed on the aforesaid work, and it having been established beyond all question, that the Irish laborers compose that class, and that they have formed secret associations, to which they are bound under the most awful and solemn oaths to keep each other's secrets, and under which association they are enabled to accomplish their hellish plots without being in danger of discovery. And whereas, the good citizens of these Counties have in vain set forth their grievances and remonstrances to the proper sources for the removal of the causes. And whereas, it is the right and bounden duty of our fellow citizens to defend themselves and their property against the hand of the ruffian, we the subscribers, citizens of the aforesaid Counties, do unanimously agree to adopt the following resolutions, viz:—

Resolved, That we do consider and hold the present class of Irish laborers employed on the Baltimore and Washington Railroad as a gang of ruffians and murderers, combined together under the most solemn ties to carry into effect such hellish designs as their passions or prejudices may prompt them to commit.

Resolved, That, inasmuch as by their plans of secret association, justice and the laws are deprived of their dues, it behoves our fellow citizens to adopt such measures as will tend to their quiet and safety.

Resolved, That so long as the cause of these evils remain among them, there is no security for either, and that it is indispensable that it be removed.

Resolved, That the President and Directors of the Baltimore and Ohio Railroad company, be requested to order their agents and contractors to discharge from their employ all such laborers as have been herein described.

Resolved That we will use all lawful means in our power to bring to justice, as many of the parti-

cipators in the late murders, and all suspected persons as can be arrested.

Resolved, That we will unite in expelling from our counties, forcibly if we must, all such characters as have been herein described.

Resolved That the thanks of this meeting be presented to Lt. Col. Campbell and the officers and troops under his command for the prompt and efficient aid afforded by them in the arrests which have been made with the view to the conviction of the perpetrators of the murders of John Watson and William Messer.

Resolved, That the thanks of this meeting be presenting to Lt. Col. Williams for his zeal and services in aiding the civil authorities to arrest and put down those rioters, also to Major Horace Copron for the prompt and fearless manner in which he executed his orders, with so small a force, and to our fellow citizens who so promptly volunteered their services on this important occasion.

Resolved, that this meeting approve the subjoined letter of Col. George Cooke addressed to the President of the Baltimore and Ohio Railroad.

Resolved, That the proceedings of this meeting be published. Geo. COOKE, Chairman.

Geo. L. STOCKETT, Sec'y.

[Here follows the signatures.]

Anne Arundel County, Nov. 20, 1834.

PHILIP E. THOMAS, Esq. President of the Baltimore and Ohio Railroad.

Dear Sir—In consequence of the recent murders on the Washington Railroad, the inhabitants of the county adjacent to the Railroad have been kept in a continual state of alarm, no efficient measures have been adopted by the company to find out and arrest the murderers, and also from the fact that a number of our citizens have been threatened by the laborers on said road, I have been requested to state for your information that the residents of this section of the country are determined that in case the company do not adopt such measures as will in future secure them from being harassed by these frequent riots on the road, that they will muster a sufficient force and drive every Irishman off the road from the Patapasco to the big Patuxent, at all hazards, and in this determination they are promised the co-operation and aid of other sections of our county.

In making this communication I assure you the people are actuated by no other motive than to put an end to these continued murders and riots, which, if they are permitted to go unpunished as heretofore, may in the end lead to those wretches depredating still farther on the surrounding neighborhood. If the ring leaders cannot be secured and punished, the whole force ought to be discharged and a new set employed.

The work had better be delayed a short time than to be the scene of such frequent and disgraceful outrages. With respect your obedient servant.

Geo. COOKE, Chairman.

More Aggressions.—The driver of the Mail stage from Washington, states, that the stable attached to Merrill's tavern at Waterloo, on the Washington road, about 13 miles from Baltimore, was burnt down last night about 12 o'clock. It is believed to have been set on fire by some of the laborers on the Railroad, who have been lurking about the premises for some days past. It is reported that a dwelling about two miles from Waterloo was also burnt, but there is no certainty of this.

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chafed wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chafes and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street house, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER. a3

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,

WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No 49, pag 772, Vol. 2, of Railroad Journal.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 134 Water street, corner of Maidenlane.

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Leveling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sight, leaves the engineer scarcely anything to do in the formation or convenience of the Compass. It is indeed the most completely adapted to later angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, where known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES F. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad. Germant. and Norrist. Railroad,

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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, DECEMBER 13, 1834.

[VOLUME III.—No. 49.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, DECEMBER 13, 1834.

TO CORRESPONDENTS.—"A Subscriber's" communication upon the use of Locks, instead of Inclined Planes and Stationary Power, to overcome elevations on Railroads, &c., will be attended to at an early period.

We would call attention to the able article in this number, from the Edinburgh Quarterly Review, upon the utility of railroad ads.

STEAM CARRIAGES ON COMMON ROADS.—

An interesting letter will be found in this number of the Journal, from Mr. G. RALSTON, of Philadelphia, now in London, upon the subject of steam carriages. It will be read with much interest, as coming from a gentleman well known in this country. The drawing to which he refers has not yet come to hand, but we have one, of the ERA, which, together with an interesting article from the London Mechanics' Magazine, will be given in a subsequent number.

An engraving and description of the "AUTOPHY" carriage was published some months since in the Journal.

A BOLD PROJECT!—SUSPENSION BRIDGE

BETWEEN NEW-YORK AND BROOKLYN.—We have before us a beautiful drawing of a Suspension Bridge over the East river, at Fulton street. It is accompanied by a description, and some interesting facts relative to suspension bridges in Great Britain, which we shall publish as soon as we can make room for it. In the mean time the plan may be seen at this

office. It is a subject well worth investigation, both as a matter of convenience and ornament to the two cities.

CANAL CONVENTION.—The convention, to which we have heretofore referred, called to meet at Baltimore on Monday last, assembled according to appointment. Delegates were in attendance from Virginia, Maryland, Pennsylvania, Ohio, and the District of Columbia. Officers, pro tem., were appointed. A committee appointed to select permanent officers recommended the following, who were elected, viz.:

President.—G. C. Washington, of Maryland. Vice Presidents.—Elisha Whittlesey, of Ohio; Elijah Boyd, of Virginia; William A. Bradley, of the District of Columbia; William Robinson, of Pennsylvania.

Secretaries.—J. P. Kennedy, of Baltimore; Joseph Shriver, of Maryland.

We shall hereafter give the result of their proceedings.

STEPHENSON'S IMPROVED LOCOMOTIVE.—

From the Repertory of Patent Inventions for November, we find a drawing and particular description of Mr. Robert Stephenson's recent improvements upon the locomotive engine.

One of his improvements consists in divesting the large, or driving, wheels, which are attached to the crank axle, of their flanges, and the addition of a pair of wheels aft. The object of this improvement is to prevent the frequent fracture of the crank axle, which he attributes, and very justly so, too, as we think, to the great additional strain to which they are subjected on curves, turns-out, and crossings, in resisting the tendency to run off the rail. By this improvement, the crank axle is only subject to its proportion of the weight of the engine, together with the driving machinery, whilst the engine is kept on the rails by the flanges on the forward and aft wheels. Mr. Stephenson has also appended to his improved engine, a brake, or clogg, to be acted upon by steam. This brake is placed between the driving and after wheel, and it is thought by Mr. Stephenson to possess very great advantages over those now in use, worked by hand. These improvements are minutely described, and accompanied by engravings, which will appear in the next number of the Journal.

IMPROVED RAILROAD CHAIR.—We also find in the November number of the Repertory of Patent Inventions, a description and drawings of the Railroad Chair, as improved by ROBERT STEPHENSON, the younger. The improvement consists in a self-adjusting bearing in the chair for the rail to rest upon, by which means the rail retains its position, although the stone support, or block, or cross sill, upon which the chair rests, may, from the settling of the ground, tilt, or incline lengthwise of the rail. To use the language of his specification, the improvement is "the application of a self-adjusting segmental bearing-piece, into a suitable cell, at the bottom of the notch in each chair, in order to form a bearing surface for the rail to rest upon; the said bearing piece being in the form of a segment of a circle, and being lodged with its convexity, or circular arch of the segment, downwards, within the cell, which is of a corresponding concavity, the flat side, or chord of the segment, being upward, and forming the bearing surface for the rail, at the bottom of the notch in the chair; upon that bearing surface the rail is to rest, and the said bearing surface will always accommodate itself to the underside of the rail." He has also made some improvement in the manner of confining the rail in the chair. This improvement consists in the insertion of pins into, or through, the cheeks of the chair at right angles with the notch, the point or end of which is to fit into a small longitudinal groove in the side of the rail, thereby confining it down, yet allowing it to elongate and contract by the change of temperature; the pin is to be confined in its place by a tapering key, which is to pass through a mortice in the cheek of the chair, and the pin at right angles, so that, as the key is driven, the pin will press more firmly against the rail. The chair is to be of cast, and the pin, key, and segmental bearing pieces, of wrought iron.

We shall give the specification and drawings in a subsequent number.

Railroad.—A most unprecedented and pleasing circumstance was witnessed on Sunday last, at the Railroad Depository, being the arrival of three Locomotives at one time, having at their train sixty freight cars, laden with nine hundred and fifty bales of cotton.—[Charleston Courier.]

The following extracts from the last number of the Edinburgh Quarterly Review, are so much in accordance with the views so often expressed in this Journal, of the great and growing utility of Railroads, *especially to large towns and cities*, and illustrate the correctness of those views so much more clearly than we could possibly do, that we cannot refrain, notwithstanding their length, from giving them to our readers.

The remarks of Mr. Pease, relative to their interference with Turnpike Roads, should be well considered by those who oppose the New-York and Erie Railroad, fearing that it will injure the business on the Canal.

It is now two years since we called the attention of our readers to the great advancement which had been made in the art of applying steam-power to the important purposes of inland transport. We then foretold the rapid extension of this great instrument of social improvement; and subsequent events have amply verified our predictions. Railroad undertakings have been entered into with an avidity to satisfy the most ardent, and to create alarm in the more timid and cautious. In our own country, however, the number of checks on such schemes are sufficient to prevent the public from rushing into them with undue precipitation; and the danger rather is, that private and local interests may act as too great a drag on public enterprise, than that the latter principle should receive undue scope. A considerable portion of the property of the country, and more especially of that in land, has, in many instances, opposed serious obstructions to parties seeking legislative sanction for projected lines of railroad; and although, in some cases, such opposition has proceeded from sinister motives, or such as would not bear an open avowal, yet we must suppose that, in the majority, the ostensible objections have been seriously and sincerely, though erroneously, entertained. In the present article, we shall endeavor to show, not only that the principal objections so urged are unfounded in themselves, but that they are in direct opposition to the results of experience, and as much opposed to the real interests of the objectors as to the public good. We shall also briefly advert to the principal lines of communication recently undertaken, and to those which are in progress in other parts of Europe, and in America.

The opposition which railway companies experience in obtaining the necessary legislative sanction, proceeds, in the majority of cases, in this country, from the landholders, through whose lands the projected lines are to pass. Nevertheless, it is demonstrable that there exists no class of persons whose interests are more likely to be promoted by such improvements than those of the local proprietors. One ground of objection assumed by proprietors resident in the vicinity of projected lines of railroad, is the apprehended nuisance of the noise and smoke of the engines, and of the exposure of their premises to the intrusion of large numbers of passengers. The evidence produced before the Committee of the House of Commons, on the London and Birmingham railroad, will show how unfounded are such objections.

Mr. Hardman Earle, a Liverpool merchant, was one of the most determined opponents of the Liverpool and Manchester railroad. His family had, at the cost of above £12,000, built a house, and laid out pleasure-grounds, through which the line of railway passes; and their opposition was founded partly on the apprehended injury and inconvenience arising from this circumstance. Mr. Earle, therefore, was very properly summoned as a witness before this Committee, and the following is a part of his testimony.

"Have you experienced any inconvenience

since the railway was constructed?—No inconvenience whatever has been experienced.

"Are the grounds infested by the people in consequence of the passage of the locomotive engine?—No.

"Is there any thing offensive in it?—Nothing whatever.

"Is there any smoke?—None whatever.

"Is there any noise?—No; it is rather an object of interest to persons residing there.

"Are you able to say whether the inhabitants of other houses are annoyed?—I am enabled to say they do not consider them a nuisance.

"At the commencement of the undertaking were you a determined opponent to the measure?—Yes; my mother was a petitioner against the bill, and I appeared as evidence against it.

"From all that you have since seen, you would no longer oppose the construction of railroads?—Certainly not; from what I have seen my opinion is entirely changed."

In fact the fuel burned is coke, which produces no smoke. The smoothness of the road, and its freedom from those asperities which exist on the best constructed turnpike roads, are such that the wheels move with comparatively little noise. But, in addition to this, the speed being almost three times that of common coaches, and more than seven times that of waggons, the noise is almost momentary. A train of waggons or coaches shoots past with the speed of the wind, and the noise is scarcely perceived before it ceases; it cannot be heard on a still day at a greater distance than one hundred yards.

Another ground of objection, urged by land-lords, is the apprehended depreciation of the value of the adjacent land. The facility of communication with the metropolis and populous towns is so obvious an advantage, that we cannot help expressing our astonishment that such an apprehension should for a moment be entertained. As those who could entertain an objection so unfounded are little likely to be accessible to the reasoning by which it might be refuted, we shall here confine ourselves to facts, and show that in every case, without a single exception, which has come under inquiry, the value of land adjacent to a successful line of railway has been considerably increased.

Mr. Pease, M. P., a director of the Stockton and Darlington railway, stated, in his evidence, that he had been for ten years a director of that company, during seven years of which the railroad had been in practical operation; that he had closely observed its effects on landed property through which it passed, or which was adjacent to it, and that he had been privy to all the negotiations which had taken place between the railroad company and the proprietors from whom they had made purchases.

"Do you know whether the advertisements for letting farms or selling estates contain any thing relating the railroad?—It is invariably stated, either that the railroad passes through the estate or near to it; they consider it as an enhancement of the value of the property.

"Are you a landholder yourself in the neighborhood of the railroad?—I have one small estate, which it intersects into two equal parts nearly. It passes through the enclosure in which the homestead stands.

"Have you been benefitted by the railroad passing through it?—I have; the cuttings are available as drains; the rent of the property is increased one-fifth. I let the farm subject to its being given up on the railroad being made, and I have since received one-fifth additional rent.

"Do you know any instance of the reduction of rent, in consequence of a railroad passing through a farm?—I have made inquiries, but have not been able to meet with such an instance."

The Stockton and Darlington railway was

originally intended to be a single line; but after its formation the company found, from the extent of traffic upon it, that a double line would be necessary. Having originally purchased no more land than was necessary for the single line, they were obliged to treat with the same proprietors for an additional tract to widen the road, so as to receive the second line of railway. Nothing can more conclusively decide the question of the effect of the railway on the value of land than this circumstance. Here was a portion of land, purchased before any railway had been constructed; and an equal quantity, in precisely the same place, was subsequently purchased from the same parties by the same company, after the formation of the single line of railway. Mr. Pease was examined as to the terms on which the second portion of land was purchased.

"Have you paid on those (second) treaties an increased value upon the land beyond what you paid before the line was established?—Invariably.

"Can you say to what amount?—I should say that we have never objected to pay an advanced price of 50 per cent.

"Was this in consequence of the increase of value arising from the railroad?—We were quite aware of the increased value to the owner, and made no objection to the advance."

Mr. Thomas Lee, a surveyor and agent to several landed gentlemen in the neighborhood of the Liverpool and Manchester railroad, was examined as to the effect of the railroad upon the value of land in that neighborhood.

"Can you tell the committee whether, in an agricultural point of view, property has been improved or deteriorated by the railroad passing through it?—It has been improved.

"Have the farmers been benefitted by it?—They have.

"Have Colonel Lee and Mr. Trafford obtained higher rents in consequence of it?—They have.

"Have you taken land yourself at an increased rent.—At double the original rent."

Mr. Hardman Earle, before mentioned, was examined to the same point.

"Do you know any instance in which the value of land has been affected by the railway?—I think the Chat Moss was an instance of that kind. They bring manure from Manchester to Chat Moss; and wherever a station is formed, the value of the land is improved. You see advertisements recommending a site, because the railroad runs near or through it.

"Do you know of any instances by which land has been depreciated by it?—I think I can say positively that there is not an instance on the Manchester line.

"Do you know of any persons quitting their dwelling-houses in consequence of it?—I do not know of one. I should be glad to purchase land on the line, to build for myself."

We may here state that the Chat Moss is an extensive district of bog and morass, over which the railroad was carried at incredible labor and expense. It was of course previously altogether unproductive. We now, however, see on each side of the road extensive systems of drains, gradually carrying off the water, and leaving tracts of considerable fertility. There is no doubt that within a very short period the whole of this morass will be transformed into a fertile tract of arable land.

Another ground of objection is the injury likely to be produced to turnpike trusts. Even if the truth of this objection be admitted, it is not one of sufficient force to warrant the sacrifice of public benefit. A turnpike trust is, or ought to be, held only for the public good; and if it should be affected by the establishment of a railroad, this would only prove that the one was found more beneficial than the other. But it is a curious fact; that this apprehended injury has

not (at least in every instance) ensued. The Stockton and Darlington railway furnishes a remarkable example to the contrary.

Mr. Pease states in his evidence that the turnpike roads in the neighborhood of that railway have been improved since its construction.

"Has there been any advantage derived to the roads in the neighborhood?—I consider that they are all of them in a much better state of repair, and that their funds are improved: I do not know a single exception."

"Do you know the road from Stockton to Barnard Castle?—Perfectly well; I have been a commissioner. In that trust there are two roads running nearly parallel with the railroad, and a third intersected by it."

"Were the trustees of these roads petitioners against the bill?—All of them."

"On what grounds did they oppose it?—That the money borrowed on mortgage was hazarded by the railroad."

"Have their fears been realized?—No; the funds in all cases are improved."

"You state that of your own knowledge?—Yes, as an acting commissioner."

The advantages likely to arise to agricultural producers from the facilities of conveying their produce to market, as well as the reciprocal advantages derived by the consumers, were rendered apparent by the evidence of several farmers and graziers, and also of metropolitan butchers.

Mr. W. Meade Warner, an extensive farmer residing in Oxfordshire, stated that he considered that if the railroad now proposed to be carried from London to Birmingham had been formed ten or fifteen years ago, it would have produced him an advantage of not less than fifty pounds a-year. He considered that the whole system of farming grass land would undergo a change, owing to the new capabilities which would be conferred upon it, by the speed, certainty, and cheapness of the communication with the market. A different kind of produce, of a much better and more profitable quality, would be obtained from it.

"Are lambs sent to London from your neighborhood?—They are, principally on the road; but when too young to leave the mother for so many days as the road requires, they are sent by waggons. Not many, however, are sent by this way."

"Are you prevented from sending many lambs to market by the difficulties of the road?—We cannot send them so young as we would otherwise send them. It is of importance to send them early in the season, as the ewe would feed off earlier."

"If a railroad were established, would they be sent by you and the other farmers by that means?—No doubt of it."

"Do the same observations apply to calves as to lambs?—Exactly."

"Are the cattle much injured by being driven up?—Very much; incalculably."

It is not merely views of policy that should lead us to seek for some improvement in the transport of cattle to the markets. The following evidence is addressed to the feelings of common humanity.

"Supposing that even the cost was increased of sending them by the railroad, would it be of advantage to the farmer to have them conveyed by that means, nevertheless, instead of driving them in the ordinary way?—Certainly; it would be a great advantage. Sometimes the poor things are driven till their feet are sore; and the effect of that is, that they are sold on the road for what they can get. It is often the case, that they drive many of them till they have not a foot to stand on."

"What price, in your opinion, would the farmer be willing to pay for the conveyance of his cattle to London by the railroad, instead of the present present way?—If I paid double, I should still be a very great gainer. It is a very important thing in the saving of beasts and sheep, both as to the exposure and the

nuisance they create on the public roads. Besides that, the cruelty and injury to the animals is beyond all belief."

"Do I understand you rightly, that you would prefer to pay fourteen shillings for transmitting your cattle by railroad, to paying seven shillings for the ordinary means of conveyance?—To be sure I should."

Mr. Charles Whitworth, a very extensive farmer in Northamptonshire, was examined on the same points. He had seen cattle conveyed on the Manchester railroad, and stated that they came from the journey "as fresh as if they were just off the field." He stated, that in order to send the lambs to market, it was necessary to send the ewes a part of the way with them; and even then they were much injured before they reached London."

The injury sustained by cattle coming to the London market was further proved by Mr. John Sharp, an extensive butcher, residing in Mary-le-bone. He stated that he has been for forty years established as a butcher, and that he never failed to observe more or less injury sustained by cattle driven from a distance to London; that their value was considerably lessened, owing to the inferior quality of the meat, arising from the animal being slaughtered in a diseased state; that the animal, being fatigued and over-driven, "becomes feverish, and his looks become not so good, and he loses weight by the length of the journey and the fatigue." He stated further, that even steam vessels, where they could be resorted to, did not altogether remove this objection. Cattle come from Scotland by steam-vessels, and they are found in London to be in an unnatural state: "they seem stupified, and in a state of suffering from fatigue."

It is not merely the fatigue of travelling which injures the animal, but also the absence from its accustomed pasture. Mr. Sharp stated that the injury from this cause was more or less under different circumstances, but always considerable. In order to obviate this, a considerable portion of the meat supplied to the London market is slaughtered in the country, and it comes in this state, in winter, from distances round London to the extent of one hundred miles. In warm weather a large quantity of it is spoiled, and a still greater quantity is deteriorated by this mode of conveyance. The transport of calves and lambs, from a distance greater than thirty miles, is altogether impracticable; and even from that distance is attended with difficulty and injury. To convey these and other live cattle from a great distance, not only speed, but evenness of motion, is indispensable. Now these two requisites cannot be combined by any other means than the application of steam-engines upon a railroad.

From the whole of the evidence, the fact appears to be indisputably established, that the supply of animal food to the metropolis is not only defective in quantity, but that it is of unwholesome quality,—comparatively, at least, with what it might be, if the tract from which it could be supplied were rendered more extensive. But forcibly as the evidence bears on this species of agricultural produce, it is still stronger respecting the produce of the dairy and the garden. Milk, cream, and fresh butter, vegetables of every denomination, and certain descriptions of fruit, are supplied exclusively from a narrow annulus of soil, which circumscribes the skirts of the metropolis. Every artificial expedient is resorted to, in order to extort from this limited portion of land the necessary supplies for a million and a half of people. The milk is of a quality so artificial, that we know not whether, in strict propriety of language, the name milk can be at all applied to it: the animals that yield it are fed not upon wholesome and natural pasturage, but in a great degree on grain and other articles. It will not be supposed that the milk which they yield is identical in wholesome and nutritious qualities with the article which would be supplied, if a tract of land of sufficient extent for

the pasturage of cattle was made subservient to the wants of the metropolis. Add to this, that inferior as must be, under such circumstances, the quality of the milk, there exists the strongest temptations to the seller who retails it, to adulterate it still further, before it finds its way to the table of the consumer.

Mr. Warner, already mentioned, stated that, great as the advantage of a railroad would be to graziers who supplied the London butchers, it would be of still greater advantage to dairy farmers.

"Have you ever had offers made to you to supply any part of London with milk?—I have; but have never been able to comply with them on account of the want of a conveyance."

"If there was a railroad, by which you could transmit milk, and thus avail yourself of such an offer, would it add materially to the profits of your farm?—There is no question that it would increase the profit at least 400 or 500 per cent. I have no doubt of it, on milk and butter."

In the produce of the dairy and the garden, it is not merely by smoothness and ease of transport that a railroad would offer facilities. Articles of a perishable nature must be supplied to the consumer within a short period after they are taken from the soil. The speed of railroad conveyance being six or seven times that by cart or wagon, the consequence would be, that such articles would be supplied to the metropolis from a circuit with a radius six or seven times the length of that which now supplies them; and consequently the land which would become available for the metropolitan markets, would be from thirty-six to forty-nine times the present extent; supposing railroads to diverge in all directions from the metropolis, and to be furnished with their usual ramifications.

In our former article on this subject, we attempted to show, by general reasoning, the immense benefits which would accrue, both to farmers and landlords, as well as to the inhabitants of towns, by carrying extensive lines of railroad through populous districts, connecting them with those places from which supplies of food and other necessities might be obtained. We showed that the factitious value which tracts of land immediately surrounding the metropolis and large towns acquire from the proximity of the markets, would be moderated, and a portion of their advantages transferred to the more remote districts; thus equalizing the value of agricultural property, and rendering it in a great measure independent of local circumstances. We showed, further, that the profit of the farmer, and the rent of the landlord, would be benefitted by the reduced cost of transport, and that such benefit would be likewise shared by the consumer; in fact, that the advantages of centralization would be realized without incurring the inconvenience of crowding together masses of people within small spaces; and that the whole face of the country would be brought to the condition, and made to share the opportunities of improvement which are afforded by a metropolis, and by towns of the larger class. At that time, however, we had no specific evidence to adduce in support of our reasonings, so as to reach those minds which can be only influenced by a direct appeal to facts. The subsequent extension of railways has brought to light a body of evidence, so extensive, that our only difficulty lies in the selection of such parts of it as may not exceed our necessary limits.

The beneficial effects of the Liverpool and Manchester railway on the value of land in the district through which it passes, have forced conviction upon the minds of those who were the most conspicuous opponents to that project.

Mr. J. Moss, a director of the Manchester railway, gave the following testimony:

* This enormous estimate of the advantage is no doubt founded on the supposition that dairy produce would maintain its present price: an obvious error, but still the advantage would be very considerable.

"Is it contemplated to have a railroad between Birmingham and Liverpool?—It is quite arranged.

"Have you made application to the owners of land for their consent?—As far as our half goes.

"Have you found owners, on the line between Liverpool and Birmingham, to consent to the railroad there, who, nevertheless, opposed the Liverpool and Manchester line?—Several; among others, Lords Derby and Sef-ton.

"Did Mr. Heywood of Manchester oppose the Manchester railroad?—Yes.

"Did he afterwards complain of its not passing through his lands?—He complained very much of it."

If the ill effects of the opposition, on the part of landed proprietors, to projected railroads, were limited to the injury which they inflict upon themselves, the public would have less reason to complain of it; but unfortunately, other extensive injuries have been thus produced. The opposition by Lords Derby and Sef-ton to the Manchester railway bill, compelled the company to deviate from the line of road which they first proposed, and which Mr. Stephenson, their engineer, pronounced to be the best. That line must have passed through a part of the property of these noblemen, whose opposition would at that time have defeated the bill. The company were therefore compelled to select another line, which was not only much more expensive in the formation, but which has been since productive of consequences most injurious to the road, and to the interests of the company and the public.

The line which the engineer was compelled to adopt, imposed upon him the formidable enterprise of crossing Chat Moss; and involved the company in an enormous expense in forming a solid road over that extensive morass. This, however, was not the only or the most extensively injurious effect: it became necessary to carry the line of road over an elevation, so that the moving power had to overcome a slope rising at the rate of one in ninety-six in both directions,—extending through more than a mile and a half in each case. We explained in our former article the injury which such an ascent produces: to draw a load up a slope of this degree of acclivity requires an impelling power, amounting to nearly four times the power necessary to draw the same load upon a level; the consequence is, that either auxiliary engines must be kept constantly at the foot of the slope, or else the impelling engine must be constructed with four times the power necessary on the level, and with a proportionate increase of strength and weight. We may safely assert, that no circumstance connected with the Manchester railway has been a more fertile source of expense and inconvenience than this occurrence. But if any thing be wanting to demonstrate the mischief of the proceeding out of which this has arisen, it is the fact detailed in the evidence of Mr. Moss, that a second line of railway has been in contemplation, connecting Liverpool with Manchester; that this second line is countenanced and encouraged by these very noblemen, Lords Derby and Sef-ton; that it is to pass through their grounds, and, we presume, to take the very course which was originally contemplated by the present railway company, and from which they were driven by opposition.

"Has there not been a scheme for another railroad?—Yes.

"Is it to pass through Lords Derby and Sef-ton's land?—Yes; they both consented. They threw us back the first year by the opposition to our road, and we then lost such a line as we never could obtain again. Since this, they have both consented that the other line shall pass through their property."

Other proprietors, however, more speedily learned their error, and actually made interest to get the line through their property.

"Do you know Bold Hall?—Very well; it is a fine house.

"Is it near Liverpool and Manchester?—Yes; the proprietor complained very much that we made a complete bend, to avoid his property.

"Did he afterwards wish you to cut off the bend, and go nearer by a straight line?—Yes; and we agreed to go much nearer to his house."

Besides the permanent advantages to land by opening large markets for every species of vegetable, animal, and mineral production, railways are attended with a variety of subordinate benefits, which, though they may appear inconsiderable, when compared with those already mentioned, yet ought not to be wholly disregarded. Among these may be mentioned the extensive employment of the local population in a work in which by far the greater proportion of the labor is of a rude kind; likewise, the purchase of materials of various kinds from the adjacent land-owners. It was proved that on the Stockton and Darlington railway, as well as on other similar works, large sums were paid to the land-owners for gravel, timber and stone, for materials for bricks, and for various other purposes, independently of the land purchased from them. It was also proved that a very large proportion of the poor rates of the parishes through which railways pass are paid by the railway company. The Manchester railway company, for example, contribute not less than £4000 per annum to the poor rates of their parishes.

Mr. Pease stated that more than half the entire rates of several of the parishes through which the Stockton and Darlington railway passes are paid by the railway company. But, in addition to this, the actual amount of rates is lessened by the extensive employment afforded for labor on the railway. Mr. Lee stated, that of the poor rates in the parish of Newton, one-fourth part was paid by the Manchester railway company.

The speed of transit, and the consequent frequency of communication between places of great commercial intercourse, are matters the importance of which can scarcely be overrated in this country. The time between Liverpool and Manchester, being a distance of about thirty-one miles, is now about an hour and a half; there are three deliveries of letters by post daily between these two places, so that two letters may be written and one answer received by the same correspondents in the course of a day. The frequency of communication might be still greater: nine trains of coaches start daily from each place, and, if it were necessary, there might be nine deliveries in each town. When the lines of railway from London to Birmingham, and from Birmingham to Manchester, shall have been completed, the time from London to Liverpool will be about eleven hours; the mail which leaves London at eight o'clock in the evening will therefore be delivered in Liverpool before nine the following morning. The time between London and Birmingham will be five hours and a half; there will probably, therefore, be two mails daily. The letters despatched from London at eight o'clock in the evening would be delivered in Dublin the following evening. From some improvements which are in progress in the steam-packets, it appears that, under average circumstances, they may be depended on to make the voyage from Liverpool to Kingston (near Dublin) in ten hours; the mail which would arrive at Liverpool at seven in the morning would therefore be at Dublin at six in the evening, so that the Dublin merchants could answer their London letters the same night. It would, therefore, be possible that an answer to a letter from London to Dublin could arrive in London in about fifty hours after the despatch of the letter.

In the evidence of Mr. Moss we find a striking instance of the preference given by the public to railroad conveyance.

"Do you know whether there are some places on the line from Liverpool to Manchester where persons go down a considerable distance to come to the rail?—Yes; Southport is an exam-

ple. This town is 38 miles from Manchester, and 25 from Liverpool. Persons going to Manchester prefer to come the 25 miles to Liverpool, and 30 along the railroad, making 55 miles, to going 38 miles by the direct road to Manchester.

"Do they do that with a saving of time and expense?—They save both time and expense.

"Being aware of these facts, and knowing the projected line between London and Liverpool, are there many places from which persons would come to the railroad, for the purpose of going to London, rather than take the direct turnpike-road?—Yes; all places in the manufacturing part of Yorkshire, such as Bradford, Halifax, and Leeds; they would come to Manchester, and there take the railroad.

"What would be the saving from Leeds?—It would be 40 miles round; but it would save four hours in time, and £1 in money.

"What would be the saving from Rochdale?—Ten hours in time, and 30s. in money."

A large portion of the time of those farmers and graziers, living at a distance from London, who are obliged to attend the London markets, is consumed in making the journey. Mr. Robert Attenborough, a farmer and grazier residing at Braybrook, eighty miles from London, stated that his business obliged him to attend once a week at Smithfield market; that it takes him three days and a night, travelling at night, to go up to London, do his business, and return; that he seldom gets home till four o'clock on Sunday morning; and that a like inconvenience is sustained by the other farmers and graziers in his neighborhood: that besides the expenses on the way, the fare of the coach is £3 4s., and that the sacrifice of his business at home is the consequence of his journeys to London. A railroad would take him to London in about four hours, and starting in the morning he could arrive at home at a reasonable hour the same night.

By the evidence of other witnesses it appeared that a saving to a very large amount has been made by houses of business in Manchester, since the establishment of the railway, in their agencies alone. Some notion of the extent of this may be formed, when we state that several houses have saved £500 a year in this item of expenditure.

The advantage of the increased speed and cheapness of communication obtained by railways, worked by steam-engines, is not confined to the saving of the time and money of those who are compelled by business, or induced by pleasure, to travel. Vast numbers, who, under other circumstances, would remain stationary, find it for their advantage to avail themselves of the opportunities of intercourse with distant places thus opened to them. It appears by the evidence of Mr. Booth, that before the establishment of the railway between Manchester and Liverpool, there were about twenty-two regular coaches running between these places; these coaches were licensed to carry about 700 persons; and taking them at their average number, they may be estimated as having transported 450 persons daily between these two towns. The inside fare was ten shillings, the outside six; and the time of the journey varied from four hours to four hours and a half. The fare at present, on the railroad, by the first class train, is five shillings and sixpence, and by the second class three shillings and sixpence—being about half the fare by the coaches; and the time of the first class an hour and a half, and of the second class two hours—being less than half the time occupied on the turnpike road. The number of passengers between the two places in the six months ending in December, 1833, was 215,071 booked; to which, if we add 5000 for the passengers taken up on the road and not booked, we shall have a total of about 220,000; if we divide this by the number of days in the half-year, we shall find that the average, daily, including Sundays, was 1,209.

It appears, therefore, that the number of passengers between these towns has been tripled since the establishment of the railroad; in other words, about 800 persons daily, who have occasion to pass between the two places, but who were before prevented from doing so, either by reason of the time or expense of the turnpike road, are now enabled to perform the journey.

[To be continued.]

We have great pleasure in publishing the following letter and facts, furnished us by an esteemed friend now abroad.

London, Sept. 23, 1834.

To the Editor of the Railroad Journal, &c.

SIR,—Having occasion, a few days since, to accompany two Philadelphia gentlemen to call on Mr. Hancock, who has steam carriages travelling on the common roads of this metropolis, I beg to give you some memoranda of the information I obtained from the conversation with that gentleman, which may probably interest the numerous readers of the excellent and most useful "American Railroad Journal," which I receive regularly from my brother in Philadelphia, and always peruse with the greatest pleasure.

Enclosed I send you the principal information derived from Mr. Hancock. I have sent by the packet, a colored engraving of the "Autopsy" and "Era," to a friend in New-York, with the request that he would hand it to you in my name.

Before I left home (Philadelphia) last spring, I had frequently endeavored to gain information respecting the expediency (the practicability has been established beyond doubt by the engines of Gurney, Ogle, Hancock, Maceroni, &c.,) of steam carriages on turnpike roads, and pavements, but could not obtain any facts to satisfy me that they could be used in competition with coaches drawn by horses. Since my arrival in London, the information given induces me to believe they may, under favorable circumstances, in this country, compete with animal power, but I strongly doubt whether they will answer equally well in our country; and I think it highly probable that, in the course of a short time, they will be much more generally used in England for stage coaches, and for the transportation of the mail. This opinion is founded on the following circumstances; 1st, horses are costly in England, and are maintained at great expense; 2d, the roads are good, and kept in perfect order; 3d, steam power is cheap, owing to the low price of all machines made of metals, as well as the low price of fuel. In our country, on the contrary, horses are cheap, and are supported at one half the cost that is customary in England; 2d, our roads are unfortunately constructed on wrong principles,* and are consequently excessively bad, and will remain so until they are made on a better plan; 3d, fuel and labor are expensive in our country. From the above mentioned circumstances, I think there is some probability of their becoming useful machines in this country, but I cannot suppose they will

be profitably employed in the United States. There are, however, some roads and streets on which they might be used: for example, between Boston and Salem; between Providence and Pawtucket; from the Battery to the highest part of Broadway in your city; and from the Exchange to the Schuylkill river, in my city; and there may be some other locations, which, however, it is unnecessary to mention, where the roads may be sufficiently good to enable the locomotives to travel on them; but it is out of the question to expect them to travel over turnpikes equally bad as those of my native state, which, although not so bad as in some of the other states, are so rough as to be discreditable to our citizens.

I have written you a few hasty lines, which, however, are at your service, if you wish to make use of them, and if I can do any thing to be useful to your publication whilst in this country, I shall be much pleased to aid in any way you may point out. My address is, care of Timothy Wiggin, Esq., London, or care of A. & G. Ralston, No. 8 South Front street, Philadelphia, by which channels every thing will be carefully forwarded to me. I am, very respectfully, your obedient servant,

GERARD RALSTON.

Liverpool, Oct. 24, 1834.

Postscript.—By some oversight, I find that I did not send this communication to you at the time I ought to have done so. The engraving I sent under cover to Messrs. Wm. G. Bull & Co., and requested them to hand it to you. Since the date of my preceding letter, I have made several journeys in the "Autopsy" and "Era," and have not seen nor heard any thing to alter my views as expressed above. It is, however, proper to mention to you that, from my occupation in this country, viz.: to furnish railway iron, locomotives, &c. &c., for various railroads in the United States, I am frequently brought into company with some of the most eminent engineers of this country, of all of whom I have inquired their opinions respecting the expediency of locomotives on turnpikes—they have invariably replied, "They will not be profitable." They say, "You can see them running on the roads—they go beautifully, and you suppose prosperously, but they work to a disadvantage of 10 to 1 compared with locomotives on railways, and it is impossible for them to supersede horses on turnpikes or locomotives on railways."

Mr. Hancock, who is undoubtedly a man of genius, and is, withal, very quiet and unpretending, appears quite confident that he has succeeded, and that he is now making money. In a few months more, it is probable, if he continues to run, that he will be able to divulge to the public something of an official character, that will satisfy all doubters either of the expediency or in expediency of this mode of locomotion. The question is no longer one of practicability, but of profit. It is proved to be practicable; but will it be profitable, is the important question. I shall return to London in a few days, and should I hear any thing of importance on this subject, I will have the pleasure to communicate it to you. In the mean time, yours, respectfully,

G. RALSTON.

Facts relative to the Use of Steam Carriages on Common Roads, furnished by Mr. G. Ralston.

Called on Mr. Hancock, who gave me information respecting the "Era" and "Autopsy," constructed by him, as follows.

The cost is £700 each. They each have 2 steam engines, of about 10 to 12 horse power, high pressure, and accommodate 14 passengers each. Coke is the fuel used; $\frac{1}{2}$ bushel per mile is consumed, and 100 lbs. of water per mile. The capacity of the boiler is 700 lbs. of water, which would be sufficient for a distance of 7 miles. The weight of the omnibus complete is 3 tons, exclusive of fuel and water. The road and pavement, (from the neighborhood of the Bank of England to Paddington,) over

which these carriages travel, is the worst in the neighborhood of London; indeed, I think it the worst road I ever saw in England. The distance is 3 miles on the most frequented thoroughfare in the world, and it is astonishing how perfectly controllable it is, how easily it is guided, how easily stopped—indeed, it is much more controllable than a two horse omnibus. It goes at the rate of 10 to 12 miles per hour, which, for the present, is considered the most economical speed. The Pentonville hill, which these carriages ascend, has a rise of 1 in 20, but the Autopsy has gone over hills on the Brighton road of 1 in 10 feet. There is a hill between London and Brighton of $1\frac{1}{4}$ mile long, which this carriage ascended at the rate of 9 miles per hour, at the commencement of the rise, and gradually diminished its speed to 6 miles per hour. The "Era" performed the following wonderful feat a few days ago: She dragged the "Autopsy" over the bad road to Paddington, up the Pentonville hill to the station, both carriages being full of passengers. The weight of the two, with their loads, is estimated at near 8 tons.

We learn from the proceedings of the Georgia Legislature, that the bill for the construction of a Railroad from Savannah to Macon, has been rejected in the House: yeas 59, nays 105.

Railroad from Nashville to New Orleans.—A meeting was held at New Orleans on the 20th ult. to consider the expediency of constructing a Railroad from that city to Nashville. A resolution was passed "that the nature of the country between New Orleans and Nashville presents the greatest possible facilities for direct and rapid communication by means of a Railroad, and the nature of the transportation and the number of travellers will fully sustain the expense of such a road." A Committee of twenty was appointed to procure subscribers of \$100 each, to an Association having for its object the taking of preparatory measures for the construction of such a Road, the money to be expended in making examinations and surveys. The distance must be 400 or 500 miles. A direct course from Nashville to New Orleans, would pass through a corner of Alabama, and almost the whole length of Mississippi.

Wabash and Erie Canal.—Five miles of the summit section of this Canal have been completed and are ready for navigation. We learn from the Fort Wayne Sentinel that an additional portion of eight or ten miles will be completed in a few days.

The Great Belgic Railway.—The probability is that the line of road, after passing the lower part of Verviers, will follow the course of the Vesdre by Limbourg to Eupen; then, taking the direction of the Dente, by Cornelis Munster, as far as Eschweiler, will leave Aix-la-Chapelle about a league to the west, and proceeding by Duren and Keryen, will cross the Roer and Ert with several of their tributaries, and traverse the plain of Cologne nearly in a straight line to the Rhine, a distance altogether of about seventy English miles. The company, whose intention it is to commence operations as soon as the Belgic works approach the Prussian frontier, comprise most of the great commercial men and bankers of Cologne, Coblenz, Dentz, Duren, Keryen, and Aix-la-Chapelle; whence there will be an embranchment to Cornelis Munster. In short, throughout the Rhenan provinces, where there is no other canal than that which connects the Rhine opposite Dusseldorf, with the Meuse at Venloo, and no other mode of transport but by the tedious process of cartage (rouitag), there is but one opinion and one voice on the subject. The boat-owners and shippers on the Rhine, Moselle, Lahn, Main, and Aar, are no less desirous for its success; for the natural consequence must be to render Cologne the great depot both for colonial and inland produce, and consequently to transfer the water-carriage monopoly from the hands of the Dutch into that of the Prussians. [Letter in the Morning Chronicle.]

The Indian rubber tree of South America grows 4 and 500 feet high, and expands to a proportionate breadth. Another valuable tree of that continent is the cow tree, whose leaves always appear withered and unsightly, but which produces vast quantities of liquid aliment, resembling milk. The natives obtain it by boiling the trunk.

* To prevent misconception, it may be proper to mention in what respects our turnpikes are defective. 1st, They are too convex; they rise too much from the sides to the centre, and the consequence is that all the travel is forced on to the crown of the road, which is soon worked into four rutts, two of which are formed by the two horses' feet; the other two by the wheels of the carriages; but if the roads were nearly flat, as they are in England, the travel would be equal over the whole surface, and then every part of the road would be equally good. The 2d defect is the metal is not homogeneous, (hard and soft stone ought never to be used together,) and not broken sufficiently small. The 3d defect is the absence of sufficient under-draining. On our turnpikes, and indeed even in our streets, I have seen uncovered drains across the roads, which of course cause an inequality of the surface, and injure the carriage and horses, and interfere with the comfort of the persons in the carriage. I hope most sincerely my countrymen will "mend their ways;"—they are now abominable; and it would not be more expensive to make roads equally good as those in Great Britain and Sweden, than to make them in their present bad condition.

Annual Report of the Superintendent of Machinery of the Baltimore and Ohio Railroad.

Office of the Superintendent of Machinery,
Oct. 1st, 1834.

To PHILIP E. THOMAS, President, etc.

In accordance with the rules and regulations for the government of the officers and agents of this Company, I now respectfully submit the following Report of the operations of the department of Machinery, for the year ending on the first day of the present month.

The subjects that engage the attention of this department are every day assuming a deeper interest. There is, perhaps, a point in the improvement of the construction of machinery beyond which human ingenuity cannot reach: but no man, at this time, can designate that point. In the other departments, connected with the general system of Rail Roads, there is a degree of perfection which cannot be passed, and every one can perceive it. In the graduation, the straight line without curvatures, without elevations or depressions, is not only conceivable, but, if means adequate to the accomplishment of the object, by bridging rivers, cutting through hills, or tunnelling mountains, and filling up valleys, be applied, it is perfectly practicable. But in the construction of machinery the case is very different. Here, improvements are every day taking place; not by the discovery of new mechanical powers, but by new and, seemingly, endless combinations of them. The application of these powers and principles are, in fact, so varied, and so complicated, that no mechanical attainment has sufficiently penetrated the arcana of science, to fix their ulterior limits, and say, thus far shall invention advance, and no farther. There is, then, a boundless field open to the machinist. Many discoveries have been already made by bold and ingenious adventurers. Much has been done in the last and present century, and advances have been made, which, 60 or 80 years ago, would have been deemed chimerical. To say nothing of the improvements in chemistry, and the correlative arts, nor of the endless variety of machinery employed in manufactures, the application of the power of steam, and the various and important uses to which it has been rendered subservient, from the ponderous and capacious steamboat to the smallest engine, substituted for animal or water power, challenges the wonder of the ignorant, elicits the congratulation of the learned and of the friends of science, and excites the emulation of mechanics to make still further discoveries in a field that is yet inexhausted, and, so far as appears, is inexhaustible.

The locomotive engine dates its birth but a few years back; yet, young as it is, it has already acquired much of the vigor and activity of adolescence; what may not then be expected, when it shall have attained to the steady, firm, untiring step of mature age? The voice of experience, even on the Baltimore and Ohio Rail Road, proclaims that great advances have been attained in the construction of locomotives, from the first efforts made by the Company, as well as by others, who, at their own expense and risk, entered the field of competition.

Although the rail road system originated in England, yet it was very evident that the best constructed machinery, in use there, was exceedingly defective; and that unless several material improvements could be effected in the parts most liable to wear, and also in the construction of locomotive engines, the expense, arising from repairs and renewals, would seriously affect the success of the railroad here. Our attention, therefore, was, from the first, especially directed to the improvement of this all-important branch of the system, and our progress has been considerable, in every particular. A great reduction of friction, as well as of the consumption of oil, has been attained, and a degree of permanence given to the road wheels, which has, it is believed, never heretofore been effected. Some of these have trav-

ersed a course of about 24,000 miles, without exhibiting evidence of being perceptibly impaired. This permanence is owing to an increase in their weight, and to the introduction of a strong wrought iron ring into the interior of the rims of the wheel, and a more perfect chilling or case-hardening of its periphery, especially the conical part of it.

In the year 1830, Peter Cooper, Esq., illustrated, by an experiment, with a small working locomotive engine, with a tubular boiler, the practicability of using Anthracite coal as fuel. Subsequently, Phineas Davis, in conjunction with the engineers and machinists of this company, has, by a series of experiments, introduced several essential improvements, resulting in a triumphant success and in the construction of locomotive engines of great power, strength and durability. Several of these have been put in operation upon the Baltimore and Ohio Rail Road, and their performance has exceeded the expectation of the most sanguine, being decidedly greater than that of any other engine of similar weight yet known. Anthracite coal is exclusively used as fuel, being not only more economical, but is found to emit neither smoke nor burning particles, so annoying to passengers, and so universally complained of in the engines of the usual construction.

In several particulars these engines differ essentially from those heretofore in use. They are more compact, and have a greater fire surface in a more limited space—the powerful fanning apparatus, impelled by the waste steam, pouring a constant and impetuous stream of air through the furnace, and always ensuring the combustion of the Anthracite coal—the ingenious contrivance by which the waste steam is applied, to heat the water, in its passage from the supply pipe to the boiler, and the manner of protecting the principal part of the machinery from the irregular action of the road wheels, constitute together, striking features in this admirable specimen of American invention and ingenuity.

The workmanship in all the engines, recently constructed at the manufactory of the Company, exhibits considerable improvement; the materials of which they are composed are of the first quality, and all the principal points subject to wear have been rendered more permanent by case-hardening.

As an evidence of the durability of these improvements, the Arabian locomotive engine continued to run 50 days between this city and the Inclined Planes, a distance of 82 miles, daily, making 4,100 miles, without requiring repairs or showing any perceptible wear or deterioration.

As the ultimate success of the enterprise mainly depended upon the employment of engines adapted to the curvatures of the road, and to the use of Anthracite coal, and of such a permanent construction as would not require frequent repairs, it cannot fail to excite the highest gratification in the friends of the measure, that so signal a triumph has been achieved, in the production of those machines possessing these properties in so eminent a degree.

The machinery now on the road, and in active use, is as follows:

Locomotives.—1st. The Atlantic, now undergoing an alteration, which will render her equal in power to the other engines more recently built.

2nd. The Traveller, employed in the transportation between the Mount Clare depot and Ellicott's Mills, of passengers and of goods.

3d. The Arabian, which continued for 50 days, in succession, to run from the depot to the Plains with the Frederick train of passenger cars, the daily expense being as follows:

Coal, 1½ tons, at \$6 per ton,	\$7 50
Engineer,	2 00
Assistant do.	1 50
Oil,	50
Interest on cost,	75
Contingencies,	1 00
	<hr/>
	\$13 25

To this it will be safe to add three dollars per day for repairs that may become necessary to maintain the engine in good order.

4th. The Mercury, of the same power as the Arabian, has been running 20 days at the same daily expense as stated above.

The abovementioned four engines were built by Phineas Davis; who, from his first effort in constructing the York, to the full attainment of the Herculean powers of the Arabian and Mercury, has made rapid advances in perfecting these machines, affording encouraging prospects of still farther improvements. As far as the experiment has been made, the cost of transportation is lessened, and it has already been ascertained that when steam power shall be so far employed as to enable us to dispense with horse power, the balance will be found materially to preponderate in favor of the former.

Four new passenger cars have been constructed during the present year, viz.

1st. The Winchester, carrying 36 passengers, on 8 wheels.

2d. The Dromedary, a large and commodious car, 8 wheels.

3d. The Comet, a car with 5 bodies, carrying 40 passengers, 8 wheels.

4th. The Patterson, on 4 wheels.

Four of the old cars have been repaired, and placed upon 8 wheels.

All the other cars are in a respectable state of repair; and will probably do service through the ensuing winter, with but little additional expense.

The number of burden cars now in the service of the Baltimore and Ohio Rail Road Company is 1,000, exclusive of 27 employed on the Washington road.

The passenger cars hitherto in use, on this road, generally resembled, in many respects, the usual stage coaches—most of those built within the present year are materially different from them in appearance and arrangement—the bodies are long, and supported on 8 wheels, which are so placed as to pass the curvatures of the road with greater facility than the ordinary kind of car. These are not only more commodious, but they afford additional security to the passengers; they are simple in construction, and very strong, and consequently will seldom require any repairs, by which a great saving will be effected. During the time these carriages have been in use, several further improvements have been suggested, and a plan is now adopted, which, it is thought, when introduced, will be very safe and commodious, and meet the public approbation.

The total number of passenger cars now in the road is 34.

The ten passenger carriages, ordered to be built for the Washington Rail Road, and which, when completed, will convey upwards of 350 passengers, comfortably, are now under construction, and will be ready for service, as will also the four new locomotive engines intended for that road, by the time it is finished.

In relation to the duration of wheels, it may be stated that those with metal rings in them, upon the following named passenger coaches, have performed, as underneath, whilst several of the same wheels present but little appearance of deterioration, viz.:

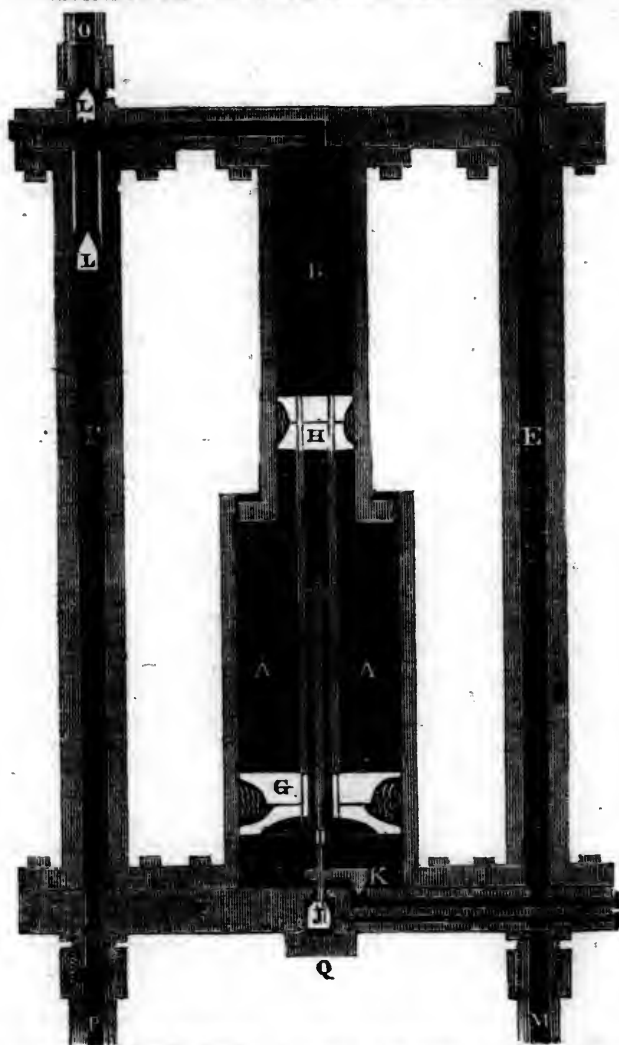
	Miles.
President, 309 days, 82 miles per day,	25,338
Virginia, 300 do. " "	24,600
Alleghany, 290 do. " "	23,780
Shenandoah, 259 do. " "	21,238
U. States, 240 do. " "	19,680
Pioneer, 220 do. " "	18,040
Maryland, 240 do. " "	18,450

7) 151,128

Average, 21,589

Respectfully submitted,
GEORGE GILLINGHAM, Sup't of Machinery,
B. & O. R. R.

SECTIONAL VIEW OF R. PORTER'S INDEPENDENT PUMP.



Explanation.—A A, interior of the steam cylinder; B, interior of the pump cylinder; C, bed plate; D, cap plate; E, steam column; F, water column; G, steam piston; H, pump piston, and head of the piston rod; I, valve rod, where it passes through the cross spring; J, induction valve; K, eduction or exhaust valve; L L, pump valves; M, steam pipe; N, exhaust pipe; O, suction pipe; P, injection pipe; Q, short screw, which closes the valve chamber.

Improved Forcing Pump.

To the Editor of the Mechanics' Magazine:

Sir,—Permit me to inform the public, through the medium of the Mechanics' Magazine, that I have recently constructed, and have now in successful operation, an improved forcing pump, which will invariably keep the boiler of a steam engine supplied with water, to a given and uniform height, without ever permitting it to rise above; acting independently of the steam engine, being operated directly by steam from the boiler; and keeps the boiler as well supplied, while the engine is at rest, and even while blowing off steam, as at other times; and that without any attention from the engineer. I have made arrangements to have them manufactured to order, (warranted, of course,) by Mr. D. Copeland, Hartford, Conn.

Specification.—A hollow cylinder, four and a half inches in length, and two inches in diameter, having a flange at one end, is placed in a vertical position on the centre of a horizontal plate, which is six inches long, three inches wide, and half an inch thick, and to which the cylinder is secured by screws, passing through the flange into the plate. On the two ends of the plate are two vertical columns, each being eight inches in length, and three-fourths of an inch in diameter; and having a flange at each end, and an orifice three-eighths of an inch in di-

ameter in the centre, are likewise secured to the plate by screws; and, in like manner, the heads of the columns are attached to another similar plate which rests on them. Another cylinder, four inches long, and one inch in diameter, is also attached by flange and screws to the centre of the under side of the cap plate, so that the bottom of this cylinder comes within, and, having a flange of the requisite size, closes the top of the cylinder first mentioned.

Within each cylinder is a piston with suitable packing, and the two pistons are connected by a hollow rod, five inches long, and half an inch in diameter; each piston occupying one inch of the end of the rod, thus leaving a space of three inches between the two. Within the piston rod is a valve rod, three and a half inches long, and one-eighth of an inch in diameter, having a flange head at the top: not so large, however, but that it will pass freely within the hollow of the piston rod. The other end passes downward, through an aperture in the centre of the bed plate, into a valve chamber, which consists of an orifice of half an inch diameter, extending upward from the bottom of the bed plate to within an eighth of an inch of its upper surface, and being closed at the bottom by a short screw, which also has a cavity in the end, the better to accommodate the valve. From one end, and near the bottom of the

bed plate, an orifice an eighth of an inch in diameter is drilled horizontally to the valve chamber. Directly over, and parallel to this, is another orifice, which extends nearly to the valve chamber, where it meets with a vertical aperture from the upper side of the plate. These orifices are both closed at the outward end, but the first has a vertical communication with a small steam pipe, which is attached by an union joint to the bed plate, directly under the column, (which is called the steam column,) and the other has a communication upward, by another aperture, through the steam column, to another pipe, which is attached to the upper side of the cap plate.

Several small apertures, nearly in contact with that in the centre of the bed plate, complete the communication between the steam pipe and the steam cylinder; and these are closed occasionally by a circular or conical valve, three-eighths of an inch in diameter, which is attached to the bottom of the valve rod. Another conical valve is attached to an arm which projects from the valve rod an eighth of an inch above the upper surface of the plate; this valve occasionally closes the aperture which communicates with the steam columns; thus, the same motion of the valve rod, which closes one valve, opens the other. A thin elastic spring, two inches long, and half an inch wide, extends horizontally across the bottom of the steam piston, (which is a little concave,) being fastened to the piston by a screw at each end; and the valve rod passes through the centre of the spring. Thus, when steam is admitted, and drives the pistons upward, the spring receives the flange head of the valve rod, and, by raising it, instantly shuts off the steam; and, at the same time, raises the other valve, and thus allows the steam within the cylinder to escape by way of the steam column. From the upper side of the steam piston, two small rods, opposite and parallel to each other, extend upward through the bottom flange of the small cylinder, and through the cap plate; to the heads of these rods is attached a weight or spring, by which the pistons, when relieved from the action of the steam, are again forced down; and, by this motion, the horizontal spring comes in contact with the exhausting valve, shuts it down, thus opening the other, which again admits the steam to the cylinder.

Two other pipes, (water pipes,) are attached by union joints to the two plates, the one above and the other below the other column, which is called the water column, with which they communicate by apertures through the two plates. The cap plate is perforated horizontally from the aperture to the centre, thence downward, thus opening a communication between the water column and the small cylinder. Within the water column is a puppet valve, and above it, near the upper surface of the cap plate, is another; both of which are held to their seats by spiral springs, opening downward, so as to admit the descent, but prevent the ascent, of water through the column and pipes. (The whole apparatus may be inverted, however, which would preclude the necessity of spiral springs.) By this arrangement, when the pistons are moved down, the small cylinder is filled with water from the upper water pipe, which communicates with a reservoir; and when the pistons are moved upward, the water in the cylinder is forced down through the water column to the boiler. Thus, by

the force of steam, emitted from the boiler by one pipe, water is injected by another. Another advantage is derived from having the steam pipe descend to the proper water line in the boiler; that whenever the water, by the injection of the pump, rises above said line, the water is forced up in the steam pipe, and thus chokes the valves and retards the motion of the pump, while the water, thus escaping, is forced through the exhaust pipe, which also terminates in the reservoir.

I claim as original the construction and arrangement of the plates, cylinders, columns, and valves; and the application of steam direct to operate a pump, as connected with the regulating principle derived from the descent of the steam pipe to the water line as above described.

RUFUS PORTER.

Supplemental Report of the Seventh Annual Fair of the American Institute.

The managers, anxious to do exact justice to the exhibitors, and to correct any errors that may have occurred in the confusion incident to a public exhibition, where more than five thousand articles were presented, have deemed it proper to make a supplemental report. They have been induced to do this, partly in consequence of certain facts having been brought to their knowledge since the exhibition, which, if known, would have varied their award. The extent of the fabrication of certain other articles of great utility, and of general consumption, demand a more pointed public notice than was given in the original report. They are satisfied of this, also, partly from information obtained since the exhibition, as well as from a careful review of the reports of the judges.

The case of incorruptible artificial teeth will first be noticed.

When the judges on these articles first met and reported, specimens from only two exhibitors had arrived. Afterwards, S. W. Stockton brought other specimens, and challenged competition. The successful competitor in the first instance consented to enter the list of competition again, and thereby waived the advantage he had acquired by the decision of the judges at their first meeting. At their second examination, the decision was unanimous in favor of Stockton's specimens. But the fact of this mutual agreement, and the waiving on the part of the party interested in the first decision of the judges, not having been positively ascertained, no notice was taken by the managers of either decision in the awarding of premiums. But the judges having subsequently certified that the last examination was with the consent and approbation of the successful competitor in the first instance, the managers have deemed it due to Mr. Stockton that he should be noticed; they therefore award to S. W. Stockton, of Philadelphia, a silver medal, for the best specimen of highly perfected incorruptible artificial teeth. And inasmuch as J. Planton & Sons, of Philadelphia, exhibited the second best specimens, at both examinations, the managers award to them a diploma.

The managers have carefully examined into the extent and importance of the manufacture of watch dials, by Mullen & Ackerman, No. 101 Warren street, city of New-York: The accuracy and elegance of the workmanship, the facility with which they can be multiplied, the great demand they are competent to supply, and the saving ef-

fect for the consumers, entitle them, in the opinion of the managers, to a gold medal, in lieu of the silver medal heretofore announced, as the "reward of skill and ingenuity for the manufacture of gold watch dials."

And the managers also award to Mullen & Ackerman, a diploma, for handsome specimens of filagree jewelry.

Mr. T. Fossard's specimen of blue dye, the committee deem important. A cheap substitute for indigo would be of incalculable value; and the examinations the specimen underwent have made a favorable impression on the minds of the managers. They therefore did not hesitate to award him a diploma.

Matthias Ludlum, a journeyman mechanic, produced a beautiful brass tea-kettle and heater, which were made, by the consent of his employer, expressly for the Fair. They were exhibited in the name of D. E. Delavan, who, for these and other articles taken by him to the Fair, received a silver medal. Mr. Ludlum has since applied, and claimed the premium. It is desirable that the rewards of the Institute should, as far as possible, reach the ingenious producer, where he is brought to a knowledge of the Institute. The managers, therefore, in accordance with the desire to reward obscure merit, award to Matthias Ludlum a silver medal, for a beautiful brass tea-kettle and heater.

Choice specimens of turned tool handles were exhibited by N. Cowenhoven. Mr. C.'s manufactured tools are sold extensively in this city; he is entirely self-taught, and deserves a public notice for his ingenuity. The managers award to him a silver medal.

The managers also award to Alfred Willard, of Boston, a diploma for shell worked combs, elegantly carved.

To Francis Smith, for brass shovel and tongs, made by him, and delivered by Mr. Delavan at the Fair, the managers award a diploma.

They also award to Geo. Bird a diploma for imitation mouldings.

Miss Sarah Seager, 233 Thompson street, is entitled to praise for a handsome flower-piece, painted in oil. The managers award her a diploma.

Specimens of cut and pressed glass from the Union Glass Company, Philadelphia, were worthy of commendation.

Post's hame-collar block has met with much commendation.

Robert Fazon's improved cooking stove has also been highly approved; sold at No. 13 Bowery. A diploma is awarded him.

James Van Dyke, Brooklyn, Long Island, exhibited samples of excellent mustard made by him. It is hoped, as an American article, it will find favor with American consumers.

Messrs. E. & T. Fairbanks exhibited their patent portable scales, which are a convenient and excellent article—for which a diploma was awarded. A specimen model may be seen at the office of the Institute, No. 41 Cortlandt street.

T. W. Clisby, No. 12 Tenth street, exhibited an ingenious architectural engraving of the Ionic capital of the temple of Ilyssus, as described by the inventor. The illustrations profess to show the centres of the spiral scrawls of the volute, and to prove that they accord with mathematical principles. The engraving may be seen at No. 41 Cortlandt street.

A specimen of Asiatic marble, of the

Breccia species, imported in its rough state, hewed and polished in this city—a beautiful article. Exhibited by Warren Gould. A diploma.

The managers have already granted to Obadiah Parker a gold medal for his artificial stone, and for the purpose of enabling him to make more public his discovery, they have, at his request, also awarded him a diploma.

To Charles Edwin Ely is also awarded a diploma for a finished specimen of ornamental writing engraving.

The managers award to Kutz & Adams, No. 330 Broadway, manufacturers of rules, mathematical instruments, &c., a silver medal, for two drafting scales, and two engineer sliding rules: specimens exhibiting great skill, accuracy, and elegance. An accompanying explanatory book shows the application of the different rules to multiplication, division, rule of three, tables of the areas and circumferences of circles, mensuration of superficies and solids, weighing of metals, &c.: a happy illustration of mental labor saving. They may be seen at the Library of the Institute, 41 Cortlandt street.

The managers, in accordance with the wishes of the Denny Manufacturing Company, and deeming the progress of the manufacture of the kind of articles exhibited by them of national importance, award to the said Company for their specimens of superfine black and blue broadcloths, in lieu of a gold medal, a silver pitcher.

The fault of T. Thomas—vitrified glass, displaying the American arms surrounded by the stars of the 13 States within a tri-colored border—deserves particular commendation for elegance of execution. The long lost but beautiful art of staining glass is revived and executed in New-York with a degree of perfection not surpassed perhaps by any of those relics of former times that have reached us. Mr. Thomas's specimen may be examined at No. 41 Cortlandt street.

Miscellaneous, Foreign and Domestic.

[Continued from page 676.]

12. *Carrageen, or Irish Moss*.—*Chondrus crispus*, Lyngbye, *Hydropt. Dan.* p. 15, t. 4. Greville, *Algæ Brit.* p. 129, t. 15. *Sphaerococcus crispus*, Agardh, *Sp. Alg.* 1. p. 256. *Fucus crispus*, Lin. *Syst. Nat.* ii. p. 718. *Turn. Hist. Fuc.* p. 216-7.

This moss is common on rocks and stones, along the coast of Europe; it is also a native of the United States. A very variable species, but easily recognized when the eye is accustomed to it. The genus *Chondrus* belongs to the order Florideæ of the great natural family of the Algæ. All the species have a cartilaginous frond, which is flat, without nerves, dichotomous, dilated at the extremity, and of a livid reddish color; the fructification consists of scattered capsules, mostly immersed in the frond, rarely pedicellate; seeds minute, round.*

This moss, abounding on the southern and western coasts of Ireland, has been used by house painters for sizing; it has likewise been highly esteemed by the inhabitants as a dietetic remedy for various diseases, more especially for consumption, dysentery, rickets, scrofula, and affections of the kidneys and bladder. Dissolved by being boiled in water, a thick jelly is produced, more pure and agreeable than that procured from any other vegetable, which is found to agree better with the stomach than any prepared from animal substances. Its chemical composition appears to me, as far as

* I am indebted to Dr. John Torrey, for the communication of the botanical description.

I have been able to trace it, of very considerable importance; the jelly-formed by dissolving it in hot water is not only composed of starch, but contains a large proportion of pectic acid; a considerable quantity of sulphur, and some chlorine and bromine, and another acid combined with lime, have been discovered,—the latter proves to be the oxalic acid.

Neither the fungic nor boletic nor lichenic acids could be detected, and the existence of iodine I have not been able as yet to detect. By extracting the pectic acid with caustic potassa, I found the moss taken up and altogether dissolved; and after treating the gelatinous mass with chloride of calcium, muriatic acid, and applying alcohol to separate the acid, at least 0.6 of this last was the result.

By reducing the moss to coal and dissolving it in water, sulphuretted hydrogen gas was evolved very abundantly; protoxide of iron, subcarbonate of potassa, diluted sulphuric acid, and lime water, gave copious precipitates.

The chemical characters of this moss are too interesting to be considered as completely determined by the few superficial experiments undertaken to discover its properties, especially as they were made at a time when I have been continually interrupted by an attention to the duties of my profession, and I consider them as having been undertaken more for the satisfaction of my curiosity, than as tending to a complete and scientific investigation of such an invaluable medical substance as carrageen, but I hope to be able very shortly to develop with more accuracy the entire composition of this singular moss.

The carrageen seems to possess qualities similar to the Iceland moss, which, according to Berzelius' last analysis, (a master-piece in every respect,) consists in 100 parts of 3.6 syrup, 1.9 bitartrate of potassa, tartrate and some phosphate of lime, 3.0 bitter principle, 1.6 green wax, 3.7 gum, 7.0 coloring matter, like extract, 44.6 lichen starch, 36.2 starch-like matter; but carrageen is without bitter principle, contains nothing but soluble matter, and the quantity of nutritious jelly produced by a small portion of it gives it the most indisputable preference. It was first introduced by Dr. Reece, who considered it a most important article of food for invalids, and Doctors Sulby, O'Reilly, and Sir Henry Hallford, speak of the carrageen as the most nutritious article of food for delicate and weakly children. In this respect it is certainly superior to arrow root, sago, &c., being more highly nutritious, easy of digestion, and pleasing to the taste.

Prepared with warm milk and sweetened, it is most particularly recommended as a breakfast for consumptive patients.

Decoction of moss, made by boiling half an ounce clear moss in a pint and a half of water or milk until reduced to a pint, is recommended as food for children affected with scrofulous or rickety diseases, for such as are delicate and weakly, and for infants.

There are some printed directions for the manner of using the carrageen moss for medicinal and culinary purposes, accompanying some imported from England, from which I shall make here an extract.

Directions for using the Moss medicinally.—Steep a quarter of an ounce of moss in cold water for a few minutes—then withdraw it, (shaking the water out of each sprig,) and boil it in a quart of new or unskimmed milk, until it attains the consistence of warm jelly—strain and sweeten it to the taste with white sugar or honey, or, if convenient, with candied Eryngo root; should milk disagree with the stomach, the same portion of water may be used instead. The decoction made with milk is recommended for breakfast for consumptive patients; and with water will be found a most agreeable kind of nourishment, taken at intervals during the day, the flavor being varied with lemon-juice or peel, Seville orange juice, cinnamon, or wine of any sort most congenial to the taste.

The decoction in water is also taken for the relief of cough at any time in the course of the

day, when it is troublesome, and it is for this purpose simply sweetened with honey.

In dysentery, the decoction, either in milk or water, may be administered with equal advantage, and in addition to the sweetening matter, if a tea-spoonful of the tincture of rhatany be mixed with each cupful of it, tone will thereby be given to the intestines, at the same time that nourishment will be conveyed to the system, and irritation prevented—a large tea-cupful of the decoction may be taken three or four times a day.

As a pleasant strengthening food, boiled with milk and strained, with the addition of a little sugar, it is unrivalled for infants. Persons take it in this way for breakfast or supper, with the happiest effect, who are sustaining an attack of the cholera.

Culinary Directions.—To make *Blanche-Mange*: take half an ounce of moss, and having cleansed it by the process above described, boil it in a pint and half new milk, until it is reduced to a proper thickness to retain its shape; to be sweetened and flavored with lemon, white wine, or any thing to suit the palate.

To make *Orange, Lemon, or Savory Jellies*: use a similar process, substituting water for milk—add lemon, orange, herbs, &c. according to taste.

To make *White Soup*: dissolve in water, afterwards add the usual ingredients.

It only remains to state, that the Carrageen, or Irish Moss, as a domestic article, is peculiarly interesting; it is the best thickener of milk, broths, &c., makes excellent jellies, and for *Blanche-Mange* is equal to most expensive ingredients, whilst the cost is comparatively nothing; it may be used instead of isinglass, jellies, &c.

13. *Oil of Copaiva as a test for the purity of the sulphuric ether.*—If ether is not fully deprived of water and alcohol, it forms when united with oil of copaiva an emulsion without dissolving it completely, whereas it is soluble when pure, in every proportion.

14. *Discharge of the stain of indelible ink, by corrosive sublimate.*—Dr. John Dickson, of South Carolina, in a letter to the editor, dated October 24, 1833, states that Mrs. Dickson had accidentally observed the discharge by corrosive sublimate from a handkerchief of the color produced by the nitrate of silver, and it was soon found that the same effect was produced upon linen, cotton, and the human skin. On the cloth* the stain partially re-appeared after washing, but on the skin it did not return.

The following circumstances led to Mrs. Dickson's observation: a weak solution of nitrate of silver, (warmly recommended in Eberle's Practice,) was used as a lotion in treating some cases of erysipelas; its power of producing a dark tint was well known to Dr. D., but as no caution is given in the above work, it was presumed that no such consequence would follow from using so weak a solution: but Dr. D. had the mortification to find the effect produced, and a solution of corrosive sublimate was then successfully applied to remove the stain produced by nitrate of silver. The following suggestions are made by Dr. D.:

1. Not to use the nitrate on the face at all, especially in the case of females.
2. To take care that the solution reach only the portions of the surface that are in a state of erysipelatous inflammation, since there is reason to believe that it is less likely to stain the inflamed part, and, at any rate, vesication, desquamation, or absorption will soon remove the skin and stain together in the diseased surface, while this will not happen so soon in the healthy portion. Of course this is not of so much importance in parts habitually covered by the dress.
3. To have the parts to which the nitrate is applied protected from the light during the use of it.
4. To wash away the solution before it dries.

* It is not specified what cloth is intended, but it is presumed that it is the fibre of the linen and cotton.

in the least from the fingers, &c. dipped in it in making the application. This may be done in common clean water, and if not effectually done in that, it may be certainly done in a weak solution of corrosive sublimate, as appears from our experience.

CRYSTALLINE LENSES.—Sir David Brewster, a very distinguished writer on the science of optics, is desirous of procuring crystalline lenses, or, in other words, magnifying glasses of the eyes of American animals. Put the entire eye into a well corked and sealed bottle of spirit, or take the lens from the globe, and throw it for a few minutes only into boiling water. When taken out, dry it and wrap it in paper, writing upon it the name of the animal to which it belonged.—[Scientific Tracts.]

FROGS.—On exposing frogs to the temperature of 0° cent. 32° Fahr., in humid air, in order to suppress perspiration by evaporation, they lost by transudation, in different experiments, the thirtieth part of their weight. Transudation is more abundant in these reptiles than in man, though the latter may be placed in circumstances much more favorable.—[Ibid.]

ANIMAL POWER.—Dupin states, that the animal power in Great Britain is eleven times as great as the manual power, while in France it is only four times as great.

The following is the number of horses for every 1000 inhabitants in the countries mentioned. Hanover, 193; Sweden, 145; Canton de Vaud, in Switzerland, 140; Great Britain, 100; Prussia, six Provinces, 95; France, 79.—[Quar. Jour. of Agr.]

METHOD OF BUILDING CHIMNEYS THAT WILL NOT SMOKE.—Contract the space immediately over the fire, so you may be sure of the air being well heated there; this will ensure a current upwards. All chimneys should be carefully built, and every joint well filled with mortar, so as prevent communication in case of fire.—[Dr. Thomas Cooper.]

FEATHER BEDS.—The want of feathers is altogether artificial, arising from a disregard of the physical and moral well-being of infants and children; and he who has the good fortune never to have been accustomed to a feather bed, will never in health need or desire one, nor in sickness, except in cases of great morbid irritation, or excessive sensibility, or some disease in which the pressure of a firm or elastic substance might occasion pain. But when a rational regard to the preservation of health shall pervade the community, feathers will no more be used without necessity, or medical advice, than ardent spirits will be swallowed without the same necessity or advice. The physician has frequent occasion to see persons who are heated, sweated, and enfeebled, by sleeping on feathers, as if from a fit of sickness, enervated, dispirited, relaxed, and miserable.—[Med. Intel.]

CURE FOR WEAK EYES.—Take a small lump of white copperas, say about the size of a pea; put it in a small phial, holding about two ounces of water: carry this in the pocket, and occasionally taking out the cork, turn the phial upon the finger's end, and thus bathe the eye. This will positively effect a real cure in a short time.

POTATO STARCH.—Let the potato be taken and grated down to a pulp, and the pulp placed upon a fine sieve, and water made to pass through it; the water will be found to have carried off with it an infinite number of particles, which it will afterwards deposit in the form of white powder, separable by decantation, which powder is starch, possessing all the essential properties of wheaten starch.—[Loudon.]

IMPORTANT INVENTION.—We have just seen the model of a vessel, constructed on the principle of a steam packet, propelled by paddles, but, from its peculiar mechanism, it completely supersedes the necessity of steam. The given power is communicated by four revolving sails, (gigot shape,) placed over the centre of the boat, which are acted upon by the wind from any point whatever, without in the least interrupting the progress of the vessel. The serious consequences often arising from the effects of sudden squalls are hereby completely obviated, from the accelerated horizontal action which the sails acquired, one counteracting the weight of the other in a direct ratio. This invention will also be of infinite utility in the construction of mills used in every description of manufacture. In fact, we deem it one of the most important discoveries of modern times. The inventor, Mr. John Willis, of whose talent and genius we have often spoken, intends taking out a patent for the discovery.—[Wexford Independent.]

TELEGRAPH SCIENCE.—The increasing utility of this very interesting science has become a subject of considerable notoriety. From an authenticated statement of the annual reports of the establishment at the observatory on Central wharf, in this city, the following results are communicated for the information of its numerous patrons.

Vessels telegraphed from 1824 to 1825, . . .	799
" 1825 to 1826, . . .	897
" 1826 to 1827, . . .	923
" 1827 to 1828, . . .	1010
" 1828 to 1829, . . .	1309
" 1829 to 1830, . . .	1435
" 1830 to 1831, . . .	1583
" 1831 to 1832, . . .	1809
" 1832 to 1833, . . .	1856
" 1833 to 1834, . . .	1922

Total number announced by telegraph, . . . 13,543
We understand that, during the above period, fifteen hundred sail of vessels, including the government vessels of war and the revenue cutters, have adopted the use of the telegraph flags.—[Scientific Tracts.]

LOVE OF SCIENCE.—A distinguished English missionary, located in India, has such an ardent love of botany, (though it would seem from the volumes of learned translations he has made, that he had no time for any other employment,) that his garden is enriched with every plant and tree that can be made to grow in India. It is still more remarkable, that he can readily call each one by its appropriate technical name. His house is fitted up with shelves, on which are plants, minerals, shells, and groups of cages filled with living birds.—[Ibid.]

RUINS OF ARAXES.—It was in this very ancient city, then in the meridian of its architectural splendor, and the pride of Persia, that Alexander and his Greeks sung, and danced, and revelled. At the present moment, the massive ruins only faintly express its former grandeur and magnificence. Martyn, the missionary, the last visitor whose remarks we have consulted, says, "I saw no appearance of grand design any where. The chapters of the columns were almost as long as the shafts, though they are not so represented in Niebuhr's plates; and the mean little passages into the square court or room, or whatever else it was, make it very evident that the taste of the Orientals was the same 3000 years ago that it is now."—[Ibid.]

NEW-YORK AMERICAN.

DECEMBER 6—12, 1834.

LITERARY NOTICES.

DEFENCE OF THE REVOLUTIONARY HISTORY OF NORTH CAROLINA FROM THE ASPERSIONS OF MR. JEFFERSON: by Jo. SEAWELL JONES, of Shocco, N. C., 1 vol. Boston, CHAS. BOWEN; Raleigh, N. C., TURNER & HUGHES; for sale in New York by D. APPLETON & Co.—Though unfortunate for the fame of Mr. Jefferson, it is fortunate for the cause of Truth, that the papers of that "Patriarch of the Democracy"—as he is sometimes styled—fell into the hands of a descendant who felt himself bound or impelled to publish them *in extenso*, without culling and without any attempt to reconcile, what indeed is utterly irreconcilable, their discrepancies and contradictions.

The signal vindication by Major H. Lee, of his father's name from the "aspersions" of Mr. Jefferson, and his successful carrying of the war into the enemy's country, was the first in the series of marking publications called forth by the four volumes of the writings of Thomas Jefferson—others followed; and we have now before us another able refutation of one of Mr. J.'s sweeping denunciations of rival contemporary politicians.

In the year 1819, John Adams enclosed to Mr. Jefferson an extract from a Salem paper, purporting to give, as then recently discovered in North Carolina, the copy of a "Declaration of Independence" adopted by Mecklenburg county, in that State, on the 20th May, 1775—more than a year before that adopted by Congress—and called his attention to it as a most able paper, expressing his surprise and regret, at the same time, that it had not been known to him before.

In reply, Mr. Jefferson treats this paper, which Mr. Adams evidently deemed genuine, as "spurious"—assimilates it to some absurd quiz about "a volcano" said to have broken out in North Carolina; and, moreover, speaks disparagingly of Mr. Hooper, and other Delegates from North Carolina, in the Continental Congress, whose exertions are commended in the said Declaration. Upon this hint speaks Mr. Jones—a worthy son of so honest and patriotic a State as North Carolina—and we may say with entire truth, that he does most successfully illustrate the unquestionable claims of his native State, of many of its individual sons, and of Mr. Hooper in particular—to the gratitude and admiration of the Union for their untiring services at every period of the Revolutionary war, to the common cause.

As to the authenticity of the Mecklenburg Declaration, it is put beyond all doubt, by the evidence adduced. We have not room for even a summary of this evidence; and must, therefore, content ourselves with repeating that it seems to us *conclusive*, and with referring those who desire to see for themselves, as indeed we would all who interest themselves in authentic American History, to the volume of Mr. Jones.

One single link in the chain of proof we will give—and then publish the declaration itself.—Gov. Martineau, when flying from North Carolina, and while on board ship in Cape Fear river, issued, on 8th August, 1775, a royal proclamation denouncing the revolutionary proceedings in North Carolina, from which the following is an extract.

"And whereas I have also seen a most infamous publication in the Cape Fear Mercury, importing to be resolves of a set of people styling themselves a Committee for the County of Mecklenburg, most traitorously declaring the entire dissolution of the laws, government, and constitution of this country, and setting up a system of rule and regulation repugnant to the laws, and subversive of His Majesty's Government."

This distinct reference should of itself be deemed

decisive—but there are many other proofs of the authenticity of the following—

THE MECKLENBURG DECLARATION OF INDEPENDENCE.—(20th of May, 1775).—"That whosoever directly or indirectly abets, or in any way, form, or manner, countenances the unchartered and dangerous invasion of our rights, as claimed by great Britain, is an enemy to this country, to America, and to the inherent and unalienable rights of man."

"That we, the citizens of Mecklenburg County, do hereby dissolve the political bands, which have connected us with the Mother Country, and hereby absolve ourselves from all allegiance to the British Crown, and abjure all political connection, contract, or association with that nation, who have wantonly trampled on our rights and liberties, and inhumanly shed the blood of American patriots at Lexington."

"That we do hereby declare ourselves a free and independent people;—are, and of right ought to be, a sovereign and self-governing association, under the control of no power, other than that of our God, and the general government of the Congress;—to the maintenance of which independence, we solemnly pledge to each other, our mutual co-operation, our lives, our fortunes, and our most sacred honor."

"That as we acknowledge the existence and control of no law nor legal officer, civil or military, within this county, we do hereby ordain and adopt as a rule of life, all, each, and every of our former laws; wherein, nevertheless, the Crown of Great Britain never can be considered as holding rights, privileges, immunities, or authority therein."

"That it is further decreed, that all, each, and every military officer in this county, is hereby reinstated in his former command and authority, he acting conformably to these regulations. And that every member present of this delegation shall henceforth be a civil officer, viz. a Justice of the Peace, in the character of a Committee-man, to issue process, hear, and determine all matters of controversy, according to said adopted laws; and to preserve peace, union, and harmony in said county; and to use every exertion to spread the love of country and fire of freedom throughout America, until a more general and organized government be established in this province."

"ABRAHAM ALEXANDER, Chairman."

"JOHN MCKNITT ALEXANDER, Secretary."

"Ephraim Brevard	William Graham
Hezekiah J. Balch	John Queary
John Phifer	Hezekiah Alexander
James Harris	Adam Alexander
William Kennon	Charles Alexander
John Ford	Zaccheus Wilson, sen.
Richard Barry	Waightstill Avery
Henry Downe	Benjamin Patton
Ezra Alexander	Matthew McClure
Neil Morrison	Robert Irwin
John Flenniken	David Reese
John Davidson	Richard Harris, sen.

Thomas Polk."

No one can read this declaration without admiration for the boldness, which at that early period—when even the most zealous opponents of British oppression, looked only to measures that might induce England to do justice to her colonies, and dreamed not of absolute Independence—prompted these resolute North Carolinians, to throw away the scabbard, and go at once for National Independence.

Neither can any one read it, with a recollection of the language of that Declaration which more than a year afterwards was penned by Mr. Jefferson—without a strong conviction that he had seen this document, that it had furnished him with some of the strongest ideas, and happiest expressions of his draft—and that it was, therefore, a calculation of selfish policy, and in order to conceal unacknowledged obligations that in his letter to Mr. Adams, he treated the whole thing as a quiz.

The reason why this Mecklenburg Declaration does not appear among the archives of Congress, is thus simply explained in a MS. Journal of the Rev. Henry Hunter—who, at the period in question, was, as he records himself, twenty years old—and a spectator of the proceedings, on the day the Mecklenburg Declaration was adopted.

"A copy," says Mr. H.'s Journal, "of these transactions was drawn off and given in charge to

Capt. Jack, then of Charlotte, that he should present them to Congress, then in session, in Philadelphia. * * * * * On the return of Capt. Jack, he reported that Congress individually, manifested their entire approbation of the conduct of the Mecklenburg Citizens, but deemed it premature to lay them officially before the House."

We must here close our notice of this book, which, though certainly inartificial in its arrangements and topics, in which respects it might be improved, is very interesting to all who desire to see the truth told in American history.

JOURNAL OF A RESIDENCE IN CHINA, AND THE NEIGHBORING COUNTRIES, FROM 1829 TO 1833. By DAVID ABEL, a Minister of the Reformed Dutch Church in North America. 1 vol. New York: LEAVITT, LORD & Co.—Though wanting in the interest and personal adventure which render Gutzlaff's volume so attractive, this record of scenes passed somewhat amid the same peoples, and with the same pious motives is not without its merits. Much of it is given from the personal observation of the writer: other portions are compiled from authentic works and accurate information.

We had marked several extracts, but we find our limits will not admit them. The (to us) new and curious fact is stated, in speaking of the different creeds of China, that the *Buddhists*, whose doctrines came from India, made themselves the prevailing sect by the circulation of tracts. It is thus that both Truth and Error adopt the same means of propagation.

THE WORDS OF A BELIEVER: by the Abbé de la Mennais. Translated by the Rev. Dr. HAWKS. New York: CHARLES DE BEHR.—We have had a glimpse in advance, of this publication, about to appear, and give our readers a foretaste of it, which will satisfy them, that if eloquent in the original, it is not the less so in the translation.

The Abbé de la Mennais is a Catholic clergyman, politically a devoted adherent of the Bourbons at the restoration, but now an *anti-Philippine*, and not far from a Republican. The following is one of his visions:

HEarken! Tell me whence cometh this confused, indistinct, and strange noise, which is heard on every side?

Place thy hand upon the earth, and tell me why she trembleth.

A mysterious something is abroad in the world. It is a work of God.

Is not every one in expectation? Is there a heart which does not throb?

Son of man! go up to the high places; say; what seest thou?

I see in the horizon a dark cloud, fringed with a glare, like the reflection of a conflagration.

Son of man! what seest thou now?

I see the sea lifting up her waves;—I see the mountain tops tremble.

I see the rivers change their courses; I see the hills totter;—they fall, and entomb the valleys.

All trembles, all is in motion, all takes a new aspect.

Son of man! what seest thou now?

I see clouds of dust in the distance: they move to and fro; they strike—they mingle—they unite.—They pass over the cities:—they are passed:—nothing remains but the naked plain.

I see the people rise in tumult; I see kings grow pale beneath their diadems. War is among them, war even unto death.

I see one throne, I see two thrones broken in pieces, the people scatter the fragments over the earth.

I see a people fighting, as the archangel Michael fought with Satan. Their blows are terrible. But the people are naked, while their enemy is clad in thick armor.

Oh God! he falls, he is smitten to death. No—he is only wounded. Mary, the Virgin Mother, wraps him in her mantle; she smiles on him, and withdraws him for a time from the battle.

I see another people struggle without ceasing; from time to time they gather new strength in the struggle. This people have the mark of Christ upon the heart.

I see a third people, upon whom six kings have

placed their feet: and at each movement of this people, six daggers are buried in their throat.

I see upon a vast edifice, high in the heavens, a cross scarcely distinguishable, for it is shrouded with a black veil.

Son of man! what seest thou now?

I see the East in trouble. He beholds his ancient palaces crumbling into ruins, his venerable temples falling into dust, and he raises his eyes as it were in search of other grandeur and another God.

I see, towards the West, a woman with a lofty look and serene countenance; she traces with a firm hand a light furrow, and wherever her ploughshare passes, I see generations of men arise, who invoke her in their prayers, and bless her in their hymns.*

I see, in the North, men who have no vital warmth remaining, save in the head; it makes them giddy; but Christ touches them with the cross, and the heart begins again to beat.

I see, at the South, a race of men oppressed with some unknown curse; a heavy yoke bows them down, they walk stooping, but Christ touches them with his cross and they stand upright.

Son of man! what seest thou now?

He answers not; let us cry again.

Son of man! what seest thou?

I see Satan fleeing, and Christ, surrounded by his angels, coming to reign.

THE HUNCHBACK OF NOTRE DAME; by VICTOR HUGO. Translated by FREDERIC SHOBREL. 2 vols.

CAREY LEA & BLANCHARD.—No one can deny genius or originality to this historical romance; and yet we think it will not generally please. It is too antiquarian for ordinary taste. The intimate acquaintance with, and elaborate descriptions of, architectural details for instance, in regard to the old Church of Notre Dame, occupy a space that will seem very barren to the great mass of American readers.

But then what a bright and beautiful and singular creation is *la Esmeralda* the gypsy girl; and how unlike common character, yet true to nature, is the Archdeacon *Claude Frolo*; and what a monster, almost Shakespearean, is *Quasimodo* the bell-ringer; and withal how vividly are the feelings, usages, and reality of the times of Louis XI. presented to the eye? It is decidedly a work of genius.

THE RETICULE, OR MINIATURE LEXICON of the English Language; by Lyman Cobb. Harpers.—A dictionary for occasional reference is the only work in which a small type is to be tolerated.

It is not a book to pave over, and therefore the eyes can be but little affected by its use, and the smaller and more portable it is in size the more convenient is its use for those who have frequent occasion for it. The publication before us, though it contains upwards of eight hundred pages, can be put in one's waistcoat pocket, or stowed away in the corner of a lady's workbox, like Gulliver in the reticule of Glumdalclitch. It is stereotyped in the neatest manner; and contains a collection of verbal distinctions, with occasional illustrations, by Mr. Cobb, which alone would be worth the price demanded for the whole compilation.

HISTORY OF THE RISE AND PROGRESS OF THE ARTS OF DESIGN IN THE UNITED STATES: by WM. DUNLAP, Vice President of the National Academy, author of the History of the American Theatre, &c. &c. 2 vols., 8vo.—The reputation of Mr. Dunlap as an artist, and his popularity as the author of one of the most entertaining works that ever came from the American press—the intermingling of narrative and fact, the biographical sketches, criticism, literary and dramatic anecdote, and amusing gossip of all kinds, give this character to the History of the American Theatre—fit him above all men living for the task he has here undertaken. In fact, the intercourse alone of the venerable author and artist with several generations of his professional brethren, at once indicates him as the man to exe-

* An allusion to the United States.

cute a work of the peculiarly characteristic nature of that before us.

The pressure of matter of more general interest perhaps than the Review, prevents us from entering into a fair examination of these volumes to-day, but we shall recur to them more than once hereafter. In the meantime we may observe, that the book being of a permanent character, and one that every American gentleman should have in his library, is handsomely printed with large type on royal octavo pages, so as to make in appearance, as well as actual interest, just the kind of work that one likes to open at any time for passing entertainment, or to refer to occasionally, as authority upon valuable facts connected with the progress of the arts of design in modern times.

THE KNICKERBOCKER, Vol. 4, No. 6.

THE AMERICAN MONTHLY MAGAZINE, Vol. IV. No. 3.

We are happy to see these rival Magazines, which were originally started nearly at the same time, still keeping their way—in spite of all prognostics that one of them must go down—and competing honorably for the favor of the public, which we trust is large enough to embrace them both. There should certainly, in a community so great as this, be patronage enough for two such periodicals; and competition in this species of literature is as effectual a spur to improvement as it is in every thing else. The number of the Knickerbocker at present before us, exhibits a great deal of activity and taste on the part of the Editors in getting up a pleasing mélange for their readers; but the American Monthly, without presenting such a readable variety, contains one or two articles of a higher character than any in the Knickerbocker. "The Fall of Antony," for instance, the last paper in the latter, is by a master hand. The editors of the Knickerbocker, however, who have received so much praise from the daily press for their rapid improvement of that periodical, seem determined to merit it, so far as securing the contributions of the most popular writers can enhance the value of their Magazine. Among those who have contributed to the present number, we observe the names of Miss Leslie and Mrs. Embury, the old favorite Percival and the veteran Flint. The pressure of foreign news will not leave us room to quote, though we had already marked several passages for extract from the American Monthly, which was first received: among these, "Sight seeing in Europe" is an article which contains some practical suggestions, that might be framed and hung up in the cabins of our foreign packets for the edification of the numbers that weekly throng them, bent upon making "the grand tour." We shall find room hereafter for the animated and classic sketch of THE FALL OF ANTONY.

[COMMUNICATED.]

The Committee appointed by the *Lyceum of Natural History* to obtain subscriptions to its stock have already disposed of eighty-three shares, and hope to dispose of more. If gentlemen who are inclined to promote the cause of science and increase the reputation of the city, will attentively peruse the advertisement of the Lyceum, they will, it is confidently believed and hoped, cheerfully unite in forwarding the objects of this excellent institution. It is really a disgrace to New York, that the Lyceum has no local habitation of its own. Philadelphia has her academy of Natural Sciences, the object of which is precisely similar, and for which a large and ornamental building has been erected entirely by private subscription. Cannot this city do as much? It is hoped that if the members and friends of the Lyceum will exert themselves, the public spirit of the citizens will enable them to erect a suitable building, in which public lectures may be delivered, and their valuable collection be duly arranged, and that they may recommence the publication of their annals, which they have been obliged to suspend for want of funds—a circumstance the more to be regretted, since they have on hand and are constantly receiving communications containing much useful and interesting intelligence.

OUR AFFAIRS WITH FRANCE.—A correspondent asks with seeming anxiety, whether he is to understand the American as "enlisted for the war," and as approving the request of the President, that the discretion of making reprisals, in certain contingencies, be vested by Congress in him. We answer to both questions unhesitatingly, no. We are against war if it can be avoided with honor—and we are against confiding any discretionary power whatever to the President.

Our position on this question is this: We hold that *right* is on our side throughout—that we have been trifled with by France—that it was the duty of the President to express strongly, as the Message does, the sense entertained by the country, of the backwardness of France in fulfilling the treaty—and to indicate a decided purpose not to permit the matter to linger any longer in doubt.

As to the suggestion of *reprisals*, we think, and so pronounced it in our first remarks on the message, *untimely*. Further consideration induces us to consider it as *inexpedient* moreover, as a remedy, even in case of further delay; countervailing duties, commercial restrictions or eventual non-intercourse, may one or all be deemed quite as operative on France, and less injurious to this country, than reprisals which could not fail to be mutual.

[From the *Courrier des Etats Unis* of Saturday.]

It is our custom to accompany with some remarks the long translation of the Annual Message of the President. Hitherto this has been to us an agreeable and easy duty, for these addresses always presented a true and brilliant picture of the prosperity of a nation which we delight to look upon as a second country. Now, however, this is a disagreeable task; and we would gladly be permitted to be silent on the delicate question raised by that part of the Message which relates to France: but under circumstances where the interests of our fellow-countrymen are put in jeopardy, when uneasiness prevails in all the French counting houses, when every one is preparing either to stop or check his importations, to countermand his orders at the South, and to withdraw credits established, we may not give way before the difficulties of the undertaking, or fear to utter some words of opposition to declarations which seem to obtain among Americans the assent of all parties.

We say, that the acts of the Executive seem to meet with general approval; in fact all the opposition papers are vying in praises with those which habitually defend all acts of the Government. Already France and the Cabinet of the Tuilleries are objects of attack: but to those who have followed attentively the course of the two parties in this country, to those who do not judge altogether by appearances, it is obvious that reasons of policy as connected with affairs at home, rather than motives of general interest, or of conviction, will account for the language of menace on the one side, and of full approval on the other. The words national honor,—very inappropriately as it seems to us,—have been pronounced; and after that, each party has sought to avoid the possibility of being found in opposition to it.

Yet it may well be asked, how the national honor can be compromised on a question of money—of indemnity—when the Government, acknowledging itself the debtor, evinces frankly and fully its disposition to pay. Certainly we are little in the habit of defending the acts of Louis Philip's Government, but in this unpleasant affair, there are two points which cannot be denied, without the most complete ignorance of the facts and position of the whole matter: and these are, first, that the Cabinet of the Tuilleries has always entertained the most positive purpose and the liveliest desire of terminating this difference to the satisfaction of the United States; and second, that the Chamber of Deputies only refused the appropriations because they considered the amount exaggerated. We repeat, that it implies entire ignorance of the general affairs of France, of the efforts of those who govern, to get out of all difficulties as fast as they can, and of their prodigality of the public monies, to impute to them in this matter, an unfavorable disposition, which cannot be in any way accounted for. We admit, that inconceivable indiscretions have been committed on both sides in the drawing up of this treaty, and in the exchange of ratifications—that the French Cabinet is chargeable with the greatest want of thought and

foresight, in delivering to the American Minister an Act of indemnity which had no value, since it belongs to the Chambers alone to dispose of the public funds. But is the French constitution so little known at Washington, that it should not be understood there, that another sanction besides that of Louis Philippe was necessary to the validity of a treaty? Between States, as between individuals, in all transactions whether commercial or diplomatic, is it not the first step to ascertain whether he who proposes to sign, is authorized to sign? Suppose the President of the United States, of his own will and without authority, should assume to surrender Louisiana to France by treaty, and that a French Commissioner should present himself at New Orleans to take possession of that State, would the Governor think himself obliged to withdraw, or would the American nation look upon such a treaty as valid, because it had been made by the Executive? Or, without going further, what if the American Congress had not ratified the treaty signed at Paris, would it have been valid in the eyes of the American people? If this ratification was essential, can it be contended that that of the Chambers was not? Moreover, the correspondence of the American minister in Paris related too much in detail the apprehensions of Gen. Sebastiani about the disposition of the Chambers to adhere to the treaty, to render the supposition possible that the Cabinet at Washington seriously believed in the validity of the treaty without that indispensable formality. Unfortunately, too, some of these letters inprudently published, evinced too plainly the joy of unlooked for success, and which had been little anticipated. Right or wrong, the Chamber of Deputies, while admitting the justice of some indemnity, deemed 25 millions too much. They must have been very thoroughly persuaded of this; and the reasonings of M. Bignon, which produced the negative vote, must have been very conclusive, to have induced the Chamber so far to depart from its habit as to refuse anything to the Ministry. If they were in error, pains should have been taken to enlighten them, for assuredly neither they nor the Government lacked good will. Had this been done?

Without any doubt the indemnity would finally have been voted—nothing was wanting but an opportune moment for pressing it, and that would have occurred. But now we venture not to predict the effect which the hostile declarations of the President will produce on the representatives of the French nation nor on the government. The appearance of menace to those who suppose themselves acting strictly within the line of right, is of too trying a nature for the language used at Washington to be without a disastrous influence upon the future course of this affair. A week ago and we should have said, without any fear of being mistaken, the indemnity will be paid; but the Message puts all again in question, it places the French government in a false position, paralyzes its good intentions, exposes it to serious embarrassment, or to the charge so often heretofore made against it of feebleness, it irritates the Chamber which only desired to be enlightened, and which, on its part too, may deem the honor of the nation touched by language usually reserved for the last extremity.

We can easily comprehend, that the President should ask of Congress power to act as his Cabinet might advise, in case the treaty should not be ratified at the approaching session of the Chambers; but the specification of *reprisals*, the threat of seizing French property, presents language so extraordinary in such circumstances, as to be, we hesitate not to say, a cause of astonishment to everybody, as it undoubtedly is of great uneasiness, to all the French commercial establishments in this country. It is not to be supposed that France will permit the property of her citizens to be seized with impunity, or that clouds of privateers, issuing not only from all the ports of France, but from those of all the world, would not instantly inflict severe reprisals upon the numberless American vessels which cover the seas of Europe. This, then is war—war, with all its evils and expenses, and between the two countries most interested in solid and durable friendship. The bare idea appears to be so much at variance with good sense, that we look to such a result as impossible. States only resort to such extremities, from motives far otherwise serious. It would not be among the least singularities of the times in which we live, to see the two most united nations on the globe making war upon each other and spending each a hundred millions, for a moderate claim, which it is desired to dispose of justly; while for four years past, Europe in arms, agitated by revolutions, and with interests conflicting with each other at every point,

has not decided on such a resort. It would be a fine affair, for the other power.

CONGRESS.—Nothing of much importance was done in the Senate on Monday. Mr. Webster gave notice of his intention to introduce a Bill compensating American citizens for French Spoiliations prior to 1800.

Mr. SOUTHWARD moved that on Wednesday next the Senate would proceed to the appointment of the Standing Committees.

Mr. POINDEXTER suggested the postponement of the day till Monday next, as the Senate was not very full, and as it was desirable to have a full attendance of the members.

Mr. SOUTHWARD had no objection, with a view to consider the subject, that the motion be laid on the table, and moved to that effect; which was agreed to.

The Senate then adjourned.

HOUSE OF REPRESENTATIVES.

The following Standing Committees were appointed by the Speaker, pursuant to the order of the House:—

Elections.—Messrs. Claiborne, Griffin, Hawkins, Vanderpoel, Hannegan, Hard, Berns, Bouldin, Kilgore.

Ways and Means.—Messrs. Polk, Wilde, Cambreleng, McKim, Binney, Loyall, McKinley, Hubbard, Corwin.

Claims.—Messrs. Whittlesey of Ohio, Barbour, McIntire, Gholson, Forester, Stoddert, Banks, Fulton, Miner.

Commerce.—Messrs. Sutherland, Harper of New Hampshire, Pinckney, Heath, Pearce of Rhode Island, Gillet, Phillips, Johnson of Louisiana, Morgan.

Public Lands.—Messrs. Clay, Boon, Slade, Ashley, Inge, Williams, Lincoln, Casey, Clayton.

Post Office and Post Roads.—Messrs. Connor, Kavanagh, Thomas of Louisiana, Briggs, Murphy, Lane, Laporte, Hall of Maine, Schley.

District of Columbia.—Messrs. Chinn, W. B. Shepard, McKennan, Allen of Virginia, Heister, Fillmore, King, Vanderpoel, Steele.

Judiciary.—Messrs. Foster, Gordon, Beardsley, Thomas of Maryland, Hardin, Parks, Pierce of New Hampshire, Robertson, Hamer.

Revolutionary Claims.—Messrs. Muhlenberg, Crane, Bates, Standifer, Marshall, Young, Baylies, Turritt, Kinnard.

Public Expenditures.—Messrs. Davenport, Lyon, Page, Clarke of Pennsylvania, Tweedy, McLene, Jackson of Massachusetts, Hazeltine, Ferris.

Private Land Claims.—Messrs. Johnson of Tennessee, Mardis, Carr, Galbraith, Mann of New York, Bull, Chambers, Davis of Kentucky, May.

Manufactures.—Messrs. Adams of Massachusetts, Denny, Dickerson of New Jersey, Martindale, McComas, Osgood, Clowney, Cramer, Jackson of Connecticut.

Agriculture.—Messrs. Bockee, Taylor of Virginia, Hathaway, Barnitz, Bean, Dunlap, Clowney, Turner, Beatty.

Indian Affairs.—Messrs. Gilmer, McCarty, Everett of Vermont, Graham, Allen of Ohio, Dickinson, of Tennessee, Howell, Love of Kentucky, Grennell.

Military Affairs.—Messrs. Johnson of Kentucky, Vance, Speight, Ward, Thompson, Coffee, Bunch, McKay, Anthony.

Naval Affairs.—Messrs. White of New York, Milligan, Watmough, Lansing, Reed, Grayson, Parker, Smith, Wise.

Foreign Affairs.—Messrs. Wayne, Everett of Massachusetts, Hall of North Carolina, Coulter, Jarvis, Pierson, Patton, Letcher, Peyton.

Territories.—Messrs. Allan of Kentucky, Potte, Johnson of New York, Wilson, Jones of Ohio, Ewing, Gamble, Cage, Trumbull.

Revolutionary Pensions.—Messrs. Wardwell, Barringer, Tompkins, Moore of Virginia, Lea of Tennessee, W. K. Fuller, Fowler, Bell, Lay.

Invalid Pensions.—Messrs. Miller, Beale, Adams of New York, Schenck, Chilton, Chaney, Mitchell of Ohio, Brown of New York, Jones.

Roads and Canals.—Messrs. Mercer, Blair, Vinton, Stewart, Rencher, Johnson of Maryland, Lucas, Pope, Reynolds.

Revised and Unfinished Business.—Messrs. Dickson, Harrison, McVean, Shinn, Taylor of New York.

Accounts.—Messrs. Mann of Pennsylvania, Lee of New Jersey, Mitchell of New York, Crockett, Osgood.

The following Standing Committees of the House,

appointed at the last session, remain through the Congress.

On Expenditures in Department of State.—Messrs. A. H. Shepperd, Day, Beaumont, Bodle, Patterson.

On Expenditures in Department of the Treasury.—Messrs. Allen of Vermont, P. C. Fuller, Harper of Pa., Spangler, Clarke of N. Y.

On Expenditures in Department of War.—Messrs. Whittlesey of N. York, Deberry, Chambers, Webster, Halsey.

On Expenditures in Department of Navy.—Messrs. Hall of Maine, Huntington of N. Y., Ramsay, Sloane, Van Houten.

On Expenditures in Department of Post Office.—Messrs. Hawes, Fulton, Burns, Wagener, Lay.

On Expenditures on Public Buildings.—Messrs. Whallon, Darlington, Brown, Henderson, Hard.

The resolution of Mr. Wardwell for inquiry respecting the ship house and other matters pertaining thereto at Navy Point, Lake Ontario was adopted.

On motion of Mr. HUBBARD, Resolved, That the Committee on Revolutionary Pensions be instructed to inquire into the expediency of providing by law for the publication semi-annually, in the newspapers printed in the respective States, which from their location may be best calculated to give information, and which shall be designated for that purpose by the Secretary of War, for the time being, the names and the residence of all those persons represented to be living in said States, who are on the rolls of the invalid and revolutionary pensioners and annuities, under the several acts of Congress.

The rest of the day was spent in discussing the resolution of Mr. Hawes, respecting the West Point Academy.

[FOR THE NEW YORK AMERICAN.]

Strong Beer.

The friends of Temperance in England are sending us back floods of temperance Documents. Some of them are deeply interesting, and calculated rapidly to disabuse the public mind with regard to the nutritive qualities of their national drink, *Beer*. A document before us proves, that so far from this liquor being a nutritious drink, a gallon of it does not contain more than a simple penny-worth of nutriment. The only articles besides water, which are used in the composition of unadulterated beer, are Malt and Hops. The hop though possessed of medicinal qualities, is not considered nutritious any more than opium. The only nutritious article then used in making the ale or beer, is malt.—Malt is merely barley dried upon the malt kiln.—The nutriment then in ale, as Dr. Franklin has said, must be proportional to the solid parts of the barley which remain in it when it is drunk. If we can ascertain how much barley is used in the first instance for the manufacture of a gallon of ale, and then how much of its nutritious properties is lost in malting, brewing, and fermentation, we shall come to a certain result. Calculating barley at 3s. 4d. st'g per bushel, and supposing eight bushels of barley to make nine bushels of malt, it is calculated that every bushel of malt contains about 3-5th's worth of barley.

From this are brewed several sorts of ale, which run from 8 to 12 galls. to the bushel. The following statement from a practical Brewer in Pres. England, will show the quantity of barley in a gallon of ale.

Not more than 4 1-2d st'g of barley is used in a gallon sold for

3 3.4d	2s. 8d.
3d	2s.
	1s. 4d.

From this it results, that the average price of ale about six times the price of barley: and the man who buys ale as a nutritious food, acts as wisely as who, instead of giving 6d. a pound for his beef, gives 3s! Suppose we take the common ale, sold at 1-4d. a gallon—if only 3d. worth of barley is used making it, who gets all the rest?

The following statement will show—

Cost of barley,	3d.
Maltster,	1
Government for duty,	2 1-2
Brewer, (including cost of hops)	5
Retailer,	4

1s. 4d.

If, then, the barley was really in the ale, you would get three pennyworth for sixteen pence; but there is not more than one-third of this. In order to produce more spirit the grain is subject to three operations, in which it either loses a great part of its nutritive qualities, or they are changed into others which are the reverse of nutritious. According to an eminent chemist, one-fourth of the nutriment is lost in making, another fourth in brewing, and one-sixth by fermentation: so that, instead of three-pence worth of nutriment in a gallon of beer, you in fact have only a pennyworth!!!!

SUMMARY.

The experiment of free labor by the emancipated slaves of the West Indies, proceeds, as was to be anticipated at first, with much difficulty. We have confidence, however, that ultimately it will succeed.

The latest accounts from Jamaica, of the 4th November, mention that the negroes (apprentices) manifest a determination to resist labor. Three attempts have been made to fire the town of Savannah-la-Mar. On one plantation, upwards of 400 apprentices are employed, who used to make 20 hogsheads of sugar, weekly; now they make only one. The state of things in Demarara is much worse. Thirty-six out of thousands of apprentices in open insurrection in that island, have been arrested as ringleaders. One is to be executed, one transported for life, three for fourteen years, and the remainder to receive severe floggings. In St. Lucia, things are very little better.

FROM MOCHA.—The Baltimore American informs us that Captain Sloan, of the brig Ann, at this port on Saturday from Mocha, reported that all the ports on the Arabian side of the Red Sea were blockaded by the Egyptian Squadron, and that an expedition was about setting out from Juddah for the purpose of conquering the country of Yemen. In consequence of this state of affairs, all business was at a stand.

The Pittsburg Advocate of Dec. 3d, says that, within the last twenty four hours the Ohio river had risen three feet, and continued to rise. The Canal is in excellent condition, and boats are receiving and discharging freight in large quantities at the wharves and warehouses. The weather, though gloomy and wet, is warm and calm.

A letter from Augusta of the 29th ult., states that as fast as Cotton came in, it was taken from the wagons at 17 1-4 to 18 cents, without regard to quality!

The ship Edward, from Calcutta, arrived at Cape Island on the 24th instant, brought in passengers, Mrs. Reed, servant, and child. Mrs. R. is the widow of Rev. Mr. Reed, missionary to Calcutta, who died in August last, on his passage home. The infant of Mrs. R. is only two weeks old, and she is in delicate health. The E. has on board two elephants, a tiger, and several other wild animals.

A Nassau paper of the 12th ult. says that, the American ship Louisa, Gooday, from Liverpool for Havana, was wrecked on the Gingerbread Ground, on the 6th—cargo saved, the brig Santiago, Ames, from St. Jago de Cuba, was wrecked the 22d, on the Hogsties—part of the cargo saved,—the schr. America, Douglas, from New York to Mobile, after being ashore on Abacoa, on the 3d., had arrived at Nassau,—a ship was said to be ashore on Orange key.

Extract of a letter from a gentleman at Oswego, to his friend in this city, dated Nov. 20 1834.

"Last night was a tremendous night, and an unfortunate one here. The schooner Janet, Captain James King, ran foul of the east pier and bilged—total wreck; Captain and two hands drowned. She was loaded from the Genesee with 2700 bushels wheat; value of schooner five thousand dollars; insurance on wheat \$1700; owned by Henry Fitzburgh,

who was also part owner of the vessel. Captain King was one of the oldest and most careful captains on the lake."—[Daily Advertiser.]

Melancholy Saipwreck.—Portland, Dec. 3.—Capt. More, of the brig William Harris, arrived here this morning, furnishes us with the following intelligence:

Brig Hunter, E. Howes, of Boston, from New York, for New Orleans, was cast ashore near Jaruco, north side of Cuba, six leagues to windward of Havana, on the morning of the 4th November, at 4 o'clock, and is totally lost. Captain, mate, four seamen, and twenty-three passengers lost with her. Two seamen and five passengers were saved. The persons saved were John Grose, James McGauley, John Mahoney, John Cockler, and Henry James—all passengers. Jere. Cotton and Richard French, seamen.—[Daily Adv.]

FATAL ACCIDENT.—A son of Mr. William Jones, 36 Clarkson street, six years old, was burnt to death on Saturday evening, in consequence of its loose clothing taking fire from a candle.

Accident.—Was drowned nearly opposite Fort Mifflin, on his way from the Sand Machine, at Thom son's Point, to Philadelphia, Mr. George Dixon, chief engineer.

Fire.—The interior of the Paper Hanging Manu- factory and Bandbox Warehouse of Mr. Day, No. 3 Dover street, and the Engine House of No. 13, were destroyed by fire last evening.

When Bonaparte heard of some one or two instances of suicide occurring among his troops, in the year 1802, he issued forthwith a proclamation; which doubtless, had it not proved effectual, would have speedily been followed up by measures more effectual and prompt. We give the document below, not for any originality in the fine moral lesson which it inculcates—for the sentiments will be recognized as at least 2000 years old—but because it shows how this extraordinary man considered the propensity to suicide as not beyond the reach of control, and that it was his policy to meet it by a check direct—not by suppressing the notice of it through any fear of a dangerous example. The crime let it be remembered, is at least the attempt to commit a capital offence—a felony against God and the king, "who has an interest in the preservation of all his subjects;" and if punishment be not dealt out to the wretched culprit, for his own correction, the infliction of it is surely demanded for the warning and edification of others. "Order of the Day, St. Cloud, 22 Floreal, an. X. The grenadier Groblin has committed suicide, from a disappointment in love. He was, in every other respect, a worthy man. This is the second event of the kind that has happened in this corps within a month. The First Council directs that it shall be notified in the order of the day of the guard, that a soldier ought to know how to overcome the grief and melancholy of his passions; that there is as much true courage in bearing mental affliction manfully, as in remaining unmoved under the fire of a battery. To abandon one's self to grief, without resisting, and to kill one's self in order to escape from it, is like abandoning the field of battle before being conquered.—Signed, Napoleon, Beasieres."—[London Medical Gazette.]

PRESERVATION OF MEAT.—Meat may be preserved fresh many months by keeping it immersed in molasses. A joint of meat, or any provision, suspended in a flannel bag, will keep sweet much longer than by most of the modes commonly practised. The cooler and dryer the meat is when the flannel is put round it the better, and the flannel should be perfectly clean. Fresh meat put in a close vessel containing vinegar, will be preserved a considerable time. Tainted meat will be rendered good by pickling it in pearl-ash water some time. Before it is cooked, however, it should be dipped in vinegar a short time, and then salted in brine.

CURE FOR THE STING OF A WASP.—A few days ago, happening to be in the country, we witnessed the efficacy of the remedy for the sting of a wasp, mentioned in one of our late papers. A little boy was stung severely, and was in great torture, until an onion was applied to the part affected, when the cure was instantaneous. This important and simple remedy cannot be too generally known, and we pledge ourselves to the fact before stated.—[Liverpool Mercury.]

Amount of Gold coined at the mint of the United States from Aug. 1st to Nov. 29th, \$3,114,090.
Remaining uncoined, \$189,610.

STATISTICS.—The U. S. Telegraph publishes in a tabular form a curious statement "of the estimated aggregate maximum amount of taxes, &c., of Maine, R. Island, Connecticut, Ohio, Indiana and Missouri," and from the returns furnished from these six States, gives an estimated average for the remaining States of the Union.

It is not said whence these returns are taken, but we infer that they were made in answer to the call of Mr. Livingston, when Secretary of State, for information on all these points, in connexion with the discussion carried on in Paris in regard to the comparative expenses of a monarchical and republican system.

We propose to state some of the results shown by these returns—which exhibit the number of inhabitants in each State, and the whole annual expenditure for state, town and county taxes, for militia, road and bridge taxes, pay of the clergy, school money, and support of paupers.

Of the six States above named, the population is 2,215,718; and the whole amount of taxes of all sorts, levied for all purposes above enumerated, is \$3,438,515.

Estimating the population and taxes of the other States by these returns, we have as the aggregate for the whole twenty-four States, 12,866,020 inhabitants, and \$22,719,098 taxes. Excluding the expenditure of the General Government, this would give as the expenditure per head of the whole population, for all state, county and town purposes, and for the support of clergymen and schools, \$1 76.

Adding, then, the expenditure of the General Government, which, taking the average of 1830 and 1831, and excluding the amount applied to the liquidation of the public debt, is stated at \$13,556,820; and dividing that sum by the population 12,866,020, we find that the expenditure per head for Federal purposes is \$1 05.

Whence it follows that the annual expense of government, education, religion, roads, and paupers, to each man, woman and child in the U. States, is—

For State purposes	\$1 76
For Federal purposes	1 05
Total	\$2 81

By the Montilla, there arrived yesterday from Carthage \$20,769, and by the Helen Mar, from Tampico, \$134,659—total, \$155,428.

Quick work.—A merchant informed us yesterday afternoon, that he had received a letter from Leeds, by the Sheffield, in reply to a letter he wrote here on the 16th of October, and sent by the Columbus.—Thus the communication has been made in the short period of forty-eight days.—[Mercantile.]

ZOOLOGICAL INSTITUTE.—Among the sights of this sight-seeing city, we know no one more worthy of attention than that exhibited at the new and handsome establishment under the above name.

It is a new building in the Bowery, nearly opposite the Theatre, most conveniently arranged for the purpose in view, and handsomely fitted up. Safety, convenience and cleanliness are all abundantly provided for, and the collection of animals is as fine as one as we remember to have seen any where.—They are all in good health and condition, and wish have good appetites, (the carnivorous ones) as any body may satisfy himself of who will attend at 4 or 8 P. M., the feeding hours, to see them receive their rations. Visits at these hours give to the spectator a pretty good notion of the ferocity of the beasts.

There is a family of natives—a lioness with her three whelps, not more than four months old—that is particularly worthy of notice, for their kitten-like playfulness.

As to the bold man who plays as familiarly in their dens with lions, tigers, and leopards as any lady with her lap dog, he is an object of unceasing admiration.

[From the Baltimore American.]

The Eclipse.

We send you a few results of the observations made in St. Mary's College on the occasion of the Eclipse, which took place on the 30th ult. The more scientific deductions which may be drawn from that phenomenon, we will reserve for some future communication. We were agreeably disappointed to have so favorable an opportunity of witnessing the grand spectacle which nature exhibited. The weather was remarkably clear, and though some light clouds constantly passed over the disc of the sun at the beginning of the eclipse, they did not prevent the accuracy of the observation.

We give here the beginning and end of the Eclipse as seen by two different observers. The time had been previously ascertained with exactness by several altitudes of the sun and the stars by means of a good Sextant:

Observers.	Magnifying powers of the telescope.*	The time of the 1st contact or the beginning of the Eclipse.	The time of the 2d contact or the end of the Eclipse.	Duration of the Eclipse.
1st	80	h. ms. sec. 12 51 58 8 meantime	h. ms. sec. 3 31 31 2 meantime	h. ms. sec. 2 39 32 4 meantime
2d	40	12 52 8 8 meantime	3 31 21 2 meantime	2 39 12 4 meantime

* The least magnifying power was used, for the sake of greater clearness.

From this it will be seen that the duration of the eclipse was not the same for the two observers.—With the magnifying power 80, it lasted 20 seconds longer than with magnifying power 40. The reason of this is, that the first observer sees the beginning before and the end after the other: this is a necessary effect of irradiation, a phenomenon by which the apparent diameter of objects is a little increased.—Hence when the slope in the sun's disc is small, the disc appears perfectly round, and so much the more so as the magnifying power is less. The slope may be so small that it cannot be perceived even with the most powerful telescope. Mr. Bouvard, director of the observatory at Paris, proved this fact by viewing a round disc of white paper having several cuts with a powerful telescope: the disc appeared sensibly round. However, we would observe that this does not effect the accuracy of the observation, when the object is to ascertain the longitude of a place in which the eclipse has been observed; for one result makes the longitude too great, the other too small. The mean gives an accurate longitude; this supposes that the beginning and the end of the eclipse have been observed. We remarked with satisfaction that the time calculated in the American Almanac and the time observed are so little different that both the tables of the sun and moon, and the position of our city, are pretty well ascertained. This is the most striking instance of the sublimity of human genius, that notwithstanding the numerous inequalities of the moon's motion, the hour, minute, second, and fraction of a second can be assigned with the greatest precision when, in the immensity of space, two small discs come in contact.

As to the other phenomena connected with the eclipse, viz. the diminution of the heat and of the light of the sun, and the effect produced on the atmosphere, they stand as follows:

Meantime in	Thermometer	Thermometer
Baltimore: towards the south.	exposed to the sun.	toward the north. in the shade.
Hour—P. M.		
1	64 F.	51.2 F.
1 30	60	52
1 45	58	51.7
2 15	54	50.7
2 45	54	49.5
3 30	58	51.0

A powerful burning glass at the beginning and towards the close of the eclipse could set cloth on fire in an imperceptible time; towards the greatest obscuration it took three, four and five seconds to set it on fire.

The darkness which attended the eclipse was considerable; the sky appeared as it usually does at the setting of the sun, and all objects looked singularly gloomy. The planet Venus became visible to the naked eye, and remained very bright for more than half an hour. We examined it with a large telescope; it appeared unusually distinct and beautiful, like a large moon with a very small crescent.

The meteorological state of the atmosphere seemed to have been effected by the eclipse. To this we attributed the light clouds, which passed over before the beginning of the eclipse and lasted during the first half of it. In fact the eclipse was travelling

from west to east. The diminution of the heat produced the light clouds which were wafted over by the western wind. Towards the end of the eclipse, the equilibrium being restored, the clouds disappeared, the wind ceased and the atmosphere became as calm as it was in the morning. During the eclipse, the barometer seemed to have a tendency to rise, as will be seen by the following table:

	In.
Beginning,	30.097
Greatest obscuration,	30.103
End,	30.125

St. Mary's College, Dec. 1 1834.

Brevet Brig. Gen. Arbuckle has been appointed to the command (vacated by the death of Col. Leavenworth,) of all the troops on the South Western frontier.

Real Estate.—A large sale of real estate, belonging to the estate of the late Abraham Duryee, was made yesterday. The house and lot, No. 55 Wall street, brought the sum of \$65,500. The house is not of much value, and will probably be pulled down. The lot is 36 feet 3 inches in front, and 41 feet 8 inches on the rear, depth 94 feet on one side, and 71 feet 9 inches on the other.

A City Indicted.—The Grand Jurors have presented the city of Boston to the Supreme Court for a nuisance in not repairing a street in South Boston. This is a novel case.

The steamboat fare between this city and Providence is raised to \$8 during the remainder of the season. One boat, the Providence, is withdrawn from the line for repairs, and will not resume her place till spring. Of course there are one or two days in the week when no boat runs. The boats running on the line are the Boston, President, and Franklin.—[Journ. of Com.]

English Guns.—There is a peculiar malleability about our English iron that is not to be met with in any other quarter of the globe, and consequently the pinnacle of perfection to which our gun-makers have arrived is unattainable by the foreign manufactures. A curious, and not uninteresting, exemplification came under my own observation about three years ago. A gentleman connected with a highly respectable firm in the gun trade, at Birmingham, was summoned to attend a board, or more properly speaking, a committee, composed of some of the Magi in Leadenhall-street, respecting a contract for guns, to be shipped to their possessions in the East. The president of this said committee was Captain M—, who was the spokesman of the conclave, and after some bartering and higgling as to the price, &c., the contract was agreed upon. As is customary on these occasions, several patterns of guns were produced before this board of tea dealers, and from divers samples handed to the would-be contractor, one single-barreled gun was selected as the "ne plus ultra" of perfection. Mr. W. D—, the individual in question, was rather tauntingly asked by Captain M—if he could make such a barrel as the one which adorned the gun produced; a modest, yet firm, affirmation, was the reply. Now it so happened that this was a noted tool, the barrel whereof was of Damascus make. A bonus of ten pounds was promised if Mr. W. D—, the contractor, would produce a barrel of English manufacture, and of the same weight and calibre, and which would stand the test of trial, or proof, against it. The offer was boldly and eagerly, accepted by the contracting party, and a day of trial appointed in the East India Company's ground. At the same hour, Mr. W. D—was there with a gun turned out by his employers at Birmingham, corresponding in weight and calibre to a fraction with the "master piece." The usual proof charge of powder was apportioned to each of the rival powers, under the superintendence of an umpire at each trial of the strength of the barrel—one, two, three, four, five, six, seven, and eight bullets were fired by each of the guns without any damage but on nine bullets being discharged, the Damascus barrel flew into a thousand pieces, like so much glass; ten and eleven bullets were fired from the Birmingham gun, at the discharge of the twelfth bullet, about three inches of the muzzle blew off, and that without materially disfiguring the barrel, for the piece was severed as neatly as if it had been regularly sawed off, and it was the opinion of those present that the "Birmingham" would have stood even one or two more bullets, had the last (the twelfth) been properly rammed down.—Nevertheless and notwithstanding, as Joseph Hume says, the Superiority of British manufacture

was manifest, and without adding this authenticated fact in support of my argument, I should be borne out in asserting that our iron is immeasurably better than any other in the world. The best material used for gun-barrels is stub iron or old horse-shoe nails, these form the best twist, are tougher, and more yielding withal.—[The Sportsman.]

THE ANGELS' WHISPER.

[From Mr. Lover's Songs of the Superstitions of Ireland.]

A baby was sleeping,
His mother was weeping,
For her husband was far on the wild raging sea;
And the tempest was swelling
Round the fisherman's dwelling.
And she cried, "Dermot, darling! oh, come back to me!"
Her beads while she numbered
The baby still slumber'd,
And smiled in her face as she berded her knee;
"Oh, bless'd be that warning,
My child, thy sleep adorning—
For I know that the angels are whispering with thee."
"And while they are keeping
Bright watch o'er thy sleeping,
Oh, pray to them softly, my baby, with me—
And say thou would'st rather
They'd watch o'er thy father,
For I know that the angels are whispering with thee."
The dawn of the morning
Saw Dermot returning,
And the wife wept with joy her babe's father to see;
And closely caressing
Her child with a blessing,
Said, "I knew that the angels were whispering with thee!"

* One of the popular superstitions of the Irish is, that, when a smile plays over the face of a sleeping infant, angels are whispering with it.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of **Duffee, May & Co.** offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon dale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, }
January 29, 1833.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13-17

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make, about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse-power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 f R M & F

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER. a3

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance on other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal-phenwood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, pag 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in length of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
200 do. 1 1/2 do.	
40 do. 1 1/2 do.	
500 do. 2 do.	
800 do. 2 1/2 do.	
soon expected.	

250 do. of Edge Rail of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axles of 2 1/2, 3, 3 1/2, 4, 5, and 6 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment. A. & G. RALSTON. 9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. d71 meowr

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes. WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.—Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend, JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833. Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germanstown, February, 1833. For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad. German, and Norrist. Railroad,

STEPHENSON.

Builder of a superior style of Passenger Cars for Railroad No. 264 Elizabeth street, near Bleecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J35 17

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS. Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired [with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyors' Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m24

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. It is 24 by 40 inches. It is put up in a convenient pocket form, in Morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal situated on the Map. It will also be put up in *Marble Paper* covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.

Published at 35 Wall street, N. Y., by
A12 if D. K. MINOR & J. E. CHALLIS.

UTICA AND SCHENECTADY RAILROAD COMPANY.

Call for Second Instalment on Stock.

THE Stockholders in the Utica and Schenectady Railroad Company are requested to pay on or before the twentieth day of December next, the sum of Three Dollars on each Share of Stock in the Company held by them respectively under the penalty (provided by law in case of non-payment) of the forfeiture of all previous payments made thereon.

Stockholders residing in the city of New York, or within said State and south of the counties of Columbia, Greene and Delaware, are requested to make said payments to the Cashier of the Phoenix Bank, at the said Bank in the city of New York; and all other Stockholders in said Company are requested to make said payments to the Treasurer of said Company at the Albany City Bank or at the Commercial Bank, in the city of Albany; but any Stockholder residing west of the counties of Albany, Schenectady or Saratoga may make such payments by depositing the same to the credit of the said Treasurer in the Ontario Branch Bank, in the city of Utica, or in the Herkimer County Bank, at Little Falls, or in the Montgomery County Bank, at Johnstown, provided a certificate of such deposit (with the name of the Stockholder by or for whom such deposit is made) be forwarded to said Treasurer, so as to be received by him on or before the 25th day of December next.

Albany, November 12, 1834. By order.

GIDRON HAWLEY.

Treasurer of the Utica and Schenectady Railroad Company.

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LONG ISLAND RAILROAD COMPANY.

NOTICE IS HEREBY GIVEN, That the undersigned Commissioners, appointed by an act of the Legislature of the State of New-York, passed April 24, 1834, will receive subscriptions to the capital stock of the Long Island Railroad Company, being One Million Five Hundred Thousand Dollars, divided into shares of fifty dollars each, agreeably to the charter of said Company, on the 15th, 16th, and 17th days of December next, from nine in the morning to three in the afternoon of each day, at the following places, viz.—At the Dry Dock Bank, No. 333 Pearl-street, in the city of New-York—at the Apprentices' Library in the city of Brooklyn, county of Kings—at the United House, in and for the county of Queens—at the Inn of William Griffing, in the town of River Head, county of Suffolk—at the House of Thomas Hallock, in Smithtown, in said county of Suffolk.

Subscribers are required by the Charter of the Company to pay to the Commissioners at the time of subscribing five dollars on each share.

Copies of the Charter can be had upon application at the Dry Dock Bank, 333 Pearl-street, New-York.

Samuel Hicks	Benjamin Strong
John Lorimer Graham	Joseph Moore
Edwin Hicks	Edmund Frost
Stagleton Mitchell	Nicholas Wyckoff
William F. Blydenburgh	James H. Weeks
Joseph H. Goldsmith	Valentine Hicks.

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AGENTS FOR NEW PUBLICATIONS.

HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications:

The New York American Daily, at \$10.00—Tri-Weekly, at \$3.00—Semi-Weekly, at \$4.00 in advance.

The American Railroad Journal, Weekly, at \$3.00 per annum.

The Mechanics' Magazine, two volumes a year, at \$3.00 per annum.

The Quarterly Journal of Agriculture and Mechanics, at \$5.00 per annum, or \$1.25 per number.

The Family Magazine, 416 pages a year, at \$1.50 in advance.

The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25.

The Ladies' Companion, of 54 pages a month, at \$3.00 per annum, in advance.

The Rochester Gem, at \$1.50 in advance.

All Communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834.

a66 Ctr.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.



The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Rata Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN.

347 N. Market st. (opposite Post Office.

Catalogues may be had at the Store; if sent for by mail, will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

Mr. Thorburn is also Agent for the following publications to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANICS' MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the New-York AMERICAN, Daily, Tri-Weekly, and Semi-Weekly; either or all of which may be seen and obtained by those who wish them, or by calling at 347 North Market street, Albany.

MECHANICS' MAGAZINE.

THE NOVEMBER NUMBER is now ready. It contains Judge Baldwin's Address before the American Institute, verbatim, corrected by himself; a supplemental account of articles exhibited at the Fair, and a great variety of interesting scientific intelligence, both American and European.

The Mechanics' Magazine and Register of Inventions and Improvements is published by the Proprietors, D. K. MINOR & J. E. CHALLIS, at No. 35 Wall-street, New York: in weekly sheets of 16 pages, at 64 cents—in monthly parts of 64 pages at 314 cents—in volumes of 384 pages, in cloth boards, at \$1.75 or at \$3 per annum, in advance.—JOHN KNIGHT, (formerly proprietor of the London Mechanics' Magazine,) Editor.

The following encomiums on the MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS, are selected, from many others, from newspapers published in every section of the Union:

No respectable mechanic who feels the least interest in the manifold improvements of the age, should be without this, or some similar publication.—*Susquehanna Register*.

It ought to find its way into the house of every artisan, and no mechanic who desires to keep pace with the various improvements of the day, will be without it.—*Geneva Whig*.

There is no periodical in this country which more deserves the patronage of the mechanic than this, and which will better repay him for the expense incurred and the time spent in its perusal.—*Elmyra Gazette*.

It contains information on almost every subject connected with mechanics, and a register of inventions and improvements.—*Montreal Gazette*.

This is a work of merit, and deserves the patronage of all practical mechanics: most, if not all of them, can afford it, the price being only three dollars a year.—*Virginia Republican*.

The selections appear to be judiciously made, and calculated to be very useful to that interesting portion of our fellow citizens for whose special benefit it is intended. While to the inquisitive reader, it will also be a source of much gratification to witness the progress of human invention and knowledge. This Magazine is worthy of every encouragement, and we wish the enterprising editor success. His work will prove a powerful auxiliary to the "American System," by improving American artists and mechanics.

Protective laws to guard them from the influx of depressed labor, and a republication of the valuable improvements suited to their various professions, will greatly tend to give a spur to their industry, and keep them where they now are, and ought always to be, namely, among the most useful and respectable of their fellow-citizens.—*N. York Mercantile Advertiser*.

To say merely that it is valuable, would be no praise. No mechanic—no family, should be without it.—*Westfield Eagle*.

Such a work has long been needed by our mechanics, whose inventive genius, almost unaided by science, has outstripped, if possible, inventive Germany, or the scarcely less ingenious England: a work in which the growing genius of our country may find food for its nourishment.—*Hartford Mercury*.

The third number of this periodical, published in New-York, by D. K. Minor, has been received. This may be considered a specimen number of a very useful and interesting work, and may be examined at this office.—*Exeter News Letter*.

We look upon this periodical as the best of its kind our country affords. To practical mechanics it particularly recommends itself, as embodying a great mass of information directly bearing on their employments and interests. The scientific man will find in its pages essays and remarks well adapted to his pursuits, and the general reader cannot fail to peruse its contents with increasing gratification, as affording him a continued supply of interesting and useful instruction. The best support of our institutions and government is knowledge diffused among the people, and every effort which tends to promote this end should have encouragement—the publication before us being calculated in an eminent degree to serve so high an object, possesses a just claim to our patronage.—*Salem Gazette*.

We bear testimony to the editor's ability to render the publication interesting and instructive. The Mechanics' Magazine is emphatically what its title imports; and, although intended more particularly for the American practical mechanic, will be found a valuable acquisition to the library of the man of science, as well as the general reader.—*Delaware Journal*.

We are assured by a scientific gentleman, that this work is conducted in an able manner; that its pages are replete with information; and that it should be generally read by those for whose benefit it is more particularly intended—the mechanics.—*Middlesex Gazette*.

Almost every practical mechanic may find in it much that will be serviceable to him in his business, or help to enrich his mind and enlarge his views.—*Lancaster Examiner*.

This Magazine evidently increases in value and interest as it advances in age. We trust it meets with corresponding support from the ingenious, scientific, and industrious artisans of our country.—*Nantucket Inquirer*.

We do not hesitate to pronounce the Magazine such a work as no mechanic or artisan should be without. It is under the editorial charge of John Knight, late publisher of the London Mechanics' Magazine. The July number, now before us, contains a variety of matter useful to the man of science as well as to the mechanic, (to which latter

class the work is particularly recommended,) both from the interesting nature of the subjects to which it is devoted, and the clear and able manner in which they are treated.—*Petersburg Intelligencer*.

To the mechanic, especially, is this work of great interest and usefulness; and no one of this numerous and respectable class of community should fail to encourage publications calculated to improve them in practical and theoretical knowledge upon scientific principles. The spirit of inquiry, investigation, and experiment in the mechanic arts, which characterize the age, and promise so much benefit to our widely extended and prosperous country, cannot fail to derive much aid from so well conducted a publication as the Magazine.—*Watertown Herald*.

Our favorable opinion of this publication has been already so fully and so frequently expressed as to leave but little to add. It is a work which every scientific man, and every mechanic, ought to possess.—*Union, Salem, N. J.*

We are surprised that every mechanic in the land does not avail himself of this invaluable periodical. The subscription price is only three dollars per annum, for which sum two volumes, of about 400 pages each, can be obtained, containing more valuable information than can be otherwise obtained for triple the sum.—*Western Argus*.

We have received the November number of this valuable publication, and again call the attention of the operative classes to it. If our young mechanics, in particular, would lay out their spare money for works of this character, instead of the fulsome trash, denominated light literature, with which the press is so prolific, they would become possessed of a fund of useful and entertaining knowledge.—*Schenectady Cabinet*.

We have shown several of the numbers to some of our most eminent mechanics, and have their unqualified sanction in saying that they are worthy the perusal and study of every mechanic who wishes to rise in his profession. They are got up in a very superior style.—*Montreal Herald*.

We are persuaded that the merits of the work are not sufficiently known; and yet there is no periodical in the country which has been more unequivocally commended by competent judges than this.—*Newark Advertiser*.

There is no publication in our country calculated better to serve the interests of practical men, than the work before us.—*Nantucket Inquirer*.

To gratify the thirst for knowledge evinced by the mechanics of the United States the publication was undertaken, and surely any effort calculated to advance a profession which has given birth to a Fulton, a Watt, a Whitney, a Franklin, an Arkwright, and other bright names, should meet with encouragement.—*Georgian*.

It is ably conducted, contains a large mass of the most useful and interesting matter, is neatly executed, and upon the whole is better calculated to diffuse useful and valuable information in relation to the various subjects of which it treats, than any publication with which we are acquainted, and this, too, so cheaply, that none can complain of the price.—*Washington Republican*.

A glance over its pages will convince any person of the great utility of such a work. Its contents are varied—almost every subject in the range of mechanism is touched upon—and its reduced price, three dollars per annum, places a system of modern architecture within the reach of nearly every person.—*Hillsborough Gazette*.

The work needs only to become known to insure it a very extensive circulation. It certainly cannot fail to be highly interesting and useful to the numerous class of persons for whom it is particularly designed.—*Paterson Intelligencer*.

It is stored with representations and descriptions of improvements in machinery, and of newly invented articles, together with information valuable to every class of citizens.—*U. S. Gazette, Philadelphia*.

This periodical really deserves credit for the ability and attention with which it keeps pace with the mechanical improvements of the age. It is, we see, edited by Mr. Knight, late of the London Mechanics' Magazine, a work which did more to elevate the state of knowledge among the working classes, than any other in England.—*Commercial Advertiser*.

It is a work well worthy the attention of every mechanic, and one which affords to genius a chance of exhibiting talents.—*N. Orleans Merc. Adv.*

This is a publication of practical value and deserved popularity.—*Albany Argus*.

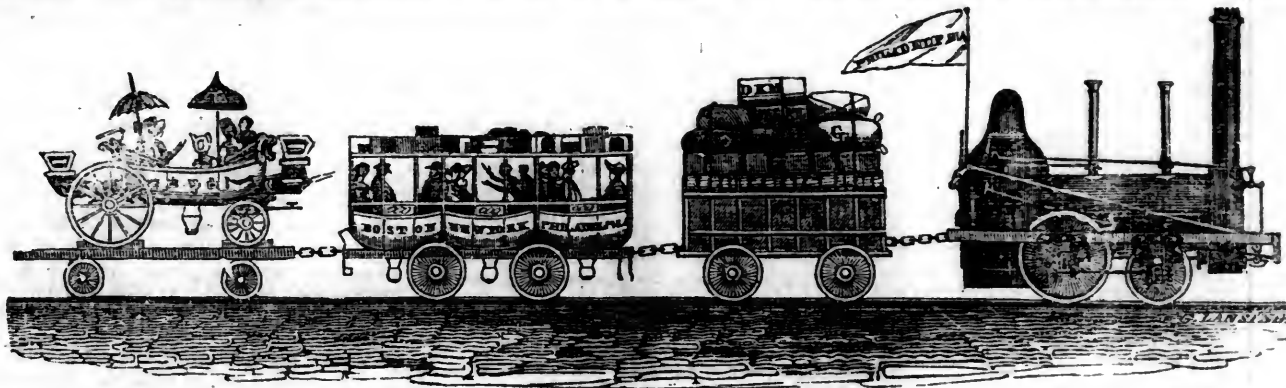
This is altogether one of the most valuable periodicals that ever appeared in the country; and there are few, if any, that would repay their perusal with equal advantage.—*Ashtabula Gazette*.

The theoretical and practical mechanic will find a mine of useful information in these pages.—*Mercantile & Advocate, N. Y.*

We do not know when we have perused a more useful and interesting work.—*Pennsylvania Intelligencer*.

Very few mechanics are so far advanced as not to be delighted and surprised with each successive number of their magazine.—*Pulaski Banner*.

Its contents continue to be selected with discrimination and judgment, and comprise a large body of exceedingly useful, and, in many cases, exceedingly agreeable information. For the class of persons for whose benefit it is principally designed it is uncommonly well adapted, and it is put within their reach, too, by the lowness of the price at which it is published.—*N. Y. Evening Post*.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, DECEMBER 20, 1834.

[VOLUME III.—No. 50.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, DECEMBER 20, 1834.

TWO numbers more will complete the 3d volume of the Journal. *Shall it be continued through another year?—Ed.*

D. S., of 12th and 14th instant, received—that of a previous date referred to not received.

In this number will be found the report of W. WOODVILLE, Esq., superintendent of transportation on the Baltimore and Ohio Railroad, which, with those before published, shows the condition of that important work, and gives a complete history of the construction and utility of railroads.

ERIE CANAL.—Amongst numerous other documents on hand, to which we shall give early attention, is the report of the Canal Commissioners, accompanied by that of the Engineer, H. HUTCHINSON, Esq., made during the last session of the legislature, relative to the construction of a new aqueduct at Rochester, and of doubling the locks east of Syracuse. This is an important document, and ought to be more generally disseminated, especially at this period, when efforts are making to effect a communication between the Lakes and the Hudson upon a more magnificent scale.

We shall also give, at an early period, the Report made by the Committee of Assembly of this State during its last Session, on the "petition of inhabitants of the county of Oswego," together with the letter of BENJAMIN WRIGHT, Esq. annexed thereto. They have been only a few days in our possession, or they would have been published before.

STEPHENSON'S IMPROVED LOCOMOTIVE, referred to in our last, an account of which, with engravings, is

given in this number, will probably arrest the attention of those who are interested in railroads. Will American engineers favor us with their views of the improvement?

IMPORTANT TO RAILROAD AND BRIDGE BUILDERS.—We are indebted to Mr. SHEPHERD, a gentleman well known among men of science, especially for his extensive mineralogical researches, for the following very interesting communication. It will undoubtedly receive attention from the friends of railroads.

On preserving Wood from Decay, Dry Rot, &c.

Fredericksburg, Va., Nov. 10, 1834.

To the Editor of the Railroad Journal, &c.

SIR,—In answer to your inquiry, for "a cheap and an effectual method of preserving wood from decay, and destruction by worms, dry rot, &c." I have resumed a course of experiments on this subject, which I commenced in the summer of 1830; and trust that I shall soon be able to satisfy the public that the thing is both practicable and economical. I find my experiments confirmed, in my own mind, at least, by a careful examination of the petrifying earths and waters of Virginia. We have only to follow in the simple path of nature, and we see at once how the operation is performed. I will not at this time enter into the nature and cause of the dry rot, &c. Whether it is a little fungus, that lives and derives its nourishment from the tree within, as the mistletoe does from the tree without—or whether it is a chemical change, produced by absorption of moisture,—I leave for others to determine. It is sufficient to say that there is a principle of decay in most timber, which is more or less active whenever the wood is exposed to the atmosphere and moisture. There is also a saccharine principle, which is the food of worms; and there is also a process of fermentation which hastens its destruction.

This fermentation must be prevented—this saccharine principle must be destroyed—and the pores of the wood must imbibe some material which will effectually fortify it against moisture and the chemical action of different earths and atmospheres. The process by which I effect this is comparatively cheap and simple. I have obtained a patent for the same, and am now ready to receive proposals for furnishing timber of all descriptions for purposes where durability is especially required. If the timber does not answer the end proposed, or endure a certain number of years, according to contract, I will engage, and give security, to refund the amount expended in the experiment.

Some specimens of sapling pines, which I have carried through the process of preservation, and which have since been exposed, are now without the least appearance of decay, while the remainder of the same tree, alike exposed, is already in ruins.

Very respectfully, yours,

FORREST SHEPHERD.

LONG ISLAND RAILROAD.—We have received a small pamphlet, containing, with other information, the Reports of the Engineers on the Practicability of the Long Island Railroad. One of the Engineers, Wm. C. Young, observes that, "as there will occur on the grading no rock excavation, or bridges more important or costly than a class of sluice-ways, and as the grubbing and cleaning will be in a light growth of timber, and the excavations and embankments in gravel and sandy loam soil, I infer five thousand dollars per mile, on an average, will cover the expense of grading the road bed for a double track." The other engineer, Major Douglass, estimates all the expenses of every description, including those attending the roads from Jamaica to Brooklyn, and to Williamsburgh, at \$1,557,000. He assumes five hours as a fair average trip from Brooklyn to Greenport, the eastern extremity of the road, and six hours and a half from the latter place to Boston.

"The distance," says Maj. Douglass, "from Greenport to New London is, say fifteen miles, and the passage may be effected therefore in an hour and a half, making six hours and a half from New-York to New-London."

"By constructing a wharf at Rocky Point, on the Sound shore, opposite Greenport, a termination may be given to the railroad on that side, only eight miles from the mouth of Connecticut river, (in Connecticut,) and by means of a ferry, a passenger will have it in his power to reach the wharf at Saybrook in five hours and a half or six hours from New-York."

"The trade and travelling which now reaches New-York from the various harbors of Peco-nie Bay, Shelter Island, Gardiner's Island, and the South Branch, will, in all probability, be diverted to the railroad, as soon as the latter shall be built. The number of vessels now engaged in this trade is from forty to forty-five, and the average number of passengers during the summer months about one hundred per day."

"The vicinity just mentioned is one of great and growing interest to the citizens of New-York, as a place of summer residence and sea bathing, and the same may be said also of a large proportion of both shores of Long Island. The increased facility furnished by the railroad for the enjoyment of this luxury is calculated, therefore, to subserve the health and comfort of the city, and to make the road itself a favorite and fashionable avenue. The trade and business of the interior of the Island, including many articles of market supply, which now

find an imperfect and uncertain conveyance by water, would reach the city more certainly, as well as more profitably, both to the buyer and the seller, by this conveyance.

"Lastly, the maritime position of Greenport, its convenience as a harbor, unobstructed, at all seasons of the year, and the facility with which it can be made by ships coming on the coast in certain states of the wind—these, and other considerations of a like kind, give it an interesting relation to the city of New-York, as an outport and harbor of safety; and should a railroad communication be established, so as to bring it, for the conveyance of passengers, mail bags, and light merchandise, within five hours of the city, it would doubtless contribute essentially, in many instances, to the certainty and despatch of commercial operations."

The subject of "A Society of Civil Engineers" has been frequently spoken of by engineers in our presence. It is a subject, in our opinion, well worthy of attention—one to which we should be happy to contribute the aid of our feeble efforts, and we therefore tender the columns of the Journal for the furtherance of the object.

Memphis, Nov. 11, 1834.

To the Editor of the Railroad Journal, &c.

SIR,—I read with pleasure in one of the late numbers of the Journal, the suggestion of a Society of Civil Engineers. I hope it will be followed up. The question at first occurs, how shall a society of that kind be started? Perhaps the most convenient plan would be the following. Let all the engineers, say from New-York, Philadelphia, Baltimore, and Washington, whose business will permit them to attend, meet at some central point, say Philadelphia, and form a trial constitution, to be published in the Railroad Journal. Let a corresponding committee be appointed at the same meeting, whose business it shall be to receive communications and suggestions of improvement of the constitution, which communications shall be laid before a second meeting, and a constitution finally adopted. Terms of admission into the society will form a serious subject of inquiry. These are merely hints occurring to me at the moment. I should be glad to see some prominent engineers of the East "come out" on this subject. In the West we are too few in number to do any thing more than follow suite.

I sent a communication some time ago for the Railroad Journal, on the subject of Railroad Undulations.

The system has been too much extolled on one side, and unfairly ridiculed on the other. "In mediis tutissimus ibis" is an expression that will hold in this as well as in many other subjects of dispute.

An article on the singular subject of the capability of mathematical minds, by Mr. Cheverton, of England, appeared in the Railroad Journal. It is a pity the idea did not occur to Mr. C. that the very same things, with a little alteration, might be said of every other object of study, and class of men. The whole amount of what might be deduced from the above mentioned article is, that a man, who is *exclusively one thing*, is unfit for *any other thing*. This is a very wise maxim, very wise—and yet every body happens to know it.

A railroad from Louisville to Nashville is now in contemplation, and the subject agitated in those cities. From Nashville it will extend to Memphis. I trust the grand scheme will not fail of ultimate accomplishment. The travel along the Ohio and Mississippi waters is immense! This railroad, if finished, would take every passenger from the steamboats between Louisville and Memphis, the passage being made in about 30 hours.

Very respectfully, your obedient servant,
JOHN THOMSON.

Substitution of Locks for Inclined Planes and Stationary Steam Engines, on Railroads.

To the Editor of the Railroad Journal, &c.

SIR,—It is a desideratum with engineers and railroad companies, to discover a substitute on railways for inclined planes and stationary steam engines. This mode of ascending elevations is noticed and deprecated by Geo. W. Smith, Esq., editor of Wood's American edition on Railroads, in the following remarks.

"Stationary steam engines on inclined planes are an opprobrium to the present advanced state of the science of civil engineering—they are exceedingly inconvenient, expensive, and dangerous. If the plane be steep, the locomotive engine cannot be advantageously drawn up with the waggons they have conducted to the foot of the plane; the great inconvenience of this system is too apparent to require comment. Hence, any available plan, which will enable locomotive engines to ascend inclined planes, with their full complement of waggons, will be a most valuable addition to the utility of railroads." He adds, "unless the height to be overcome be great, compared with the length of the whole line of railway, the delay resulting from the diminution of speed will be a trivial inconvenience, when the advantages of dispensing with an expensive stationary power are estimated."

We have not yet experienced the same fatal effects from inclined planes and stationary engines that they have in England, where many lives have been sacrificed by that mode of elevating. Some accidents have occurred in the United States, and they will probably multiply as inclined planes increase, until they produce the same appalling effects they have, and daily do, in Great Britain. There is no question but inclined planes, and stationary steam power, are not only the most expensive, but the most dangerous, parts of a railroad, and the individual who discovers a less dangerous and expensive substitute, though not as speedy, will deserve well of the community. It is rumored that a mode of ascending by locks is contemplated by some gentlemen in this city, and a patent has been, or is intended to be, obtained for the invention. I cannot discover any great difficulty of ascending acclivities by locks, at a much less original expense than excavating and furnishing them for inclined planes; but whether the danger and subsequent expense are diminished in the same proportion with the speed—for locks must be a slower mode of elevating—is not obvious. It is a subject of much interest to the community, and any probable method of surmounting elevations, than by inclined planes and stationary engines, merits attention and investigation. I feel some solicitude, Mr. Editor, to hear or see more of this lock project, and the inventor has my best wishes for the ultimate attainment, by locks or otherwise, of an elevating power, combining greater economy with less hazard, than the one now in use.

A SUBSCRIBER.

Annual Report of the Superintendent of Transportation of the Baltimore and Ohio Railroad Company.

Office of the Superintendent of Transportation,
B. & O. R. R. Co., Oct. 1st, 1834.

PHILIP E. THOMAS, President.

SIR: I have the honor to submit to you the returns of the operations on the Baltimore and Ohio Railroad, for the year terminating on the 1st October.

It will be seen on reference to these documents, marked C, No. 1 to 6, that the receipts have been,—for passengers, \$89,181.79, and for tonnage, \$115,254.79, making together, for the year, the sum of \$205,436.58.

It will also be seen that, during the same period, the expenses of transportation and of the repairs of the railway and of the machinery, have been \$132,862.41. Detailed statements of the items composing these several sums will be found on referring to the tabular statement marked No. 4.

On comparing the aggregates of the last year with those of the preceding, the following results will be deduced, viz.

	Receipts.	Expenses.	Net Revenue.
1833,	\$195,679.72	\$138,484.36	\$57,195.36
1834,	205,436.58	132,862.41	72,574.17

Difference \$9,756.86 \$5,621.95 \$15,378.81

Being an increase in the receipt of last year over those of the preceding of \$9,756.86, and a diminution in the expenses of \$5,621.95. The net revenue of the year is \$72,574.17, while that of 1833 was only \$57,195.36; there has consequently been an increase of \$15,378.81.

Attention will naturally be attracted to the small amount of net revenue remaining, after paying all the expenses connected with the working of the road. This subject it has heretofore been attempted to explain, but as it is a question of deep interest to the stockholders it may be proper to submit the matter in detail.

The gross receipts, it has been shown, are \$205,436.58, whilst the net revenue is only \$72,574.17. In comparing these returns with those of many other Railroads now in operation, the result will apparently be highly unfavorable to this work.

In making such comparison, however, it is important to advert to the different characters and functions of those Railroads relatively to this.

It will be recollected that, in their case, the tolls have, in every instance, been *much higher than those charged on the Baltimore and Ohio Railroad*. Those Railroads have generally been constructed on the lines of great and well established thoroughfares, for the conveyance of passengers and goods, but more generally for the former. They are, with few exceptions, short, and as they are not, therefore, burdened with numerous agencies, their incidental expenses are consequently limited; and, having been completed to their proposed extent, their receipts would at once realize their original estimates, by the simple transfer to them of the trade already existing, but passing through less commodious channels.

In the case of this work its results are heretofore only imperfectly developed; it has advanced only a short distance towards its ultimate destination, and has scarcely yet participated in any portion of that commerce for which it was especially instituted. Its trade is derived, almost exclusively, from the business of the country, with which, in its present extent, it is locally connected—and although this has become very considerable, it is necessarily procured at numerous points on the line of the road, at most of which depots and agencies have been unavoidably been established. This liberal diffusion of facilities, at whatever places the public convenience has required them, has connected the Company over a great space of Railway within the city of Baltimore, and at several points on the line of the road, with heavy responsibilities, in relation to the receiving and delivery of goods; and has consequently rendered suitable agencies at such places indispensable; and when, also, the fact is adverted to, that, at each of these points, the same extent of responsibilities and minuteness of details are incurred by this Company, that are usually rendered by private forwarding houses, it will be readily conceded that the single branch of the service alluded to cannot be conducted without a competent, efficient, and, consequently, an expensive agency.

Under the circumstances in which this work is thus placed, of providing for and adapting itself to the general demands of the community, it may be confidently asserted that the numerous sources of expenses with which it is charged, cannot, whilst its efficiency and usefulness are maintained, be either curtailed in number or in amount; and, although this may be a disadvantage in relation to a limited busi-

ness, it is satisfactory to know that, in several very heavy items, these expenses would remain without any increase under a great accession to the business of the road.

As the subject of the expenses of this work is one of deep interest, not only to the stockholders, but as affecting also the efficiency and economy of the Railroad system itself, relatively to other modes of transportation, it may be proper, therefore, in the following exhibit, to submit clearly the data on which the assertion has been made, that a large portion of the expenses of the Company would remain without any increase under a very considerable augmentation of their receipts.

The general expenditures of the Company resolve themselves into two classes; the one not being affected either by a diminution of the commerce of the road, or by its increase to a considerable extent—and, consisting of the maintenance of the Railway, the support of depots, pay of agents, &c., may be called the *fixed expenses*. The other, being governed in its amount by the actual transportation, rising or falling relatively to the extent of such transportation, and embracing the cost of moving power and the repairs of vehicles, &c., may be considered as *floating expenses*.

Under the first denomination, that of fixed expenses may be classed:

1st. The maintenance and repairs of the Railroad, and the support of the police of the road. This portion of the expenditures being caused by the cost of removing slips, or opening ditches, drains, &c.—the adjustment of the rails, deranged by settling—by the removal of defective materials from the Railway—and arising, generally, from causes unconnected with the number of carriages which may pass over the road, and not being consequently affected by its amount of business—have been considered as fixed.

2d. The pay of officers, agents, and conductors. The individuals thus receiving pay from the Company, as before stated, cannot be reduced, being absolutely required at the depots that have been established; yet a much greater amount of business could be effected by them without any increase of their number—and it would not be hazardous an assertion, rashly, to state that if the business of the road, in its present extent, were augmented three-fold, these charges could remain without any increase; for the purposes of this exhibit, they may, therefore, be assumed as fixed.

3d. Depot expenses and contingencies, expenses of stations, &c.—These items are precisely similar in their character to the preceding—as although their number cannot be reduced, yet they are adequate in their present extent to the demands of a more extended commerce.

The aggregate outlay on these several accounts has been, viz.:

Repairs of Railways, &c.	\$22,795.90
Pay of Superintendent, Agents, and Conductors,	13,453.20
Depot and Station expenses, contingencies, &c.	16,135.23

Total of fixed expenses, \$52,384.33

Under the second class of disbursements, that of floating expenses are embraced:

1st. The cost of moving power; that is, the feed, wear and tear, and general attendance on the horses and mules employed on the road, the pay of their drivers, &c.

2d. The use of locomotives, their fuel, and the pay of engineers and repairs of the engines, the repairs of waggons and carriages, and contingencies.

These items have amounted to, viz.:	
Moving power, and wear and tear of horses,	\$64,428.31
Use of locomotives, &c., and the repairs of cars, contingencies, &c.	16,049.77

Total of floating expenses, \$80,478.08

The general expenses are thus subdivided and classed as follows, viz.:

Fixed expenses,	\$42,384.33
Floating expenses,	80,478.08

Total expenses, \$132,862.41

The results, therefore, which may be deduced from this analysis, are the following:

1. The actual receipts have been	\$205,436.58
The expenses have been, viz.:	
Fixed,	\$52,384.33
Floating	80,478.08
	132,862.41

The net revenue, \$72,474.17

2. Had the receipts been doubled, the following result would have been obtained:

Actual receipts, \$205,436.58 × 2 =	\$410,873.16
Expenses, viz.:	
Fixed,	\$52,384.33
Floating, 80,478.08 × 2 =	160,956.16
	213,340.49

Net revenue would be \$197,532.67

3. Again,—the assertion has been made, that had the receipts been three fold as great as those collected on the road, yet, on the principal alluded to, the following results would have been presented, viz.:

Actual receipts, \$205,436.58 × 3 =	\$616,309.74
Expenses, viz.:	
Fixed,	\$52,384.33
Floating, 80,478.08 × 3 =	241,434.24
	293,818.57

Net revenue will be \$322,491.17

Or, to apportion these expenses between the passenger and tonnage business, as stated in Table C, No. 4, the following exhibit would appear, viz.:

Expenses.	Passengers.	Tonnage.	Total.
FIXED—VIZ.			
Repairs of Railroad, &c.	\$11,397 95	\$11,397 95	\$22,795 90
Pay of Agents, Officers, and Superintendent.	5,538 98	7,914 22	13,453 20
Depot expenses, contingencies, supervisors and stations on road.	6,611 78	9,523 45	16,135 23
	\$23,548 71	\$38,835 62	
FLOATING—VIZ.			
Moving power, and wear and tear of live stock.	25,851 83	38,576 48	64,428 31
Repairs of waggons, Carriages, use of Engines, &c.	9,715 36	6,334 41	16,049 77
	\$35,567 19	\$44,910 89	\$80,478 08

Thus, although with the present limited business of the Company, the net revenue has only been \$72,574.17, yet if the road possessed a commerce of three times its actual extent, instead of its net revenue advancing only in a direct ratio,—or to \$217,722.51,—it would, from the causes stated, be increased to \$322,491.17.

The experience of the Company presents ample confirmation, in the monthly returns of the receipts, of the correctness of the data from which these hypothetical statements have been deducted,—and, in the analysis of the expenditures incurred in any two months of the past year, where the two extremes of revenue from tonnage presented themselves—viz. in July, when it was only \$6,906.26,—and in September, when it amounted to \$11,944.99,—the principle alluded to has been fully sustained.

In taking a prospective view of the operations of this Company, it may be assumed generally from the experience obtained that the net revenue will always advance in a greater ratio than the gross receipts, and that although that portion of the expenditure which, for distinction, has been denominated fixed expenses, will, in some of its items, after a certain accession of business, be slightly increased, yet such increase will form a very unimportant addition to the general amount,—

or affect in a very trifling degree the principle it has been sought to elucidate.

The Western Trade.—This Company have now had the benefit of an experience, derived from active and uninterrupted operations for a period of nearly three years, on a line exceeding sixty miles in extent.

The transportation they have effected, during this time, has been of the most varied and general character, embracing commodities of the most cumbersome and ponderous descriptions known in commerce: among them may be daily remarked blocks of granite weighing several tons each,—logs of timber of from fifty to seventy feet in length,—machinery of the most unwieldy forms,—considerable numbers of live stock,—as well as every imaginable variety of produce and merchandize:—these may frequently be all seen on the railway, collected into a single train, and all moving with equal facility and despatch. The question of the adaptation, therefore, of the railroad system to the purposes of a general commerce, may certainly, by the daily proof thus afforded, be considered as settled.

On the portion of road now described there is a recurrence of all the impediments and disadvantages which would be found to exist on the extension of the work to the Ohio River. Its line, throughout these sixty miles, is excessively curved,—its grade is undulating,—and it has a succession of inclined planes to surmount; it, therefore, may be presumed to present, within this space, as many causes of expense and of delay as would be found to exist on a continuous line to that river; it may be questioned whether it does not exhibit more: for, although a railway across the ridge of the Alleghany mountains would have a more extensive series of inclined planes, yet, as these would only occur in one instance on a road of nearly 300 miles in length, they would therefore have, relatively to their extent, a greater proportional length of level railway than exists in reference to the planes now worked at Parr's ridge.

It may, therefore, be assumed that statements, based on the facts just adduced, will be applicable to the prospective operations on a continuous railway to the Ohio River.

The line of road now in use, on which the transit is daily effected in both directions, extends to the Point of Rocks, a distance of sixty-nine and a half miles. Animal power having been heretofore alone used on this road for tonnage, the transit between Baltimore and that place is effected in twenty-four hours: that is to say, goods are received daily at the depots of the Company in Baltimore, from individuals, until twelve o'clock at noon, and are immediately loaded and conveyed to the Point of Rocks, where they arrive at the same hour of the following day.

The price for which this conveyance is effected is, westwardly, six cents; and, eastwardly, four cents per ton per mile, (of 2,240 lbs.)

Without at this time pausing to advert to the vastly superior speed that will be obtained on the substitution, in this branch of the business, of steam for horses, and without basing any calculations on its greater economy as a moving power, it would appear, from the data deduced from the daily operations of the Company, that, the distance between the nearest point of the Ohio river and Baltimore being estimated at 310 miles, the transit would be effected in a little over four days: that is to say, goods forwarded from Baltimore would be delivered early on the fifth day on the Ohio—and *vice versa*. And this service would be rendered, even at the highest rates permitted by law to this Company, and including all their charges, for the following prices, viz.: Westwardly, from Baltimore to the Ohio, for 84½ cts. per 100 lbs.; Eastwardly, from the Ohio to Baltimore, for 56½ cts. per 100 lbs.

It is an encouraging fact, and one of great

value to this work, that, low as these rates appear to be, they will, whenever it shall have reached a point which will afford more business to the road, admit of an extensive reduction. This consideration is the more important, as it will enable this Company to compete successfully with other modes of conveyance—or to reduce their prices, either to increase the traffic of the road, or to promote the western commerce of the city.

In order to ascertain how far this work may be enabled to realize all those important results, it may be proper to show the actual cost to the Company of transportation on the road, deduced from the experience and facts they possess from the operations of last year.

It will be perceived, by reference to table No. 2, applied to this report, that the tonnage transported in both directions has consisted of 56,120.173.3 tons, and has produced a revenue of \$116,254.79; this tonnage having paid for its conveyance a medium rate of about 4½ cents* per ton per mile, therefore the whole amount conveyed is equal to 2,491,174 tons for one mile, viz. 2,491,174 tons × 4½ cts. = \$116,254.79; or it is equal to 35,844.23 tons conveyed the whole distance between Baltimore and the Point of Rocks, viz. 35,844.23 tons × 69½ miles × 4½ cts. = \$116,254.79.

The cost of this conveyance has been shown by the preceding table to be divided into two heads of expenses: one, the floating expenses, consisting principally of moving power and repairs of machinery, and advancing or receding in the direct ratio of the tonnage transported—this particular item amounted on tonnage by that table to \$44,910.89, or to 1½ cents per ton per mile, viz.: 35,844.23 tons × 69½ miles × 1.8028 cents = \$44,910.89.

The other division of the expenses of transportation, denominated, from their remaining stationary under considerable terms of increase of revenue, the *fixed expenses*, amounted to \$28,835.62.

It has also been shown that if the business of the road were enhanced to a threefold amount,—and with slight modifications this limit might have been extended much farther—yet that these particular expenses would not be increased by such improvement: and that, consequently, if the present local tonnage of 35,844 tons were augmented threefold,—and it cannot but be considered as a very moderate estimate, when it is recollected that reference is had to the Ohio trade,—the fixed expenses would then be only .385837 cents per ton per mile,—viz.: 35,844.23 tons × 3 = 107,532.69 tons × 69½ miles × .385837 cents = \$28,835.62.

This sum being the amount of those expenses last year. In other words, with a yearly transportation of 107,532 tons, the ratio of the entire expenses would be, viz.:

Floating expenses,† say 1.8 cents.
Fixed do. " .386

Total expenses of transportation 2.186 per ton per m.

Thus the whole expense incurred by this Company in the transportation of goods and produce between the City of Baltimore and the Ohio River, under all the difficulties and costs incident to *animal power*, would be less than 2½ cents per ton, viz.: 1 ton × 2.186 cts. × 310 miles = \$6.78, or 30½ cts. per 100 lbs.

At the rates now charged, the transportation, eastwardly, from the Ohio, per 100 lbs. would be 56½

Westwardly, the transportation would be 84½

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* This rate is deduced from the average of the two amounts received for tonnage transported in the two directions—(see table C, No. 2.)—viz.: that eastwardly having paid four cents per ton per mile—and that westwardly six cents. The precise rate will be found to be, cents 4.6437.

† The unimportant decimals have been here excluded.

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Average, 70½
The expenses being 30½

The Net Revenue would therefore be per 100 lbs. 40

As the great object of the institution of this work was to offer to the commerce of the West a rapid, uninterrupted, and cheap means of conveyance to the Baltimore market, and, as this traffic is already in possession of other improved avenues to the Atlantic, it is a matter of the highest importance to know the extent to which a reduction in the rates on this road could be made to meet either the exigencies of trade, or the competition of other lines of communication; and, in making such estimate, the fact will be kept in view, that in every instance where the tolls have been lowered on other works, instead of a diminution of income, they have invariably, by the great accession of business the measure has produced, had an augmentation in their Net Revenues; similar effects would result from the same proceeding in relation to this railroad, and, as under the circumstances just stated, 56½ per cent. of the gross receipts on tonnage,—or 40 cents for each 100 lbs. conveyed,—is net income, such portion of this sum, therefore, could be surrendered as events might render expedient or necessary: for instance,—if a reduction were made of 25 per cent. on the toll and transportation, the charge would then be, viz.:

70½ cents less 25 per cent. = 53 cents.
Expenses as stated above = 30½

Net Revenue for each 100 lbs. 22½

That is to say, the average price of 53 cents for the two directions would resolve itself into the two rates of charge of—

Westwardly 53 cents per 100, from Baltimore to the Ohio, and Eastwardly 42 cents per 100, from the Ohio to Baltimore—or for each barrel of flour conveyed from the Ohio to Baltimore, the freight would be rather less than 92 cents.

That this Company with an ample business on their road could with great facility, and with positive advantage to themselves, as well as to the community, reduce their rates to this extent, or even more, can scarcely be doubted.

There is, however, another consideration which is entitled to great weight in this question, and which affords to railroads generally the means of meeting or resisting competition, from other modes of transportation, in a pre-eminent degree: it is the certain and unfailing resource they possess in the conveyance of passengers. This description of business is benefitted in its net profits, even more rapidly than tonnage, by an increase in its amount. This will be readily conceded when it is observed that a locomotive engine will carry upwards of two hundred persons at the same cost that is incurred to convey any less number; any measures, therefore, that may add to the commerce on the road, must also necessarily augment the number of persons travelling in connection with such commerce—and whatever sacrifice of their Revenue from tonnage the company might find it expedient to make, in order to promote or protect any of the great interests connected with this work, they would, from the enlarged business that must ensue from that measure, be more than indemnified in the increased receipts they would derive from passengers.

Application of Steam.—As a matter of the highest interest to the Company, during the last season, may be noticed the successful use and permanent introduction of steam on the Railway.

On the 13th July, Messrs. Davis & Gartner completed and placed upon the road a new engine, called the "Arabian." After a few days of defective performance, occasioned by unsuitable fuel and other embarrassments, arising principally from the newness of the

machinery, this engine performed regularly and with great accuracy, the daily round of duty of 80 miles, with the passenger train, to and from the planes to Baltimore.

Since that period, a second engine has been received from the same factory, which is also now undergoing a similar trial to that described in reference to the Arabian, and it is performing it with equal success.

The satisfactory manner in which those engines have worked, has realized the most sanguine expectations formed of their economy and efficiency; and although necessarily limited from prudential considerations to a moderate rate of travelling, by the curvatures of that portion of the road on which they ply, they evidently possess the power of exerting a very superior speed.

In the routine of operations in which these engines have been engaged, they have each performed the same service that it had previously required 49 horses to effect. This, however, is not to be considered as the extent of their efficiency; it is merely the limit to which the peculiar business on which they have been employed has required their power, as instances have occurred in which the services of a single engine have, during the day, represented the work of 113 horses.

The question of the economy of steam power has been so long conclusively settled that it would be superfluous, if it were practicable, to add any new remarks on this head: there is one particular, however, connected with a subject already alluded to in this report, in which its efficiency will have a most beneficial effect on this work, and by which will be added another proof to those already adduced of the disadvantages and high relative cost of transacting a small business on a Railroad.

The engines, it has been stated, have daily been employed in transporting the Frederick train 80 miles. This train has generally consisted of from 50 to 70 passengers; sometimes, but very rarely, 100; the result of this operation has been, viz.:

50 passengers, 80 miles, at 3 cts. per mile, \$120
Expenses of locomotive, 1 day, say, 20

Net amount, \$100

Each engine could, however, with equal facility, have conveyed 200 or 250 persons, and if the business of the road were sufficiently advanced to require its service to that extent, it would be effected at the same cost; the result would then be as follows, viz.:

200 passengers, 80 miles, at 3 cts. per m. \$480
Expense of locomotive, 1 day, 20

Net amount, \$460

Thus, with precisely the same outlay of expenses of every description, with the single exception of the wear and tear of the additional carriages that would be required, the net profit of a day's work of the engine, with a full business, would be \$460; whilst, with the present limited business, it is only \$100.

Repairs of the Railway and Maintenance of the Police of the Road.—The duty of superintending the condition of the Railroad, and of effecting the necessary repairs, having been incorporated with the department of Transportation, it is requisite that, in this report, a statement should be presented of the cost of that service.

It will be perceived that the aggregate expenditures incurred under this head have been \$2,795.90, being \$757.14 less than during the preceding year; these disbursements have been made for the following items, viz.:

Repair and adjustment of stone track, . . . \$5,960.41
Do. do. do. wood do., 5,436.67½
Removal of slips, cleaning ditches, drains, &c. . . 6,857.46
Repair of horse track, . . . 2,081.33
Contingencies, . . . 2,460.02½

Total for the year, \$22,795.90

Reductions have from time to time been made in the number of supervisors employed in this department, until from seven they have been diminished to three; beyond this, it is believed, no reduction can be effected. Each of these agents has the supervision of upwards of 20 miles of road, and as they are charged, also, during the winter, with keeping the track free from snow, and in order for uninterrupted travel, it is important that this branch of the service be not too much weakened. It is due to these officers to acknowledge the alacrity and success with which this important duty has, in every instance, been discharged by them; and that, although this road has now been in operation for nearly three years, the transit has been effected throughout the entire line in both directions, without the interruption of a single day, during the whole of this period.

General Operations of the Year.—It has been shown that the receipts of this year have been advanced over those of the preceding to the amount of \$9,756.86, while the general expenses have been diminished \$5,621.95. This state of the business, although relatively favorable, presents, nevertheless, but an imperfect view of the improvement that has actually taken place in the general commerce of the road; or rather, in the extent of country and population to which it has become the means of intercommunication; for, in common with all public works, the Railroad, for several months of the past year, participated in the general depression of trade, and experienced a very great diminution of the tonnage and passengers of its previously existing lines of conveyance. The increase which has, therefore, actually taken place in its receipts, will establish the fact of the more extended range of its recent operations; and, as it has arisen from several new and important channels of business, which have successively become connected with the work, the company cannot fail during the next year to feel their influence on the revenue.

The railroad having received, for some time, through the lateral road to the city of Frederick, a full portion of the business that can at present flow from that quarter, it is a matter of deep interest that the main stem of this road should, as rapidly as possible, be connected intimately with the commerce of the Potomac and Shenandoah, as it is through these channels, aided by the public works now being made in connexion with them, that the future accessions of revenue will be received; and it may be stated, as a proof of the progress the business has recently made in this quarter, that, by comparing the receipts of flour at the Point of Rocks depot on the Potomac, for the six weeks immediately preceding the 1st of October of this year, with the same period of last, it will be found that, in this short space, there has been a gain in the present year of 9,204 barrels, viz:

Received at the Point of Rocks depot, from 20th August to 30th September, 1833, 1,417 barrels. From the 20th August to the 30th September, 1834, 10,621 barrels. Gain in 1834, 9,204 barrels.

Respectfully submitted,
W. WOODVILLE,
Superintendent B. & O. R. R.

JUNCTION OF THE RHINE WITH THE DANUBE.—The following particulars of a plan to unite the Rhine and the Danube, by means of a canal, are given in a private letter from Munich, dated October 8. The government of Bavaria is now anxiously occupied with the consideration of a plan for uniting the Rhine with the Danube, by means of a canal. This plan was thought of so long ago as the time of Charlemagne, but various circumstances prevented its execution. According to the law which received the sanction of the Bavarian Chambers, the canal will be completed by a company of shareholders, but the government is to have the power

to take one quarter of the shares. The maximum of toll which the proprietors of the canal are authorized to exact, during ninety-nine years, is fixed at one-third of the price which would be charged by waggon for the same distance. The canal will have its source in the Danube, near Kellheim. Its course will follow the valley of the small river d'Altmühl and the Sulz, as far as Neumark; from thence the canal will pass in the direction of Nuremberg, and pass the river Reignitz, by Furth and Bamberg. Its length will be 592,543 Bavarian feet, or 23½ German miles. Its breadth will be 54 Bavarian feet, and its depth 34. The highest elevation of the canal will be 273 feet above the surface of the Danube, near Kellheim, and 630 feet above the surface of the Reignitz, near Bamberg. This elevation will be attained by means of ninety-four locks. It appears from an official calculation, that the conveyance of a quintal of goods throughout the whole length of the canal will not cost above a kreutzer and a half, including the expenses of navigation. Adding to this 12 kreutzers for the toll of a quintal of wood, and 24 kreutzers for any other description of goods, it would appear that goods may be conveyed the distance of 23½ geographical miles at the rate of 13½ kreutzers for the quintal of wood, and 25½ for the same weight of other descriptions of goods. Taking the average annual quantity of goods conveyed in the same direction, a saving of transport to the amount of 900,000 florins, (about a million of francs,) may be effected. Not only will this canal effect a saving in the price of transport, but it will also increase the number of outlets for manufactures in that direction, and will be of great benefit both to consumers and producers. The economy in the means of transport will lead to a reduction of the cost of the first materials, and the commerce of the whole of Europe will benefit by it. The expense of the construction of the canal is estimated at about 18,732,500 francs, and the expense of repairs at the annual sum of 175,921 francs. From various calculations, it is supposed the shareholders will derive from the canal a net profit of 600,000 florins, or about seven per cent. upon the capital of the first investment, it being supposed that, in the first year, at least 1,700,000 quintals of goods will have been conveyed along its whole extent.—[English Paper.]

The following patent for tanning leather may be of use to some and interesting to others of our subscribers. It is from the "Repertory of Patent Inventions" for August.

Specification of the Patent granted to JOHN PAUL NEUMANN, of Cornhill, in the City of London, Merchant, for certain Improvements in making or producing Leather from Hides and other Skins. Sealed December 21, 1833.

To all to whom these presents shall come, &c. &c. Now know ye, that in compliance with the said proviso, I, the said John Paul Neumann, do hereby declare that the nature of the said invention, and the manner in which the same is to be performed, are particularly described and ascertained in and by the following description thereof, (that is to say):

The novelty and utility of the new invention communicated to me by a certain foreigner, residing abroad, consists in employing the hop plant, whether root, stalks, or leaves, or any part thereof, either in a green or dry state; but I prefer the use of the plant in a dry state, and for the sake of economy, I give the preference to the stalks and the roots; but be it understood, although I prefer the hop plant, or any part thereof, to be used by itself for the purpose of tanning,

yet they may be used in conjunction with any vegetable containing tanning matter. The mode to which I give the preference for this plant to be used for the purpose of tanning, is to grind or reduce it as fine as practicable, and, when so prepared, it may be employed for every mode of tanning in the same manner as oak bark, or any other vegetable containing tanning matter. According to circumstances of different hides or skins, this tanning matter may be applied either warm or cold, whether in extract or mixed with other matter; every practitioner in tanning will soon perceive which mode is most applicable for the different hides or skins which he means to subject to the process of tanning, as hides and skins require different modes of treatment; with some it is necessary to use heat or warmth, and others cold; but I prefer to have the hides or skins prepared in the usual mode hitherto followed by practical tanners.

The principal novelty of this invention consists in using the hop plant for tanning, which hitherto has never been employed for that purpose; and by means of this process it will be rendered both useful and valuable for the purpose of tanning.—In witness whereof, &c.

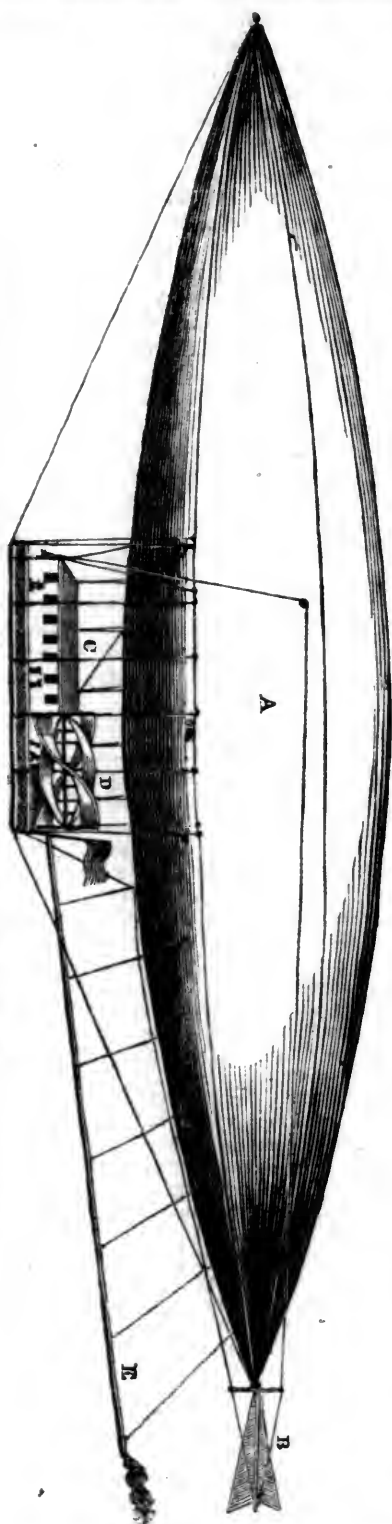
Enrolled June 20, 1833.

BLASTING ROCKS.—As many lives are yearly lost by the untimely explosion of the powder used for blasting rocks, humanity prompts us to give a process as we heard it described a few days since, by a person who had been injured in a mine where many accidents of the kind had happened, which led them to try other methods of charging the rocks than those commonly practised, and which he said ended in the discovery of a safe and expeditious manner of blasting. As these accidents had uniformly happened in what he denominated the "tamping" or driving down the brick and other substances used in filling above the powder, they, for an experiment, substituted plaster of Paris, which had been heated, as for preparing cement, which they mixed with water in the same manner, and poured the cement into the hole upon the powder, having first introduced the quill or fuze; the cement immediately set or hardened, when the blast was ready for firing. He said that he never knew a blast managed in this way to fail of doing well, and never knew an accident happen; that it was quicker done, and was more economical in every respect. If this should prove correct, it should be generally introduced.—[Gen. Farmer.]

COFFEE IMPORTED INTO THE UNITED STATES.—We learn by an official paragraph in the Globe, that the amount of coffee imported into the United States for the three first quarters of 1833, was 99,955,020 lbs., valued at 10,567,299 dollars; and that for the three first quarters of 1834, there were imported 60,344,701 lbs., valued at 6,473,469 dollars. During the corresponding period last year, there were exported 24,897,144 lbs. valued at \$3,041,689—this year 32,715,599 lbs. valued at \$3,969,906.

SOUTH AMERICAN COTTON.—Some specimens of this cotton, from a tree twenty years old, and about fifteen feet high, have been forwarded to Washington, by R. B. M'Affee, at Bogota, with some of the seeds for distribution among the southern members of Congress. The tree bears two crops every year, one ripening in June and the second in December, each tree yielding from four to six pounds of cotton.

Explanation—A, the body of the balloon; B, helm, or rudder; C, cabin; D, spiral fan-wheel; E, funnel, or smoke pipe.



Travelling Balloon, or Flying Machine.

To the Editor of the *Mechanics' Magazine*:

SIR,—Having lately proposed a plan for employing a balloon for an observatory, I shall now endeavor to describe more minutely the construction of a similar balloon, with apparatus for propelling and mode of managing the same under various circumstances, and show the comparative safety to which this mode of travelling may be reduced.

A balloon 500 feet long and 50 in diameter, gradually tapering from the centre to a point at each end, (which figure, for want of a better name is called a *pointed spheroid*;) is made of strong sheeting, and is rendered tight by oil or varnish; and its form is supported by eight wooden rods, an inch and half in diameter, which extend the whole

length of the balloon, inside of the sheeting, and are fastened together at the ends, but separate so as to be equidistant from each other towards the centre, the sheeting being nailed to the rods at every foot of their length, by which they are effectually kept in place. These rods, it will be understood, continue in contact the whole length, until the balloon is inflated, when they become separated as above mentioned.

A stage fifty feet in length and twenty in breadth, constructed economically with regard to the weight of materials, is suspended by cords about twenty feet below the balloon; the cords, thirty or more in number, being attached to the stage at various points and convenient distances, are supported at the top by rings, which are attached by screws to the several rods or ribs of the balloon. The stage is further supported by four other cords, two of which extend from the two forward corners of the stage to the forward point of the balloon, and the other two from the two hind corners to the stern point. To this point is connected, by a universal joint, the end of a pole four inches in diameter, which extends backward horizontally twenty-five feet, tapering to the diameter of two inches. From the small end of this pole four arms project in opposite directions; and from the outward end of each arm, a cord extends to the forward end of the pole, being made fast to both. These arms are six feet long, ten inches wide, and one inch thick, being tennoned to the pole, and supported by a wire which compasses the four, and is fastened to the end of each. To the space between each cord and the pole, a piece of painted cloth is fitted, one edge of which is nailed to the pole, and the other is sewed to the cord: the wide end is also nailed to the arm. Other four arms, six feet in length, project in opposite directions, two vertically and two horizontally, from the forward end of the pole, near the universal joint. Two cords extend from the small end of the pole to the ends of the two horizontal arms last mentioned; thence forward to two pulleys, which are attached to the sides of the balloon, a little forward of the centre; thence down to a light steering wheel, on the forward part of the stage. Three other cords proceed from the same point: two of which pass over the head or the upper arms; thence over two pulleys near the first; and the other cord passes to the end of the lower arm, thence over a pulley attached to the lower side of the balloon; and the three terminate on a small shaft, with a crank, ratchet and fall, near the steering wheel, that the steersman may be able to govern the vertical as well as horizontal variations in the direction of the balloon.

The stage is enclosed by a railing of cordage and net-work, and on the forward and central part is a cabin thirty feet long and ten wide, covered with painted cloth, and supported by the suspending cords. Two spars, thirty-five feet long, and secured in a horizontal position, twenty feet apart, parallel to each other, and about ten feet above the stage, one of them being over the hinder part of the stage, and the other over the end of the cabin. These spars are also supported principally by the suspending cords and braces, and each end of each spar supports the pivot of a revolving shaft, which is twenty feet long, and extends from one spar to the other. Neither the spars or shafts are more than four inches in diameter,

but are thoroughly supported by braces of cordage extending from end to end of each, and passing over circular bearings near the centres. Near each end of each shaft are four arms seven feet long, and other four arms also project from the shaft at every two feet of its length, the several sets of arms not being parallel, but each set varying in direction twenty degrees; thus each row of arms has a spiral direction, extending half round the shaft, and supports a spiral fan of fine oiled cloth, four feet wide, and extending the length of the shaft. The spiral direction of the fans on the two shafts is opposite, being such that the outward motion of the upper fans will mutually tend to propel the machine forward by the re-action of the air. On one end of each shaft is a small spur wheel, or band wheel, by means of which motion is communicated to the spiral fans, from a steam engine of ten horse power, having a boiler of a light portable kind, and situated on the after part of the stage. The engine and connecting machinery need not be particularly described. No other fuel than charcoal is used, and the combustion depends on a blast rather than draught; and the smoke is conducted by a very small and light copper pipe, horizontally to a point a little below the rudder. This pipe is sustained by wires, and as the wind will be invariably ahead, will effectually prevent any danger from the sparks.

The area of the circumference of the balloon is about two thousand feet, and the length being equal to ten times its diameter, it may be propelled fifty miles an hour, by the power that would be requisite to propel a cylinder of the same diameter five miles in the same time, being a uniform pressure of about one ounce to a square foot, or one hundred and twenty-five pounds to the whole area—less than the power of one horse. Hence I infer that the ten horse power engine will be sufficient to propel this balloon at least fifty miles an hour, or stem the current of a heavy gale of wind.

The buoyancy of the balloon is 34,000 lbs. I estimate the weight of the sheeting, varnished, (4000 yds.) at 4,000 do. The wooden rods used in the construction . . . 1,500 do. Stage, cabin, fan-wheels, and cordage, . . . 5,000 do. Engine, boiler, water, and fuel, 4,000 do.

Balance of buoyancy . . . 14,500 lbs. sufficient to carry one hundred passengers, with baggage and provisions. I am aware that no estimate approaching to accuracy can be made of the expense of constructing such a balloon, but it is readily ascertained that the expense of the materials (exclusive of the steam engine) would be less than three thousand dollars. A suitable engine would cost two thousand. If then we allow five thousand for preparing, constructing, arranging, and adjusting the several parts, and the expense of inflation, the amount (10,000) is less than the cost of an ordinary ferry boat.

With regard to management, the balloon is to be kept continually inflated, (except in winter,) having on board apparatus for the production of hydrogen gas, and a pipe for conveying the same to the interior of the balloon whenever occasion requires. It is not to be brought to the ground in any case, but moored, when not in use, with a reason-

able length of halser, furnished with a self-adjusting pulley. When passengers are to be received or landed, the balloon is brought near the ground, and the passengers are drawn up or let down by a small car, or circular settee. Each passenger is furnished with a parachute, by which each may safely land in case of extreme disasters. This will render their situation less critical than that of those who are exposed to the perils of a raging sea in a leaking ship. Moreover, the stage is furnished with several light hollow cylinders, or sacks of air, of sufficient buoyancy to support the stage with the passengers, should it chance to descend upon the water.

It is obvious, that when passengers are received, a corresponding weight of ballast must be discharged, and vice versa: yet the balloon will admit of a degree of contraction or expansion, by means of cords, sufficient to counterbalance the consumption of fuel and water.

Such is my plan for flying; and as the immortal Fulton ventured to build a steamboat seventy years after Jonathan Hulls had published his plan for the same, I shall indulge the hope that some enterprising person will within another seventy years build and put in successful operation a manageable balloon. And as Fulton experienced some difficulties in securing the patent, on account of the want of originality, I have no hesitation to offer, and promise, at least, an undivided half of my claim to the patent, to any person or company who will be at the expense of building such a balloon on a scale sufficient to test its utility.

Respectfully yours,

RUFUS PORTER.

Billerica, Mass., Sept. 23, 1834.

N. B.—The balloon represented in the plate is 250 feet in length, and 50 in diameter: it being inconvenient to make the drawing correspond in proportions with the description.

The Principles and Practice of Constructive Carpentry, being a Full and Complete Treatise on the Theory and Practice of Carpentry and Architecture, compiled from the Works of Tredgold and Nicholson, and other Authorities, with the Latest Improvements in every Branch of the Art. Royal 8vo. No. 1: New-York, W. NORRIS, 1 Nassau street.

It has ever been our decided opinion, that a most important part is performed, in the extension of knowledge, and in promoting the general advancement of society, by the publication of treatises on the mechanical arts.

Mathematical, like every other kind of science, remains a dead letter until it be applied "to the business and affairs of men;" on the contrary, however, when it is applied to the useful arts, it extends the views of the artist, substitutes certainty for uncertainty, security for insecurity; it informs him how to raise the greatest works with confidence, and how to produce stability with economy, or, in its own language, how to obtain a maximum of strength with a minimum of materials.

There is perhaps no class of mechanical arts so directly capable of receiving improvement from the researches of men of science, as those connected with building; neither is there any that has received a greater share of their attention. But these researches have not benefitted practical men in propor-

tion to the extent to which they have been made. They are too often given to the world in works which are either so expensive as to be inaccessible to the greater number of men of business, or so completely scientific as to be almost useless to all but men of science themselves. Something may also be attributed to a kind of distance and jealousy which appears to exist between theoretical and practical men; and which has, perhaps, sometimes prevented the practical mechanic from benefitting by scientific researches, the results of which have been within his reach. But these prejudices are fast wearing out. Of this fact we need no better proof than the encouragement which begins to be given to popular treatises on mechanics, to mechanics' magazines, and to the formation of mechanics' institutes.

One or two attempts have already been made to treat the subject of CARPENTRY on mathematical principles. "The Carpenter's Guide," by Peter Nicholson, is a very excellent and justly popular work, but it is almost entirely confined to what is termed "finding the lines;" and although it fully develops the methods of geometrical construction, it does not enter at all into those mechanical principles, a knowledge of which is necessary to enable a carpenter to tread with certainty and economy out of the usual routine of his operations. This part of the subject has, however, been taken up in "Elementary Principles of Carpentry," by Thomas Tredgold, civil engineer; and he who possesses these two treatises, and can understand them, need scarcely wish for any other work upon the subject. But in both of them, especially in the latter, a great many algebraic formulæ are used, which but few practical carpenters or builders understand; moreover, to purchase both of those works may be beyond his means, especially at that period when it is most desirable that he should be in possession of such works.

The work before us is intended to combine the whole substance of both these treatises, with such additional matter as may have been accumulated since the time of their publication. Something is promised on the construction of canal locks and water wheels. The architectural part will also be more full than is general in such works. The number just published contains a short system of practical geometry, with part of a treatise on the equilibrium and pressure of beams, illustrated by three copper-plate engravings. The mechanical principles are exhibited in a plain and simple manner, mathematically correct, yet without requiring more previous mathematical knowledge in the reader than is necessary to work a rule-of-three question. The general object of the work is well expressed in the following extract from the prospectus:

"The work is compiled with especial reference to the operative carpenter. It is intended for the use of the workman or the apprentice who may wish to gain a more extensive knowledge of his art, and who may aspire to such skill and information as will enable him to design and execute the greatest works with elegance and durability, and in due time to assume the highest standing in his profession—a point which any man may honestly aim at, and to which a good resolution and vigorous exertion, properly directed and persevered in, will seldom fail to conduct him. To aid such laudable efforts is one great object of this work. But it is

not to the carpenter only that an acquaintance with the principles of construction is useful—such knowledge is almost equally necessary to the architect, the civil engineer, and all persons in any way connected with building. 'Construction is the anatomy of architecture; it is the very base upon which the art of design must be founded, and on the nature of the base must depend the excellence of the superstructure.'

"Although the 'Principles and Practice of Constructive Carpentry' will be compiled in such a manner that it may be readily comprehended by a mechanic of the humblest education, it will contain much practical matter, both original and copied, that will be of great utility to individuals of higher acquirements; and much useful information, which can only be obtained by long experience, or which lies scattered through a number of expensive volumes."

The proposed arrangement of the work is excellent, beginning with simple principles and regularly progressing to the most elaborate workmanship. The typographical execution is of the first quality, and the publisher appears to have spared no expense in order to bring the subject in as clear and pleasing a manner before the physical, as the writer has brought it before the mental eye of the reader.

We would earnestly recommend the study of such works as this to all mechanics. No man can know too much concerning the business by which he obtains his bread, and on which hangs all his hopes of rising in the scale of society. Other kinds of knowledge may, this is sure, be useful to him. Such knowledge he must possess, if he would ever rise beyond mediocrity in the exercise of his art. And to those who are not already in possession of good works of the kind, we would recommend "the Principles and Practice of Constructive Carpentry." The method of publication, in monthly numbers, 25 cents each, renders it accessible to every one; and, from what we have already seen of it, we have no doubt that it will prove a most useful and practical work.

MAHOMEDAN MONTHS.—In chronology and history, as well as in all public documents, the Mahomedans use months of thirty and twenty-nine days alternately, making the year thus to consist of 354 days. Eleven times in thirty years one day is added to the last month, making 355 days, therefore, in that particular year. In common reckoning the year is purely lunar, consisting of 12 months, each one commencing with the appearance of the new moon, without any intercalation to bring the commencement of each year to the same season.—[Scientific Tracts.]

TENACITY OF LIFE.—Edwards, a celebrated experimental physician of France, not long since deprived two Salamanders of their hearts, and then placed them in water of the same temperature, which had been deprived of air by boiling, and two others in air. One of the former died in eight hours, the other in nine, while those in the open air lived from twenty-four to twenty-six hours. By repetition the same results were presented, by which he infers that air, in comparison with water, has a superior vivifying influence upon the system of these animals, independently of its action by means of circulation and respiration.—[Ib.]

(From the Repertory of Arts.)

Specification of the Patent granted to ROBERT STEPHENSON, of Newcastle-upon-Tyne, in the County of Northumberland, Engineer, for a certain Improvement in the Locomotive Steam Engines now in Use for the quick Conveyance of Passengers and Goods upon Edge Railways.—Sealed October 7, 1833.

My improvement in the locomotive steam engines now in use, for the quick conveyance of passengers and goods upon edge railways, is applicable to that kind of locomotive engines which are used in the Liverpool and Manchester railway (the first of which engines was called by the name of the Planet), having the two main wheels, which are impelled by the engine, fixed on a double cranked axis, and turned round by the force of the pistons of the steam cylinders, in order to advance the locomotive engine along the edge rails, whereon the said main wheels bear. And my said improvement consists in making the said main wheels of the locomotive engine (which are fixed as aforesaid) on the ends of the cranked axis, and impelled by the force of the pistons, with plain tires to run upon the edge rails, without any projecting flanges on those tires, and applying two additional small wheels with flanges on their tires, beneath the hinder end or part of the engine, in order to cause that end of the engine, by means of those flanges, to keep straight upon the rails, as it runs along thereon, and also to bear up part of the weight of the furnace end of the boiler, in the same manner as the present two small wheels (by means of their flanges) keep that end of the engine straight on the rails, and bear part of the weight at the chimney end of the boiler, where the steam cylinders are situated. And also consists in applying the force of small extra steam pistons, or plungers, fitted into suitable cylinders, which, by turning a cock, can be supplied when required with steam from the boiler, in order to act upon a double brake, or pair of clogs, which are applied to the circumferences of the tires of the said main wheels without flanges, and of the two said additional small wheels with flanges, so as to press the said brakes or clogs in contact with the said circumferences, and thereby cause friction and resistance, which will tend to retard the motion of the wheels, and consequently the advance of the engine, along the rails, in order to stop the same when required.

The object of my said improvement is to obviate or diminish some inconveniences which have been experienced in the use of such locomotive engines, for the quick conveyance of passengers and goods on the said Liverpool and Manchester railway, namely, that the cranked axles of the great wheels have been found liable to break, and then the engines run off the rails, and sometimes overturn, or are otherwise injured. They have, also, in some cases run off the rails when the cranked axle has been only strained, without being actually broken; also, it is found difficult to hold on with the clogs or brakes to the wheels of such locomotive engines, according to the manner whereby the brakes are usually applied by hand, with sufficient force and steadiness to retard the engines from advancing along the rails, as much as is desirable, in order to arrest their motion as suddenly as possible when they have been travelling rapidly, and particular-

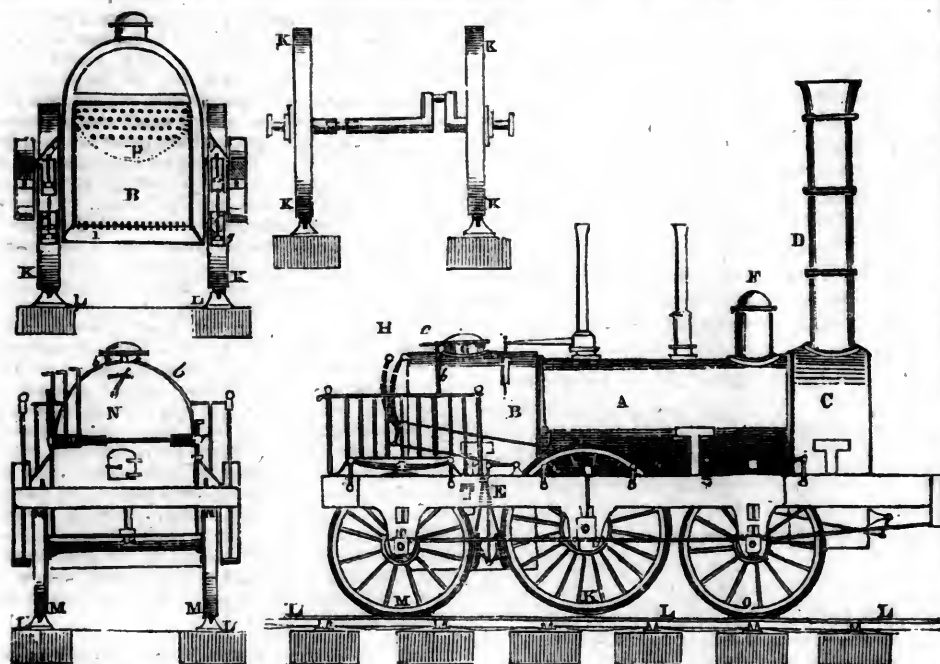
ly in the event of arriving at a broken or deranged part of the railroad, or on any other occurrence which may occasion danger of collision with obstacles or other carriages, if the motion were not stopped with promptitude; and also the boilers of those engines have burned out very rapidly, in their internal tubes, so as to have occasioned great expense and loss of work in repairing them.

My said improvement in such kind of locomotive engines will tend to obviate or diminish the said inconveniences, for by using plain tires, without flanges, for the main impelled wheels (and which has never been done before in such engines on edge railways), the cranked axles of those wheels will not be subjected to any strain endways, in the direction of its length, when the engine enters into sidings, turnings, and crossings of the rails, or passes along curvatures in the line. * * *

And by applying the pressure of steam from the boiler to act within hollow cylinders, upon pistons or plungers fitted into those cylinders, so as by the motion given to those pistons by the steam, when admitted into the said cylinders, to force the brakes or clogs against the edges of the wheels, in order to retard the same, by causing friction, and thereby stopping the advance of the locomotive engine on the rails. The stopping may thereby be effected with more promptitude, and with less trouble and effort than by the ordinary mode hitherto practised, of applying the clogs or brakes by the strength of the man who attends the engine; for, according to my improvement, the man, when warned of any danger, requiring the locomotive engine to be stopped as suddenly as possible, after having as usual stopped off the supply of steam to the engine cylinders, will have nothing to do in order to apply the brakes or clogs but to turn a cock in a small steam pipe, which conducts the steam from the boiler into the said hollow cylinders, wherein the said pistons or plungers are fitted, and the steam being (by opening the cock) admitted to act upon those pistons or plungers, will bring the clogs or brakes into action, with far more effect than can be done by the common mode of pressing them against the wheels by handle levers, actuated by man's strength; and also according to my improvement, the man, after having opened the said cock, and so brought the brakes or clogs into action by the force of steam, will have his hands at liberty to do any other duty that may be required of him whilst the engine is stopping. And note—the same effect may be produced by admitting water from the boiler, by a pipe and cock as aforesaid, into the said hollow cylinders, in lieu of steam, because the pressure of the water will produce the same effect on the pistons or plungers, and clogs or brakes, as that of the steam. And in order to release the said clogs or brakes, and take them out of action, the aforesaid cock must be shut, to cut off the communication from the boiler to the hollow cylinders, wherein the pistons are to act, and another cock being opened to permit the steam (or water) which has operated in the hollow cylinders, to escape therefrom into the open air, and allow the pistons or plungers in those cylinders to return and release the brakes or clogs. The additional small wheels which I apply beneath the hinder end of the boiler, will sustain the extra weight of a larger boiler than heretofore

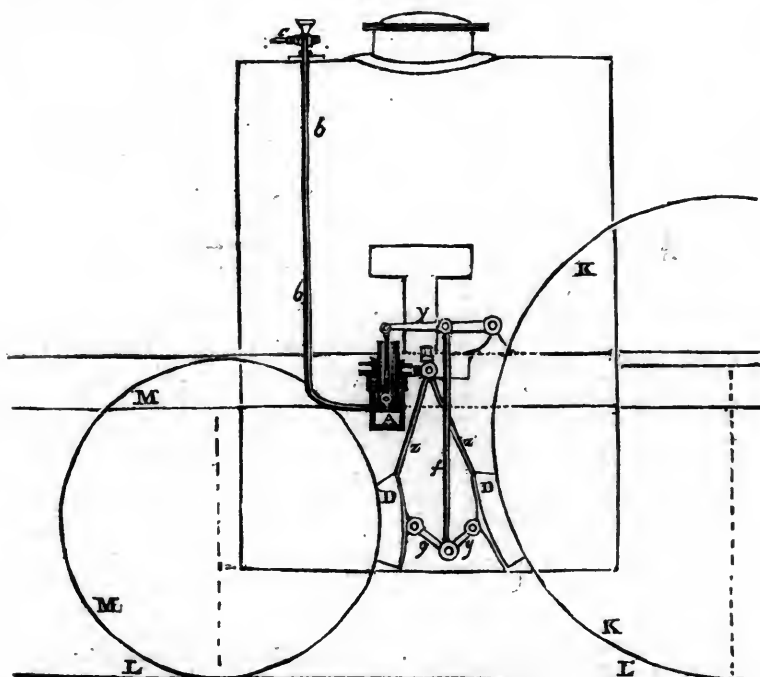
used, without distressing the rails; and bearing springs are to be used for the extra small wheels, the same as is now done for other wheels in the ordinary engines, and the said springs will cause all the six wheels to apply and bear fairly on the rails, and ease all jolts and concussions. The relative weights or portions of the whole weight of the engine, which shall be borne by each of the six wheels being regulated by the strength and setting of their respective bearing springs. The main wheels which are to be impelled by the power of the engine being in all cases left loaded with as much of the weight of the engine as will cause a sufficient adhesion of those wheels to the rails to avoid slipping thereon. When by virtue of my improvement a larger boiler is used, containing more heating surface than heretofore, a less intense excitement of the combustion will be required in order to produce the necessary quantity of steam for the supply of the engine, and that diminution of the intensity of the combustion will be advantageous to the performance of the engine for another reason, as well as by avoiding the heretofore rapid burning out of the metal of the boiler, because the jet of waste steam (which is thrown into the chimney to produce a rapid draft therein, and a consequently intense combustion of the fuel,) may be greatly diminished in its velocity, and thereby the waste steam will be allowed to escape more freely from the cylinders than heretofore, when a very sharp and sudden jet of the waste steam up the chimney is found absolutely necessary to excite that intense violence of combustion which can alone enable the present boilers to yield the requisite supply of steam, but that very sudden jet can only be obtained by throttling the education passage, and thereby impeding the free discharge of the steam from the working cylinders, so as to impair the force of the pistons; and at the same time, the excessive combustion which is excited (by so impairing the force of the pistons), also destroys the metal of the boiler in a short time. Increasing the magnitude of the boiler, giving a larger extent of heating surface thereto, and working the enlarged boiler with a more moderate intensity of fire, is the true remedy, and will save fuel as well as avoid the rapid destruction of the boiler, because the steam will be allowed to escape more freely from the cylinders. The adoption of larger boilers in the said locomotive engines, with all the advantages to be derived therefrom, as aforesaid, depends upon the application of the two additional small wheels beneath the furnace end of the boiler, because the present engines are already too heavy on the rails, and require a diminution of weight instead of an augmentation. But I wish to be understood, that I do not claim the use of six wheels instead of four, as an improvement merely for better supporting the weight distinct from other circumstances hereinbefore set forth, but I claim the using of large wheels without flanges on their tires, which wheels are to be fixed on the cranked axle to serve for the impelled wheels of locomotive engines, which are to travel on edge railways, and in conjunction therewith, (but not without that conjunction;) the application of a pair of extra small wheels, with flanges on their tires, beneath the hinder end of the boiler, with interposed bearing springs, like those of the other wheels; that application of extra small wheels with flanges

Sheet I.



References.—A, the boiler; B, fire-box; C, smoke-box; D, smoke-pipe; E, suspension pin; F, steam head; G, man hole; H, working gear; J, fire grate; K, main impelling wheels; L, M, extra small wheels; N, throttle valve; P, tubes.

Sheet II.



i, moveable plunger

ges, conjointly with the said using of large impelled wheels without flanges, being for the purpose of keeping the engine straight on the rails when it runs forward, as well as for bearing up part of the weight. And also I claim, as part of my said improvement, the application (as hereinbefore described) of the pressure of the steam or water from the boiler, to act when required in hollow cylinders on pistons or plungers, which are connected with the clogs or brakes for the wheels, so as to bring the said brakes or clogs into action by the pressure of the steam instead of by the strength of men, as heretofore done. Note—I make no claim to the use of six wheels in locomotive engines to travel on edge railways, if the impelled wheels have flanges, but only when the said

impelled wheels have no flanges; and for the more complete explanation of my said invention, I have hereunto annexed three sheets of drawings, (No. 3 is omitted in the engravings,) representing two locomotive engines for the quick conveyance of passengers and goods upon edge railways, when constructed according to my said improvement.

Sheet I. contains a side elevation, end elevation, and end section of such an engine. K are the main impelled wheels on the cranked axle, without any projecting flanges on the tires, which run on the edge rails. L, M, are the extra small wheels with flanges, applied beneath the hinder or furnace end of the boiler; and O are the ordinary small wheels with flanges beneath the chimney

end of the boiler, where the working steam cylinders are situated. The small wheels, O and M, with flanges, keep the engine straight on the rails as it runs forwards thereon; and the large impelled wheels, K, have only to advance the engine forwards, and to bear a due portion of its weight, without having any thing to do with keeping the engine on the rails, having no flanges which can hold laterally on the rails; whereas the cranked axle of the wheels, K, is liberated from all stress by any lateral action of the great wheels K against the edges of the rails; and the small wheels, O and M, with flanges, (which wheels have straight axles,) sustain all the stress of that lateral action.

Sheet II. contains a separate drawing of the brake or clog, which is also shown in its place in sheet I. A is the hollow cylinder into which a plunger is fitted, to act by a lever, Y, and an upright rod, F, upon the two clogs or brakes, D, D, which are suspended by pendulous links, Z, from a centre pin or bolt, E, fixed to the frame. The clogs or brakes, D, D, are caused to apply to the circumferences of the tires of the wheels, K, and M, by means of links, G, G, which are interposed between the two clogs or brakes, D, D, and which links, when put down into an angle, as shown in the figure, leave the brakes or clogs, D, D, free of the wheels, K, and M; but when by opening the cock, C, the steam from the boiler is admitted through the pipe, B, B, into the hollow cylinder, A, it raises up the plunger therein, and that by its lever, Y, and rod, F, draws up the links, G, G, towards a straight line, and then they force the two clogs or brakes, D, D, apart from each other against the wheels, K, and M, with an increased force beyond that which the plunger exerts; that increase of force being in consequence of the leverage at Y, and the oblique direction of the links, G, G. When the handle of the cock, C, is turned the other way, it allows the steam to issue through an upright spout, and escape from the cylinders into the open air.

Enrolled December 3, 1833.

ZINCOGRAPHY.—It was but a few years past that we had to record an advance in the fine arts in the invention of lithography, which afforded increased facilities in the art of engraving. Lithography is now, however, likely to be displaced, at any rate to a great degree, by the invention of an ingenious Frenchman. M. Breugnot, who has succeeded in preparing a composition of metal, the basis of which is zinc, upon which drawing and writing can be effected with equal, if not with greater facility, than upon stone, and as easily applied to paper with the same machinery. The art of zincography has several advantages over that of lithography; among others, in the portability and comparative cheapness of the plates, over the necessary bulkiness and cost of stone. These plates can even be adapted to a lady's portfolio, to any thickness, and to any size—a desideratum much wanted in lithography. The invention of zincography has received the sanction of the Royal Academy of Paris, and we understand that M. Breugnot has sold the patent for Great Britain to Mr. Chapman, of Cornhill, who feels confident that he shall be able to adapt this improvement to every department in the art of engraving. In Paris they have already succeeded in printing large window blinds with one plate, and we believe experiments have been made on silk and cotton, which warrant the supposition that zincography will soon be applied in our silk and cotton printing establishments.—[Lon. Morn. Herald.]

NEW-YORK AMERICAN.

DECEMBER 13—19, 1834.

LITERARY NOTICES.

ENGLISH HISTORY, adapted to the use of Schools and Young Persons; BY THE AUTHOR OF AMERICAN POPULAR LESSONS. New York: R. Lockwood.—A new school book on English history may seem unnecessary, and yet from the partial examination we have given to this one, we must say that it seems to us a well arranged and well digested compendium, in which all important facts are enumerated, and withal, the moral character and influence of the nation, and of events, are suitably dwelt upon. It is principally derived, as the preface informs us, from "Mrs. Markham's History of England," confining it however to purely English history, and referring for instance all the details of the American war of the Revolution, to American History.

THE FRANKLIN LIBRARY OF MODERN LITERATURE; Parts I. and II. New York: WALLIS & NEWELL.—These are the first numbers of a new enterprise, to be published weekly, and having for object the publication in a cheap form of "the popular NEW WORKS of the most celebrated English authors."—The two numbers before us, are devoted to selections of tales from English annuals of this year, and thus for 25 cents, (the price per number being 12 1-2 cents) furnishing the cream of these literary bijoux.

THE WORKS OF MRS. SHERWOOD. Vol. VII. Uniform Edition. HARPER & BROTHERS, New York.—This volume contains with many of Mrs. Sherwood's earlier stories, her latest work, *The Nun*, which is remarkable, as has been before observed in this paper, by the identity of the catastrophe of the story, with the destruction of the Ursuline Convent at Charlestown. Yet among the agents of that outrage, not one probably had ever read or heard of Mrs. Sherwood's book. Human nature, however, is pretty much the same every where, and alike in Sardinia and in Massachusetts, the agency of a mob is always blind and formidable.

THE QUARTERLY JOURNAL OF AGRICULTURE, MECHANICS AND MANUFACTURE, vol. I, No. II. New York: MINOR & CHALLIS.—This is a publication which cannot fail to spread light along its path, and to scatter much useful information. Its title explains its objects, and in the number before us, only the second in the series, there is matter which will be found worthy the attention of the great and numerous classes for which it is especially designed, the farmer, mechanic, and manufacturer.

THE EDINBURGH REVIEW for October, being No. 1 of vol. I of *Foster's Republication*. New York: T. FOSTER.—This number of the Edinburgh contains the paper ascribed to the pen of Lord Brougham on "the last session of Parliament," which so much irritated Lord Durham, as to induce him to write the letter to the publisher of the Review, which we copied some weeks ago from a London Journal. It has another most interesting article on "the Improvement of Inland Transportation and Railroads," from which we make copious extracts in our outer columns to lay. We renew our recommendation of this Republication.

LIFE OF PRINCE TALLEYRAND. 1 vol. 8vo. Philadelphia: CAREY, LEA & BLANCHARD.—We confess our surprise at finding such a book as this republished by so respectable a press as that of Carey, Lea & Blanchard. It is utterly unfit to go into any decent house: it is made up, so far as the record of the early life of M. Talleyrand is concerned, of gross and filthy details of debauchery; and in the incidents purporting to be historical, of his political career, it is unworthy of credit. *Vidocq's* Memoirs, and *McDowell's* Journal, are the only fitting types that

occur to us of this slop-pail of scandal, indecency, and calumny.

STEPHEN MORELAND, a Novel; 2 volumes, 12mo; Philadelphia, KEY & BIDDLE.—A new American novel here claims, but fails to arrest attention. It is alike feeble and barren in incident, character, dialogue and description. It treats of Masonry and Anti-masonry—of Orthodox Quakers and Hicksites—of sleighing parties, where highbred young ladies sit in gentlemen's laps—of cotillions, where a lady stands in the centre to be kissed by the gentlemen—and of other American usages, which it has not been our fortune to hear of except in these pages.

THE SYBIL'S LEAVES FOR 1835, by MRS. COLEY.—These are Conversation Cards for young people of the two sexes. The difference of color designates those for the lady and the gentleman; and thus—each holding the proper set—cards drawn at hazard may be the occasion of producing some merriment, and at any rate of whiling away an agreeable hour.

They are printed by the Harpers.

LETTERS TO A GENTLEMAN IN GERMANY, written after a trip from Philadelphia to Niagara.—Edited by FRANCIS LIEBER, 1 vol. 8vo. Philadelphia: CAREY, LEA & BLANCHARD.—This is a very agreeable book, rambling, sprightly, anecdotal, and withal interspersed with much useful and practical information, and keen and accurate observation. It is no violation of courtesy to assume that the Editor is really the writer of these letters—and the personal adventures, narrated without any avoidable egotism, of this intelligent, learned, and thinking wanderer, are not the least interesting portions of the volume. The views incidentally expressed concerning the people, habits, and institutions of this, his adopted country, are, we think, for the most part, just—tho' sometimes flattering.

On the subject of the American ladies, he thus discourses:

You wish the ladies described too? I know that we wish as much to become acquainted with the appearance of the female sex of a country as with their character. But this is no easier task than to give, in a few lines, a description of the scenery of a country; it is, in fact, much more difficult. Yet I will try it; only remember that descriptions of this kind are to be taken as general assertions, admitting of innumerable exceptions. To begin then.—It must be allowed, in the first place, that American women have generally a fine, and more frequently than the women of other countries—a graceful, rarely an imposing appearance. Their shoulders are generally not wide enough, and too sloping; their busts not sufficiently developed, but the waist is small, round, and the lower part of the body finely formed; their feet are not peculiarly good—they are better than German feet indeed, and better than English. Yet so capricious are exceptions! The smallest pair of correctly shaped feet, so small as would be justly criticized if an artist were to give them to a work of his imagination, and the neatest pair of ankles, "turned by Cupid," with corresponding hands and wrists, that I ever beheld, I saw on this side of the Atlantic. A pair of feet which might induce an admirer of the beautiful to sing to them, as Conti sung only of the hands of his mistress. I will give you a letter of introduction to these lovely feet and hands and arms, if you come to this country. In the mean time I send you a glove of their mistress, which she once gave me with grace: honor it duly, and feel unbounded obligation for my parting with the memento.

Their walk is much better than the ungraceful dipping and pitching of the English ladies, which looks rather like an unsuccessful attempt at a gallop than a walk. However, for feet and walk you must go to Andalusia: what is there equal to *la gracia andaluz*?

"Their very walk would make your bosom swell;

I can't describe it, though so much it strike,

Nor liken it—I never saw the like.—

An Arab horse, a stately stag, a barb

New broke, a camelpard, a gazelle—

No—none of these will do."

Their arms—where are fine arms any longer to be found if not by way of exception? Sleeves have spoiled them. Their color—I do not now speak specially of the arms—is generally delicate, which contributes to give, even to the lowest classes, an

air of gentility. An English face here is known directly by its florid color; and it is sometimes very agreeable to meet with a rosy cheek lately arrived. Their eyes are not as large as the Spanish, nor *ojos adormidillos*, yet they are fine, well cut, and well set, and of much mental expression. They look bright, and are generally of a fine dark brown color. The general expression of the face is again that of handsomeness and delicacy rather than of great and striking beauty. From all this you will see that American ladies look better in the street than in the ball-room, yet I can assure you you find there also many charming faces. It is a peculiarity of the United States which has often struck me, that there are more pretty girls than in any other large country, but fewer of those imposing beauties which we meet in Europe, and who have their prototypes in a Mad. Recamier or Tallien, or the beautiful Albanian, when I saw her in Rome, or even as you find many in the figures of the women in the marine villages near Genoa, which made a Thorwaldson rave—beauties which "try man's soul," which will not depart from the mirror of your mind, and disturb your quiet, though your heart may be firm as a rock. After all, I come back to my old saying, there is no European nation that can—taken all in all—compete for great beauty with the English, as there is no nation where so many pretty and delicate faces as are seen in the United States.

DUNLAP'S HISTORY OF THE ARTS OF DESIGN IN THE UNITED STATES.—(Second Notice).—A further examination of these volumes, confirms the opinion already expressed, that this publication of Mr. Dunlap will prove one of the most popular works that has for a long time issued from the American press. The work is of too comprehensive a character, however, to attempt a fair review of it in limits so restricted as ours; and we shall, therefore, only touch upon such portions as may particularly interest our readers. Among these, there are a few more acceptable to a New Yorker, than those which relate to the three young and eminent artists, whose fame is so intimately identified with the taste and appreciation of this city. INMAN, and COLE, and WEIR, differ so in their respective styles, that much as each is admired, we do not recollect ever to have heard a single invidious comparison instituted between them. The soul that breathes in Inman's portraits—the life that quivers in Cole's foliage, and the atmosphere that embalms Weir's figures and landscapes, are all so redolent of genius, as to mark a distinct and original character in the productions of each. The age, too, of the trio, is nearly the same; the subjects in which they most excel are alike American; and there is scarcely a private collection of the works of native artists, which is not graced alike by the pictures of the three.

Inman, who was born at Utica in this State, attained a reputation at an early day, when as the pupil of Jarvis, he illustrated with bold and glowing hand some of the most characteristic passages in the Sketch Book; and a vivid scene or two in the first of Cooper's novels. He is now chiefly known as the most spirited of portrait painters, but his varied powers are sufficiently marked to have elicited the remark here recorded by Mr. Dunlap, from the lips of one of the most eminent and experienced judges of art in the country.

The versatility as well of excellence of Mr. Inman as an artist, was once expressed to me by Mr. Sully in nearly these words. "I remember going round your exhibition of the National Academy at Clinton Hall in New York, and seeing a fine landscape, I asked, 'Who painted this?' The answer was, 'Inman.' Then I came to a beautiful group of figures—'Ah, this is very clever—let us see whose this is,' I looked at my catalogue, '—Inman.' Then some Indians caught my eye—catalogue again—'Inman.' A little further on, and I exclaimed 'By George, here is the finest miniature I have seen for many a day! it was a lady in black, 'Who is this miniature painter?' 'Inman.' His large portraits I was acquainted with, but this variety of style took me altogether by surprise."

The venerable Col. Trumbull was the first that discovered the singular merit of Cole, whose life is a per-

fect romance; but we must refer the reader to the work for the particulars. His grandfather was a Maryland farmer, but he himself, like Leslie, was born in England of American parents. He grew up amid the backwoods of Ohio, and it was in her deep forests, beneath the glowing skies of the West that he drank in that inspiration, which makes his autumnal woods and American sunset so perfect and unique. No painter ever dared to paint these subjects as they are until Cole's bold pencil essayed them; and with every attempt since made by others, they are still peculiarly his own. It has been stated that his forest scenes were condemned in England because her connoisseurs cannot believe such tints to exist in nature. We remember hearing an intelligent Englishman and an enthusiastic admirer of Cole prophesy this fate for his pictures, when he heard that they were to be exhibited at Somerset House. The early school of this artist was Nature alone, and his may account for the severity of his strictures upon the present state of art in England, written after he had had an opportunity of studying the best masters in Italy. They are thus introduced by Mr. Dunlap.

The opinions of Mr. Cole on the subject of landscape, I look upon as the highest authority: as I consider his mind of the first order, and his works in that department of art, superior to those of any painter of the present day, that have come under my inspection. His words are:

"A great deal might be said on the subjects of England and Italy; but to say that which will be most available to you may be difficult. I did not find England so delightful as I anticipated. The gloom of the climate, the coldness of the artists, together with the kind of art in fashion, threw a tone of melancholy over my mind, that lasted for months, even after I had arrived in sunny Italy."

"Although in many respects, I was delighted with the English school of painting, yet, on the whole, I was not disappointed: my natural eye was disgusted with its gaud and ostentation: to colour and chiaro-scuro all else is sacrificed—design is forgotten; to catch the eye by some dazzling display, seems to be the grand aim. The English have a mania for what they call generalizing; which is nothing more nor less than the idle art of making a little study go a great way, and their pictures are generally things 'full of sound and fury, signifying nothing.' The mechanical genius of the people exhibits itself in the mechanism of the art—their dextrous management of glazing, scumbling, &c. Frequent and crowded exhibitions of recently painted pictures, and the gloom of the climate, account for the gaudy and glaring style in fashion. There are few exceptions among the artists of England to this meretricious style; even Wilkie and Leslie, in their late pictures, have become more washy and vapid than in their former productions."

"These opinions of existing English art, I know may be considered heterodox; but I will venture them, because I believe them correct. The standard by which I form my judgment is—beautiful nature; and if I am astray it is on a path which I have taken for that truth."

Weir, who has lately succeeded Leslie at West-point, was born at New Rochelle in this State. His delicious Italian landscapes made him first generally known after his return from Europe; but his reputation has since then been much enhanced by several fine original productions. He has lately painted three admirable pictures for the Hon. G. C. Verplanck; and "Bourbon's last March," one of the three, is a composition that would become the hand of any master. Mr. Dunlap's opinion of Weir's merit, with an account by Dr. Francis of one of his most celebrated productions, is given in the following interesting extract:

Mr. Weir has produced a great many finished pictures since his return from Italy, several of which have been engraved. His "Red Jacket" is well known. This chief of the Senecas exhibited a fine specimen of savage manners when he came with his attendants, or companions of the forest, to the painter's room. He seated himself down on an ample arm-chair, with the nonchalance of a superior, and his wild tribesmen surrounded him. "It becomes not

me," says Dr. Francis in a letter to the author, "to speak of the peculiar merits of the painting of Red Jacket, (Sagoyah, or Keeper-awake) by Weir. It is admitted, by the competent, to eclipse all other delineations of our Indian chiefs, and demands, as a work of art, no less regard than the subject himself, as one of pre-eminent consideration among our aborigines. The circumstances, however, which gave the artist the opportunity of portraying the distinguished warrior and great orator of the Seneca nation, deserves at least a short notice. An acquaintance of some years with Red Jacket, which was rendered, perhaps, more impressive in his recollection by occasional supplies of tobacco, led him to make an appointment with me, to sit for his picture upon his arrival in the city. When he came to New York, in 1823, with his interpreter, Jamieson, he very promptly repaired to the painting-room of Mr. Weir. For this purpose he dressed himself in the costume which he deemed most appropriate to his character, decorated with his brilliant overcovering and belt, his tomahawk and Washington medal. For the whole period of nearly two hours, on four or five successive days, he was as punctual to the arrangements of the artist as any individual could be. He chose a large arm-chair for his convenience; while his interpreter as well as himself, was occupied, for the most part, in surveying the various objects which decorated the artist's room. His several confederates, adopting the horizontal posture, in different parts of the room, regaled themselves with the fumes of tobacco to their utmost gratification. Red Jacket occasionally united in this relaxation; but was so deeply absorbed in attention to the work of the painter, as to think perhaps of no other subject. At times he manifested extreme pleasure, as the outlines of the picture were filled up. The drawing of his costume, which he seemed to prize, as peculiarly appropriate, and the distant view of the Falls of Niagara, (scenery near his residence at the Reservation) forced him to an indistinct utterance of satisfaction. When his medal appeared complete, he addressed his interpreter, accompanied by striking gestures; and when his noble front was finished, he sprang from his seat with great alacrity, and seizing the artist by the hand, exclaimed, with great energy, 'Good! good!' The painting being finished, he parted with Mr. Weir with a satisfaction apparently equal to that which he doubtless, on some occasions, had felt, in effecting an Indian treaty. Red Jacket must have been beyond his seventieth year when the painting was made: he exhibited in his countenance somewhat of the traces of time and trial upon his constitution; he was, nevertheless, of a tall and erect form, and walked with a firm gait. His characteristics are preserved by the artist to admiration; and his majestic front exhibits an altitude surpassing every other I have seen of the human skill. As a specimen for the craniologist, Red Jacket need not yield his pretensions to those of the most astute philosopher."

The following passage "shows up" a distinguished American trio in London, and accounts very naturally for Leslie's so soon giving up his situation at West Point:

Washington Irving, Esq., has told me that on arriving from the continent of Europe, where he had been some time, he found Newton and Leslie in the same house, and that while he was writing his Sketch Book, he saw every step they made in their art, and they saw every line of his writing. Here was a communion of mind that could not but lead to excellence. Irving's admiration of Leslie, both as a man and an artist, is extreme. A cultivated mind, purity of moral character, refined taste, indefatigable study, by which his knowledge of drawing and skill in composition were such, that having determined his manner of treating a subject, and drawn it in, no change or alteration took place; in this a perfect contrast to his friend Newton.

I have above said, that Mr. Leslie returned to London. In the only interview I had with him, which was in my sick chamber a day or two previous to his embarkation on his return, he did not express any feeling of disappointment. With the government of the United States he certainly had no cause of complaint. He was invited to West Point as teacher of drawing, with the same emoluments and accommodations which his predecessor had enjoyed. But his friends, anxious that he should be with them, had assured him that the teachership would be made a professorship, with additional advantages corresponding with the other professors, and that a painting room should be built for him. But in our representative government, this required an act of

Congress, and the passage of the yearly appropriation bill. This act and appropriation was intended; but Mr. Leslie had taken post at West Point, at the commencement of winter, with his family, never before out of London. The winter is a trying season in a bleak situation on the Hudson—a situation at other times redundant with charms. Mrs. Leslie is a London lady, and her family remained occupants of the house left by the artist; her heart was naturally at home. Leslie, I am told, upon an answer from the Secretary at War, that he could not order a painting room built until appropriation was made for it, gladly resigned the situation, and took his family to London again, no doubt happy to escape from the bleak promontory on which they had passed a discontented winter.

There are several other favorite artists, like Doughty,—the softest painter of sleepy summer moonlight, or Callin, the bold wanderer in the far West, who has been so long taking "full lengths" of the prairies,—whose names seem to claim a passing paragraph. But they all receive due honor from our author, and we refer the reader to his work accordingly. The encomium passed by Mr. Dunlap upon Miss Hall, will be fully acknowledged by all admirers of miniature painting who have had an opportunity of observing how the exquisite touch of Malbone's pencil lives again in her gifted hand.

Among the most interesting passages of the book, are those relating to Allston, of whom the following, among other anecdotes, is told:

Mr. Allston returned to America in 1809. When Robert W. Weir, Esq. of New York, was studying his profession in Rome, many years after Allston left it, the artist of Rome asked him after an American painter, for whom they had no other name than the American Titian. When Weir mentioned the name of Allston's they exclaimed "that's the man!"

Some agreeable specimens of this eminent artist's happy poetical vein are given.

And as the "Paint King" belongs to our subject, the reader may, if he pleases be amused with this playful ballad in imitation, and in burlesque of Scott's "Fire King," Lewis's "Cloud King," and other sportive effusions much read at that time. It commences as follows:

Fair Ellen was long the delight of the young,
No damsel could with her compare;
Her charms were the theme of the heart and the tongue,
And Bards without number in ecstasies sung,
The beauties of Ellen the fair.
Yet cold was the maid; and though legends advance
All drill'd by Ovidian art,
And languished, and ogled, protestec and danced,
Like shadows they came, and like shadows they glanced
From the hard polish'd ice of her heart.
Yet still did the heart of fair Ellen implore
A something that could not be found;
Like a sailor she seem'd on a desolate shore,
With nor house, nor a tree, nor a sound but the roar
Of breakers high dashing around.
From object to object still, still would she veer,
Though nothing, alas, could she find;
Like the moon, without atmosphere, brilliant and clear,
Yet doom'd, like the moon, with no being to cheer
The bright barren waste of her mind.

It is with pain after such agreeable matters, that we feel compelled to advert to the spirit—any thing but gentle or just—in which the name and works of Col. Trumbull are uniformly mentioned in this work; and especially to that passage in the second volume which has called forth the following explanation from Col. Trumbull:

To the Editor of the N. Y. American:

38 BROADWAY, NEW YORK, 9th December, 1834.

MY DEAR SIR—I have been looking over Mr. Dunlap's work on the Arts of Design in America, some pages of which I find he has devoted to a notice of me and my works—written with as much accuracy as could be expected from the mode in which the materials were collected, from the shreds and patches of detached conversations reported to him from memory, and put together with a studied spirit of ill-will. To this I have no objection, nor to the bitterness with which he criticises some of my professional works, for to Artists in particular is applicable the admirable rule given by our Saviour on another occasion, "By their works ye shall know them." The works of Mr. Dunlap and myself will be judged by future and perhaps more impartial judges than we are of each other.

But in his notice of Mr. Durand, vol. 2, page he has contrived to drag me again before his readers,

in a way calculated to leave an impression on their minds that I have lately had the baseness to cause to be engraved on the hilt of a sword—a falsehood, to gratify my own vanity. It is due from me to his readers, and to my own character, to take notice of this.

All who have read the history of the War of the Revolution, know that in 1778 a plan was formed for the recovery of Rhode Island from the British, who had taken possession of it at the close of 1776. A French fleet of twelve sail of the line, from the West India station, under command of the Count D'Estaing, was to co-operate with the American force commanded by General Sullivan. This fleet appeared off New York in August, and thence sailed to Rhode Island.

It is true that I had resigned my situation in the Army in the Spring of 1777. But I had not so soon lost my relish for "the glorious pomp and circumstance of war" and therefore I, on this occasion, offered my services to Gen. Sullivan, in the character of a volunteer Aid-de-Camp; my offer was accepted and I accompanied the General in this character. The French fleet was soon drawn off from their co-operation by a manoeuvre of Lord Howe, and our Army alone continued the siege or blockade of Newport until the close of August, when the attempt was abandoned, and our troops retired to Butts Hill, at the north end of the island, near Howland's Ferry. On the following morning, I believe, the 29th August, our rear guard posted on Quaker (otherwise Windmill) Hill was attacked, soon after daylight: and Gen. Sullivan wishing to avoid an action on that ground, sent me with orders to the officer commanding the guard (Col. Wigglesworth) to withdraw. In this affair Col. Tossard lost an arm. Capt. Walker, of Col. Henry Jackson's Regiment, was mortally wounded, and some other loss was sustained: but the Guard was saved; the day passed off in skirmishing; and towards evening the enemy pushed our right wing, so far as to endanger themselves. I was ordered to lead Gen. Lovell's brigade of Massachusetts militia, who formed the right wing of our second line, to aid in repulsing them: they did not wait for us to come in contact, but as we advanced, they retired behind the crown of a hill. I rode forward to reconnoitre, and fell in with a solitary fatigued German soldier, from whom I took the sword in question, and ordered him to the rear, while I rode forward to the crest of the hill to look for the enemy:—they had been repulsed by other troops, and were forming, but vacillating:—I galloped back to Gen. Lovell; but his column, satisfied with the retreat of the enemy, had dispersed without the shadow of order. I had meditated a movement whose success depended upon celerity; and as it would require time to reform the column, I gave up my purpose, and we withdrew.

General Lovell is long since dead; but with the talents which he has shown for investigation, Mr. Dunlap may perhaps hunt up some survivors of that day, and ascertain the correctness of this statement. I am, my dear sir, faithfully yours,

JOHN TRUMBULL.

Nothing can be clearer or more unquestionable than this statement—the substance of which we cannot doubt Mr. Dunlap will feel the justice of incorporating in the next edition of his book.

TALES OF THE BORDER; by James Hall, author of *Legends of the West, &c.* We gladly welcome this handsome volume by the most successful painter of frontier life that has yet written. We shall take an early opportunity to examine its contents.

CHAMBER'S EDINBURGH JOURNAL. R. J. Pritchard, 2 Hanover Square, and 45 Ann street.—This is a handsomely printed quarto, containing four numbers of the entertaining original miscellany of the work whose name it bears. The whole for 12 1/2 cents.

DUNLAP'S HISTORY OF THE RISE AND PROGRESS OF THE FINE ARTS.—In our second notice on Saturday, of this attractive work, we took occasion to introduce a letter from Col. Trumbull, setting himself right before the public in a transaction adverted to by Mr. Dunlap. We now have the pleasure of subjoining a letter from the latter gentleman expressing his readiness to incorporate the letter of Col. Trumbull, in the next edition of the work.

To the Editor of the New York American:

MONDAY NOON, DEC. 15, 1834.

Dear Sir: I have this moment seen the American of Saturday, in which appears a letter signed John Trumbull, objecting to a passage in my history of the Rise and Progress of the Arts of Design, and giving a narrative of a transaction which explains what had appeared to me a contradiction of a statement I had made in the book.

As in my limited reading I have not found the gentleman's name in any history of our revolution, I must be excused for relying upon a statement which I have supposed came directly from himself for the purpose of publication; and when the date of an inscription was mentioned to me, which appeared to contradict the record of events which I had made on such authority, I could not but think it an error in the date given, and felt myself called upon to show my authority for the dates and facts as I had published them. The narrative which you have given in the American of Saturday perfectly explains the discrepant dates; and it will give me pleasure in a second edition of my work (which from the demand for it in this city and elsewhere will probably soon be called for) to insert the narrative, as now first published, of a transaction so honorable to the gentleman; and by giving it in its proper place and under its proper date, the passage objected to being rendered superfluous and irrelative, will be expunged. I remain yours truly and gratefully.

WM. DUNLAP.

FOREIGN INTELLIGENCE.

LATER FROM EUROPE.—By the *Europe*, packet ship, *Maxwell* Master, of 16th ult., from Liverpool there are London dates of the 15th. Paris 13th, and Madrid of 8th ult.

In England the death of Earl Spencer, father of Lord Althorp, had been the signal of the dissolution of the Ministry—such at least is the import of the two subjoined paragraphs, from different London papers of the 15th:

[From the London Morning Chronicle Nov. 15.]

"We have to communicate the astounding intelligence, that Lord Melbourne's Administration has ceased to exist. His Lordship repaired to the King on Thursday, and returned last night to announce to his colleagues the event. His Majesty, we learn, expressed no dissatisfaction with Lord M.'s administration, but he let it be understood that he considered it at an end with the death of the late Earl Spencer, and the consequent removal of the present Earl to the House of Lords."

[From the London Times, Nov. 15.]

We have no authority for the important statement which follows, but we have reason to believe that it is perfectly true. We give it without any comment or amplification in the words of the communication which reached us at a late hour last night. "The King has taken the opportunity of Lord Spencer's death to turn out the Ministry; and there is every reason to believe that the Duke of Wellington has been sent for. The Queen has done all."

There must at any rate be a new leader in the House of Commons, as Lord Althorp goes up of course to the other House. It does not however seem probable, in the existing state of public opinion in England, that the Duke of Wellington can be charged with the formation of a new Ministry. We should rather incline to the belief that Lord Durham would be able—backed as he seems to be by the popular voice—to force himself and friends upon the King. In that event Lord Brougham would be obliged to retire.

It is stated by the Journal of Commerce, that the Chambers were convened for 1st December, instead of 29th; and it is inferred that this may have been done at the urgent solicitation of our minister at Paris, with a view of carrying into effect the American treaty.

It is somewhat remarkable, that in the new French Cabinet, as set down, there should be two persons nearly connected with America. *M. de Bresson* was long resident at Washington as Secretary of Legation, and married a daughter of Mr. Justice Thompson, of the Supreme Court of the United States, though he is now a widower,—Gen. Bernard was employed for many years by this Government with

the rank and pay of a Brigadier General, as an Engineer in constructing the fortifications of the sea coast. On the part of this latter gentleman certainly, and we presume as much of the former, we know the most friendly feelings towards this country to exist; and are quite satisfied, that no efforts will be wanting on his part, compatible with fidelity to his own country, to preserve a good understanding with ours.

ONE O'CLOCK.—Our papers by the *Europe* are just come to hand, and we find by the Courier of 14th, that the Paris *Moniteur* had published officially the list of the Ministry as given below.

NEW FRENCH MINISTRY.—The new French Ministry is composed almost entirely of fresh materials,—*M. Persil* being the only member of the Ministry who is retained. It is as follows:

The Duke of Bassano, Minister of the Interior and President of the Council.

<i>M. Teate,</i>	Minister of Commerce.
<i>Mr. de Bresson,</i>	of Foreign Affairs.
<i>Gen. Bernard,</i>	of War.
<i>Charles Dupin,</i>	of Marine.
<i>M. Passy,</i>	of Finance.

It is not supposed that this change of Ministry indicates any change of policy in the affairs of the Government. Its announcement, however, occasioned a momentary decline of the funds.

LONDON, Nov. 14.—The King of the Belgians opened the session of the Chambers, on Tuesday last, in a Speech, which, like most Speeches from the Throne, deals only in those generalities which cover insignificance of statement with pompous verbiage, and render it impossible to collect from the most careful perusal of its high sounding phrases any definite meaning.

LONDON, Nov. 14.—The French papers of Tuesday bring accounts from Spain of the 5th instant, one day later than our own accounts published yesterday. The *Journal des Debats* states that a courier, who left Madrid on the 4th instant, brought intelligence that 78 members of the Chambers of Procuradores had declared, in an address to the Queen Regent, that they felt themselves compelled to refuse all support to the Government, if its system were not changed. This step was said to have produced at Madrid a great sensation. General Valdez had been named Minister of War, in place of *M. Zarco del Valle*. *M. Medrano* would replace *M. Moscoso*.

Our Bayonne Correspondent transmits to us a copy of the proclamation of General Mina on entering on his command. He promises pardon and oblivion to the insurgents who should submit, but declares a war of extermination against the contumacious. Some disturbances had taken place in Catalonia. On other points the Carlists were displaying renewed activity.

BAYONNE, Nov. 5.—Gen. Mina entered Pampeluna on Thursday the 30th ult. at 7 o'clock in the evening, but did not make his arrival known until the 1st inst. The General thought proper to repair thither *incog.*, in order to avoid the feasts which the inhabitants were preparing for him, and took up his residence in a private house of the town, to the great mortification of the ladies of Pampeluna, who had handsomely furnished the *Palais* for his reception.

It is now clearly understood that no call for French assistance has been made nor will be. You may depend on what I say, though I have no doubt many letters from this will contradict me on the subject.

The Monitor of Thursday, received by express with other papers, contains the following:—"The following telegraphic despatch dated Madrid 8th addressed by the French Ambassador in that capital to the Minister of Foreign Affairs, was received by the government yesterday."

"The Chamber of Procuradores have adopted the amendments made by the other Chamber in the Foreign Debt Bill. Thus the Guebhard Loan is acknowledged."

Negotiations for the marriage of the Queen of Portugal to the Duke of Leuchtenberg go on prosperously.

The foreign news of yesterday must be looked on as of more than usual importance. Hence we have gone through the papers with care, and present the result, as we collect it.

With regard to the English ministry, the speculations of the London press are, that Lord Melbourne will still remain Premier, that Mr. Spring Rice is

Chancellor of the Exchequer, and Mr. Abercrombie, as one of the Secretaries, will lead in the House of Commons, that Lord Spencer will probably go to the Admiralty, and Lord Mulgrave to the Colonial Department. Such an arrangement would leave nothing to hope for Lord Durham and his friends, and nothing to fear for Lord Brougham.

As to the French Cabinet, it is as mentioned yesterday. In addition, *Gen. Bernard* is to be created Peer of France, and discharge *ad interim* the duties of foreign as well as war Minister, until *M. de Bresson* can return from Berlin, where he is Minister.

M. Teste, in addition to the ministry of Commerce, is to be *ad interim* Minister of Public Instruction. The Chambers were certainly to meet on the 1st instant.

In Spain civilization seems retrograding. The Councils of the Queen are inefficient and distracted, while the civil war is carried on in a spirit that disgraces the era and the name of man. Allusion was made in our extracts yesterday, to *Zumalacarre*'s success over *Gen. O'Doyle*, which caused the dismissal at once at Madrid of the Minister of War, *Zoroe del Valle*. The authorities at Madrid published an account of it, representing it as a mere skirmish of little importance. We subjoin *Zumalacarre*'s account, giving a quite different aspect to the affair. The cool brutality with which this Carlist Chieftain records the shooting in cold blood of *Gen. O'Doyle*, and the humanity which only gives quarter when "tired of killing," present in striking relief the nature of this contest.

From the same respecting the action of the 28th, near Vittoria.

"DEAR FRIEND ECHEVERRIA—I beg you will place in the hands of his Majesty the accompanying. I have not time to write all I could wish, and on that account I do not forward the official details. The Marquis de Valdespina has not left my side during the two glorious actions, and Zavalia was with the advance, executing my orders.

"To-day the noted *O'Doyle*, his brother the Captain, and other officers were shot. The field of battle presents a horrid sight. The number of prisoners is very great. To-morrow, according to the orders which I receive here, I shall be able to manage the interview with his Majesty. Adieu, &c.

(Signed) "THOMAS ZUMALACARREGUY.

"October 28, 1834.
"To DON JEAN ECHEVERRIA, President of the Governing Junta of Navarre.

"P. S. Tired with killing, I ordered quarters to be given to the prisoners."

(Enclosure to his Majesty.)

"Heredia, 7 o'clock at Night, Oct. 28, 1834.

"SIRE:—The God of Armies has granted two consecutive days of glory to the arms of your Majesty. Yesterday the revolutionary forces, commanded by *O'Doyle*, were destroyed. This rebel fell into our hands, also, two field-pieces, a stand of regimental colours, and more than 400 prisoners. The number of the killed was horrid, as it exceeded 500.

"To-day being occupied in the reduction of some fugitives who fled away from the action of yesterday, and had taken refuge in the town of Arieta, a strong column made its appearance, proceeding from Vittoria, and commanded by the traitor *Osma*. Being gallantly attacked by our brave men it was driven back with great loss, as the number of killed exceeds 500, and the prisoners 450. Your Majesty's troops followed the enemy close to Vittoria.

"This occupation, Sire, has been the cause of my not proceeding to visit your Majesty, as I had offered to do, and to-morrow, most probably, I shall again be deprived of this honour, owing to its being necessary for me to observe the column of the rebel *Oras*, and of which, at this moment, I know nothing.

"At your Majesty's royal feet, &c,

"THOMAS ZUMALACARREGUY,"

SUMMARY.

THE NINETEENTH CENTURY.—We have seven or eight communications on our table from different correspondents, rebelling against Professor Kemp's decision by authority, as to the proper century in which 1st January 1800 is to be classed. As, how-

ever, the discussion can in no wise affect the fact, and is not likely now,—any more than at the period in question, when it was long and warmly conducted,—to settle opinion in relation to it, and as moreover current affairs make such a demand upon our columns, as to embarrass us daily in the choice of what to insert and what to omit,—we must postpone to the commencement of the next century, the discussion of the question, when it does in truth begin.

Hamilton's Monument.—For several days past a number of men have been employed in raising a granite pillar in the ground area of the Merchants Exchange, the head of which perforates the floor of the great room above. This work is to sustain a full length Statue of *Gen. Hamilton*, procured by an association of gentlemen, who several years ago subscribed between four and five thousand dollars for this purpose. The Statue is of pure white marble from under the chisel of our fellow citizen *Ball Hughes*. It is to stand upon a pedestal of blue granite, rising above the floor about six feet.—[*Jour. of Com.*]

REAL ESTATE AT JAMAICA.—The great growth of this city and Brooklyn, is felt in its effects upon the value of property in neighboring villages, and in none more than in Jamaica, with which a railroad to connect it with Brooklyn, is in progress, to be finished in the course of the next summer.

THE ECLIPSE.—I observed the last Solar Eclipse at one of the principal stations of the Coast Survey, upon Westhills, Huntington township, Long Island, in latitude 40 deg. 48' 47" 1.8 by the observations made there, and in longitude 4h. 53m. 52s., 7 West of Greenwich, as given by the preliminary calculations of the C. S. triangulation from New York.

The mean time was, 1834, Nov. 30th, at 1h. 09m. 53s., 44 beginning; and at 3h. 45m. 18s., 55 the end.

F. R. HASSLER.

The Steamboat *William Gibbons*, arrived last night, bringing us Charleston papers of Saturday afternoon. They confirm the agreeable intelligence communicated by the National Intelligencer, of a complete reconciliation between the Nullifiers and Union men of that State.

Landlords and Legislators.—The Richmond Whig states that the landlords residing at the seat of Government of Missouri having combined to charge five dollars per week board, resolutions were introduced in both Houses, for changing the place of holding the Session in order to escape the imposition! In the Senate, the proposition was negatived 10 to 12. In the House, it was debated from time to time, and skillfully brandished over the heads of the landlords, until the latter, thoroughly alarmed, reduced board to four dollars per week.

The Ship *Nashville*, from this port, arrived at New Orleans on the 29th ultimo. The Rev. Mr. Parker, who was a passenger, was landed about twelve miles below the city. Letters mention that a carriage had been sent to convey him to the city. This is the gentleman whose sermons at the North, descriptive of the state of society in New Orleans, have been so misrepresented, as to occasion much excitement against him in New Orleans.

OFFICIAL.—The Government has been officially informed, that the American schooner *Mexicana*, *Graham*, had arrived at Bahamas, from Castle Island, having been got off by the wreckers, with an augur hole found bored in her bottom.

NEW ORLEANS, Nov. 26th.—Ice was formed here last night. This fact in itself, is not to be regretted but should a spell of warm weather come before the Sugar Planters shall have finished grinding, the cane will sour, and several thousand hogsheads will have to be deducted from the sum total of this year's crop.

It is believed that within the last sixty days, a sum little less than five millions of dollars has been paid for Cotton in this city. Half a million of this money has probably been appropriated towards paying the people of New Orleans, for their trouble in one shape or other.

In speaking of the inauguration at New Orleans of the plaster cast of a bust of Napoleon, the *New-Orleans Advertiser* says:—"The farce was amusing, if not imposing, and we must be contented to know that we have played the fool in a manner that could

not be equalled, and would not, perhaps, be attempted in any other city in the Union."

The ship *Ninus* has sailed from Norfolk, with 126 manumitted slaves, to make a settlement at Bassa Cove, Africa, under the patronage of the Young Men's Colonization Society of Pennsylvania. The Colony is to be called *Penn. Sylvan*. It is intended that another expedition shall be sent within three months, of manumitted slaves from Georgia.

LOSS OF THE PACKET SHIP JUPITER.—From Africa.—The brig *Ruth*, Taylor, from the West Coast of Africa, arrived yesterday at Philadelphia. In this vessel came passengers, *John Hanson*, Esq. and *Capt. A. S. Hussy*; and the crew of the ship *Jupiter*: a colored man, belonging to Maryland, one of the emigrants to Cape Palmas, was drowned on the 7th of October last, coming out Bassa Bar. He was on his way to his family.

Since the above was in type we have been favored with several letters from *Monrovia* detailing the particulars of the loss of the packet ship *Jupiter*, *Captain Knapp*.

The *Jupiter* sailed from New York for Liberia, in June, with passengers for the Colony. She had a fine run of 27 days to the Cape de Verd Islands, and met with no accident except the loss of one of the seamen, who fell from a spar. From the Cape de Verda they had light winds to the coast of Africa, and arrived at *Monrovia* on the last day of July, and on the first of August all the passengers were safely landed. They immediately proceeded to the government house, where a hymn was sung, composed by *Dr. Skinner*, one of the passengers.

The letter adds, "that out of all the passengers that went out by the *Jupiter* on the former voyage, *Miss Farrington* is the only one that survived; that lady was in good health.

The following is an extract of a letter from the supercargo, written at *Monrovia* (without date).

"After landing our freight and passengers we proceeded to windward as far as *Manna river*. We had a tremendous storm on the nights of the 14th and 15th. We were obliged to let go our two best anchors, with 70 to 90 fathoms of chain, veered away on each. On the morning of the 15th, we dropt the stream anchor, the vessel still drifting, every sea making a breach over, when at 3 o'clock, she struck, with a tremendous crash, and carried away her rudder. In fifteen minutes she again struck, at which time we were holding on to the main chains, with the expectation that the mast would go by the board.

We stove the water casks on deck to make her strike easier, and cut the stream cable to let her drift as near shore as possible, but she continued to strike at intervals till daylight—every moment expecting to be our last. At this period we found ourselves but a short distance from shore, and in the course of the day effected a landing with some clothing and provisions, but the natives stole both from us. After enduring much from hunger, thirst and fatigue, we arrived here on the 30th August, where we have suffered from fever, of which *Mr. Kyon*, the first officer, and one seaman, have died."

The *Jupiter* and her cargo are insured.—[Commercial.]

The Great Wall of China.—Even when united under one emperor, China trembled at the Tartars of the desert. About two centuries before the birth of Christ, *She-hwang-te* (the book burner) constructed the great wall of China, to prevent their incursions. This wall, which has always been considered one of the world's wonders, is fifteen hundred miles in length, of great height and thickness, furnished with fortresses and towers innumerable, and is carried with singular skill over mountains and rivers, as well as across the plains and valleys. *Lord Macartney* exclaimed on seeing it, that it was certainly the most stupendous work of human hands, and he rationally concluded that, at the remote period of its building, China must have been a very powerful and civilized empire. *Dr. Johnson* was accustomed to say of it, that it would be an honor to any man to say that his grandfather had seen the great wall of China. *Mr. Barrow*, who saw it with *Lord Macartney*, went into some amusing calculations as to the quantity of the materials it contains. According to his account, all the matirils of all the dwelling houses of England and Scotland, supposing then at that period (at the end of the last century) to amount to 1,800,000, and to average 2,000 cubic feet of brick work or masonry, would be barely equivalent to the bulk of the wall, without taking in its fortresses and towers, which he calculated contained as much masonry and brick-work as all London did at that time. Stupendous as was the work, it failed in its object.

ARRIVAL OF THE SHIP UNITED STATES.—The United States frigate United States, Captain Ballard, arrived on Wednesday, 10th, from the Mediterranean, and passed the rock of Gibraltar on the 28th.—Left at Mahon the Delaware 74, Captain Nicholson, and United States schooner Shark, all well. The John Adams sailed for Marseilles on the 22d of October. The cholera had much subsided at Mahon when the United States left.

The United States frigate *United States* has come up, and we annex a corrected list of her officers.

The *United States* beat in over the bar off Sandy Hook at two-thirds flood tide, making eleven tacks, and drawing at the time 22 feet 10 inches water.—This certainly does not look as though this harbor were, as it has been the aim in some quarters to represent it, inaccessible to ships of war of the largest class.

OFFICERS OF THE UNITED STATES.

Commander—H. E. Ballard Esq.
Lieutenants—F. Buchanan, G. A. Magruder, T. O. Selfridge, A. K. Long, and S. S. Lee.
Surgeon—S. Rapalje.
Purser—J. N. Todd.
Sailing Master—F. W. Moores. **Second Master**—T. A. Hunt. **Chaplain**—C. S. Stewart. **Assistant Surgeon**—J. C. Spencer. **Passed Midshipmen**—William A. Wurtz, Alberto Griffiths, Oliver S. Glisson, John J. Glasson. **Midshipmen**—C. Richardson, R. D. McDonald, M. S. Pitcher, R. Bache, A. F. V. Gray, D. D. Porter, R. L. Tilgham, W. S. Williamson, J. L. Heap, A. M'Lane, W. B. Beverly, D. Lynch, J. M. Frailey, J. Contee, T. W. Magruder, T. W. Cumming, M. Donaldson. **Boatswain**—G. Blanchard. **Sailmaker**—J. Beggs. **Carpenter**—P. H. Dee. **Gunner**—S. G. City. **Officers of Marines**—B. Macomber, Captain; T. W. Young, 2d Lieutenant.

Passengers—W. E. McKenney, E. Ridgeway, W. G. Woolsey and J. L. Lardner, Lieutenants. S. T. Gillet, Passed Midshipman. E. C. Kennedy, Midshipman.

[From the Courier and Enquirer.]

To the Right Reverend and Reverend the Clergy of the City of New York.

REVEREND SIRS,—By the returns of the last year it appears, above twenty-four thousand persons received alms in this city during the winter. Such return is independent of the vast numbers to which a truly benevolent and Christian sympathy afforded relief in private.

I shall not offer the incense of praise to those actuated by principles, which amply repay the feeling heart, engaged in such Heavenly acts of mercy. But, Reverend Sirs, I humbly and respectfully venture to address you, that this active stream of benevolence which runs down our streets, may be so directed as not to cherish vice, promote idleness and profligacy, and generate the very misery which calls it forth.

My humble suggestion is, that while all cases of distress shall be enquired into and relieved; yet in doing so, that the objects of such sympathy may be raised from their dependent state, and that in the dispensation of aid, idleness and vice shall not be generated but repressed. Without further preface, I beg leave to submit for consideration, that each Church or Congregation in this city, shall nominate two of their party to attend at a meeting on— evening next, the— instant, at—, to take into consideration the following measures, or such others as in their united wisdom should seem calculated to obtain the end in view.

1st. That the Commissioners of the Alms House be requested to take a share in the direction of the proposed measure, and to furnish a clerk and apartment at their office, in the Park, to which all communications shall be directed, for the peculiar duties of the object in view.

2d That all persons addressing letters, petitions or applying for relief, those applied to should forward such applications with the name of the persons seeking aid, the number of their residence, &c. to the clerk, at the Alms House—by whom such applications shall be forwarded to the visitors of the district in which the applicant resides; as also to the congregation of which the applicant is a member.

3d That each church or congregation shall appoint a number of their members to the peculiar duties of visiting the distressed, and those in want, so

that two, at least, shall be at all times prepared to attend on the Lord's day, from two to five o'clock, and on Wednesdays, from four to six o'clock, upon being notified so to do, by the clerk of the institution.

4th That every yearly subscriber of one dollar and upwards shall have the liberty of returning to the office the name and residence of any person they deem an object of distress, as well as of all who may apply to them for aid.

5th That a weekly statement shall be made of the cases of distress, a statistical account kept of the causes which led to it; the denomination to which the applicants belong notified, so that permanent aid may be afforded—avoiding however, all exposures not necessarily called forth.

9th That all cases of imposition and profligacy shall be published, describing the person so accurately as to check imposition.

Expected consequences.—That the evils arising from vagrancy, among which the greatest are the demoralization of the children, would be checked, those exhibitions of wretchedness and distress rendered useless, which are adopted to excite compassion—while at the same time every benevolent character would have the consolation to know that those who applied to them would be relieved, if worthy of it, and that by their causing enquiry to be made, they were not turning aside from the poor, but from the hypocrite and imposter, the promoters of crime and infamy.

The visiting on Sunday would enable the visitors to form a correct estimate of the persons they visited, and serve as a check on dissipation; would tend to preserve the youth from a total disregard to religion; would afford an excellent opportunity of giving advice as to the children, and in various ways prove salutary to the family.

The various denominations are invited, in the hope that benevolence and real Christian principles will actuate all in a work of this nature, and not a spirit in any way sectarian, to mar that charity which is the most striking feature of general christianity.

The editors of the several papers and publications in this city, are requested to give place to the foregoing, with a view to any further suggestions and a full examination of a most important subject.

Prof. Vethake has been elected President of Washington College, Va. We do not know whether he will accept the station.

Census of Michigan.—Acting Governor MASON transmitted a special message to the legislative council of Michigan on the 18th ult., communicating, for the information of it at body, the result of the census of the territory, taken in conformity with an act of the council, so far as returns had been received. No returns had come in at that date, from the counties west of Lake Michigan; but those from the peninsula alone, exhibited a result so far beyond the number required to entitle the territory to admission into the Union, under the ordinance of 1787 (60,000,) that the Governor conceived it unnecessary to delay urging upon the council preliminary measures necessary for the formation of a state constitution. With this view, he recommends the calling of a convention, at an early day; and as a further preliminary step, that a memorial be sent to Congress, to set off a separate and distinct territorial government for the country lying West of Lake Michigan, and now included in the territory, which he represents as desired by the citizens of that section.

It appears from the message, that the population of the peninsula alone, amounts to 85,856. By the census of June, 1830, taken under the authority of the United States, the number of inhabitants in the peninsula was about 28,000; and in the whole territory 31,689—showing more than a three-fold increase in about four years.

Application has already been made to Congress for the admission of Michigan into the Union, and the case is among the unfinished business of the last session.

The city of New Orleans has been presented with a bust of Napoleon, by Dr. Antomarchi, one of the medical attendants of the deceased Emperor, which seems to have thrown the Common Council into ecstacy. According to the *New-Orleans Courier* of 22d November, the Clergy, the Mayor and Corporation, the Governor, the Judges, Officers, &c. &c. were to meet on Sunday, the 23d! at the City Hall, in order to receive with all honor the aforesaid bust and its donor! We wonder whether Marseilles or Bordeaux would thus turn out to receive a bust of Washington.

Total Eclipse of the Sun.

MILLEDGEVILLE, (Geo.) Dec. 2.

The Solar Eclipse.—Having a perfectly clear sky last Sunday, we, at Milledgeville, in common with all others we presume in the track of the total obscuration, had the full enjoyment of that sublime phenomenon. Nor was the rare occasion lost to science. Mr. Nicollet, a distinguished Astronomer from Paris, now on a scientific tour through the United States, took this place on his way to the West; and was assisted by Drs. Dugas and Ford, of the Medical College of Georgia. Being well provided with appropriate instruments, we doubt not, their observations were accurate and satisfactory, and will probably tend to advance several branches of science. Among which, one thing, interesting to the State, we presume will be, the exact ascertainment of the latitude and longitude of its capital.—This, and any other results that we may be able to procure, we shall of course be happy to communicate to our readers.

We were prepared for a magnificent spectacle, but the event outwent our anticipations. With thousands of others, we watched the instant when the last beam was shut out, rendering the planetary motion visible. Then ensued an interval of more than a minute, of indescribably awful grandeur. A pall of funeral black drawn over the sun, whose effulgence still broke off around it; and then the first gush of light as it opened out to us for that little instant, while the naked eye not yet overpowered, could still be fixed on the whole orb of the moving moon. The universal twilight, the appearance of the stars, the rosy hue like morning, all around the horizon, the sudden chill of temperature, showed for the only time in most lives, how it would be, if the sun should be stricken out in mid-day. It was a spectacle that terrified the savage, and astonished the vulgar eye. It elevated and strengthened all human conception of omnipotent power, and showed forth, in the wonderful accuracy, even to a second, of the astronomical predictions of the event, another of the triumphs of that grandest and most exact of the sciences.

The line of total occultation, seventy miles wide or more, coming from the Pacific and crossing our western wilds, and the back parts of Mississippi and Alabama, took through the central region of Georgia, and thence to the Atlantic Ocean. Being visible in no part of Europe: Georgia, and a small corner of South Carolina, was the only part of the globe at all favorable to observation; and we are rejoiced to learn that the opportunity has not been neglected. We hear of gentlemen from distant places, at Beaufort and at Ebenezer, near Savannah, and probably at other points, whose simultaneous labors will tend to correct or to corroborate each other.

P. S. Having called on Mr. Nicollet, he kindly furnished us with such of the results, interesting to this section of the country, as could be made out, without detailed and protracted calculation. They will be found below.

Mr N. took occasion to remark on the great merit of Paine's American Almanac; the astronomical records of which, he says, are not surpassed in accuracy by the celebrated Ephemerides of England, of France, or of Germany.

ASTRONOMICAL OBSERVATIONS.

Of the Total Eclipse of the Sun, made the 30th Nov. 1834 at the State House, Milledgeville, Geo.

	M.	M.	S.	
Beginning of the Eclipse,	0	15	28	Mean time at the State house
Beginning of total darkness,	1	24	53	
End of total darkness,	1	44	08	
End of the Eclipse,	3	5	42	

A difference will be perceived between these calculations, and those set down in Paine's American Almanac; but the latitude and longitude of the capital of Georgia, now ascertained, could not be accurately known to that gentleman. The Almanac is correct according to the best data then extant.—[Journal.]

BROOKVILLE, IND., Nov. 29th.—Hogs!—For the last three weeks our eyes have been greeted with scarce any thing except vast droves of the swinish multitude. Within that time, "from our own idea of things," and from the calculations of others there must have passed thro' this place, upwards of THIRTY THOUSAND Hogs; all wending their way to Cincinnati, the greatest hog market, we would venture to say in the known world. All these hogs are from a small section of this State. We are told by the oldest settlers,—there never was as many hogs drove through this place in one year, before, as has been within the last three weeks. Some days it seemed as if the vast arena of nature's store house was filled with Hogs.—[American.]

32d CONGRESS—Second Session.

Thursday, Dec. 11—IN SENATE.

In pursuance of the resolution passed yesterday, the Senate proceeded to ballot for its Standing Committee; and the ballots resulted in the choice of the following gentlemen, to serve for the present session.

Foreign Relations—Mr. Clay, Chairman; Messrs. King, of Georgia, Mangum, Sprague, Tallmadge.

Committee on Finance—Mr. Webster, Chairman; Messrs. Wright, Tyler, Mangum, Ewing.

Committee on Commerce—Mr. Silsbee, Chairman; Messrs. King, of Alabama, Waggaman Sprague, Wright.

Committee on Manufactures—Mr. Frelinghuysen, Chairman; Messrs. Morris, Knight, Prentiss, Tyler.

Committee on Agriculture—Mr. Brown, Chairman; Messrs. Kent, Swift, Robinson, Morris.

Committee on Military Affairs—Mr. Benton, Chairman; Messrs. Tipton, Preston, King, of Alabama, Clayton.

Committee on Militia—Mr. Robinson Chairman; Messrs. Hendricks, McKean, Waggaman, Swift.

Committee on Naval Affairs—Mr. Southard, Chairman; Messrs. Robbins, Tallmadge, Bibb, Black.

Committee on Public Lands—[The Committee on Public Lands of the last session was continued for the present session, by a unanimous vote passed during the last week. The members consist of Messrs. Poindexter, (Chairman,) Moore, Prentiss, McKean, and Clay.]

Committee on Private Land Claims—Mr. Black, Chairman; Messrs. Kane, Naudain, Porter, Shepley.

Committee on Indian Affairs—Mr. White, Chairman; Messrs. Tipton, Smith, Swift, Frelinghuysen.

Committee on Claims—Mr. Bell, Chairman; Messrs. Tipton, Naudain, Brown, Shepley.

Committee on the Judiciary—Mr. Clayton, Chairman; Messrs. Preston, Bell, Smith, Leigh.

Committee on the Post Office and Post Roads—[The Committee on the Post Office and Post Roads of the last session was continued for the present session, by a resolution passed unanimously, during the last week. The members consist of Messrs. Grundy, (Chairman,) Ewing, Robinson, Knight, Southard.]

Committee on Pensions—Mr. Tomlinson, Chairman; Messrs. Tallmadge, McKean, Prentiss, Preston.

Committee on Roads and Canals—Mr. Hendricks, Chairman; Messrs. Kent, Robinson, Robbins, McKean.

Committee on the District of Columbia—Mr. Tyler, Chairman; Messrs. Kent, Bibb, Southard, Tomlinson.

Committee on Revolutionary Claims—Mr. Moore, Chairman; Messrs. Smith, White, Leigh, Frelinghuysen.

Committee to Credit and Report the Contingent Expenses of the Senate—Mr. Knight, Chairman; Messrs. Tomlinson, Morris.

Committee on Engrossed Bills—M. Shepley, Chairman; Messrs. Robinson, Morris.

HOUSE OF REPRESENTATIVES.

[On Monday last, the following gentlemen were announced as the Select Committee appointed to reorganize the Treasury Department: Messrs. Wayne, Mason, of Virginia, McKennan, Cambreleng, Rencher, Evans, Pope, Jarvis, McKay.

And on Tuesday last, the following gentlemen were announced as the Select Committee on the part of this House on the Death of Lafayette: Messrs. Hubbard, Lincoln, White, Allen, of Virginia, Marshall.

On the same day, the following gentlemen were announced as the Committee on the Destruction of the Treasury Building: Messrs. Gilmer, Archer, Binney, Beardsley, Gorham, Johnson, of Kentucky, Speight, Hubbard, Carr.

Numerous petitions, memorials, and resolutions, were laid before the House: among the former, one from J. N. Reynolds, praying that an expedition may be fitted out for surveying the reefs and islands in the Pacific and on the North-West Coast.

To show the importance of the object in view, Mr. Pearce stated that there were now engaged in the whole fishery 132,000 tons of shipping, that there were employed 10,000 seamen, and that the business, direct and indirect, employed 170,000 tons of shipping, and more than 12,000 seamen; that more than one-tenth part of our whole navigation was engaged in it, and the capital invested was \$12,000,000. He further stated that the annual loss of property, upon the islands and reefs not laid down

upon any chart, was fully equal to the expense of the expedition and survey request ed.

[From the Boston Literary Magazine.]
SUNSET ON THE ALLEGHANY.

I was a pensive pilgrim, at the foot
Of the crowned Alleghany,—when he wrapt
His purple mantle gloriously around,
A id took the homage of the princely hills,
And ancient forests,—as they bowed them down,
Each in his order of nobility.
And then, in glorious pomp, the sun retired
Behind the solemn shadow, and his train
Of crimson, and of azure, and of gold,
Went floating up the zenith, that on that,
And ray on ray,—till all the concave caught
His parting benediction.

Faded to twilight, and dim twilight sank
In deeper shade,—and there that mountain stood
In awful state, like dread ambassador
'Tween earth and heaven. Methought, it frowned severe
Upon the world beneath, and lifted up
The ascender's forehead sternly toward the sky,
To witness 'gainst its sins. And is it meet
For thee,—thou raised on cloud-capped pinnacle,
To scorn thine own original, the dust,
That sometimes eddying on the angry winds
Doth sweep thy base!

Say,—is it meet for thee,
Hiding thyself in mystery, to impeach
This better sphere,—from whence thy rocky root
Draws strength and nutriment?

But to! a star,
The first fair herald of advancing night,
Doth peer above thy summit,—as some babe
Might gaze with brow of timid innocence
Over a giant's shoulder. Hail, lone star!
Thou friendly watcher o'er an erring world,
Thine uncondemning glance, doth aptly teach
Of that untiring mercy which vouchsafes
Thee light, and man, salvation. Not to mark
And treasure up his follies, or recount
Their secret record in the court of heaven,
Thou com'st. Methinks thy tenderness would shroud,
With trembling mantle, his infirmities,
The purest natures are most pitiful;
But they who feel corruption strong within,
I lo launch their darts most fiercely at the trace
Of their own image in another's breast.
Thus the wild bull, that in some mirror spies
His own mad visage, furiously destroys
The frail reflector. But thou, stainless star,
Shalt stand a watchman, on Creation's walls,
While race on race their little round shall mark.
And slumber in the tomb. Still point to all
Who through this evening scene may wander on,
And from yon mountain's proud magnificence,
Turn to thy milder beauty,—point to all,
The eternal love that nightly sends thee forth,
A silent teacher of its sacred lore.

L. H. S.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maldenlane.

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without notice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jarvis, Eng. M. & H. K. Co., Albany, or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon Dale, Luzerne county, Pennsylvania. Hudson, Columbia county, New York, { January 29, 1832.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use. Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13-1 y

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.

DEAN WALKER. a3

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine-wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 24, 1833.

For further information on this subject see No. 49, pag 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1/2 inch,	Flat Bars in length of 14 to 18 feet counter sunk holes, ending at an angle of 45 degrees with splitting plates, nails to suit.
200 do. 1 1/2 do. do.	
40 do. 1 1/2 do. do.	
800 do. 2 do. do.	
800 do. 3 do. do.	
soon expected.	

250 dn. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

Axes of 2 1/2, 2 3/4, 3, 3 1/4, 3 1/2, and 3 3/4 inches diameter for Railway Cars and Locomotives of patent form.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splitting Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them.

d71meowr

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer.

German town, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.

German. and Norris. Railroad,

ml 1 y

THE HISTORY OF LIFE.—By B. CORNWALL.

Day dawn'd. Within a curtain'd room
 Fill'd to faintness with perfume,
 A lady lay at point of doom.
 Day clos'd. A child had seen the light,
 But for the lady, fair and bright,
 She rested in undreaming night!

Springs came. The lady's grave was green,
 And near it oftentimes was seen,
 A gentle boy, with thoughtless mien.
 Years fled. He wore a manly face,
 And struggled in the world's rough race,
 And won at last a lofty place.

And then, as died! Behold before ye.
 Humanity's brief sum, and glory,
 Life, Death, and all that is of—Glory.

FEMINE DECEPTION.—M. de Balzac, one of the most popular of French modern writers, has made some observations upon the fair sex in his new work of "Fergus, Chief of the Devorans."

"There are very few women who have not been, once in their lives, exposed to an interrogatory precise, short and cutting; one of those questions made without commiseration by their husbands, the dread of which alone causes a cold shivering fit, and the first word of which strikes the heart like the point of a poniard. From thence the axiom, *Every woman lies*—an officious lie, a venal lie, a sublime lie; a horrible lie; but obliged to lie. This obligation, then, once admitted, is it not essential to lie skilfully? The women, therefore, in France are admirable liars; our manners teach them deceit so well! In short, woman is so ingeniously impatient, so pretty, so graceful, so true in lying, she avows so well its utility to avoid in social life the violent shocks which domestic happiness would not resist, that it is as necessary as the cotton in which they place their pearls. Lying, therefore, becomes the foundation of their language, and truth is nothing more than an exception; they tell it, as they are virtuous, from caprice or speculation; according to their dispositions or tempers, some women laugh in lying, others weep or become serious; some are angry. After having begun in life by feigned insensibility for the homage which delighted them the most, they often end by lying to themselves. Who has not admired their appearance of superiority, when they trembled for the mysterious treasures of their loves? Who has not studied their ease, their facility, their freedom of understanding, under the greatest embarrassments of life? Then, with them, nothing is borrowed; deceit flows as the snow falls from the skies. With what art, too, do they discover the truth in others—with what cunning do they employ the right logic regarding the point in discussion, which always acquires for them some secret of the heart from a man, open enough to proceed with them by interrogation. To question a woman, is it not to give ourselves up to her? Will she not always learn what we wish to hide from her? and in conversing with us, will she not conceal whatever she chooses to keep secret? And yet some men pretend to cope with the women of Paris; with women who can put themselves above the stabs of a poniard, by saying, 'You are very inquisitive; what does it matter to you? Why do you wish to know it? Ah! you are jealous! and if I did not choose to answer you? In short, with a woman who possesses a hundred thousand different ways of saying No, and innumerable variations for saying Yes.'"

Opium Trade.—By occasionally visiting the Hercules, one of the receiving ships for opium, I was able to observe, through the kindness of Mr. Parry, her chief officer, how this extensive and lucrative business is conducted. The sales are effected in Canton by the European merchant, and orders sent down with the smuggling boats for the delivery of the opium from the different ships; the boats engaged in this occupation are armed with spears, shields, and even fire-arms, to repel any attack that may be made upon them by the Mandarin guard-boats. They are also manned by a very brave and athletic crew; indeed, Chinese fight very well one against the other, but cannot bring forward sufficient courage to face Europeans, except the advantages are overpowering on their side. These boats are provided with sails, in addition to a number of oars and rowers, and they pass through the water with inconceivable rapidity. The Mandarin boats, having a weaker and less choice crew, can seldom or ever overtake them; this, however, may in part be explained from the fact of the guard-boats, (the revenue-cutters,) sent by the Chinese government to cruise against smugglers, coming alongside for a supply of the prohibited drug, to smuggle it themselves into the heart of the Chinese empire. Any thing can be done by bribery in this

country, and these boats are often employed for smuggling cassia, treasure, &c. on board European ships at Lintin, &c.; indeed, every smuggling boat that takes opium from an opium ship leaves a payment of one dollar on each chest for the Mandarins, and on the opium returns being made up, the sum is regularly paid to them: each boat leaves also a kum, shaw, or present for the ship, of five dollars. The chests of the drug are opened on board; the balls or cakes are taken out, and immediately deposited in small mat bags, brought by them for the purpose, and sown up; being in that way more convenient to smuggle than in large heavy chests.—There are three kinds of opium usually sold in the English ships, the Malwa, Benares, and Patna; a fourth, the Turkey opium, is confined to American and other foreign vessels. The Patna opium is in balls, packed in partitioned cases, each chest containing forty balls. Old opium fetches a higher price than new; the former being solid, the latter soft and more liable to run. The old chests, so termed, are usually two years old when they come under that denomination. The Malwa opium is in rather flattened cakes. The prices of this drug of course fluctuate very much; the consumption in the Chinese empire must be enormous, and is entirely (not the least extraordinary part of the affair) carried on by an illicit trade. The payments are usually made, if to any extent, in Sycee silver, which is taken by weight, no silver coinage being acknowledged by the Chinese government. The Chinese purchasers of the opium refine it by boiling, previous to using it for smoking; they use it also in the form of tincture, usually carrying a small bottle containing it about them. The present Emperor of China has been described as being totally incapacitated from any business, through the excess to which he has carried the debilitating practice of opium smoking. —[Bennett's Wandering.]

AGENTS FOR NEW PUBLICATIONS.

HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications:
 The New York American Daily, at \$10.00—Tri-Weekly, at \$5.00—Semi-Weekly, at \$4.00 in advance.
 The American Railroad Journal, Weekly, at \$3.00 per annum.

The Mechanics' Magazine, two volumes a year, at \$3.00 per annum.
 The Quarterly Journal of Agriculture and Mechanics, at \$5.00 per annum, or \$1.25 per number.

The Family Magazine, 416 pages a year, at \$1.50 in advance.
 The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25.

The Ladies' Companion, of 54 pages a month, at \$3.00 per annum, in advance.
 The Rochester Gem, at \$1.50 in advance.

All Communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834.
 H. G. W.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN,

347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

Mr. Thorburn is also Agent for the following publications to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANICS' MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly: either of all of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 13, 1833. A29 if RM&F

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
 No. 264 Elizabeth street, near Bleecker street,
 New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation.
 J25 if

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.
 Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nutt's Patent Tubular Boiler, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

**INSTRUMENTS.****SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.**

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Level, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

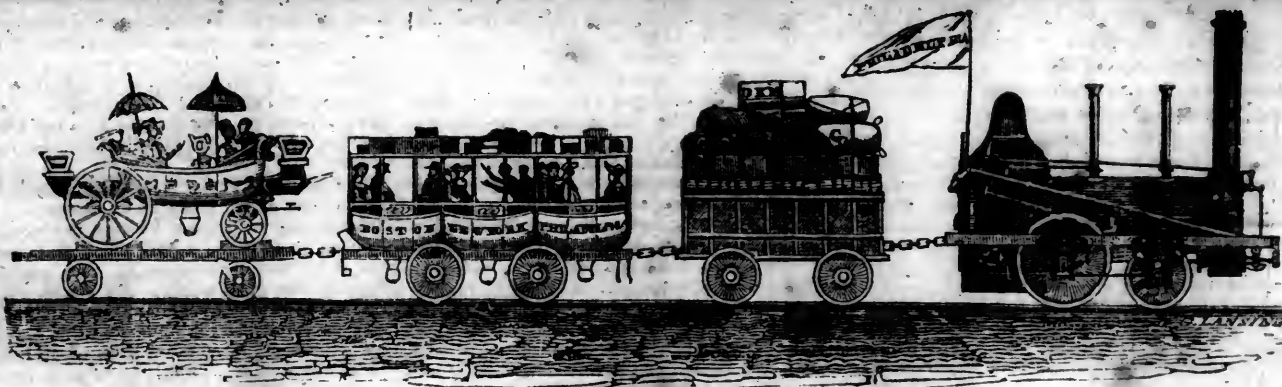
Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by my self, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warmest encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m26



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.]

SATURDAY, DECEMBER 27, 1834.

[VOLUME III.—No. 51.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, DECEMBER 27, 1834.

WM. M. C. upon Undulating Railways, is received, for which he will please accept our thanks. It will find an early insertion.

The communication of W. L., upon Suspension Bridges, is received, and will be attended to as soon as we get through with the long documents on hand. He will, we trust, continue them.

The proceedings of the New-York and Erie Railroad Convention, held at Bath on the 17th inst., have not reached us yet. We were in hopes to have received them in time for this number.

In this number will be found the report of a select committee of the New-York Legislature at its last session, and an interesting letter from Judge Wright, upon the subject of an enlarged or steamboat canal, from Lake Ontario to Utica, and of course to the Hudson river.

We continue this week our extracts from the Edinburgh Quarterly Review, upon the utility and importance of Railroads. It contains much of the right kind of information, and it is given in such a manner as to convince those who take the trouble to read it; and it should therefore be extensively circulated in the interior of this State, especially in the vicinity of the route of the New-York and Erie Railroad.

It shows conclusively the great advantages

of a Railroad to a grazing country; and emphatically such will the southern part of the State of New-York become, when there shall be an easy and speedy access to market.

It may not be generally known, yet from this article it will be readily perceived, that the supply of MEATS, as well as of butter and milk, will be of a much better quality, when transported on a railroad, than in any other way; so with vegetables; and at the same time the supply will be much more abundant and consequently cheaper. To this city, then, as well on account of the comfort and health of its inhabitants, as for their pecuniary interest, is this railroad of great importance; and to our citizens does it especially commend itself.

From the Lycoming (Pennsylv'a) Chronicle, we learn that a meeting was held at the courthouse in that county, upon the subject of the Elmira (N. Y.) and Williamsport (Pennsylv'a) Railroad. It was there stated that a "gentleman in that county had received a communication from the Philadelphia Chamber of Commerce relative to that road." Thus it seems that our neighbors in Pennsylvania are resolved, not only to intercept the western trade, by connecting their works with the Ohio canal, and with Lake Erie at the town of Erie; but to hit us under the fourth and fifth ribs, also, by connecting with our own canal and Lake Ontario through the Cayuga and Seneca Lakes. Very well, when they have accomplished both of those works, they will undoubtedly permit us to pass through their territory to Ohio, with our great western Railroad, so that New-York may at least enjoy the trade of the west when it cannot go to Philadelphia.

When will New-York, like Pennsylvania, arise in her might, and say, We will, at least, enjoy all the advantages we possess,—if enterprise and perseverance can ensure it.

THAMES TUNNEL.—The Liverpool Albion says, arrangements have been made to resume this great work. That the portion already completed, even after the suspension of six years, is in a state of perfect preservation.

It is rumored, that some very important discoveries have been made by Dr. Nott, in the construction of steam boilers and furnaces.

Railroad from Lynn to Boston.—We are informed that arrangements are in progress for forming a company, to establish a Railroad between Lynn and Boston.

We observe that a Convention of the citizens of Western Pennsylvania is to be held at Butler, on the 34th instant, for the purpose of devising means to insure the completion of the Pennsylvania Canal to the town of Erie. This work will, of course, open a direct communication between Pittsburgh and Lake Erie. The Sandy and Beaver Canal, which will connect the Ohio State Canal with Pittsburgh, will also open a communication with the Lake.—The latter was commenced on the 25th ult. The Beaver and Mahoning Canal is another work whose object is to unite the Ohio and Pennsylvania Canals, by a route nearly mid way between the two already named.

The following extract from the Report of the Chief Engineer, relates to works in, and connected with, this harbor:

Fort Hamilton, Narrows, N. Y.—The slight defects in construction, always to be expected in a work of this magnitude, have been repaired, and the fort may, by the end of the present year, be considered as finished.

Fort Lafayette, Narrows, N. Y.—A portion of the unexpended balance remaining on account of this work, has been applied to the repairs of the sea wall. This became necessary in consequence of the failure of the mortar with which it was pointed, and the settling of the wall in many places.

Fort Columbus and Castle William, Governor's Island, New York Harbor.—The report of the Engineer charged with the repairs of these works, is highly favorable. In the former, the scarp walls, except the pointing and parapets, have been finished; the counterscarp revetments, and revetments of the glacis, are nearly completed. The facing of the covered way revetment, leading from Fort Columbus to Castle William, will be done this Fall. The masonry of the magazines and barracks, as well as that of the communications connecting the former, is finished, as is also the facing of the redan. All the masonry of the barracks on the south, west, and north fronts is nearly finished, and the roofs are in readiness to receive the covering; the masonry of those on the east front is in a state of forwardness. Measures have been taken to finish the repairs of Castle William as speedily as practicable.

Fort Schuyler, Throgs' neck, East river, N. Y.—Agreeably to your instructions, the operations on Throgs' Neck have been limited to the making of such arrangements as will enable the officer charged with the construction of this fort to prosecute the work with efficiency during the next working season. The most ample preparations have been made. A permanent wharf will be in readiness by the time it is required: the necessary boats and machinery have been provided; an ample quarry, of good quality of stone, prepared, and indeed every thing that may tend to expedite the work, when commenced, will be found in waiting.

IN ASSEMBLY, April 14, 1834.

Report of the Select Committee, on the Petition of Inhabitants of the County of Oswego, praying for the exploration and survey of an improved navigation from Lake Ontario to the Hudson river, &c.

The subject referred to the committee, in whatever light it may be viewed, may justly be considered of the first importance, both to the enterprise and interests of the State of New-York. The citizens of this State have witnessed with high satisfaction the commencement, completion, and successful operation of the Erie canal, which has more than answered the expectations of its ardent and patriotic projectors. The value of property has been multiplied many fold; the arm of industry has converted the almost interminable regions of the forest in the western part of the state into fertile fields, enriching alike the hardy cultivator and the great commercial emporium of the State; cities and villages have arisen, as if by enchantment, where, but for the Erie canal, would now have been a wilderness. Great and important have been the results of these works of internal improvement, not only to this state, but to a portion of the territory bordering upon the basin of the great western lakes. Let it not be supposed that the resources of western New-York are exhausted, or that she has arrived at that point in commercial and agricultural enterprise beyond which she cannot and will not pass. The spirited and enterprising citizens of that section of the State are now calling the attention of the Legislature to the construction of a canal from Rochester, up the valley of the Genesee, to Olean on the Allegany, the distance of 96 miles. Another project of equal importance is now in contemplation to unite the fertile regions of the north with the valley of the Mohawk, by means of a canal from Rome to the high falls of the Black river. Complete the Chenango canal and the improvements already commenced, double the locks upon the Erie canal east of Syracuse, construct those canals in contemplation, and your committee confidently predict, that in ten years the Erie canal will not be adequate to the business of our own State, and the products of the west will be forced to find an outlet to the Atlantic through some other channel.

Three great objects were primarily contemplated in constructing the Erie canal; First, to furnish the citizens of this State with an easy and cheap conveyance of their surplus produce to market; second, to secure and preserve the trade of the west; third, revenue.

The first of these objects has been attained, and the attention of your committee has been principally directed to a consideration of the second. That to secure and preserve the trade of the west is an object worthy the continued exertions and resources of the "Empire State," cannot and will not be denied; that it is so secured may well be doubted. The importance of the western trade will be seen by a view of the vast extent of country bordering upon and surrounding the western lakes, a region of country more fertile and productive than any in his course through heaven does not shine upon. If we glance an eye over the immense regions connected by the western lakes and their tributary streams, if we regard the fertility of soil, the multiplicity of product which characterize those regions, and if we combine these advantages afforded by nature with the moral energy of the free and active people who are spreading their increasing millions over its surface, what a vista thro' the darkness of time opens upon us! We see arts, science, industry, and social happiness, already increasing in those countries, beyond what the most inflated fancy would have dared to hope, thirty or forty years ago.

As yet the commercial and agricultural resources of the west are not developed. These twin sisters of the wealth of nations are yet in their infancy. Owing to the rapid increase of population in Ohio and the wild and uncultivated state of a portion of her territory, the surplus productions of her farmers have until recently been consumed within her own territory. Michigan and Illinois, comparatively speaking, have furnished nothing for transportation; but when their exhaustless soil shall be cultivated and improved by the hardy and industrious yeomanry of the north and east, who are emigrating thither to a degree unprecedented in the annals of our country, their rich productions will be put afloat, and will find a market upon the shores of the Atlantic, through such channel as presents safety, cheapness and speed, and to the most advantageous market. The citizens of the west have witnessed the commencement, progress, completion and effect of the splendid system of internal improvements in this State, and are nobly imitating the example with an enterprise and zeal worthy their character. Already are the head waters of the Missis-

siippi connected at different places with the great chain of western lakes, by means of canals and railroads. The channels of communication now opened and which will hereafter be opened between the lakes and the interior, will be thronged with vehicles of transportation, conveying the rich fruits of the labors of millions of free and happy people to flourishing cities and villages upon the shores of the lakes, whose population, wealth and enterprise will be equalled only by those upon the shores of the Atlantic.

The surplus productions of this extensive region will find their way to the Atlantic. Natural communications possess facilities and advantages which artificial never will and never can. Lake and river navigation is being understood. Steam power has changed every thing. Twenty-three by-gone years have witnessed improvements in commercial facilities in our own State which have claimed the admiration and imitation of the world.

The lethargy under which the people of Canada have slumbered for the last century, has been thrown off, and they are now fully awake to the importance of internal improvements. They are beginning to appreciate the natural water communications with which nature has so bountifully supplied them. They have entered the lists, and are nobly contending for a participation in, if not a monopoly of, the rich dowry of the western trade. Their enterprise has caused a communication to be opened around the Falls of Niagara, a distance of forty-one miles, by which vessels carrying 1,000 barrels of flour can go through without being lightened, at an expense of one cent per barrel, exclusive of tolls. The amount of business done upon this canal will be seen, by a reference to the fact, that 50,000 barrels of salt passed through during the last season, and had the requisite repairs been made so as to have opened the canal with the commencement of lake navigation, the revenue would have amounted to more than 50,000 dollars.

The evil which the Canal Commissioners feared in 1812 now really exists. The produce designed for transportation upon the Upper Lakes is now let down to Lake Ontario by means of this canal with facility, and for a trifling expense. The prediction of the Canal Commissioners, "that articles for exportation, when once afloat on Lake Ontario, would, generally speaking, go to Montreal, unless our British neighbors were blind to their own interests," is now fully verified. By a reference to the parliamentary proceedings of the Canadas during the last winter, it will appear obvious that they are not thus blind; that on the contrary, they duly appreciate the importance of this trade, and that the greatest industry, activity and talent are employed in the attainment of further improvements on the most magnificent scale. Appropriations have already been made for the improvement of the St. Lawrence, by which it is intended to connect the Atlantic with the lakes by ship and steamboat navigation. Let them make the Welland canal and the St. Lawrence navigable, as they purpose to do, and which they will do, for steamboats, and Cleveland will be within a sixty hours' ride of Montreal. When these improvements are completed, vessels of 300 tons can load at Chicago, at Cleveland, at Detroit, at Oswego, and other ports on the lakes, and deliver their cargoes at foreign ports. When direct exportation has once succeeded, direct importation will follow as a matter of course. When the Welland canal shall be completed, and the St. Lawrence improved, as designed, goods may be delivered at Cleveland from London for less than one-half what it now costs by the way of New-York and the Erie canal. Make the Erie canal a public highway, and the Canadian route will be preferable by one-quarter in point of expense. The vast superiority in the great point of economy in transportation, effected upon natural water communication, admitting of navigation by large vessels or steamboats, above transportation upon canals and railroads, has been satisfactorily proved by experience on the Hudson, the lakes, and the great rivers of the west. Even at the present reduced rates of toll upon the Erie canal, river transportation has the advantage by more than 300 per cent. The charge upon the transportation of wheat, per bushel, from Troy to New-York, is three cents, while the same transportation for a like distance upon the canal cannot be effected for less than ten cents.

The importance of the western trade has aroused a spirit of enterprise and competition in sister States. To participate in this trade, rival canals and railroads have been constructed in Pennsylvania, Maryland and Virginia, and it cannot be denied that these are already diverting a part of that trade from its natural current toward the lakes and the Erie canal, and will no doubt continue to produce such diversion in a ratio regularly augmented in their progress to completion. It cannot be questioned that a great portion of the pro-

duce and merchandize going to and coming from the fertile countries, at some distance south of the great chain of the lakes, and east and north of the tributary streams of the Mississippi, must find their way into Virginia, Maryland and Pennsylvania. To prevent this diversion, the tolls upon the Erie and Ohio canals have been very judiciously reduced during the present winter.

The State of Pennsylvania has already declared, through one of her Senators in Congress, (Mr. Wilkins,) during its present session, her determination "still to go on in the advancement of her great system of internal improvements. She would not stop short in her great works: No combination would have the power to arrest her progress, until she should have accomplished her ultimate object, of depriving the empire State of New-York of all the carrying trade of the west. To this great point Pennsylvania was rapidly advancing, and under the wise administration of her State Government, she would not stop short of its accomplishment. She was engaged in an honorable rivalry with the empire State of New-York for the rich dowry of the western trade, and she would not stop until she should have obtained the treasure." These works, then, which have cost Pennsylvania such enormous amounts, will be sustained, should they pay nothing but the annual repairs required to keep them in order. But Pennsylvania has obstacles to surmount of no ordinary character, before she will witness the consummation of the objects declared by the honorable Senator. Nature has interposed an insurmountable barrier to the construction of canals from the navigable waters leading to her commercial emporium and the Ohio. That Pennsylvania does possess advantages over New-York cannot be concealed or denied. Their canal and railroads were in successful operation for the present season before the 20th of March last, while our canals must remain closed by the frigid laws of nature, on an average of seasons, until the middle of April. Goods were delivered at Pittsburgh on the 26th of March, in eleven days from Philadelphia, and before our canals are opened, will be delivered at the Sault St. Marie or Chicago. It is said, too, that the Pennsylvania route possesses a decided advantage, in point of time and expense; that merchandize can be delivered in fourteen days at Cincinnati from Philadelphia, while from New-York, by the Erie and Ohio canals, it will require from twenty to twenty-five days, and frequently much longer; and that the expense of transportation from Philadelphia to Cincinnati, during the present season, will be \$1.80 per hundred, while from New-York to Portsmouth, on the Ohio, \$2.06 1/4.

That the trade of the west is of vast importance and is becoming yearly more and more important to the commercial interests of this State, cannot admit of doubt; and that there is danger of its being diverted, or a portion of it at least, through other channels than the Erie canal, to the Atlantic, your committee think is equally apparent.

In the spirit of enterprise and rivalry with which our southern and northern neighbors are actuated, your committee see no cause for serious apprehension, jealousy, or alarm, because they believe it is within the power of this State to secure the trade of the west beyond the reach of competition or rivalry.

The remedy and only remedy which can be applied to secure to ourselves and posterity this rich inheritance of national wealth, is by opening a communication between the Hudson and lakes Ontario, Seneca, Cayuga and Onondaga, of sufficient magnitude to admit the passage of the smaller class of steamboats, and of the ordinary vessels which navigate those waters. The advantage to be derived from such a communication must be apparent to all. It will combine safety, cheapness and expedition, the three great considerations in commercial enterprise, and save the loss and expense attendant upon numerous transshipments.

That such a communication is entirely practicable, your committee entertain no doubt. Whether the object can be better accomplished by improving the Mohawk river, Fish creek, and from thence into Oneida lake, and down the outlet to Three River point, and thence down the Oswego river to lake Ontario; or by enlarging the Erie canal and the Oneida lake side cut, and thence to lake Ontario by the Oneida lake and river, and the Oswego river, your committee are unable to form an opinion, not possessing the requisite information. Upon the practicability and necessity of carrying this project into execution, your committee have been referred to a communication from Benjamin Wright, Esq., late chief engineer of the New-York canals, addressed to Jos. E. Bloomfield, Esq., which is hereto attached, and to which they beg leave to refer, as a paper containing much valuable information.

As to the expense of opening such communication, your committee possess no correct information upon which to base an opinion. Comparing, however, the estimates of Judge Wright in relation to the St. Lawrence canal, and estimates which have been made as to the expense of opening all the proposed channels of communication from Utica to Oneida lake, and from thence to Ontario, Onondaga, Cayuga, and Seneca lakes, (which latter is estimated at less than \$900,000,) the cost will, when contrasted with the important results, be but trifling.

The amount of revenue to be derived from transportation is difficult to be imagined, and much more difficult to be ascertained. Judging, however, of the future from the past and the present, we may safely come to the conclusion, that ten years will not elapse, after the completion of the proposed project, before we witness the same busy scenes upon its waters that we do now upon the Erie canal. Calculation, like our advance in numbers, outruns fancy. "Things which twenty years ago a man would have been laughed at for believing, we now see. At that time, the most ardent mind, proceeding on established facts by the unerring rules of arithmetic, was obliged to drop the pen at results which imagination could not embrace."

The Erie canal is but a carrying place between the Hudson and the great lakes. It bears about the same proportion to the amount of business which is done between those waters now, as the Great Western turnpike did twenty years since. Proportionally to the wants of the country it affords about the same facilities.

It is unnecessary for your committee to dwell on the advantages which the commerce of the State must derive from opening a scene so vast to its incessant activity, and to the influence which must result from holding beyond the reach of rivalry and competition, a key to the commerce of our western world. They are known, and will be duly appreciated by the intelligent people of this State.

Deeply impressed with the importance of the subject, your committee are of opinion that speedy measures ought to be adopted to carry into effect the prayer of the petitioners. In pursuance of these views and opinions, your committee have prepared a bill, which they now ask leave to introduce.

Letter from Benjamin Wright, Esq.

NEW-YORK, April 1, 1834.

JOSEPH E. BLOOMFIELD, Esq.

DEAR SIR,—Your favor of 29th ult. is before me, and I will endeavor to give you all the information in my power touching the subject of your letter. The project which the Canadians have in hand to make a steamboat canal of ten feet water, to pass all the rapids between Montreal and Ogdensburgh, on Lake Ontario, is one which has a very important bearing in its consequences upon the people of the State of New-York, and the Erie canal tolls. It is certain to my mind, that with such a canal as I have projected along the St. Lawrence and the Welland canal, in good order, that all the products of the soil, from all the Upper Lakes, can be carried to tide water a great deal cheaper by this route than they can ever be done by the Erie canal or any other work.

The plan of the improvements as projected along the St. Lawrence, is, to make short canals and locks around the rapids, leaving the steamboat to navigate the river and lakes in all the intermediate spaces. The whole length of all these canals (although in seven or eight different pieces), does not exceed 31 miles, and about 175 feet of lockage. This can be executed for about three millions of dollars, and completed in three years from the time it is commenced, if they choose to do so.

That the Welland canal can and will be put in good order there is no doubt, as it appears by the measures adopted at the last session of their Parliament, that they intend to make it a government work, and will no doubt do so next winter.

The question now arises, what shall be done by the State of New-York to retain the trade of the Upper Lakes to her great commercial port, under all these views of the matter? I see no better plan than your memorial, adopted by the people of Utica, suggests, namely, by a large canal to the Oneida lake, or rather to a certain point on Fish creek, where 8 feet water can be at all times carried to the lake; thence through the lake and down the outlet to Three Rivers, and then down the Oswego river. And I see by your letter, that your views extend to branching off up the Seneca river, to Cayuga lake: this would be a very good addition to the whole project.

You ask me to give my views of the expense of such a work from Utica to the Oneida lake, upon the plan you propose, of 60 feet canal width and 8 feet

depth, with locks the size of the Welland canal, which is 110 feet by 22 in the chamber.

As I know the country well, from having surveyed it, I see no point of extra expense in the canal except in passing the Rome summit, and the plan of getting over Oriskany creek, and Sedaquedra; these latter I do not think would present any very formidable obstacles to good engineers; but I have not sufficiently digested a plan of the project that would enable me to even approximate the expense. I know that you must look for water either from Fish creek, to the Rome summit, or from Black river. The former would not be expensive, as I know and have surveyed a route where it may be brought easy and cheap.

This project would, if executed, enable vessels of 130 to 140* tons, to navigate on the large rivers and lakes with sails, and on the canals be towed by horses, or it would permit steamboats of certain construction, with wheel in stern, to pass through; such boats, from a model I have seen, would carry 100 tons of goods or produce.

The expense of such a project can only be known by a regular survey, and such survey ought to be made by an engineer who knows the formation of the whole country, and can adapt his plan to a good and cheap work, and overcome the various difficulties best.

I have not said any thing about the competition which is to be looked for from Pennsylvania if she goes on to form a connection between her canal at Pittsburgh with the Ohio canal at Akron. This latter place is about 40 miles from Cleveland, on Lake Erie, and we see already that Pennsylvania has been this year navigating her canals since about the 10th of March. The truth is, and we ought not to disguise it, that Pennsylvania can navigate three or four weeks earlier than we can, and even Canada can open her Welland canal nearly one month earlier than we can our Erie canal, and the St. Lawrence canal can be navigated earlier than our canals if they pay a little attention to management to clear the ice. That the project of making a canal of the size I have named from Utica to Oneida lake is feasible at an expense not alarming, is certainly true; indeed, with the exception of the difficulties at the summit and east of it, all the country is as favorable as you can wish or desire. That such canal will be able to transport much cheaper than the present canal, taking into consideration that such a large portion of distance between Oswego and Utica is natural waters, there can be no doubt; and that the time will soon arrive when we must expect competitors for that lake trade, is also certain, and in the race for this important object it is of vital importance that we should have early and sound information on every point relating to this matter, so as to act promptly and definitely when we do act, cannot be doubted.

If such a project was well executed so far as from Oswego to Utica, there is no doubt its advantages would be such as to show the propriety of conveying it on to some proper points of the Hudson, and then we should see whether we cannot compete successfully with any of our neighbors, north or south of us. The prize contending for is a grand one, and well worthy of the exertions of the State of New-York.

Permit me to make one remark before I close as to the Oneida river, below Oneida lake. I have understood that some surveys have been made to estimate the expense of overcoming the three rapids in the 18 miles of this river between Oneida lake and Three River point. Let me say that great care is necessary to prevent injury to the country, by dams, across this river, which I have heard is the plan proposed. There is a great extent of flat country along this river, and no dams ought to be made on any account. I am decidedly of opinion that the improvements ought to be by short canals and locks. One at the outlet of the lake would be about one mile, one at Cockederooy three-fourths of a mile, and one at Oak Orchard: say one mile, all the other parts of the river are, or may easily be, made 8 feet water, and this would do no injury to the country.

I have suggested the above from my wish to see every improvement of this kind, when attempted, done right, and I know too well the evils to a country to have a pernicious plan of such works adopted.

I am not perfectly satisfied with the size of the locks and canal as you proposed, I should prefer locks 24 and 26 feet wide, and a canal not less than 75 to 80 feet on the surface. However, this is a future consideration, and when orders are given for the survey, the estimate can be made on as many different plans as shall be thought advisable.

With great respect and esteem, I am, dear sir, your obedient servant,

BENJ. WRIGHT.

* Vessels of this tonnage measurement will carry 250 tons dead weight.—J. E. B.

Importance and Advantages of Railroads.

(Continued from page 772.)

Among the railroads now in progress, those by which it is proposed to connect the metropolis with Birmingham, Manchester, and Liverpool, are in every point of view the most interesting and important. This line has been undertaken by two distinct companies, under the sanction of different acts of Parliament. That part which connects London with Birmingham has been undertaken by a joint-stock company, under the title of the "London and Birmingham Railway Company;" the continuation of the line is carried from Birmingham to Warrington, where it unites with a branch of the Liverpool and Manchester railway, which runs from Warrington to Newton, a point of the main line just midway between Liverpool and Manchester. This line from Birmingham to Warrington is incorporated under the title of the "Grand Junction Railway Company." The acts of incorporation, like others of the same kind, have been opposed in Parliament by many landed proprietors. The act for the Birmingham and London Company was, in the first instance, thrown out of the House of Lords through the influence of a single peer, because he apprehended some annoyance to a mansion of his, in the neighborhood of which the railway must have passed: although it appeared that this mansion was one which he was not in the habit of occupying. The noble proprietor and his friends on the committee did not attend to hear the evidence: they came, however, to the division, and threw out the bill. How the Company was able to remove this opposition in the subsequent session of Parliament we do not know; but removed it was, and the bill passed.

The ill effects of the slopes on the Manchester and Liverpool railway have impressed on engineers the indispensable necessity of avoiding them, or rendering them as gentle as possible in future undertakings. This object will be attained in a great degree on the Birmingham and London line, but at an enormous expense. The country through which it will pass is of an undulating character, so that there is scarcely a mile of the road in which either cuttings or embankments will not be necessary. Where the elevations to be encountered are inconsiderable, a level is obtained by forming a chasm in the crest of the hill, and using the stuff removed from it to form an embankment in the valley; but there are numerous elevations along the proposed line of road, which either from their great height or other causes render this method impracticable. In such cases the level of the road will be maintained by penetrating the elevations by tunnels. Of these structures eleven were proposed in the Parliamentary plan; but it is probable that cuttings will be substituted for some of them as the work proceeds, and that the actual number will not exceed eight: the largest will be constructed at Kilsby, near Daventry, seventy-seven miles from London; it will be about a mile and a half in length. Another, situate about two miles beyond Watford, will be a mile in length. That which will pass under Primrose Hill, and under the roads leading from the Regent's Park, and from St. John's Wood to Finchley, will be half a mile in length: one near Weedon will be three-quarters of a mile long, but none of the others will exceed a quarter of a mile in length.

The principal obstacle to the adoption of tunnels on railways, worked by steam power, has been the want of sufficient ventilation. The furnace of the engine soon renders the air unfit for breathing, and the impurity produced by the passage of one engine might continue until the arrival of the next. It is proposed, in the longer tunnels, to overcome this difficulty by providing shafts or chimneys at short intervals, carried from the roof of the tunnel to the surface of the ground above. In the case of the long tunnel at Kilsby, some of these shafts will be one hundred feet high; in the other tunnels they will vary from thirty to seventy feet; all of them will be eight feet in diameter. We are

not aware whether the sufficiency of such an expedient for the purposes of ventilation has yet been ascertained by experiment. It has been stated that the speed with which the engines will traverse the tunnels will be so great, that very little ventilation will suffice. But the ventilation necessary for the tunnel will be the same, at whatever speed the engine may proceed; for the air drawn through the fire during the passage of the engine will be the same whatever the speed may be. Each stroke of the piston will draw through the fire the same quantity of atmospheric air; and it is obvious that the same number of strokes of the piston will produce the same number of revolutions of the wheels, and therefore the same progressive advance of the engine at whatever rate the piston may move. If the engine moves rapidly through the tunnel, it will, therefore, still vitiate the same quantity of atmospheric air; but there will be this convenience, that the passengers will not be detained in the air so vitiated any considerable length of time. The longest tunnel upon the projected line will be traversed in less than five minutes, and the shafts will subsequently remove, though perhaps not very speedily, the impure air.

In cases where it is not found practicable to traverse the valleys by embankments, bridges to support the railroad, of great extent, have been projected, by which the valleys may be arched over. One of the most stupendous of these works is the viaduct intended to bestride the valley of the Ouse. This work, which will be situate between Newport Pagnel and Stony Stratford, will cross the valley of the Ouse about a mile and a half eastward of the latter town; its extreme length will be a mile and a quarter, and the height of the level of the rails at the centre arch above that of the water will be nearly fifty feet; the centre portion will be supported on seven magnificent arches, each of fifty feet water-way; the keystone of each arch not to be less than twenty-five feet above the surface of the ground. The extreme ends of the viaduct will be formed by embankments. By such gigantic efforts of labor and skill, the inequalities of the ground will be greatly diminished, though not absolutely overcome.

Between the extremities of the line at London and Birmingham, there will remain five ridges of different elevations, separating six valleys varying in depth; so that the line undulates throughout nearly its whole extent. The entire length will be 111½ miles: of this there will only be nine and a quarter miles absolutely level. Proceeding from the Depot near Primrose Hill there is a gentle descent of eight feet in two miles to the valley of the Brent; there is then a gradual ascent amounting to 123 feet in eleven miles, by which the line is conducted to the crest of the first ridge at Olney; the road then descends eleven perpendicular feet, and crosses the valley of the Colne; it next encounters the second ridge, which it ascends for fifteen miles at the average rate of about fourteen feet in a mile. From the summit of this ridge, situate at Tring, thirty miles from the Depot, it will descend for twenty-three miles, falling 160 feet; here it will be conducted by the great viaduct over the valley of the Ouse, and again ascend a ridge at Blisworth, between Northampton and Towcester: from the viaduct to the summit of this ridge the road ascends 100 perpendicular feet in 6 miles, being at the rate of about sixteen feet in a mile; it then again falls forty feet in five miles, and crosses the valley of the Ahen near Weedon, sixty-four miles from the Depot. It next crosses a ridge which intersects the line between Daventry and Northampton at Kilsby: this ridge is ascended by a slope twelve miles in length, and rising seventy-six feet. From Kilsby summit the road descends into the valley of the Avon by a slope of fourteen miles, descending 132 perpendicular feet; the line here, after crossing the Avon, passes through Coventry, and ascends the last ridge at Berkswell summit, by a slope of seven miles and a half, rising 115 perpendicular feet: from this summit it again descends into the

valley of the Blyth, by a slope of three miles and a half, falling fifty-seven perpendicular feet; from which it ascends by another slope of ten miles, rising forty-eight feet, to the station at Birmingham.

On the whole line there are twenty-five miles and a half, proceeding from London to Birmingham, in which there is an ascending slope at the average rate of fifteen feet in a mile; and there are eighteen miles and a half in which there is a descending slope of the same inclination. The extreme gentleness of these slopes is such, that, in descending, the train may be safely permitted to move by gravity, so that during the descent the whole of the moving power may be saved. The power saved on the descending slopes may, therefore, be considered as nearly proportional to the additional power required in the ascending ones; and as no part of the road will require a greater addition to the power requisite on the level than two-thirds, the locomotive engines at present used, imperfect though they be, will be fully equal to the exigencies of the line. The expenditure of power from London to Birmingham will be greater than in returning; because the station at Birmingham is about 350 perpendicular feet above the station at London.

The width of this magnificent road on the embankments will be twenty-eight feet; the rails of each line will be five feet asunder, and the line will be separated by a space of six feet; an additional space of six feet will be left on each side between the outer rails and the edge of the embankment. Where the road is cut through, elevations an additional foot in width will be allowed to each side for drains: the deepest chasms by which the road penetrates the elevations will not exceed fifty-five feet,—the greater number, of course, being considerably less; and the highest embankments by which valleys are crossed will not exceed 45 perpendicular feet. The width of the road in the tunnels will be six feet less than on the embankments; there being only a space of three feet left between the outer rails on each side, and the walls of the tunnel. The sides of the embankment will slope downwards by a more gentle inclination than that used on the embankments of the Manchester railway, being at the rate of two horizontal feet to one foot perpendicular.

Supposing—what, consistently with the results of the whole history of human invention, is in the last degree improbable—that the locomotive engines, though now only in their infancy, shall not receive any further improvements, the time of a first class train from London to Birmingham would be only five hours and a half. The gentleness of the slopes will render their motion almost as uniform and punctual as that of the hands of a time-piece; so that the passage of the successive trains from hour to hour through the different parts of the country will almost serve the purposes of a clock.

It appears from documents obtained from the public offices, that the present number of passengers between Liverpool and London annually amounts to about half a million. If we may apply to this railroad results proportionate to those with which we are furnished by that of Manchester, we should expect that the number of passengers between the two towns would be increased in a threefold proportion. But there are obvious reasons which lead us to expect a much larger increase of intercourse, in proportion to the population of the two towns, than in the case of Manchester and Liverpool. Between these two places, the railroad passes through not a single town, or even village; the intercourse is, therefore, in a great degree confined to the population of Manchester and Liverpool themselves. Now, a large portion of the intercourse on the Birmingham and London railway will be supplied from the populous towns which skirt its course on either side. These tributary streams may be expected to swell the main current to at least double its magnitude. The distances of the principal places adjacent to the line, in time, from Lon-

don, supposing branch railways to be formed, would be as follows:

	Hours.	Minutes.
Aylesbury,	2	30
Bedford,	3	30
Birmingham,	5	30
Dudley,	6	—
Kettering,	4	15
Kidderminster,	6	30
Leamington,	5	—
Northampton,	3	—
Rugby,	4	—

The Grand Junction railroad, from Birmingham to Warrington, will be a work presenting less difficulties, and attended with a more limited investment of capital. The country through which it passes is less intersected by ridges and other inequalities; although here also a considerable extent of cuttings and embankments must necessarily be made. As a commercial speculation, it is needless to say that it presents the fairest prospects of a successful issue: indeed, the formation of the Birmingham and London line rendered the Grand Junction line inevitable. Thus, the whole kingdom from London, in a north-westerly direction to Liverpool, will be traversed by this great artery of communication; producing an interchange of benefits, physical, and moral; commercial, social, and political, the importance and amount of which it would be impossible to estimate or predict.

The formation of this great line of cheap and rapid communication has rendered the construction of similar means of intercourse in other directions inevitable; otherwise the benefits of the metropolitan market would be almost exclusively conferred upon those agricultural and manufacturing producers whose good fortune might place them in its neighborhood. In their own defence, therefore, landed proprietors and capitalists in every part of the country must exert themselves; for whatever doubts they may have formerly entertained as to the expediency of constructing such means of communication with the metropolis, they can hardly any longer hesitate as to what they should now do; unless they desire to see themselves cut off from the benefits arising from the production of articles which cannot be transported on turnpike roads or canals in competition with railroads. We find, accordingly, that various undertakings have already been set on foot for the construction of extensive lines of communication, in other directions from the metropolis. An act of Parliament was passed, during the last session, for the construction of a line connecting London with Southampton and Portsmouth, passing through Esher, Basingstoke, and Winchester. As this project was countenanced by the principal landed proprietors through whose property it will pass, the act passed the legislature without difficulty or expense.

The projectors of another line were not, however, so fortunate. It was proposed to cross the kingdom by a railroad in a direction due west from the metropolis, extending to Bristol, and passing through Maidenhead, Reading, and Bath, and in the immediate vicinity of Windsor, Oxford, Gloucester, Cheltenham, and Devizes. The company who applied for this act experienced, during the last session, the most vexatious and determined opposition on the part of some of the landed proprietors; and, after having been driven to an expenditure of above £30,000, in the production of evidence, and in other parliamentary charges, the bill, though it passed the Commons, was thrown out in the Committee of the Lords, through the influence, it has been said, of a single Peer! The Company will find means to remove the opposition, and the bill will probably pass in the next session. This railway would facilitate the communication of the metropolis with Wilts, Somerset, Gloucester, Wells, Bridgewater, Taunton, Exeter, Plymouth, Devonport, Falmouth, and many other places. It would also, in conjunction with steam navigation, connect the metropolis with

the ports of the Bristol channel, with South Wales, and with the south-western coast of Ireland.

The Southampton line will open an easy communication with the coast of Hampshire, and by the Southampton steam-packets, with the Isle of Wight, and the Channel Islands; also with the ports of St. Malo, Havre, and Cherbourg. If the railway contemplated between Havre and Paris should be constructed, a communication would be thus opened between London and Paris, which would reduce the time of transit between those capitals to about twenty-four hours, allowing twelve hours for the voyage by steam from Southampton to Havre.

To form an estimate of the effects which these vast undertakings are likely to produce on the intercourse of the country, it will be necessary to consider the travelling which at present exists on these lines, and to compare it with the effects produced on the intercourse between Manchester and Liverpool. It appears from evidence given before parliamentary committees, that the annual number of passengers between London and Birmingham amounts to 488,342. By the stamp-office returns, it appears that the income produced from coaches passing along the proposed route of the Southampton railroad, at the present charge for travelling, amounts to four hundred and forty-six thousand one hundred and ninety-three pounds annually. Now, if we assume that the average cost of travelling the whole distance to Southampton is one pound, it will follow that the travelling along that line is equivalent to 446,193 travellers annually, the whole distance. It appears also, from similar returns, that the number of travellers along the proposed line of the Great Western Railway at present may be estimated at 302,118. Thus, along these three lines, the present intercourse would stand as follows:

Birmingham,	488,342
Bristol,	302,118
Southampton,	446,193

Total, 1,236,653

Now, we have already stated that the number of passengers between Manchester and Liverpool, before the establishment of the railroad, was at the rate of 450 daily; and that it was during the half year ending 31st of December, 1833, at the rate of 1210 daily; being an increase in the ratio of eight to three, very nearly. Supposing, then, that the three railroads now contemplated produce a like increase of intercourse, we shall obtain the probable number of passengers upon them by increasing the above estimate in the ratio of eight to three; the results would be as follow:

Birmingham,	1,302,244
Bristol,	805,642
Southampton,	1,189,848

Total, 3,297,734

Thus, the number of persons who would pass annually to and from the metropolis, along these three lines of road, would be nearly equal to a fourth of the whole population of Great Britain.

Our limits compel us to omit the notice of numerous important railways which are in contemplation, and some of which are in a state of very forward preparation; among these, there is one entitled to more especial notice, being not much less in extent than the Liverpool and Manchester railway, and passing through a district of great commercial importance. The line we allude to will be carried from the town of Preston in a southern direction through Wigan, to the Manchester railway; on which it will enter at a point equally distant between Manchester and Liverpool; thus connecting the whole district, for a distance of twenty-two miles from Preston to Newton, with Manchester and Liverpool. The act for this railway has passed the legislature, and it is now constructing under the direction of Mr. Charles Vignoles, civil engineer.

A line of railroad is already in an advanced state, by which it is proposed to connect Leeds and Selby, and thus open a more easy and rapid communication between that important mart and the port of Hull. Another line is in preparation, by which to cross the neck of the island, and to connect the Irish Channel with the German Ocean, extending from Carlisle to Newcastle.

Of the shorter railroads in progress may be mentioned that proposed to be carried from London Bridge to Greenwich. This work ought perhaps more probably to be called a viaduct, since it will be sustained by masonry, supported by a series of arches, for nearly the whole distance: its length will be three miles and three quarters, and the time will be twelve minutes.

The only railroad yet undertaken in Ireland is that which connects Dublin with King's Town, a distance of about seven miles. This road, which is now completed, has been executed under the superintendence of Mr. Vignoles. King's Town and its neighborhood is the most populous district around Dublin; and besides being the most favorite watering-place, is at present the place of residence of the families of most of the wealthier mercantile and professional classes. By a recent arrangement, the post-office steam-packets from Liverpool and Holyhead land at King's Town harbor, instead of Howth. These circumstances, combined with other local advantages, present a fair probability of the success of this railway.

Notwithstanding the unquestionable commercial advantages which have resulted to the joint-stock company which established the Manchester railroad, it is certain that these advantages are considerably less than they would have been had there been sufficient previous experience in the working of railroads, under the circumstances of so vast an amount of rapid transport as the company have found it necessary to undertake. Much still remains to be learned, not only with respect to the construction of the locomotive power, but likewise respecting the construction of the railroad itself. The cost of the locomotive power has been so great, that the directors lately thought it advisable to appoint a sub-committee of their own body, assisted by Mr. Booth, their treasurer, to inquire and report respecting the causes of the amount of this item of their expenditure, and to ascertain whether any and what measures could be devised for the attainment of greater economy. A very able and satisfactory report was made by this committee, or, to speak more correctly, by Mr. Booth, who was the only individual connected with it who really had a competent knowledge of the subject of inquiry.

It appears that previous to the establishment of the railway, Messrs. Walker and Rastrick, engineers, were employed by the Company to visit various places where steam power was applied on railways; for the purpose of forming an estimate of the probable expense of working the railway by locomotive and by fixed power. These engineers recommended the adoption of locomotive power, and their estimate was, that the transport might be effected at the rate of .278 of a penny, or very little more than a farthing per ton per mile. In the year 1833, five years after this investigation took place, it was found that the actual cost was .625 of a penny, or something more than a half-penny per ton per mile; being considerably above double the estimated rate. Mr. Booth very properly directed his inquiries to ascertain the cause of this discrepancy, by comparing the various circumstances assumed by Messrs. Walker and Rastrick in making their estimate, with those under which the transport was actually effected. The first point of difference which he observed was the speed of transport: the estimate was founded on an assumed speed of ten miles an hour, and it was stated that a four-fold speed would require an addition of 50 per cent. to the power, without taking into ac-

count wear and tear. Now, the actual speed of transport being double the speed assumed in the statement, Mr. Booth holds it to be necessary to add 25 per cent. on that score.

The next point of difference is in the amount of the loads; the statement is founded upon the assumption, that every engine shall start with its full complement of load, and that with this it shall go the whole distance. The facts, however, are, says Mr. Booth, that instead of a full load of profitable carriage from Manchester, about half the waggons come back empty; and instead of the tonnage being conveyed the whole way, many thousand tons are conveyed only half the way: also, instead of the daily work being uniform, it is extremely fluctuating. It is further remarked, that in order to accomplish the transport of goods from the branches, and from intermediate places, engines are despatched several times a-day, from both ends of the line, to clear the road; the object of this arrangement being rather to lay the foundation of a beneficial intercourse in future, than with a view to any immediate profit. Mr. Booth makes a rough estimate of the disadvantages arising from these circumstances, by stating them at 33 per cent. in addition to the original estimate.

The next point of difference is the fuel. In the original estimate, coal is assumed as the fuel, and is taken at the price of five shillings and tenpence per ton: now the Act of Parliament forbids the use of coal, which would produce smoke; the company have, therefore, been obliged to use coke, at seventeen shillings and sixpence a ton. Taking coke, then, to be equivalent to coal, ton for ton, this would add .162 to the original estimate.

These several discrepancies being allowed for, and a proportional amount being added to the original estimate, the amount would be raised to .601 of the penny per ton per mile, which is within one-fortieth of a penny of the actual cost. This difference is considered to be sufficiently accounted for by the wear and tear produced by the rapid motion; more especially when it is considered that many of the engines were constructed before the engineer was aware of the great speed that would be required.

When we formerly called the attention of our readers to this subject, we stated that the proceedings on this railway ought to be regarded as merely experimental; that the engines must be consequently varied in weight and proportion; that each quarter would produce new ones of increased power and efficiency; and that, consequently, the expenses thus incurred for a given amount of traffic ought not to be regarded as the permanent and regular expenses of the road, but rather as the price paid for that knowledge which could be obtained by no other means than by experiments on the same vast scale. We find that subsequent events have fully confirmed our opinions.

"What then," says Mr. Booth, in the Report already alluded to, "is the result of these opposite and mutually counteracting circumstances? and what is the present position of the Company in respect of their moving power? Simply, that they are still in a course of experiment, to ascertain practically the best construction, and the most durable materials, for engines required to transport greater weights, and at greater velocities, than had till very recently been considered possible; and which, a few years ago, it had not entered into the imagination of the most daring and sanguine inventor to conceive; and farther, that these experiments have necessarily been made, not with the calm deliberation and quiet pace which a salutary caution recommends, making good each step in the progress of discovery before advancing another stage, but amidst the bustle and responsibilities of, and large and increasing, traffic; the directors being altogether ignorant of the time each engine would last, before it would be laid up as inefficient, but compelled to have engines, whether good or bad; being aware of

various defects and imperfections, which it was impossible at the time to remedy, yet obliged to keep the machines in motion, under all the disadvantages of heavy repairs, constantly going on during the night, in order that the requisite number of engines might be ready for the morning's work. Neither is this great experiment yet complete; it is still going forward. But the most prominent difficulties have been in a great measure surmounted, and your committee conceive that they are warranted in expecting that the expenditure in this department will, ere long, be materially reduced, more especially when they consider the relative performances of the engines at the present time compared with what it was two years ago."

We must now conclude these observations on the Manchester railroad, without noticing what appears to us of scarcely less importance than the subject to which the Committee have directed their inquiries,—we mean the state of the road itself. No one who has recently travelled on it can be ignorant to what a great extent the rocking and swinging of the carriages from side to side is increased. We are quite aware of the impossibility, under the circumstances, to obviate entirely an effect of this kind; but it now amounts to a degree which is not only inconvenient to travellers, but which cannot fail to be highly detrimental both to the carriages and to the road. This effect will doubtless be traced to the inequalities which have been produced in the joinings of the rails. On examining the rails in various parts of the road, we found a very small proportion of them in which the joinings had maintained that degree of exactness which is indispensable to safety and stability, when great speed is attempted. In most cases, the surface of one rail at the joint is more or less depressed below the surface of the other, and in some cases this depression amounts to a serious fraction of an inch. The consequence is, that the passage of the wheels over the rails can be distinctly felt in the carriages, and wherever two inequalities do not occur together at corresponding joints, and in the same direction, the carriage receives a lurch more or less violent according to the amount of the inequality. The effect of the collision of the wheels on the rails at the joints is, in many cases, rendered quite perceptible. We have ourselves taken from the road pieces of iron of considerable magnitude, detached from the rails at those joints by the succession of blows which they receive as the wheels pass over them. The remedy for these defects must be sought in giving greater stability to the sleepers and chairs which sustain the rails. It would be also extremely desirable to keep an exact register of the breakages of rails in different parts of the road,—specifying in every case the part of the rail where the fracture takes place. By this means we should be enabled to trace, with some degree of certainty, the causes of this course of wear. For example, it is at present doubtful on what part of the road fractures most frequently take place; it is said to be on the descending planes; but we apprehend that this statement depends more on conjecture than on ascertained facts. It would be also useful to ascertain whether the fractures take place more frequently over the chairs or between them; also, whether they happen oftener at the extremities of the rails, or in some intermediate part. The surface of the fractures should also, in every case, be carefully examined, to determine whether any accidental flaw has existed in the structure of the metal. Such a body of facts as it is in the power of the Directors to collect, at no cost to the Company, but by giving the necessary directions to their subordinate agents, would form an invaluable storehouse of knowledge for the guidance of their future operations, and those of other railroad companies.

We believe that one source of extraordinary expense, to which the Company have been subjected, may be traced to the adoption of fish-bellied instead of parallel rails, and to the insufficient weight of metal in them. The theory

of the fish-bellied rail is doubtless seductive; and if the sleepers and blocks were absolutely immovable, they would, with a given weight of metal, have the advantage over the parallel rail—but in a rail of this form, on the slightest subsidence of the sleeper, or shifting of the chair, the rail being deserted by its support, its weakest point is immediately exposed to the incumbent weight of the waggons under the most disadvantageous mechanical conditions. In a word, the very circumstances which constitute the advantage of the fish-bellied rail are here reversed, and produce a proportionate liability to fracture. Independently of this, the weight of the rails (35 lbs. per yard) was quite insufficient; and we believe that where fractures take place, the Company have deemed it advisable to replace them by rails at 50 lbs. to the yard.

The Leeds and Selby Railroad Company have profited by this experience, and have rejected the fish-bellied rail; laying down a durable road of parallel rails at 50 lbs. per yard.

The advantages of railroads have of late years become so apparent, that their construction has been undertaken to a certain extent on the Continent. In France, a double line of railroad has been constructed, extending from St. Etienne to Lyons, a distance of thirty-four miles. This road is not adapted for very heavy transport, the rails weighing only 26 lbs. per yard. To obtain a sufficient level, fourteen tunnels were constructed; one of these is a mile in length; another, more than half a mile, is carried under the river Gier. The road is carried by a viaduct over the Soane. In the cost of this road we have a notable example of the commercial wisdom of our neighbors, who paid for the iron used on it four times the price at which they could have obtained it from us! A part of this road is a self-acting plane, on which the loads are moved by their own weight; on the other parts of it locomotive engines have been used.

A continuation of this road has been constructed from St Etienne to Roanne, extending about fifty-five miles. It consists of a single track; the first thirteen miles being formed of cast iron rails of 43 lbs. to the yard, and the last forty-two miles of rolled iron, 26 lbs. to the yard.

Among the enterprises of this kind undertaken in Germany, the railroad from Budweis to Lintz merits notice. The extent of the line is about eighty English miles; it was commenced under the direction of Gerstner in 1825, and is composed of wooden beams, bearing flat rails of iron, six yards in length, two inches in width, and one-third of an inch in thickness. It is intended for the purposes of general commerce, but more especially for the transport of salt.

Foon.—By the experiments of Dr. Beaumont, it has been satisfactorily proved that from whatever is introduced into the stomach, the same article is invariably elaborated, whether animal or vegetable, tough or tender, it matters not; the result is the same, under all circumstances, when the digestive process is properly carried on. In the vicinity of Hudson's Bay, one of the exploring party, in those inhospitable regions, says he visited a cabin, one evening, when the inmates were at supper, which consisted of raw flesh of seals, fat, birds and entrails, which constituted a delicious meal. A young girl, the belle of the tribe, was sitting by, biting the inside of a seal to pieces, and distributing the bits to her companions. Train oil, particularly when rancid, is a delicious article, being both meat and drink for Greenlanders. Yet, it is worthy of remembrance, the chyme, the nutritious fluid which nourishes the body, is always the same, whether elaborated from putrid aliments or the most savory viands.—[Scientific Tracts.]

Manufacturing Establishments at Cincinnati, Ohio, in 1834.

There are more "manufacturing establishments" in this city than in any city or town in the west. Pittsburgh ranks next to us in that respect, and perhaps is ahead of us, when we take into consideration the difference of population. Cincinnati has a third more inhabitants than Pittsburgh. We have twelve or thirteen foundries and engine factories, for the manufacturing of engines for steamboats, flour mills, grist mills, rolling mills, and for blast furnaces, used in this section of country, and for sugar mills, corn mills, cotton gins, saw mills, and other uses, for the south, where an immense amount is exported yearly. An estimate was made in 1832, for the year previous, of the amount exported of articles of the above description, and it exceeded \$400,000.

We have also a large and extensive rolling mill, owned and conducted by Messrs. Shreve, Paul, and M'Candless, gentlemen of great enterprise, who employ about one hundred men; they cut some ten to eleven tons of nails per week. An extensive and complete spade and shovel factory; seven or eight bell and brass foundries, where an almost unlimited amount of work is done; twelve steam saw mills, all of which are conducted on a very large scale—at most of them there are machines connected for cutting laths, shingles, &c.—5 to 7000 laths can be cut in an hour. At some of these mills they have a saw for cutting boards and timber, a circular saw, and a machine for planing flooring boards, all driven by steam power.

Two flour mills, one owned by C. Bradbury, Esq., and driven by water from the canal—they make sixty or seventy barrels every twenty-four hours. Connected with this establishment is an oil mill, for the manufacturing of linseed and castor oils; there is also a mill connected for grinding and sifting corn meal, large quantities of which are barrelled and exported. Our largest and most extensive flour mills in this section of the state are on the Big and Little Miami rivers, which empty into the Ohio above and below this city, and are situated from ten to fifty miles from Cincinnati; they manufacture, some one hundred, some one hundred and fifty, and some two hundred barrels, every twenty-four hours. All this flour is sent to this market by canal and waggons, and then exported to New-Orleans, the Atlantic cities, &c. The other flour mill in the city is worked by steam, and can manufacture, when in operation, one hundred and fifty barrels per twenty-four hours. I would stop here to remark, that there are about sixty steam engines in constant operation within the corporation lines, exclusive of those on our steamboats, and all high pressure; low pressure engines are not in good repute in the west.

A card manufactory, owned by M. P. Cassilly, Esq. where every description of machine cards are made. A large number of establishments for the manufacture of steam boilers, where hundreds of men are constantly employed. A stereotype foundry, and also a large and extensive type foundry, owned by N. Guilford, Esq. and others, where is manufactured every variety of type, printing presses, and every article connected with the printing business; there are eleven or twelve machines for casting type,

and sixty to seventy hands are constantly employed; they manufacture to the amount of some 50 to \$60,000 per year.

A steam fire engine factory, owned and conducted by Messrs. Chase and Seymour. The engines manufactured by them are equal for power, beauty, and workmanship, to any manufactured east of the mountains.

A patent lever lock factory, by Messrs. Shawk and Fitz.

A steel saw and file factory, by Messrs. Garrard & Co.

A printing press manufactory, on an extensive scale, by S. Dickinson.

A saddle tree manufactory, machinery driven by steam, conducted by Messrs. Kendall & Co.

A clock factory, by Lerman Watson, Esq. where are manufactured clocks, both of brass and wood. The establishment is a large one; many hands are employed, and many clocks made, of every description.

A factory for rolling sheet lead, and drawing lead pipes, by steam, for hydraulic purposes.

A steam stone saw mill. This establishment is worked on a new principle, and is patented to the proprietor, (Mr. Jas. Henderson.) It cuts stone with great accuracy.

A white lead manufactory, by steam power, owned by James M'Candless, Esq.

A bark and leather rolling mill, owned by the Messrs. Clarks, and worked by steam. The manufacture of malt liquors is carried on very extensively in the city, and to great perfection. There are eight very large breweries, and the beer, porter, and ale, manufactured by them, is equal to any I have ever seen in the eastern cities. We have a great number of snuff and tobacco manufactories, last factories, candle and soap factories, &c. Hats, furniture, &c. are manufactured in great quantities, and exported for sale to Kentucky, Tennessee, Mississippi, Louisiana, and every State south and west of us.

My limited information on the subject of manufactories, as well as want of time, will prevent me from giving you a more minute account of the manufacturing and mechanical business carried on to a very great extent, and to equally great perfection, in Cincinnati. I have named a few, and only a few, of the largest establishments, those that have come to my mind while writing; there are many others, where great numbers of hands are employed, that I do not at this moment think of. Opposite the city, at New-
port, is a large cotton bagging factory. It is on a very extensive scale, owned by an incorporated company, with a capital of half a million. They manufacture bagging, bale rope, twine and cordage, Kentucky jeans, cotton and woollen coarse goods, sheet lead, and pipe—all of which is carried on by steam power. The machinery, when in full operation, will use annually 450 tons of hemp, 850 bales of cotton, 95 tons of wool, and 200 tons of lead. The agent resides and transacts all the business of this establishment in Cincinnati. There is also, in New-
port, a steam saw mill.

In Covington, also opposite to this city, is a large cotton factory, owned by C. Macallister & Co. of this city; they run 2500 spindles, and manufacture 300,000 lbs. cotton yarn per annum. Sixty hands are employed. The yarn is sold here. There is also in Covington a rolling mill on a large

scale, a rope walk, steam flour mill, and a steam saw mill.—[Patriot.]

Steamboats on the Western Waters.

In a publication made by the writer of this article in 1829, on the interesting subject of steamboats, it was calculated, that from the time of their first introduction on the western waters in 1811, until that period, their number amounted to about three hundred and twenty-three. Their united tonnage was estimated at fifty-six thousand tons. From the best data which could be procured from the most intelligent sources, the original cost of these boats was five millions six hundred thousand dollars, and the repairs on the same number, assuming that none of them would last longer than 1832, was set down at two millions eight hundred thousand dollars. Now, although there were five or six boats built between the years 1811 and 1817, the latter period may be assumed as the epoch of their regular and successful introduction; in 1825 they were brought to their present state of perfection. It results, then, that the amount expended for the building and repairing of steamboats, in a period of about eleven years, was equal to eight millions four hundred thousand dollars. As the number of steamboats was increasing annually, no fixed amount can easily be assumed for the yearly expenses; but for the year 1829, the sum was fixed at two millions five hundred thousand dollars; if, then, five hundred thousand dollars be considered as a fair yearly average from 1818, the total amount of money expended on the shores of the western waters, up to 1829, inclusive, will be little short of fourteen millions of dollars. When it is considered that this circulation and expenditure of money was exclusively created by the introduction of the steamboat, the importance of this invention to the valley of the Mississippi may be conceived. It has produced an advance of prosperity that would have required more than a century to have realized in the ordinary progress of human affairs; it has produced a revolution in business little inferior in importance to that which followed the discovery of the art of printing.

On the 1st of January, 1824, an official list of steamboats, from an authentic source, gives the whole number of two hundred and thirty, whose aggregate amount of tonnage is equal to about thirty-nine thousand tons. Allowing the cost of building at a rate much lower than the rule adopted three years since, the capital now invested in this stock will exceed three millions of dollars. The expense of running may be put down nearly as contained in the following scale:

60 boats over 200 tons, 180 running days, at \$140 per day,	\$1,512,000 00
70 boats from 120 tons to 200, 240 running days, \$90 per day,	512,000 00
100 boats under 120 tons, 270 running days, \$60 per day,	1,620,000 00

Total yearly expense, 4,644,000 00

This sum may be reduced to the different items producing it, in the following proportions, viz.:

For wages, 36 per cent.,	\$1,671,840 00
Wood, 30 per cent.	1,393,200 00
Provisions, 18 per cent.	835,920 00
Contingencies, 16 per cent.	743,040 00

This result is truly striking to those who

were accustomed to the state of things on our rivers within twenty years. The difference in the amount of wages paid is in itself very considerable; but the item of fuel is one created exclusively by steamboats; and when it is considered that nearly one million and a half is expended every year at a few points on the Mississippi valley, it presents a vast field for speculation. The immense forests of beech and other timber, unfit for agricultural purposes, were, before, not only useless, but an obstacle to the rugged farmer, who had to remove them before he could sow and reap. The steamboat, with something like magical influence, has converted them into objects of rapidly increasing value. He no longer looks with despondence on the denseness of the trees, and only regrets that so many have already been given to the flames, or cast on the bosom of the stream before him.

At the present period, the steamboats may be considered as plying as follows, viz.:

25, over 200 tons, between Louisville, New-Orleans, and Cincinnati, meas'g 8484 tons.	
7 between Nashville and New-Orleans,	2585 do.
4 between Florence and New-Orleans,	1617 do.
4 in the St. Louis trade,	1002 do.
7 in the cotton trade,	2116 do.
57 boats not in established trades, from 120 to 200 tons,	8641 do.
The balance under 120 tons in various trades,	14,655 do.

39,000

In the New-Orleans and Louisville trade, the boats over two hundred tons make about one hundred and forty trips, in prosperous seasons; those of smaller size make from fifty to sixty trips. But to go into an estimate of the number of voyages made by the boats in the different trades is impossible, because no regular data are furnished, and the result depends upon a variety of contingencies.

Previous to the introduction of the steamboat in 1817, about twenty barges, averaging one hundred tons, afforded the only facilities for transporting merchandise from New-Orleans to Louisville and Cincinnati. These making but one trip within the year, gave the means of bringing up only two thousand tons. The present tonnage in this trade exclusively having been stated to be 8484 tons, gives the amount employed, amounting to one hundred and forty trips in the season, to be 1,187,760 tons: a cause capable of producing a revolution in sixteen years hardly equaled in the annals of history. The effects of these causes upon western commerce have necessarily been immense. The moral changes alone are felt throughout the west, and the effect on prices is almost incalculable: the imported article has fallen in a ratio equal to the increased price of western products. In looking back to the old means of transportation, we cannot conceive how the present demand and consumption could have been supplied by them.

To those who are acquainted with the early mercantile history of our country, when it was no uncommon thing for a party of merchants to be detained in Pittsburgh from six weeks to two months by low water and ice, the existing state of things is truly gratifying. The old price of carriage of goods

from the Atlantic seaboard to Pittsburgh was long estimated at from five to eight dollars for one hundred pounds. We have instances, in the last five years, of merchandise being delivered at the wharf of Cincinnati, from Philadelphia, by the way of New Orleans, for one dollar per hundred.

It may not be useless or uninteresting to give an idea of the mortality among steamboats in a given time. It is not pretended that any decided inference can be drawn from this statement, or that the facts go to establish any fixed rule. But under the present situation of steamboat discipline and regulations, a tolerably fair conclusion can be drawn from it. Taking the period, then, of two years, from the fall of 1831 till that of 1833, we have a list of boats gone out of service of sixty-six: of these, fifteen were abandoned as unfit for service, seven were lost by ice, fifteen were burned, twenty-four snagged, and five destroyed by being struck by other boats. Deducting the fifteen boats abandoned as unseaworthy, we have fifty-one lost by accidents peculiar to the trade. In number, this proportion is over twelve per cent. per annum; in tonnage, the loss is upwards of ten per cent. Amount snagged, 3721 tons; burned, 2330 tons.

The foregoing calculations and statements afford a great field for speculation. It is evident that there is a vast amount of surplus tonnage, and, of course, the business at present is entirely overdone. Indeed, from a full investigation of the subject, a few years since, by a committee appointed for the purpose, it was fully ascertained, that although the benefits conferred on the valley of the Mississippi were incalculable, the stock invested in boats was, as a general rule, a losing investment—in many cases, a total sacrifice. In a few cases, owing to a fortuitous combination of circumstances, money has been made; but the instances are so few as not to affect the rule. Time may correct this evil; but in a business in which public interest and public safety are so much concerned, a little governmental interference and assistance might be useful, and ought to be tendered. Some legislative action, which might tend to arrest the fearful increase of accident, has long been a desideratum; but how this is to be applied, presents the great difficulty. An experiment, however, has been tried, which seems to hold out the prospect of success. We allude to the company which was formed in 1832-3, called the Ohio and Mississippi Line of Transportation. During the existence of this company, not an accident of any kind occurred to person or property. A perfect regularity in arrivals and departures was introduced, and as all the good boats were in the same interest, there was no foolish rivalry, and consequently no injudicious racing. How far the post-office department would be justifiable in aiding such an association we do not pretend to say, but in our humble view of the case, we consider the great interests of the west are much involved in the question; and when the great uncertainty and irregularities of the mail, which have hitherto distinguished the routes between New Orleans, Natchez, and St. Louis, and Pittsburgh, Louisville, and Cincinnati, are considered, something is expected. On the score of economy alone, the subject is worthy of the reflection of the general government. Probably nine tenths of the correspondence on the

western waters is of a commercial character; the greatest portion of this is now transmitted, free of postage, by means of passengers: no one can prevent this. If a line of steamboats can be made interested in protecting the government, the general post-office would find it to its advantage to give liberal terms to such an establishment.

[Western Magazine.]

MANUFACTORIES IN PITTSBURGH.—The various manufacturing establishments of Pittsburgh are thus briefly enumerated in a late number of the Gazette of that city.

There are, says that paper, in the city of Pittsburgh, 16 "foundries and engine factories" of the largest denomination, besides numerous other establishments of less magnitude.

There are 9 "rolling mills," cutting two tons of nails and rolling eight tons of iron per day, on the average, and employing from seventy to ninety hands each.

There are 6 "cotton factories," with an aggregate of twenty thousand spindles, one hundred and sixteen power looms, and one hundred and seventy hands.

Six extensive "white lead factories."

Five extensive "breweries," besides small ones.

Six "steam saw mills."

Four "steam grist mills."

Ten extensive "glass works."

Upwards of one hundred "steam engines in full operation."

There are, moreover, innumerable establishments for the manufacture of ploughs, timber, wheels, screws of all kinds, saddle trees, machine cards, bells, brass work of every description, locks, &c. &c. all manufactured extensively for exportation.

[From the Journal of the Franklin Institute.]

Report on Mr. Peck's Method of Propelling Boats.

The Committee on Science and the Arts, constituted by the Franklin Institute of the State of Pennsylvania for the promotion of the mechanic arts, to whom was referred for examination a Plan of Propelling Boats, invented by Mr. J. Peck, of Oakland, Jefferson county, Tennessee, report—

That the inventor proposes to employ what he terms a *multiplied crank*, attached to an axis made to revolve horizontally by some power not indicated in the sketch before us. The several wrists of the compound crank are to have either setting poles or hooks attached, one to each wrist, which poles or hooks are to act successively in urging the boat forward, by applying, when poles are used, to the bottom of the canal or stream, and when hooks are substituted, to a rack, or rope, extending the whole way on the shore. Coiled springs are to be placed in some part of each pole, to prevent the effect of sudden and violent impulses. When the pole is used to apply to the bottom, a species of foot, made of three or four strips of metal, attached by hinges to the lower end of the pole, are to spread out and present a large surface to the soft bottom of the stream, to avoid sinking deep into the mud.

The slight sketch in the hands of the committee does not show any provision for guiding and directing the poles, nor obviate the difficulty from unequal depths on the two sides of the boat, when poles are used on both sides.

The method appears less suited to a rail-

way than the rack-rail already in use, in connection with toothed wheels, to insure the advancement of locomotive engines.

It seems unlikely that this plan will supersede the more simple methods already used for propelling boats; unless under very peculiar circumstances, and with some arrangements for obviating the practical difficulties which are not indicated in the sketch before us. By order of the committee.

WILLIAM HAMILTON, Actuary.

March 13, 1834

Report on Mr. B. Dugdale's Wind-Mill.

The Committee on Science and the Arts, constituted by the Franklin Institute of the State of Pennsylvania for the promotion of the mechanic arts, to whom was referred for examination a Horizontal Wind-mill, invented by Mr. B. Dugdale, of Burlington, N. J., report—

That the machine in question consists of an upright shaft revolving on a pivot in a step at its lower end, from which shaft, near its upper extremity, proceed, in one horizontal plane, ten equidistant arms; and from near the middle of the same shaft, proceed ten corresponding arms, also in one horizontal plane. Between each pair of corresponding arms, oblong rectangular frames of wire are hung, (at the extremities of the arms,) in such a manner as to admit of a horizontal vibration, through an arc of about ninety degrees. To these frames the sails are attached by small rings of wire, which can slide up and down the vertical bars of the frames.

The operation of raising the sails is performed by means of cords, one of which is attached to the stretcher at the upper end of each sail, and passes through a pulley at the extremity of the upper arm, along that arm to the shaft, and down the shaft to a collar sliding on the same. When this collar, to which all the cords are attached, is depressed on the shaft by means of a lever, all the sails are raised simultaneously. Again, when the collar is elevated, the cords become slack, and the sails drop by their own weight.

The vibratory motion allowed to the frames which support the sails, is so regulated that the sails on one side of the shaft present their surface to the wind while those on the opposite side offer their edges only: the efficiency of the machine is due to this arrangement.

Your committee deem it unnecessary to expatiate upon the merits of this wind-mill, or to discuss the patentee's claim to originality in his invention; but will merely refer all who are interested in the subject to the Repertory of Arts, and to the Edinburgh Encyclopædia, in which they will find described several mills operating upon the same principle, some of which closely resemble this one in the details of their construction. By order of the committee.

WILLIAM HAMILTON, Actuary.

March 13, 1834.

Report on Mr. Smith's Compass Needle.

The Committee on Science and the Arts, constituted by the Franklin Institute of the State of Pennsylvania for the promotion of the mechanic arts, to whom was referred for examination an Improved Compass Needle, manufactured by Mr. — Smith, of Washington City, report—

That they have examined the needles submitted to them for that purpose by Mr. Trotter, together with the pamphlet of Mr. Smith, entitled "An Improvement," &c. and the notice of the patent for this improvement in the Journal of the Franklin Institute.

The claims in regard to the needles appear to be—

1. To a method of magnetizing them by percussion with what is called an electric rod.

2. To the removal of the influence of irregular magnetic distribution, and of local attraction, by "shifting feeders."

In regard to the particular method used by Mr. Smith, of conferring magnetism by percussion, the committee have no precise information, the needles not having been presented for their examination by the inventor himself, and no adequate description having been published of the details of his method. The general fact is well established in science, and testimony from various quarters speaks well of the application of it by Mr. Smith. Respecting the efficacy of the small pieces of soft iron, termed "feeders," shifting upon the magnet, and usually placed near the poles, the committee inquired and refer to the subjoined experiments for the data upon which their opinion has been formed. In these experiments they avail themselves of the kind assistance of Prof. Henry, of Princeton, who was, at the time they were making them, on a visit to our city.

The first object was to ascertain whether the feeders added to the intensity of the magnetic force in the needle.

For this purpose, the needle, furnished with its feeders drawn out to the marks on the ends, was suspended by a bundle of fibres of raw silk, free from twist. It was placed over a divided circle, that its deviation from the magnetic meridian might be observed. Drawing it out of that meridian it was made to vibrate, and the vibrations noted, when they had diminished so as to reach a certain extent. The mean of one hundred and twenty vibrations gave for the time of ten vibrations 80.47 seconds.

The weight of the magnet furnished to the committee was, without the feeders, 532.1 grains. The feeders weighed together 13.9 grains.

For these iron "feeders," two pieces of brass, of nearly the same weight and form, were substituted, that the mass of the needle might remain the same; the brass pieces were placed in the position formerly occupied by the feeders, and the needle was then vibrated.

The brass feeders were lighter than the iron ones by .1 grain. From two series of experiments of one hundred and twenty each, the time of performing ten vibrations in this latter case was 79.87 seconds.

By the well known law expressing the relative horizontal intensities of the magnetism in these two cases,—namely, that the forces are inversely as the squares of the time of vibration,—the intensity in the first case was to that in the second as 79.87^2 to 80.47^2 , or as .98 to 1.

The force of the magnet, instead then of being increased by the feeders, is slightly diminished by them. Your committee must observe here, that it seems to them that this result is what should have been expected

from placing a piece of soft iron within the poles of the magnet.

The next point to be examined was the efficacy of the "feeders" in preventing the effects of local attraction. This might be inferred from the results just given, but the committee preferred to subject it to direct experiment.

The same needle before used was placed upon a steel point, fixed in the centre of a graduated circle. A mass of soft iron was brought to a measured distance from the needle, when the "feeders" were on; the deflection produced was noted; the "feeders" being removed, the deflection produced by the same mass in the same position was ascertained. These experiments the committee did not consider susceptible of the same nicety which was used in the first inquiry. The piece of iron was a rectangular plate, nineteen and three eighths inches long by six and three eighths wide, and weighing twenty-four pounds. The following results were obtained, and may be considered to approximate within about one quarter of a degree of the truth.

When the iron plate was placed with its longest side making an angle of about forty degrees with the axis of the needle,—the least distance from the south pole of the needle, six inches,—with the "feeders" on, the deflection was $18\frac{3}{4}^\circ$; with the brasses on, the deflection was 19° . The plate was now brought to half the distance above stated: With the "feeders" on, the deflection was $31\frac{1}{4}^\circ$; with the brasses on, $31\frac{3}{4}^\circ$.

The proportional difference in the deflections with the feeders on and off, is, in the first case, one in seventy-six, and in the second, one in about sixty-four. These numbers are to be considered as merely approximate, but they serve to show that the needle is less deflected with the "feeders" on, than when they are off, a result agreeing with the conclusions to be derived from the first experiments, which showed that the magnetism was weakened by the "feeders." If the magnetism had been entirely destroyed, the deflection would have been nothing. The needle subjected to experiment was, in fact, a very weak magnet, and the feeders made it still more feeble.

In the Transactions of the Irish Academy for 1788, a plan is proposed "to preserve the magnetism, and consequently the polarity, of the needle," by having it "cased with thin, well polished, soft iron, or else to have it armed at the poles with a bit of soft iron." Capt. O'Brien Drury, by whom this suggestion was made, modestly submits his invention to the judgment of those who are qualified to appreciate its merits, and we conceive that this judgment may be considered to have been formed by the neglect of the invention during the forty-six years which have elapsed since its publication. In the plan before the committee, the needle is not entirely cased, but is furnished with shifting bands of soft iron.

By order of the committee.

WILLIAM HAMILTON, Actuary.
March 13, 1834.

Report on Mr. W. Henderson's Chart of Commercial Weights.

The Committee on Science and the Arts, constituted by the Franklin Institute of the State of Pennsylvania for the promotion of the mechanic arts, to whom was referred for

examination a Chart of Commercial Weights, submitted by Mr. William Henderson, of Philadelphia, Penn., report—

That this chart comprises scales of comparison of the weights of the principal commercial cities of Europe, and other parts of the world.

Scales of the ancient weights of France and Holland, being those most generally referred to in books of science, are also given.

On the left of the scale the names of the countries or cities are printed, and also the denomination of weight into which the scales are divided, as pound, rotoli, kilogrammes, &c. &c.

The divisions on the scales are numbered at every ten.

For facilitating the comparison of weights of different countries, meridional lines are drawn across the scales at convenient distances.

Where different weights are used in the same country, different scales are for the most part given, as in the United States of America, one scale is given of pounds troy, and another of pounds avoirdupois. The troy scale extends from 0 to 219 pounds, and the avoirdupois scale from 0 to 179 pounds; and, within this compass, the comparison of weights of different countries is made by taking equal distances on the respective scales, from 0, or from the nearest meridional line, to the weights given and required.

The committee are of opinion that the chart of Mr. Henderson will be found useful in commercial establishments, but would recommend that the meridional lines should be made to correspond with definite divisions of the avoirdupois scale, as by that arrangement the comparisons could be made by a simple inspection of the chart.

By order of the committee.

WILLIAM HAMILTON, Actuary.
April 9, 1834.

SILVER MINES OF BARNAOULE.—These are located on the confines of China, near the boundary between China and that country. There are thirty-two mines, wrought by eighty-two thousand persons, divided into three parties, so that the operations are never suspended night or day. The wages are very trifling. The whole of the silver is transported to St. Petersburg, for coining, and other purposes of the government.—[Scientific Tracts.]

ACTION OF TANNIN, AND SOME OTHER SUBSTANCES, ON THE ROOTS OF PLANTS. By M. Payen.—It has been repeatedly stated that trees soon die when the roots come into contact with the remains of the roots of oak trees cut down near them. This was supposed to be owing to the action of the tannin in the oak roots. M. Payen, after making a number of experiments on the subject, arrived at the following conclusions: 1st, Tannin, even in small quantity, acts deleteriously on the roots of certain plants: 2dly, Acids in small proportions are hurtful to germination: 3dly, Alkalies in small quantity are favorable to the progress of vegetation: 4thly, The neutralisation of the acidity developed during germination hastens its progress, and favors the ulterior development of the plant. These experiments account for one of the useful effects of lime, or vegetable ashes, and of calcareous marl; and also for the unfavorable influence of alkalies used in too great quantity, or unequally distributed.—[Journal de Chimie Medicale, April, 1834, as quoted in the Lond. and Edin. Phil. Mag. for August, 1834.]

NEW-YORK AMERICAN.

DECEMBER 20—26, 1834.

LITERARY NOTICES.

SPIRIT OF THE ENGLISH RELIGIOUS MAGAZINES; by JOSEPH L. POWELL. Missionary Press: Burlington, New Jersey.—We have a specimen number of, or rather proposals for publishing, a new weekly sheet under this title, in small folio form, and at the price of \$2 per annum. Among the British publications quoted from, are the British Critic, the Christian Observer, the British Magazine, the Christian Remembrancer, Christian Examiner, Eclectic Review, Presbyterian Review, &c. &c. We wish success to this undertaking; for without meaning to imply any inferiority in capacity on the part of American writers on religious subjects, it must be admitted, that in scholarship, learning and research, the European writers far excel them. The reason, we apprehend, is obvious,—the facility, in every part of Europe, of resorting to large and well furnished public libraries, a privilege invaluable in itself, and which in our country, with rare exceptions, is unattainable. Hence we think advantage will result from this republication. No better occasion perhaps than this will offer, to say with how much pleasure we have recently heard, that the Directors of our Protestant Episcopal Seminary—aware of the importance of a well selected and copious library—are now taking measures to induce the intelligent and wealthy members of that communion, to lend their aid towards the establishment of such a library. The object is a great one, and may, we hope, be greatly seconded.

ATLANTIC TALES, or Pictures of Youth; by Miss LESLIE, 2d edition.

THE AMERICAN GIRL'S BOOK, or Occupation for Play Hours; by Miss LESLIE, 2d edition.

THE EVERGREEN, or Stories for Childhood and Youth; edited by WALTER WEST, 2d edition.

THE VALUE OF TIME, a Tale for Children; by Mrs. BARWELL, author of *Little Lessons for Little Learners*, &c.

THE VALUE OF MONEY; by Mrs. BARWELL, &c.

These books for children are all from the press of MUNROE & FRANCIS, Boston, and for sale by C. S. FRANCIS here, and are all well adapted to the uses for which they are designed. Of the first three, which now come to us in second editions, we had occasion to speak in praise about this time last year, and we are glad to find that the public demand, as evinced by a call for another edition, ratifies our opinion. Of the last two, the "Value of Time" and the "Value of Money," we add that the subjects are well treated, and happily illustrated by incidents of daily occurrence in families and among young persons.

THE WORDS OF A BELIEVER, translated from the French of the *Abbé de la Mennais*. New York, C. DE BEHR.—We published some two weeks ago an extract from this translation, while it was yet in the press, and have only now to add that it is throughout rendered in our language, with the spirit and fervor of the original. The prefatory notice by the translator the Rev. F. L. HAWKS, apprizes us of what we had not before learned, that *M. de la Mennais* was first suspended as a Catholic priest, and finally excommunicated by the Pope for publishing these "Words of a Believer."

POEMS, by Mrs. L. H. SIGOURNEY, 1 vol. Philadelphia: KEY & BIDDLE.—Our readers have experienced, by the frequent introduction into our columns of the occasional poems of Mrs. Sigourney, how much we approve them, and will therefore anticipate the satisfaction we have in commending to their notice this collection of them, in a pretty volume, tho' not as accurately printed as it should be.

ROOKWOOD, a romance, by W. HARRISON AINSWORTH, from the second London edition; 2 vol.—Philadelphia: CARY, LEA & BLANCHARD.—No one

who reads these volumes will deny the talent and skill which, as a writer and painter, the author exhibits, but many will regret with us that so much of them should be wasted on a highwayman and his horse, and the slang of thieves and murderers. *Paul Clifford* was an unlucky original, for its success has tempted imitators, among whom certainly the author of *Rokewood* treads most nearly in the steps of the master of that school.

THE EARLY YEARS OF THE LATE BISHOP HOBART; by JOHN MCVICKAR, D. D. New York: Protestant Episcopal Press.—Some proof sheets of this forthcoming volume have been put into our hands. We cannot more satisfactorily explain the nature and aim of the publication, than by copying entire the preface of the editor.

The perusal of the letters and papers of the late Bishop HOBART, undertaken with a different view, have led to the following narrative. It may be that in the publication of it, the author, or rather the editor, for letters constitute the main portion, has overrated the interest of the reading public in a life already before them, and a character which, whatever be its excellencies, has long been familiar to the members of his own communion, while to those beyond, it can hardly be said to offer such claims as render the biography of public men at all times justifiable.

In the face of all these difficulties the editor has ventured to publish, and can now only state the feelings which have led him to it. When he began the perusal of these early letters, they seemed to him but as boyish effusions of but little value, and no interest beyond the family circle to which they related; but as he proceeded in his task, their number and minuteness began to give life to the picture they presented; one by one the features of character came forth, until by degrees they embodied themselves into a beautiful portraiture of an affectionate and generous youth—full of ardor and native piety, and devoted to every noble and benevolent pursuit.

This is the editor's first apology, since if these impressions be just, such a picture faithfully given cannot be without both interest and value. Virtue and piety want no reflected lustre from a great name; they are themselves the pure gold, and truth and sincerity the only stamp they need to give them currency.

The inclination thus excited to publish, a further consideration converted into resolution. It was this: Bishop Hobart's character was in one respect greatly misunderstood by those who knew him only in his public course. The untiring energy with which he devoted himself to official duty, was reputed by many to be personal ambition; and the unyielding firmness of his opinions as a Churchman, turned into an argument against his vital piety as a Christian. The native humility of his heart, the depth of his devotional feelings, the evangelical tone of his retired piety, were matters either wholly unknown, or else placed to the account of professional duties. Now the correction of such false opinions is a debt due alike to the reputation of Bishop Hobart, and to that of the church over which he presided; and in no way perhaps can it be more effectually done, than by the exhibition of him in the simplicity and open sincerity of youth; in days when there were no ambitious ends to gain, or professional proprieties to support, and in which neither fear nor favor can be supposed to have operated, to blind the judgment of those around him as to his real character. If we then find him as a boy, what he afterward was as a man, active, ardent, fearless, and devoted; fervent in feeling, but wise in action, bold in duty, but childlike in piety, yielding in matters of expediency, but uncompromising in principle, gathering around him wherever he went an attached circle of friends and followers, and using his influence over them to the wisest and best of purposes—that of advancing them in knowledge and virtue, and above all, in that holy faith, which from a child appears to have been his own guide and instructor; and if all this be found not in the recollections of partial friends, but in original documents which personal affection has preserved, then may we fairly answer all such doubts as to the genuineness of his virtues, by an appeal to the unpretending, but unsuspected narrative of his "Early Years."

With this explanation the work is respectfully submitted.

Columbia College, Oct. 15, 1834.

After such an introduction, it were needless for us to add, that the volume it precedes cannot fail to

be of great interest; and appearing as it will about the New Year, will be deemed, we are sure, by very many, both by those who give and those who take, a most appropriate gift for that season.

A SKETCH OF CHINESE HISTORY, ANCIENT AND MODERN, &c. &c.; by the Rev. CHAS. GUTZLAFF, now and for many years past a resident in that country. 2 vols. New York: J. P. HAVEN.—Those of our readers who recollect the former publication of *Gutzlaff*, will look eagerly to these volumes. In one respect they will be disappointed; for the charm of personal adventure cannot be imparted to an historical narrative. As a summary, however, of the history of an extraordinary nation, compressed within reasonable limits, carefully compiled, and verified in modern instances by the personal knowledge and experience of the author, this is a work of permanent utility and value.

Mr. Gutzlaff treats as unfounded, the exaggerated notions entertained both of the intelligence and the power of the Chinese, though he concurs fully in the estimates made of the populousness of the country; on which head he thus speaks:

Whilst giving the enormous sum of 369 millions as the actual number of inhabitants in China, the author is fully persuaded that the last imperial census is as near the truth as it can be ascertained. Those parts of the empire which he has visited are extremely populous. He has taken the trouble of examining some parts of the census, and numbering the houses of small districts, and has invariably found that the population was underrated. The Chinese are naturally a very prolific people; few individuals only live a single life; early marriages, which seldom prove barren, are general throughout the empire. Government has always encouraged the matrimonial estate, and their ancient institutions devote a childless man to contempt. Thus the population must increase and multiply on a progressive scale. As the wants of the common people are so very few, and their habitual industry render every barren spot tributary to them, we may easily conceive that so large a population can find the means of subsistence.

Concerning the state of knowledge, he justly remarks, "When we see in Europe the press teeming with new publications, we ought rather to be astonished that among three hundred and sixty-seven millions of men, there is not one original writer, nor has there been for many years."

Both as a sample of the style of the writer, and as instructive in itself, we give the annexed sketch of the origin of the Turks, and of their introduction into China:

At the foot of the Imaüs, the Turks, a small, insignificant tribe of slaves, occupied with digging iron, served the great khan of the Geougen. Their first ancestor had been suckled by a she wolf; and thus was the savage bravery transferred into the veins of all his posterity. Born to slavery, they were cheerful under servitude, until it became intolerable. Bertezena, their first leader, harangued his countrymen, pointed out to them their abject state, and exhorted them to shake off the yoke. This horde of smiths and armorers sallied forth; and, with all the energy of a nation emerging from barbarism, conquered several neighboring tribes. To remind the nation of their humble origin, the prince, and leader himself, with his nobles, heated annually a piece of iron, and took with their own hands a hammer to beat it.

When their power was increased they demanded their freedom from their own masters; and, to secure this, Bertezena asked the daughter of the great Khan in marriage. His request was rejected with the utmost disdain; in revenge for which, the Turks attacked their old master, and defeated his army. The Chinese prince of Wei, in She-se, a bitter enemy of Geougen, took the conqueror under his protection; and, to remunerate the services he had done him and China, by subduing an inveterate foe, he gave him his own daughter in marriage.—Nomades, like the Huns, they despised the arts of civilized life. One of the successors of Bertezena, whom the Chinese call Moo-kan, was allured by the luxuries of China, and wished to build villages and cities; but this design was defeated by one of his counsellors, who said, "The Turks are not equal to one-hundredth part of the inhabitants of China.—

If we balance their power, and elude their armies, it is because we wander, without any fixed habitation, in the exercise of war and hunting. Are we strong, we advance and conquer; are we feeble, we retire, and are concealed. Should the Turks confine themselves within the wall of cities, the loss of a battle would be the destruction of their empire."

Their religion was vague: they worshipped the gods of the air, the wind and the rivers. Their laws were rigorous and impartial: theft was punished by tenfold restitution; adultery, treason and murder, with death. The punishment for the inextinguishable guilt of cowardice was horrible. The throne of their chief was turned towards the east; and a golden wolf, mounted on the top of a spear, guarded the entrance of his tent. As soon as a youth was capable of bearing arms he received and wore them till his death. Their armies were as numerous as swarms of grasshoppers; and, within the space of fifty years, they had united under their standards numerous Tartar tribes; and were connected, in peace and war, with the Romans, Persians, and Chinese; having conquered the White Huns on the plains of Bokhara and Samarkand, they carried their victorious arms to the Indus. But though they thus extended their conquests in every direction, their chief still kept his court in the ancient abode of their ancestors, at the foot of the Imaüs. Had not their extensive empire been divided into five different kingdoms, they might, perhaps, have subjected the world to their sway; but these divisions created continual wars, and reduced the power of those wild conquerors to nothing; and five independent kingdoms were erected upon the ruins of the Turkish empire. The founder of the Tang dynasty, trembling at such a neighbor as the Turks, treacherously delivered up to the Hosona a Tartar prince who had taken refuge in China. When the Turkish ambassadors arrived at the Chinese court in 619, they were received with due honors; and heaven's son stooped greatly from his dignity to conciliate their goodwill. Indeed, it is said that the heroic Chinese fought against them with gold and silver lances,—a formidable weapon!—and thus averted an invasion which might have fixed the Turks in China, and freed Europe from this scourge. But, directing their vast martial force towards the West, (guided, perhaps, by a higher hand, which disposes of the empires of the world,) they produced one of those great revolutions which have had a lasting influence upon all the countries we inhabit. The Mongol conquests ceased in Europe with the conquerors who made them, whilst the baneful influence of Turkish dominion is still felt; and though the foundation of this strong hold of fanaticism has been undermined, though the Turkish empire, now in a state of decay, is tottering to its basis, it is still suffered to exist.

It is easy to perceive in this sketch the inspiration drawn from the pages of Gibbon.

It is remarkable, that though often assailed by the Turks, the Chinese never were subdued by them, but on the contrary frequently defeated their elsewhere victorious armies.

The superstitions and sects of the Chinese are all noticed in their proper places. One of their philosophers, *Laou-keun*, gives this account of the creation: "Reason produced One, One produced Two, Two produced Three, and Three produced all things."

We would willingly dwell more at length upon the contents of these two volumes, but our limits forbid. We conclude, then, with the observation, that *Gutzlaff* here reinforces the opinion, so confidently expressed in his former publication, that decision only on the part of foreigners trading with China is wanting, to bring this absurd, lying and jealous nation, to the same courtesy of intercourse which exists among other peoples.

At the close of the second volume, there are a series of tabular statements, exhibiting the details of the English and American export and import trade with China for many years. These will be found of interest to merchants.

ANCIENT MINERALOGY, or an inquiry respecting Mineral Substances mentioned by the Ancients, &c. &c., by N. F. MOORE, LL. D., Prof of the Greek and Latin Languages in Col. Coll.; 1 vol.; N. York, G & C. CARVILL & Co.—This is a very scholarlike essay, in which the erudition of ancient and modern

times is made conducive to the entertainments and instruction of the reader of taste. As a science, the ancients knew nothing of mineralogy; yet they had a knowledge of many of the minerals now in use, and a skill in the working of them not surpassed, and in some instances—particularly that of engraving precious stones—not equalled at this day. This little volume exhibits satisfactorily, the state of knowledge in remote antiquity, and brings it down to the present time, when mineralogy has asserted its rank almost as an exact science. To the curious inquirer in natural history, as well as to the general reader, there is much attractive matter in these pages.

FRANCE, SOCIAL, LITERARY, AND POLITICAL. By H. L. Bulwer. 2 vols. Harpers.—This is, we believe, the first work of the brother of the popular author of 'Pelham,' that has been published in this country. It will procure him many readers, and some warm admirers. The style is sparkling and epigrammatic, and though the severe critic might characterize it as meretricious, it is, withal, agreeable. It often amuses by its piquancy, and sometimes rises to the dignity of eloquence. The materials of the work are various, entertaining, and instructive. The author's researches, indeed, have been rather diversified than deep, and the reader should be guarded in adopting many of his opinions; for when a writer aims so much at point, there is no knowing how often truth may be sacrificed to antithesis. And there is too much of that air of coxcombical superiority which the English are so fond of assuming when speaking of other peoples, and particularly of the French. We have already given several extracts among our daily miscellanies, which indicate the anecdote and lively sketches of character scattered through the work. We now quote something of a graver nature, a singular and most interesting conversation that took place at a fête given by the Duke of Orleans, a short time previous to those events which made him Philippe I:

It is given as M. de Salvandy has himself related it.

"It took place in consequence of the bon-mot—'*C'est une fête toute Napolitaine, monseigneur; nous dansons sur un volcan.*' The prince (Duc d'Orleans) standing behind or near the 'fauteuils' of the princesses and the king, seized my arm quickly as I said this, and doing me the honor to draw me towards him, 'That there is a volcano,' said his royal highness, 'I believe as well as you; and, at all events, the fault is no fault of mine. I shall not have to reproach myself for allowing the bandage to remain unlifted that covers the king's eyes. But what can one do? Nothing is listened to, and God only knows where this will lead us!'

"Far! monseigneur, it will lead us far!—that is my conviction. I feel also in the midst of this fête so animated and so beautiful, a profound sentiment of sorrow; I ask myself wherein six months will be this brilliant society? where will be these crowds so joyous? that princess so gay (alluding to Madame la Duchesse de Berri, who was 'galloping' with Count Rodolph d'Appony)? where, in fact, will be our country? Within six months we shall probably be divided into the proscribed and proscribing."

"Certes," answered his royal highness, 'I do not know what will happen—I do not know where those will be you speak of in six months; but I know where I shall be, whatever comes. I and my family will remain in this palace; it is enough to have been twice an exile through the faults of others. Whatever be the dangers, I shall not move from this spot; I shall not separate my lot and the lot of my children from the fate of my country. What I say to you I make no secret of elsewhere—lately, indeed, at Rosny, I said pretty fully what I think of all this; and there is the King of Naples, who was with us, and who was clearly of our opinion. That prince, whom you see so broken, and who is nevertheless four years younger than I am, is a man of a good deal of sense; circumstances oblige him to be an absolute king (Austrian bayonets), but his own inclinations would have led him differently. He has made I assure you, some very sensible observations. By-the by, we spoke at Rosny of some remarks of yours."

"I said that 'I was convinced that the monarchy was falling, and that I was not less convinced that the fall of the throne would compromise for a hundred years the prosperity and the liberty of France.'

"In afflicting myself as much as you can do," said the prince, 'at the conduct which the king is pursuing, I am not so frightened as you are at its probable results. There is in France a strong love of order—that France which the government will not understand, is excellent, is admirable; see how the law is respected amid so many provocations!—The experience of the Revolution (1789) is present to all; its conquests, its follies, and its crimes are detested. I am convinced that a new revolution would in no respects resemble that which we have seen.'

"Monseigneur, that is to believe in a revolution of 1688. But when England departed from the path of legitimacy, the aristocracy remained as an element of order; with us there is no aristocracy to be called an aristocracy, and what there is will perish with the Bourbons; every thing will again be smoothed down to a level, and I do not think a pure democracy capable of founding any thing that is to have duration.'

"Monsieur de Salvandy, you do not do justice to the effect of that diffusion of intelligence which follows the diffusion of fortunes. The world has completely changed since forty years; the middle classes are not all society, but they form its force, they have a constant interest in order, and they join to that knowledge which communicates the wants of a great empire that power necessary to combat and suppress bad passions. Jacobinism is impossible where the greater portion of the community have possessions to lose.'

"I have always thought, monseigneur, and I still maintain the same opinion, that it is a dangerous error to consider that property alone is the guarantee of a desire for order. Property with us is so divided that it has its multitude, envious of every superior, and inimical to every power. I should fear that that multitude, being the most numerous party, and always disposed to satisfy its hatred of the higher classes, would soon, by its levelling schemes bring us to anarchy, if anarchy were not the commencement of a new régime.'

"Monsieur de Salvandy, believe me, all that the country wants is the sincere establishment of a constitutional government; this is all it asks. The evil has arrived from the impossibility, among certain persons, of accepting at once, '*et de bonne foi*,' all the results of the Revolution, and of the Charta more particularly. The faults of the last Revolution sprang from the false distribution of rank and fortune, which was united with the wretched education that characterized the ancient régime. We have left all that behind us. My political religion consists in the belief, that with constitutional opinions all may be directed right. These principles I have always held. When an exile at the court of Sicily, I was asked, in order to obtain my wife, to make certain concessions. I declared that my opinions were invariable, that in those opinions I would bring up my children, and that I would do this as much for their interest as for a love of truth. The misfortune of princes is, that they do not know the people, and that they entertain and cherish ideas and opinions different from those whom they govern. This is why I gave a public education to my sons; and in every respect it has succeeded. I wished them at once to be princes and citizens. I wished that they should not deem themselves a favored race; that they should not participate in the habits of a corrupt circle; that they should not always have before their eyes the veil of a court education; that they should not be bound by the tastes of childhood to those interested in deceiving them, and moreover frequently deceived. Such has been my object; and I am certain that I have to congratulate myself on the course I have pursued.'

"The Duke of Orleans was at first standing; he afterwards made me sit down by his side; we were exactly behind Charles X., who might have heard every word we were saying."

Let us do justice to the King of the French! Henry IV. never delivered a speech which contained so much goodness, sense, and truth as there is to be found in these remarks; they offer a fair justification of Louis Philippe's conduct to the family he dethroned; they would offer the best security to the people whom he governs, if we had not unfortunately so many examples of the corrupting influence of power, of the best heart being changed, and the understanding blinded by a successful ambition.

M. Maroncelli has at length completed his arrangements for publishing by subscription an English translation of "My prisons," by Silvio Pellico with his own "additions" to the work of his fellow-prisoner and fellow-sufferer.

The translation heretofore given to the public from an English edition was feeble and inaccurate: that now proposed is from a pen that will do justice to the feelings, which the affecting and improving Record by Pellico of his ten sad years of imprisonment, must impress upon every generous heart. The additions by Maroncelli have never appeared in English.

The whole will now be given together in two well printed volumes.

We shall take pleasure in receiving subscriptions for the work at this office.

FOREIGN INTELLIGENCE.

LATER FROM FRANCE.—By the *Normandie*, our Paris papers come down only to the 14th ult. inclusive, and therefore, excepting a short paragraph from the *Journal des Debats*, of the 14th, make no allusion to the dissolution of the Bassano Ministry, which lived only as long as the last Revolution—three days.

The Paris papers of the 15th, (extracts from which we take from the *Courier* and *Esquiver*), leave no doubt that that Ministry was dissolved, although the notion that its breaking up had any thing to do with our affairs, is unsupported by any extracts from the Paris papers of the 15th, or as far as we can learn by any letters, and is moreover in contradiction with the surmises of the French press generally, which seems to unite in ascribing the sudden exit of the scarcely installed Ministers, to the discovery, that the "*pensée immuable*"—as they call the resolute purpose of the King, to be his own Prime Minister *in fact*, let who may occupy the post *nominally*—would not hear of any concessions to the spirit of the Revolution of July. "The new Ministry will be the restoration of the Revolution of July," was the expression of the Duke of Bassano, which the King at once (according to the *Journal des Debats*) resented as an insult. However this be, it is clear to us that our affairs had no influence either in the formation or dissolution of the Ministry.

It seems to us to be very much like the breaking up of one of the Cabinet Units at Washington—the Chief was dissatisfied and so would it.

The Chambers were still to meet on the 1st, but the dissensions and uncertainty which the recent changes manifest, render it perfectly clear to our understanding that no early effort would be made to obtain an appropriation for the treaty with this country.

[From *Galvani's Messenger of Saturday, 15th Nov.*]

THE MINISTRY.—The *Moniteur* of this morning is still upon the dissolution of the Cabinet.

The *Journal des Debats* says:—The Minister of the Interior, President of the Council, the Minister of War, who has also performed the duties *ad interim* of Minister for Foreign Affairs, the Ministers of the Marine, of the Finances; and of Commerce, yesterday, tendered their resignations to the King, which his Majesty accepted."

The *Constitutionnel* mentions only four Ministers as having resigned, the Duke de Bassano, and Messrs. Teste, Passy, and Charles Dupin. It adds: "On Thursday evening, after M. Dupin's dinner, the Ministry still existed and assembled in Council. There the first important question submitted to the new Cabinet, the bill for 25 millions claimed by the United States, was discussed. It appears that the Doctrinaire coterie although expelled from the Cabinet, was still powerful enough to give ascendancy to its opinions, since the bill for 25 millions, precisely as it had been rejected by the Chamber, was recommended."

This was enough to enable the new Ministry to foresee what was in store for it in future. Moreover, many circumstances contributed to show that obstacles of every kind would be raised. The cold reception, and the bustling intrigues of the Palace,

diplomatic susceptibilities artfully excited the hostile attitude of the Doctrinaire press.

The pitiful conspiracy on 'Change for the purpose of crushing the Cabinet by a fall of 20 centimes, perhaps, also the presence in the Council of a Member of the former Ministry, all had concurred to excite distrust, that uncertainty of the future, which was again increased by the want of homogeneity among the new Members. One of the Ministers, whom the Opposition hailed as a guarantee in the Council and as a pledge of better times, M. Passy, we say appeared too much absorbed by these obstacles. Upon these however, he ought to have reckoned in accepting his appointment.

The anathema hurled against the Ministry, by one of the gravest organs of the Opposition (the *Courier Français*) seemed to have produced an unfavorable impression on the mind of a man who nevertheless had been accustomed to sacrifice to his convictions the transitory sweets of popularity, which can be only rendered durable by knowing how to lose it, in case of need, in order to recover it anew. Be this as it may. M. Passy thought he saw, and we are on this occasion of his opinion, a contradiction between the principles which he maintained, and the course into which he was to be led by this disastrous bill. He firmly stated that he could not consistently present as a Minister a bill which he had opposed as a deputy. He insisted, with the most honorable eagerness, that it would be flying in the face of the Chamber to reproduce, without a single modification, a law rejected by the most significant majority.—Messrs. Teste and Charles Dupin seem to have supported M. Passy in this struggle, wherein the word 'resignation,' which is the veto of every honest Minister, was several times pronounced. The Council was broken up, and Messrs. Teste and Passy having previously concerted together, sent in their resignation at midnight. M. Charles Dupin, on hearing the fact very early on the following morning, sent in his own, which was followed by that of the Duke de Bassano. Messrs. Molé and Thiers are commissioned to recompose this Cabinet, twice found to be impossible. To complicate the embarrassment of the affair, M. Bresson, whose acceptance was guaranteed, is doubtful on his road to Paris, and will learn on the frontier that there is but one resignation more to give in. His return to Berlin is impossible, for he would be overwhelmed by ridicule, although he is innocent of this deception, in which France has participated with him."

TEA.—The duty on tea in England amounts to about seventeen millions of dollars.

Capt. Ross the Hero of the North has at length discovered something in England even more attractive than that which he reached during his last expedition. The worthy Captain has recently married a young and accomplished lady. With Captain Macheath the great Discoverer may sing—

"Were I laid down on Greenland's coast," &c

A Monument to Kean is about to be erected in Winchester Abby. It is to cost £1000, of which £400 had been already subscribed.

Osman Pacha, Grand Admiral of the Egyptian fleet, died on the 12th August at Constantinople, of the plague, after five days illness, in the 38th year of his age. The Sultan, who appreciated the extraordinary talents of the deceased, and had placed in him the utmost confidence, had intended to raise him to a very exalted station.

By the melting of the ice on the Glaciers, in the Canton of Uri occasioned by the unusual heat, the body of a young hunter, who perished thirteen years ago, was discovered on the summit of a peak.

LATE AND IMPORTANT NEWS FROM EUROPE.—The Liverpool packet ship *George Washington*, Holbridge master, of 24th ult., brings us London papers to the 23d (Sunday) inclusive; and their intelligence is of unusual interest, alike to politicians and merchants; for while cabinets have been going down, markets have been going up,—but first of politics.

To begin with France, where from peculiar circumstances, the ministerial mutations have become of unwonted interest in this country. The three days reign of the Duke of Bassano and his colleagues has been followed by the restoration to power of all those ministers whom that short lived cabinet succeeded, except the President of the Council,

Marshal Gerard. An entirely new man, as a politician, *Mortier*, Duke of Treviso, takes the war department and the station of President of the Council. He is a soldier of the Napoleon regime, who will be content to hold the rank of Premier in subordination to the King, who in reinstating this doctrinaire cabinet, after due submission on their part, has more than ever established his unconstitutional pretension, to be the real and efficient prime minister.

The only actual appointments in the new Cabinet, are Lord Lyndhurst as Lord Chancellor, and the Duke of Wellington as Home Secretary, and filling *ad interim* ALL THE OTHER POSTS IN THE MINISTRY. Until Sir Robert Peel, at the moment of this crisis "picture-hunting in Italy," could be heard from, no further appointments would, it was supposed, be made, although the list of probable ministers may prove accurate.

From Spain, we have no additional accounts of much interest—though the Queen's cause seems a little brighter. Even that, however, will suffer discouragement by the Tory ascendancy in England.

[From the Philadelphia U. S. Gazette]

VERY LATE FROM JAMAICA.—By the arrival at this port of the brig *Pilot*, Capt. Milton, we have been put in possession by the kindness of a friend, of files of the Kingston Chronicle to the 28th ult.

A committee of the Legislature has had under examination a large number of property holders, as to the effects of the new apprentice bill. It seems to be the opinion, that under some kind of management the system might have succeeded; but under existing circumstances, there appears no hope of success, and the cultivation of sugar must be given up.

In St. Jago on the 21st of November, eleven blacks, convicted of insubordination and insolence towards their employers, were taken to the market place and publicly whipped, under the direction of the special magistrate.

A motion was about to be made, to petition the King to repeal the non-intercourse act between Jamaica and St. Domingo.

A Baptist clergyman named Abbot, was brought before the Legislature to testify, but he positively refused, and was committed to prison, whence he was once or twice brought by a writ of habeas corpus, but as often returned.

We have been informed that the apprentices on two estates in St. Ann's, (one of them named Windsor,) have struck work, and are at this moment in a state of rebellion. Should this be the case, in what light can the unfortunate inhabitants of Jamaica view the line of conduct pursued by the Executive? When we reflect upon the dangers with which we are threatened, and consider that the actual and lamentable state of the country has repeatedly been submitted to the consideration of his Excellency the Governor—that he has been seriously advised, nay, urged, by our Assembly, to adopt the only means by which the island might yet be saved from impending ruin, and perceive that his Excellency is still, even at the eleventh hour, apparently deaf and callous to the representations and advice of those who value their lives and property, we cannot but deplore whatever his Excellency's "secret instructions" may be, that he ever came to Jamaica—for we have every reason to fear, that the apprehensions entertained and expressed by the Assembly, are now on the eve of being realized.

SUMMARY.

THE SONS OF THE PILGRIMS celebrated the anniversary of the landing at Plymouth, in a most cordial and becoming manner on Monday.

The oration of H. R. Storrs was that of a statesman and a scholar—deducing from the past, examples and warnings for the future, and showing, by the instance of the settlers of New England, how indissolubly good government, liberty and happiness, are connected with institutions based upon general education, morality and religion. We hope Mr. Storrs will be required to publish this oration.

The dinner at the City Hotel was in all things agreeable—even to the few grains of parched corn on each plate, to remind those then about to feast luxuriously, of the straits to which the noble minded

and constant passengers in the *Mayflower* were at one time reduced.

The Hon. George McDuffie was inducted into office as Governor of South Carolina on the 11th inst.

The Globe informs us that gold has been procured to pay every member of Congress the full amount of their pay and mileage.

The Philadelphia United States Gazette speaks in terms of commendation of two elegant swords, manufactured by Mr. T. Fletcher, of that city, by order of the State of Maryland. The inscription on each makes known the object of the State in causing them to be made, and also their destination. On the hilt of one is the following inscription: "Presented to Col. NATHAN TOWSON by the State of Maryland, his native State, in consideration of his gallant services during the late war with Great Britain." The whole mountings of the sword are of solid gold, the scabbard is of silver gilt. On the hilt is a scroll, bearing the words Caledonia, Chippewa, Bridgewater, Fort Erie; and etched upon the blade are, Black Rock, March, 1813; Stony Creek, Queenstown, September, 1813; Fort George, Forty Mile Creek, Chippewa, October, 1814. On the scabbard are massive chasings, representing the battle of Chippewa and of Fort Erie; the arms of the State of Maryland, with warlike devices.

The other sword has on the hilt the following inscription:—"Presented to Captain John Gallagher of the Navy, by the State of Maryland, his native State, in consequence of his gallant services during the late war with Great Britain." The whole mountings are of gold. On the blade is an etching representing the President engaging the *Endymion*. The hilt bears naval devices. On the scabbard is a chased representation of the engagement between the *Macedonian* and the *United States*. Both swords are admirable specimens of workmanship.

The case of Alexander Brown & Sons, of Baltimore, for the use of Oliver, vs. Susan Decatur, was tried at Washington a few days since, and a verdict rendered for the plaintiffs. By this verdict Mrs. Decatur will have to refund the sum of fifteen thousand dollars loaned to her.

The Report of the War Department comprises many interesting particulars respecting the army, public roads, fortifications, &c., from which we shall from time to time furnish extracts.

The returns accompanying the Report make the whole strength of the United States Army, including officers and privates, 6,597. According to the organization for 1834, it should have comprised an aggregate of 7,198. The whole number of men enlisted into the service from 1st of January to 30th September, 1834, is 2,111.

By a late official document of the city councils of Boston; it appears that out of 2767 wells in that town, seven only furnish soft water, fit for washing.

One of 1585 of the population of France is deaf and dumb; in Russia one in 1548; in the United States, one in 1538.

The Tallahassee Floreidian says, there is a person in this County, who, with the assistance of one servant, has made this season, 20 bales of Cotton, worth at present prices upwards of two thousand dollars.

In the Legislature of Missouri resolutions have been offered, prohibiting the introduction into that State of slaves for sale or hire, by others than residents, or persons about to become so, and for compelling masters to treat their slaves with humanity.

Slaves in Cuba.—In Tudor's tour in Mexico and Cuba it is stated that the number of slaves imported into the Island of Cuba since the year 1800, is upwards of two hundred and sixty thousand!

Gallantry of the Vermont Legislature.—Among the laws passed at the late session of the Legislature of Vermont, was one, exempting females from liability to imprisonment for debt.

No Bad Idea.—The Eastern nations believe that there is not a happier state of existence than that of living eternally in a delicious garden, surrounded by beautiful women, reposing on flowers.

"Was'nt that well done," said a waterman on the *Susquehanna* as his raft struck one of the piers of the Harrisburg Bridge, "there's five on 'em and I only hit one."

United States frigate John Adams.—We have been repeatedly called upon since the publication of our paper on Saturday, by the friends of the surgeon of the John Adams, to know whether our translation from the French paper was correct, in which we stated that the quarantine officer placed on board of her at Toulon had died, or that of two of our contemporaries the *Gazette* and *Commercial*, who said that the physician on board of her had died. We replied, and we have been requested to give publicity to the fact, in order to relieve the anxiety of the friends of the surgeon at a distance, that our translation was correct—the term used in the original being the *garde de santé*, the person employed on board each vessel to prevent a violation of the quarantine laws. It is singular that a similar error to that made by the *Gazette* in the morning, should have been made by the *Commercial* in the afternoon, but so it appears.

We are further requested to state, that the friends here of the surgeon of the John Adams have received letters from him dated Toulon the 7th November, at which time he was in perfect health.—[*Courier*.]

Mr Benjamin Knower, of Albany, who failed to so large an amount last spring has given notice that he is now ready to meet demands against him.

Honors to the Dead.—A writer in the National Intelligencer under this head, relates the following anecdote:—When the body of Commodore Decatur was placed in the vault of Mr. Rarlow, (now Col. Bumford's) at Kalorama, and when the multitude which accompanied the funeral had dispersed, he observed a solitary individual, in a sailor's dress, lingering near the place. He walked up to him, and asked him what he wanted; the sailor replied that he "only wished to look a while at the place where they had laid the *mainmast* of the Navy!" and walked off. Who could have spoken a better eulogy? It was the eloquence of nature and of truth.

A good Hall.—A short time ago a fisherman at Chalons, on casting his net into the Seine, drew up a bag containing three hundred gold medals on all of which appears the head of the emperor Titus. The fisherman cannot say with the emperor, "I have lost a day."

In 1787 Louis Phillips, visiting the prisons of St. Michel, found in one of the dungeons an iron cage, which was reserved for state prisoners. The young Prince enraged, broke it in pieces.

SINGULAR CONSECRATION.—We learn from the Missouri Catholic Telegraph, that the New Catholic Cathedral at St. Louis, was consecrated on Sunday, October 26th, by the discharge of Cannon and ringing of Bells!! The same paper mentions that there were present at the consecration four Bishops, twenty eight Priests, and a considerable number of young aspirants to the holy ministry.

Lamentable Suicide.—A young gentleman named Nicholson, educated at one of the English Universities, highly connected in that country, and having many respectable connexions in this city, drowned himself yesterday morning in the North River between Hoboken and Courtlandt street. He had been disappointed of his usual remittances from England, and was involved in debt to a considerable extent for board and pecuniary accommodations from friends; being a young man of a high sense of honor and very excitable temperament, had often declared that he could not survive the disparagement into which the negligence of his friends at home had thrown him with his generous acquaintance here. He purchased a phial of the sulphate of morphine in Canal street, went with some friends on an excursion in a sail boat to Hoboken, drank a large quantity of brandy and water there, and on stepping on board the boat on his return, he was observed to swallow the contents of the phial. Within three or four minutes he suddenly sprang up, uttered the words "happy nonentity," and plunged headforemost into the river. He was observed to rise once about 200 yards below the boat, and was then seen no more. Mr. Nicholson was a young gentleman of bright literary attainments, and has left in the possession of a friend manuscripts evincing great labor and genius. He had spent a handsome fortune, but his reversionary interests were extensive.—[*Courier*.]

After a storm, comes a calm.—A gentleman talking to a friend on the subject of his marriage, made the following observation:—"I first saw my wife in a storm; carried her to a ball in a storm; courted her in a storm; was published to her in a storm; married her in a storm; lived with her in a storm; but thank heaven, I buried her in pleasant weather!"

Pointed.—One of our late Western Exchanges says—"The eastern papers are quite barren of interesting matters. There has not been a riot at the East for several weeks!"

"I always think," said a reverend guest, "that a certain quantity of wine does a man no harm after dinner." "Oh no, sir," replied his host, "it is the uncertain quantity that does the mischief."

A Frenchman, stopping at a tavern, asked for Jacob. "There is no such person here, said the landlord. "'Tis not any person want sare, but de beer, make warm wid de poker." "Well," answered mine host, "that is flip." "Aye, yes, sare, you are in do right—I mean Philip."

A Dog of Spirit.—A gentleman, a good shot, lent a favorite old pointer to a friend who had not much to accuse himself of in the slaughter of partridges, however much he might have frightened them. After ineffectually firing at some birds which the old pointer had found for him, the dog turned away in apparent disgust, went home and never could be persuaded to accompany the same person afterwards.

The man who would be truly happy must besides an habitual virtue, attain to such a strength of mind as to confine his happiness within himself, and keep it from being dependent upon others.

Legal Liars.—During the discussion of a cause in which the boundaries of a piece of land were to be ascertained, the counsel, of one part stated, "We lie on this side, my lord;" and the counsel on the other part said, "We lie on this." The chancellor stood up and said, "If you lie on both sides, whom will you have me to believe?"

[From the Salem Gazette.]

MASON AND DIXON'S LINE.—Whenever the rights interests or duties of the Northern and Southern States, respectively, are in question, reference is commonly made to "Mason and Dixon's Line."—this boundary is so termed from the names—Charles Mason and Jeremiah Dixon—of the two gentlemen who were appointed to run unfinished lines in 1761, between Pennsylvania and Maryland, on the territories subjected to the heirs of Penn and Lord Baltimore. A temporary line had been run in 1739, but had not given satisfaction to the disputing parties, although it resulted from an agreement in 1739 between themselves. A decree had been made in 1682 by King James, delineating the boundaries between the lands given by charter to the first Lord Baltimore, and those adjudged to his majesty (afterwards to William Penn,) which divided the tract of land between Delaware Bay and the Eastern sea on one side, and the Chesapeake Bay on the other, by a line equally intersecting it drawn from Cape Henlopen to the 40th deg. of north latitude. A decree in chancery rendered the King's decree impavative.—But the situation of Henlopen became long a subject of serious, protracted and expensive litigation—particularly after the death of Penn in 1718, and of Lord Baltimore in 1714; till John and Richard and Thomas Penn, (who had become the sole proprietors of the American possessions of their father William,) and Cecilus Lord Baltimore (grandson of Charles and greatgrandson of Cecilus the original patentee) entered into an agreement on the 10th of May 1732. To this agreement, a chart was appended—which ascertained the site of Cape Henlopen, and delineated a division by an east and west line running westward from that Cape to the exact middle of the peninsula.

Lord Baltimore became dissatisfied with this agreement, and he endeavored to invalidate it.—Chancery suits, kingly decrees, and proprietary arrangements followed—which eventually produced the appointment of commissioners to run the temporary line. This was effected in 1739. But the cause in chancery being decided in 1750, new commissioners were appointed, who could not however, agree, and the question remained open till 1761, when the line was run by Messrs. Mason and Dixon.

Heavy Damages for Negligence.—Stillman Wooster received a few days since, in the Supreme Court of Massachusetts, a verdict of six hundred dollars against the proprietor of the Lechnere Point Bridge, near Boston. It was an action brought to recover damages for negligence in keeping the bridge in repair, in consequence of which the plaintiff had fallen from it in the night and received injury. Judge Wilde told the jury to assess single damages, it being the duty of the Court to double them, agreeably to the statute. So that the defendants will be reminded to the tune of twelve hundred dollars and costs to take better heed to their ways.

The proper Sitting Posture for Females.—This question has been disputed,—one party insisting that girls should always sit erect, while others are advocates for a lounging position. It is not difficult to show that both are wrong. When a delicately formed female is supposed to be sitting erect, she is generally sitting crooked; to a superficial observer she may appear quite straight; but any one who will sit on a music stool, and endeavor to keep his body in a perpendicular line for ten minutes, will be convinced that it is difficult for even a strong man to sit as long as a delicate female is expected to do, without allowing the spine to sink on one side, or to fall forwards. The attempt to sit erect beyond a certain time is injurious: for although bending the spine occasionally is useful rather than hurtful, yet, when it is done involuntarily, and when the bend is attempted to be concealed by an endeavor to keep the head straight, there is a danger of the spine becoming twisted. Indeed, a double curve is generally the consequence: there is first a bend on one side, to give ease to the fatigued muscles; and then, to conceal this, there is a second curve, that is necessarily accomplished by a slight twist in the vertical line of the whole column. The proposal to allow the children to sit in a crooked or lounging position, seems to have been founded on the idea that all the muscles are more relaxed in this way than even when the child lies at full length on its back. This notion is certainly incorrect, and such a mode of sitting is injurious; for even were the muscles more relaxed by it, the bones and the ligaments acquire such a shape as naturally produces distortion. It may naturally be asked how a girl should sit, since it would appear, whether she is in an erect or stooping position, she is equally in danger of becoming crooked. As sitting in a manner generally recommended affords little or no support to one who is weak, the answer would be, that a delicate girl should not sit for more than five or ten minutes without having some support to her back, and when she is fatigued, that she should lie down or recline on a couch. But, as it would be very annoying to a girl not to be allowed to sit up except for a short time, and as a couch is not always at hand, we must endeavor to show how a delicate girl may remain in an upright position for a considerable time without incurring any risk of becoming crooked.—This leads to an inquiry into the merits of the chairs which are at present generally used by children.—Young ladies are often obliged, while at their music lessons, to sit upon those chairs which have high backs, long legs, and small seats. These chairs are said to have been invented by a very eminent surgeon, and are intended either to prevent distortion, by some operation, on the spine, or as the most effectual means of supporting the body. It is difficult to imagine how a chair of this description can effect the first purpose, and to understand how far it is calculated for the second, the reader should make the experiment on a chair of the same proportion to his figure, as the chair in question is to that of a little girl. He will find that if the seat or surface on which he rests is small in proportion to his body, the chest will, after a time, either fall forward or to one side, unless he exert himself to a degree that is very fatiguing. Indeed, if the seat be at the same time so high that the feet do not rest fairly on the ground, but dangle under the chair, a forward position of the head is almost necessary to preserve the balance of the figure. The objection to such chairs has been met with the assertion, that girls feel remarkably comfortable in them. This is no argument in favour of their use; for it is not uncommon for a girl who has seven or eight pounds of iron strapped upon her body, and next to her skin, to say the machine annoys her so little that she does not care how long she wears it. But whether this chair is agreeable or not, it is easy to show that it is not calculated to give much proper support to the body, and that it is almost impossible for a delicate girl to sit long in a natural or easy position upon it. It may be allowed that the chair we consider the most comfortable, that is, the chair which affords the most support to the body, should, if made in proper proportions, be the best for a delicate girl. In such a chair the seat should be scarcely higher than the knees, (thus permitting the whole of the foot to rest upon the floor,) and of such a size, that on sitting back, the upper part of the calves nearly touch it. This form of seat is very different from that of the chair alluded to, the back of which is equally objectionable; for, instead of being in some degree shaped to the natural curves of the spine, it is made nearly straight, and projects so as to push the head forward. A de-

licate girl should always sit so as to rest against the back of the chair, and if the lower part of her spine is weak, a small cushion will afford great relief.—As it is quite a mistake to suppose that the shoulders, if raised in any other way than by the action of the muscles, or by the curvature of the spine and ribs, will continue high, there is no real objection to a girl who is delicate being supported by an arm chair; for occasionally resting on the elbows, a considerable weight is taken off from that part of the spine which is the most likely to yield. These observations refer only to the manner in which delicate girls, whose spines are still straight, should sit; when the spine is actually distorted, it will be necessary to use other means.—[My Daughter's Book.]

Free Negro Labor.—I have already stated, that the sugar cane is cultivated by the labor of free men in Puerto Rico; I shall now bring additional proofs to show that it is cultivated elsewhere by the same means. In the island of Margarita, formerly belonging to Spain, now forming a part of the republic of Colombia, all the sugar cane is raised by free labor; and all the sugar and molasses made, and rum distilled, are produced by free laborers. It is true that the island does not produce a sufficient quantity of these articles for its own consumption, but this does not alter the question; it yields as much, or perhaps more, at present than it did when cultivated by slaves. I speak not from hearsay: I have visited that island—I have been on every plantation—and I have observed the exertions and the industry of the free laborers. I shall only offer one example in this place in corroboration of this fact. A friend of mine, an Englishman, Doctor Emery, rented an estate in Margarita, in the year 1824, from the Colombian government; it was called the Estancia, and is situated in the centre of the island, in the valley of Paraguachi.—When the island was in possession of Spain, the estate belonged to a convent of monks; and on it were from fifty to sixty slaves. The republicans drove the monks off the island; the able-bodied slaves, in order to obtain their freedom, enlisted in the victorious army, and the estate became the property of the new government. The lands were divided among a great many poor persons, who paid a rent in kind, and the whole was rented to one person, who received the rents of the under-tenants, and paid government a certain yearly sum. One of the conditions under which the tenants held these lands was that they were obliged to sell to the head landlord, at harvest time, all the canes they might have raised, at a valuation. When I visited Margarita in June, 1827, there were upwards of a hundred families living on the lands, each with a comfortable cottage, a field of cane, Indian corn, and plantains, all most carefully cultivated. They worked for a shilling a day on the property of the landlord; and the young men who had no family to support, hired themselves as laborers, by the month, for about a pound sterling. They made sugar, distilled rum, and performed all the laborious work formerly done only by slaves; thus the landlord had his cane planted and cut without any trouble, and each tenant cultivated his plot of land with care, for on his industry depended the comforts of himself and family. I have heard old and intelligent neighbors say, that the estate thus cultivated produced considerably more than when in possession of the monks and worked by slaves. All the sugar cane raised on that island is cultivated precisely in the same manner. There were six stills for making rum constantly at work, managed by free laborers, and supplied with sugar and molasses from the fields of the small tenants. * * According to a calculation which is considered to be correctly made, the island of Jamaica exported in 1823, with 342,382 slaves, 1,417,758 quintals of sugar, which was a year of great fertility in the West Indies; and Puerto Rico, with 45,000 slaves, at the highest calculation produced 414,663 quintals; therefore Jamaica, with a number of slaves nearly nine times greater, yielded only about 3 1-2 times more sugar; which clearly shows that free labor in Puerto Rico, contributes largely to produce even sugar. To the number of free laborers only can this difference be attributed, for it must be acknowledged that although the soil of Jamaica is not so fertile as that of Puerto Rico, yet the cultivation of the cane is much better understood. In the same year, the three British islands of Barbadoes, St. Vincent's and Grenada, which, with the exception of Jamaica, produce most sugar of all the British Antilles, with the labor of 128,000 slaves, yielded 794,567 quintals of sugar; that is to say, that with more than three times the number of slaves, they produced less than double the quantity of sugar raised in one year in Puerto Rico. The same year the whole of

the British West India colonies, with 627,000 slaves, yielded only 3,005,366 quintals of sugar; which proves that with 15 1-2 times more slaves, they only produced 7 1-2 times more sugar than Puerto Rico. In 1821, 428,962 quintals of sugar, 20,758 quintals, 96 lbs. of coffee, and 1320 quintals of cotton, were produced in the island of Guadalupe, by the labor of 87,998 slaves; while Puerto Rico, with about half the number of slaves, moderately worked and humanely treated, produced, besides the quantity of sugar already stated, 25,000 quintals of coffee, 34,163 quintals of tobacco, and 9166 quintals of cotton, together with cattle, pepper, rice, and many minor productions. This simple enumeration of facts is sufficient to establish the advantages arising from, and the extent of free labor in Puerto Rico.—[Col. Flinter's Account of Puerto Rico.]

Conjugal Fidelity.—The Mandarin teal, or *een yéong* of the Chinese, is also much and justly admired. The plumage of the drake is remarkably elegant, that of the female plain and undecorated.—The male bird, however, during four months of the year, that is, from May to August, changes its beautiful plumage, and bears a close resemblance, at that time, to the female. This change is not confined solely to the tints of the feathers, but extends even to the epidermis of the mandibles. This bird, unlike the tribe, generally roosts in elevated situations upon trees, high rocks, or over the windows of the aviary. These little creatures are regarded by the Chinese as emblems of conjugal fidelity, and are usually carried about in their marriage processions. The following curious instance of fidelity was mentioned to me, as having occurred in the instance of two birds of this species.—A drake was stolen one night, with some other birds, from Mr. Beale's aviary; the beautiful male alone was taken; the poor duck, in spite of her quacks during the distressing scene, was left behind. The morning following the loss of her husband the female was seen in a most disconsolate condition, brooding in secret sorrow; she remained in a retired part of the aviary, pondering over the severe loss she had just sustained. Whilst she was thus delivering her soul to grief, a gay, prime drake, who had not long before lost his dear duck, which had been accidentally killed, trimmed his beautiful feathers, and appearing quite handsome, pitying the forlorn condition of the bereaved, waddled towards her; and, after devoting much of his time and all his attention to the unfortunate female, he offered her his protection, and made a thousand promises to treat her with more kindness and attention than her dear, dear lost drake; she, however, rejected all his offers, having made, in audible quacks, a solemn vow to live and die a widow, if her mate did not return. From the day she met with her loss, she neglected her usual avocations; her plumage became ragged and dirty; she was regardless of appearance; forsook her food, and usual scenes of delight; where she loved to roam with him now absent, and to excite his brave spirit to drive away all the rivals that might attempt ever to approach him. But those fleeting hours of enjoyment had passed, perhaps never to return; and no consolation that could be offered by any of her tribe had the least effect. Every endeavor was made to recover the lost bird, as it was not expected that the beautiful creature would be killed. Some time had elapsed after the loss, when a person, accidentally passing a hut, overheard some Chinese of the lower class conversing together; he understood sufficient of their language to find out that they said, "It would be a pity to kill so handsome a bird." "How then," said another, "can we dispose of it?" The hut was noted, as it was immediately suspected that the lost Mandarin drake was the subject of the conversation. A servant was sent, and, after some trouble, recovered the long lost drake, by paying four dollars for him. He was then brought back to the aviary in one of the usual cane cages. As soon as he recognized the aviary, he expressed his joy by quacking vehemently and flapping his wings. An interval of three weeks had elapsed since he was taken away by force; but when the forlorn duck heard the note of her lost husband, she quacked, even to screaming, with ecstasy, and flew as far as she could in the aviary to greet him on his restoration. Being let out from the cage, the drake immediately entered the aviary—the unfortunate couple were again united; they quacked, crossed necks, bathed together, and then are supposed to have related all their mutual hopes and fears during the long separation. One word more on the unfortunate widower, who kindly offered consolation to the duck when overwhelmed with grief; she in a most ungrateful manner informed her drake of the impudent and

gallant proposals he made to her during his absence. It is merely supposition that she did so; but at all events the result was, that the recovered drake attacked the other, the day subsequent to his return, pecked his eyes out, and inflicted on him so many other injuries as to occasion his death in a few days. Thus did this unfortunate drake meet with a premature and violent death for his kindness and attention to a disconsolate lady. It may perhaps be correctly written on a tablet over his grave, "A Victim to conjugal fidelity."—[Bennett's Wanderings.]

Clubs in London.—In 1800 it was remarkable that London had scarcely any hotels, while all other cities were full of them; now almost every second house in the streets below Grosvenor-square is an hotel. Clubs were rare, and used by no means as clubs are now; White's, as old as Hogarth's time—Brooke's and Boodle's—The Cocoa Tree, Graham's, and another, were all. The Union, which existed within this century, was a regular gaming club, and was held first at what is now the Ordnance Office, Pall-mall, and subsequently in the house now occupied by the Bishop of Winchester, in St. James's square; but all these were clubs of recreation and amusement, of conversation or dissipation. Now see the difference. Crockford's, with the best cook and coffee room, rears a splendid front, and well may, for its members are of the first class, and the aspersions cast upon it of the falsest character. The Traveller's is a magnificent house; they play high in the evenings, but no game of chance that we know of.—The Junior and Senior United Service clubs—valuable institutions—where our gallant defenders are enabled, upon their shamefully small half pay, to enjoy the comforts and luxuries they have so gallantly earned, at an easy rate. The Union, a resort of wealthy citizens, who just fetch Charing-cross to inhale the fresh air as it draws from the Park through the funnel by Berkeley House, out of Spring Gardens, into their bay windows; and the Athenæum, where the mixture of Whigs, Radicals, savans, foreigners, dandies, authors, soldiers, sailors, lawyers, artists, doctors, and Members of both Houses of Parliament, together with an exceedingly good average supply of Bishops, renders the melange very agreeable, despite of some two or three bores who "continually dine," and who, not satisfied with getting a six-shilling dinner for three and sixpence, "continually do complain." Then there is the Wyndham Club held at Lord Blessington's house, in St. James's Square; and called after Lord Nugent, who founded it; the two University Clubs; the Clarence, mischievously called the Clearance, because it was established upon getting rid of some disagreeable members; and the Oriental Club, which, as its name implies, consists of the curry and rice gentlemen from India, with their calico shirts and limber legs, and which the young women who sweep the crossing at Tenterden street (where, *par parenthese*, there has been within this century founded a Royal Academy of Music) invariably call the Horizontal Club. All these places—and there are one or two others, especially one called the Garrick, near Covent Garden, and another in Broad-street, called "the City"—have been established upon a principle of economy, and on a scale of comfort and elegance which would have sounded like Hebrew to the unaccustomed ears of the world of 1800. The Carlton Club we have not noticed, because its splendid house in Pall-mall remains unfinished, owing to what certainly was not known in 1800, a strike amongst the unionists. However, the Carlton is altogether a superior body, and ranks with, and perhaps above, the original White's, Brooke's, and Boodle's.—[New Monthly Magazine.]

Different Species of Egg.—The contents of these five eggs are exactly similar, with the exception of a slight difference in that of the crocodile, but slight indeed compared with the difference of the animals produced therefrom. In looking at the first egg, "could imagination," to use the words of Dr. Drummond, "ever conjure up, even in the brightest moments of inspired genius, the idea of a peacocks springing out of the shell; yet the peacock, in all the glory of dazzling colors, is the product of a little glairy fluid contained in a capsule of chalk, and in no wise different, so far as we can perceive, from what produces a barn door fowl. Has not the hand of Divinity here written, almost without a metaphor, in letters of gold, the wonders of its creative power? Look at a single feather of the peacock; consider that its shining metallic barbs, its superlatively beautiful eye, and all the wonders it exhibits of iridescent, rich, and changeable hues, according to the angle in which it lies to the light; that its form, its solidity, its inflexibility, its strength, its lightness,

and all its wonders (for in the eye of intelligence every part is a wonder,) had their origin in a little mucilage; and then consider whether, in looking on such an object, we should be content with thinking no more about it than simply that it is a peacock's feather. Yet this is too much the practice. Above us, and below; on the right side, and on the left; in every element, in every situation, the works of Almighty Power are present, and all abounding in instruction of the highest kind; and that they make not the impression they should do upon us is chiefly owing to the extraordinary anomaly, that natural history forms no necessary part of the education of young or old. But if a single feather be so wonderful a production, what are we to think of the single bird." And what are we to think, I may add, of the wonderful difference between two birds, a peacock and a peahen, produced from eggs so like that the eye cannot distinguish them? Yet the peacock is furnished with a magnificent and gorgeous tail, while the peahen is arrayed in plain and unobtrusive colors. The second egg, which is not quite so much bulged out at the larger end, and is rather puler in color, produces the common stork, a bird very different indeed in form and in color from the peacock. The stork also feeds on frogs and garbage, while the peacock lives chiefly on grain, and in a wild state on pepper. The third egg, which is rather less taper at the small end than that of the stork, and at the same time whiter, produces the common goose; while the fourth egg produces the common eagle of this country, distinguished when full grown by its white tail. No two birds could differ more than the goose and the eagle in their dispositions and mode of life, even from the very moment they are hatched. The young gosling the moment it is out of the egg, can run about and feed itself with the utmost ease and agility; while the young eaglet is blind and helpless, and must be fed for many days by its parents. The gosling will plunge fearlessly into the first water it sees, and will swim about as dexterously as its dam, but if an eaglet were put into a pond it would inevitably be drowned. The goose feeds on grass, while the eagle would starve rather than swallow a mouthful of it: Spallanzani could not even by an art compel an eagle to taste bread, though a goose would consider this the greatest dainty it could have. Yet the egg of the goose is very similar in all respects to the egg of the eagle, and their slight difference would not be readily detected except by a naturalist who has paid attention to the subject. The fifth egg, which produces a crocodile, though nearly of the same size as the other four, differs from them all in a few particulars, which, however, seem of too small importance, so far as external aspect goes, to indicate the extraordinary difference of the reptile from the birds. "An egg of a crocodile of fourteen feet long," says Count Lacépède, "killed in Upper Egypt in the act of laying, is preserved in the Cabinet Royale at Paris. It is whitish and of an oval figure, covered by a shell similar to that of a pullet's egg, not quite so hard, but the film or membrane lining the shell is thicker and stronger. The long diameter is two inches five lines, and the short diameter one inch eleven lines." There is within the egg a yolk and a white, as in the eggs of birds; and "if broken into a bowl," says Dr. Drummond, "no eye could perceive the difference." The young crocodile, like the gosling takes to the first water it can find; but, instead of living like the fowl, on plain vegetable diet, it preys upon every living thing it can master and devour. Though the crocodile's egg also, as we have just seen from Lacépède, is similar in size to that of the goose (some are said by M. Bory de St. Vincent to be twice as large) the crocodile hatched from it often grows five times the length of a man, with a body as thick as that of a horse, and consequently many times the size of any of the birds produced from the other four eggs.—[Renore's Alphabet of Natural Theology.]

NOTICE TO MANUFACTURERS.

SIMON FAIRMAN, of the village of Laningburgh, in the county of Renesselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Laningburgh.—August 15, 1833. A29 (RM&F

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INSTRUMENTS.

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EWING & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude. For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartte.—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,

Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m36

MECHANICS' MAGAZINE.

THE NOVEMBER NUMBER is now ready. It contains Judge Baldwin's Address before the American Institute, verbatim, corrected by himself; a supplemental account of articles exhibited at the Fair, and a great variety of interesting scientific intelligence, both American and European.

The Mechanics' Magazine and Register of Inventions and Improvements is published by the Proprietors, D. K. MINOR & J. E. CHALLIS, at No. 35 Wall-street, New York; in weekly sheets of 16 pages, at 6¢ cents—in monthly parts of 64 pages, at 31¢ cents—in volumes of 384 pages, in cloth boards, at \$1.75—or at \$3 per annum, in advance.—JOHN KNIGHT, (formerly proprietor of the London Mechanics' Magazine,) Editor.

The following encomiums on the MECHANICS' MAGAZINE and REGISTER OF INVENTIONS AND IMPROVEMENTS, are selected, from many others, from newspapers published in every section of the Union:

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It ought to find its way into the house of every artisan, and no mechanic who desires to keep pace with the various improvements of the day, will be without it.—*Geneva Whig*.

There is no periodical in this country which more deserves the patronage of the mechanic than this, and which will better repay him for the expense incurred and the time spent in its perusal.—*Elmira Gazette*.

It contains information on almost every subject connected with mechanics, and a register of inventions and improvements.—*Montreal Gazette*.

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Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 18-1 y

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rope, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rope of any required length (without aplice) for inclined planes of Railroad at the shortest notice, and deliver them in any of the principalities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. B. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon date, Luzerne county, Pennsylvania. Hudson, Columbia county, New-York, January 29, 1835.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, 731 61 corner of Maidenlane.

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in Marble Paper covers, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the country.

Published at 35 Wall street, N. Y., by D. K. MINOR & J. E. CHALLIS.

AGENTS FOR NEW PUBLICATIONS.

HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications: The Family Magazine, 416 pages a year, at \$1.50 in advance. The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25.

The Ladies' Companion, of 54 pages a month, at \$3.00 per annum, in advance.

The Rochester Gem, at \$1.50 in advance.

All Communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedsmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurtzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN, 347 N. Market st. (opposite Post Office.

Catalogues may be had at the Store; if sent for by mail will be forwarded gratis. Orders solicited early, as the better justice can be done in the execution.

* Mr. Thorburn is also Agent for the following publications to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANICS' MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly: either oral of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

TO RAILROAD COMPANIES. The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-waters of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore; or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to.

DEAN WALKER, a3

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersunk heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

Tro N. Y. July, 1831. HENRY BURDEN, Agent.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

323 lam H. BURDEN.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 12 miles per hour; a four ton engine at a speed of 10 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burdens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine-wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

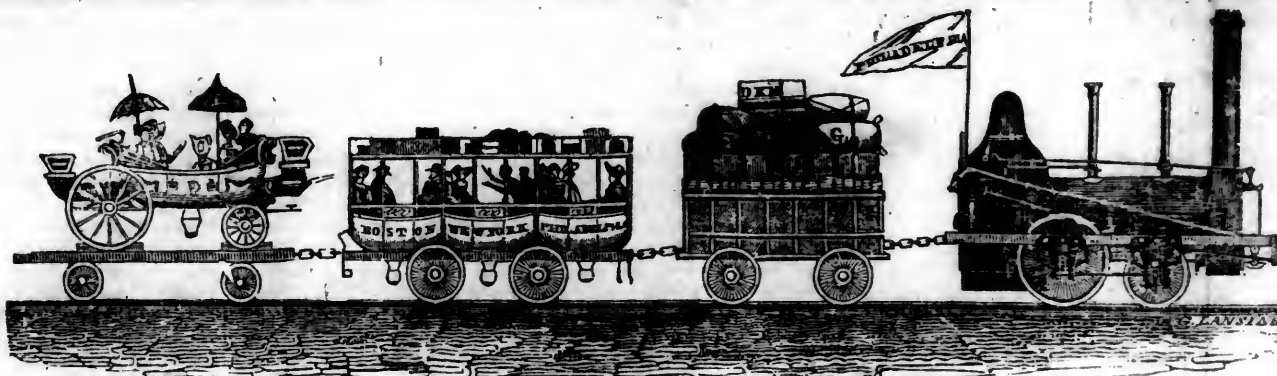
All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company. WILLIAM NORRIS, Secretary.

December 2d, 1833. For further information on this subject see No. 49, page 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

Ninety-five tons of 1 inch by 1 inch.	Flat Bars in lengths of 14 to 15 feet counter sunk holes, end cut at an angle of 45 degrees with splicing plates, nails to suit.
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AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.]

SATURDAY, JANUARY 3, 1835.

[VOLUME III.—No. 52.]

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JANUARY 3, 1835.

With this number closes the *third* volume of the Railroad Journal; it may not therefore be improper to take a retrospective view of the short period of its existence. When the first number of the Journal was issued, January 1, 1832, how few railroads were in use in this country, and how little was known about them except to engineers, and even to them, except from books. But now there are railroads in use in at least 12 States of the Union, and in several others they are in a great state of forwardness, so that we may with confidence look for their introduction into every part of the country. Here, even as in England, those who were a short time since strongly opposed to them, are now warmest in their favor, and thousands are striving to bring them to their doors, even though it should require stationary power. Railroads, indeed, are now almost as common as good turnpikes, and will soon be much more so—whilst thousands consider themselves competent to survey, construct, and superintend them when made—and any person can obtain descriptions of the mode or modes in which almost any road in the country is built, together with the various modes of using them, their cost, expense of working, and income—as well as much useful information relative to the machinery, and the latest improvements in the construction, both of road and machinery—and all for the low price of twelve dollars—*simply by taking a complete set of the RAILROAD JOURNAL, including the ensuing year.*

We do not mean, however, to say that the *Journal* has produced all this; by no means—but the reverse—it is the Railroad System which has made the *Journal* what it is. Yet we may, we think, without fear of contradiction, say that much useful and important information has been collected, embodied, and preserved by the *Journal*, and that it now contains a larger mass of useful information upon the subject of railroads, railroad machinery, &c., than can be obtained elsewhere in the country for the same amount of money. But in order to make it what it is, and is to be, it has cost us more money than it has produced in return—a circumstance occasioned by the following causes, viz.: 1st, the printing of a much larger edition than has been subscribed for; and 2d, the great extent of country over which its subscribers are scattered, and of course the difficulty and expense of making collections, together with the delay of some to pay up their subscription.

By way, therefore, of guarding against those difficulties hereafter, we shall adopt the following measures: Print a less number, and thereby reduce the expense, and at the same time make an *additional* charge of one dollar to those who do not pay according to the terms, *in advance*. In order, however, that every subscriber who now takes it may have time to understand the adoption of this measure,—and it is only adopted from necessity, as we have to pay interest upon every dollar not paid in advance,—and to remit the amount by mail or otherwise, we say to those living at a distance, if paid by the first of *March*, it will be considered in advance. To all out of the city, who have not *already* paid for the 4th volume, bills will be sent with the Index to the last six months, and No. 1 of Volume IV. To those in the city, bills will be presented personally, and it is confidently believed that every subscriber will evince his desire to see the *Journal* continue and prosper, by paying the amount.

To all who do not thus *by the 1st of March*, pay in *advance*, the bills will be made out at *FOUR DOLLARS* per annum, and all subscriptions received hereafter not paid *in advance*, will be charged at *FOUR DOLLARS* per year.

This measure is adopted only to ensure the

continuance and success of the publication, and in justice to those who have always paid in advance, thereby enabling us to continue the *Journal* to this period, and it will be *strictly* adhered to.

Remittances by mail—through the hands of the Post-Master—will be at our risk. Receipts will, in *all* cases, be returned immediately.

Subscribers who wish to supply deficient numbers of the 1st, 2d, or 3d Volume of the *Journal*, will please give early notice, that we may supply them as far as possible. The deficiencies can be better supplied now than hereafter.

In this number, page 820, will be found a description, with several engravings, of Mr. Stephenson's improvement in the railroad chair. It is, we should think, too complicated, and must therefore be too expensive for general use in this country. It may be improved upon by Yankee ingenuity, so as to answer a good purpose.

We should like exceedingly well to see the views of A. B. C. carried out in relation to a publication similar to the one to which he alludes. But we cannot with the *Journal* depart so far from our original plan—we hope, however, to render it more interesting than heretofore.

We have received the Report of the Internal Improvement Convention, recently held at Baltimore, which we shall publish as soon as we have disposed of other interesting matters previously in hand.

In our next number we shall give the last report of the Directors and of the Engineer, H. ALLEN, Esq., of the South Carolina Railroad Company, for the six months ending 31st of October last. This report is highly favorable, showing a fair increase of business, and a constant improvement of the moving power and machinery, as well as improvement of the road, by embanking where it was built on piles. The prospects of this road, notwithstanding it has cost much more than it was at first estimated at, are very fair. It must eventually be a great thoroughfare—and will become very valuable to the stockholders.

A Short Account of the River Richlieu, from Lake Champlain to Sorel, in connection with the Chambly Canal. [For the Railroad Journal.]

The river Richlieu, which connects Lake Champlain with the St. Lawrence, is a fine stream, varying in breadth from five to sixteen hundred feet. Its precise length is not easily determined, since it is difficult to say where the lake ends; it may, however, be called about eighty miles long. From the lake to the village of St. John's, on the west bank, and that of St. Athanas, on the east, the distance is twenty-four miles, the whole of which, at all seasons, when not obstructed by ice, is navigable for vessels drawing six feet water.

The next twelve miles are chiefly rapid, making a fall of about seventy-eight feet, (in the whole distance,) into a very beautiful and natural basin, of about two and a half miles* in breadth and three long; on the west bank of which is situated the village of Chambly, distant from Montreal, in a direct line, about thirteen miles.

The remaining forty-two miles, (where the waters of the Richlieu and St. Lawrence join at the village of Sorel, or William Henry,) can, with a trifling expense, be made navigable for vessels of the same draft as the river will admit of above St. John's.

To overcome the difficulties occasioned by the twelve miles of rapid, the Chambly canal was projected; and as it has not appeared in your account of North American canals, it has probably never been heard of by you, I therefore take the liberty of sending you the following sketch to complete your list.

It is one of the largest class of canals, and though economy has been a point attended to, the work has still been carried on with due attention to beauty as well as strength.

The canal and harbor, connected, is twelve miles long, commencing at the village of St. John's, and ending at the Chambly basin. Its width is thirty-six feet at the bottom, sixty feet at top water line, and six feet water will be had in it at all times. The locks are of cut stone, one hundred and twenty feet by twenty-four in the chamber. The bridges all swing or draw.

The canal commences by a wier of stone, sixteen hundred feet long, forming one side of a basin two hundred and fifty feet wide at the entrance, and nearly five hundred feet just within it, narrowing down to canal width, (60 feet,) at the lower end. One side of this basin is to be wharfed up, and a street of sixty feet wide made, the materials for which are ready, and the work in progress.

At the end of this basin the rapid commences, and the banks are carried up fifteen feet high, to keep out floods. The guard lock, nine hundred feet from the entrance of the basin, is of stone, cut very smooth, and about the same dimensions as the other locks.

From this lock, three miles down, the bank falls with the river surface from fifteen to nine feet high, and from hence runs some distance across the river to an island near the west shore, forming a dyke, which, with a similar one at the foot of the island, about two miles and three quarters distant, gives, at a trifling expense, a natural canal of eight hundred feet wide, and twenty deep.

The canal from this to Chambly, except a half mile, made under a high bank in deep and rapid water, with a half mile of deep cutting through rock, follows a beautiful table land to Chambly, keeping from the river, and on the same level with St. John's.

Nine locks here come together within a mile,

* Can this be true?

six of them are in a straight line, at short distances apart; the remaining three are combined. Four of these locks are built, and the materials for the rest are on hand.

Nearly four miles of this canal are made in the water, and part in very deep rapid water. A great deal of pumping has been necessary; the screw pump has been exclusively used; and the ease and comfort with which the excavation has been done, for long distances, six feet below the surface of the river, would surprise any person who has not seen it. The water work seemed but little more trouble than that on dry land, except the pumping. The banks, when made in the river, are well protected by a slope wall. It has been navigated, with four feet water, for ten miles of its length, during the fall; and nearly all the stones, put in the locks, have been brought to Chambly by the canal, having been reshipped from vessels which brought them from quarries thirty miles from the head of the canal.

The work was estimated, with locks of a smaller size, to cost \$240,000; the actual cost will, however, fall short of \$200,000, if nothing unforeseen occurs. The low prices of labor and stone-cutting, and the favorable nature of the ground, afford vast facilities for such an undertaking.

The Canadian French are equal to any masons and stone-cutters on the continent, for the beauty and excellence of their workmanship; and I think few are superior to them anywhere.

The Chambly canal, when complete, will open a communication for large vessels from the ports on lake Champlain to all the line of the St. Lawrence, and thence to the sea. If the northern canal was larger, schooners from Quebec could, by an inland navigation, visit the Chesapeake.

The Richlieu, below Chambly, is to be improved by a lock and dam. Examinations and reports on it have been made by an engineer. Part of the money has been voted by the Assembly for constructing the works. More, however, is still required, and some alterations in the law relating to the river, before the commissioners can proceed with their improvements.

UNDULATING RAILWAYS.—Is not this subject of sufficient importance to induce the trial on a road two or three miles in length, by some of the railroad companies in this country?

Boston, 14th Dec., 1834.

To the Editor of the Railroad Journal.

SIR,—Your correspondent, Mr. Thomson, recalls our attention to the Undulating Railway System. Mr. T. states that Mr. Badnall's experiments would prove too much. I do not exactly perceive this. Mr. Badnall, I believe, asserts, and, as some think, proves, that, over a certain distance of road, a carriage can be moved with less expense of power, where the profile on that distance is undulating, than when it is perfectly straight; but he does not assert that it can be moved without any exertion of power.

A pendulum will vibrate equal distances on either side of a vertical line drawn from its axis. A carriage, on an undulation, will exhibit the same result, minus the friction; but this friction may be more than overcome by the action of the accompanying engine, both during its ascent and descent of the two sides of the undulation. And, if the power of an engine were unlimited, it would be easy to conceive how the velocity of a carriage would be accelerated over a series of undulations progressively, *ad infinitum*; but as there is a limit to the power of the engine—a velocity when it will become of no effect—so there is a maximum of speed or effect in the system. A progressive additional velocity, it is easy to perceive, could only be

acquired by a capability in the machine of the exertion of a progressive additional power. When the salt has become of non-effect, or, rather, when its effect is merely sufficient to counterbalance the retardation caused by friction, the speed of the whole machine must have attained its limit. I say thus much on behalf of Mr. B.'s experiments, and not in behalf of his system, the theory of which, I am free to say, I do not precisely comprehend; but, admitting it to be true—admitting Mr. B.'s theory to be perfectly correct—is it available in practice? Is it safe to admit, at any time, of a speed of more than 30 miles an hour; and is it, at any time, advisable to allow of more than 20? Would we not prefer a sufficient road, over the whole extent of which we had an entire control, to a more perfect one, over which, when once in motion, we must necessarily be carried forward, (without power of stoppage, consistent with the benefits in dispute,) and where we can only command certain points, viz., the tops of the undulations? And, finally, is it at all certain that the expense of grading a series of undulations so as to conform correctly to the theory, would not be equal to the present antiquated method, which, as it does not insist on undulations, should be able to conform fully as nearly to the natural surface?

Every individual railroad may be considered as an individual piece of machinery. Should any accident occur, we want to have the power to remedy it as quickly as possible; should any car of a train get off the road, we want to stop that train immediately; should any wheel break, or axle bend, we want to throw out the damaged waggon; should there be any unexpected obstacle on the road, we want to be able to "pull up" till it is removed. But, if a train were moving at full speed down one of Mr. B.'s undulations, under such circumstances, blowing, and puffing, and straining, to acquire power for the ascent, the destruction would be tremendous. Wo to the unhappy passengers who might form part of it! I certainly agree with Mr. Cheverton—some of whose very excellent letters you have quoted from the London Mechanics' Magazine; that, viewing it practically, the system is very replete with absurdity. I have not time to say more.

Very respectfully, S. D.

On the Location of Railroad Curvatures; being an Investigation of all the Principal Formulas which are required for Field Operations, in laying Curves and Tangent Lines, to pass through Given Points. By J. S. VAN DE GRAAFF. Continued from page 660. [For the American Railroad Journal.]

Example 3. Let the relative positions of the origins and tangent lines be such as is indicated by figures 3 and 4, the primitive origin being

Fig. 3.

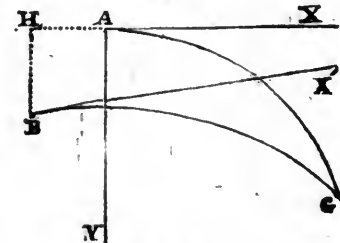
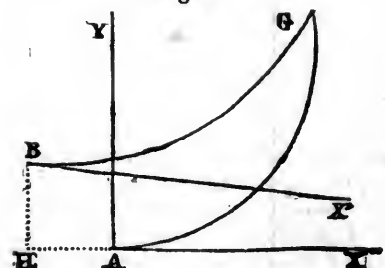


Fig. 4.



represented at A, as before, and the tangents

$$\frac{98481+20 \times 17365}{100+400} = \frac{984810+347300}{500} = 2110$$

$$= .02664; \text{ or, } T' = 1^\circ 31' = \text{modulus of curvature, which would trace either of curves, in figure 3 or figure 4, from the origin B to the designated point G.}$$

Example 4. Suppose the relative position of a new origin to be such as is represented by figure 3, or figure 4; and let the two tangents AX and BX' diverge in advance.

Taking the signs which appertain to this case, the following values will obtain: $\alpha = -3$, $B = -2$, and $z = +10^\circ$; and consequently

$$T' = \frac{12-2 \cdot \cos. 10^\circ - 17+3 \cdot \sin. 10^\circ}{12-2^2+17+3^2} = \frac{984810-347300}{500} = \frac{637510}{500} = .01275; \text{ or, } T' = 0^\circ 43'$$

$0^\circ 43'$ = new modulus of curvature which would be required in either of the figures 3 or 4 upon the supposition that the tangents AX and BX' diverge in advance.

Example 5. Let figures 5 and 6 show the

Fig. 5.

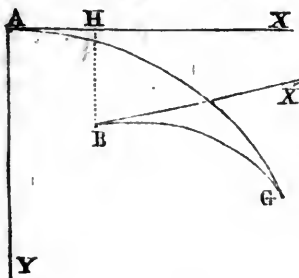
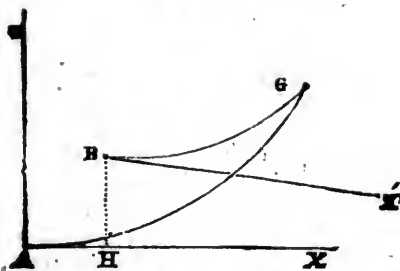


Fig. 6.



relative positions of the origins and tangent lines, as occurring in two different instances; the tangents being represented converging in advance.

Here the following values will obviously obtain with reference to either of the figures 5 or 6; that is, $\alpha = -3$, $B = -2$, and $z = -10^\circ$. Therefore,

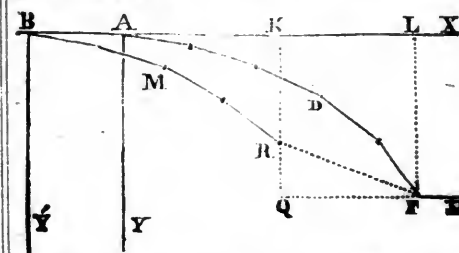
$$\sin. T' = \frac{12-2 \cdot \cos. 10^\circ + 17-3 \cdot \sin. 10^\circ}{12-2^2+17-3^2} = \frac{984810+243110}{296} = \frac{1227920}{296} = .04148;$$

or, $T' = 2^\circ 22' =$ required modulus of curvature.

The preceding examples do not exhibit all the mutations which will sometimes occur in (XXII) —but are sufficient to explain the principle. The importance of that formula in the field rendered such explanations necessary, in order that those persons who may not be already familiar with that elementary principle of analytical geometry, may nevertheless be enabled to compute without perplexity or liability to error.

23. Suppose ADF to represent a given curve, and BMR another proposed curve laid upon the same tangent line AX, and let α denote the given distance AB, between their origins. Take T and T' to represent the given moduli of curvatures, and n , and m , the given number of chains contained in each curve respectively. It is required to determine the distance FR, between the extreme stations of those two

curves; and it is also proposed to show a method by which the instrument may be directed into the line FR, from the extremity of the given curve ADF.



Take two systems of rectangular co-ordinate axes, AX, AY, and BX, BY', corresponding with the common tangent line AX, and whose origins coincide respectively with the origins A and B of the two curves. Taking x, y , to denote the co-ordinates AL, LF, of the extremity of the given curve ADF, their values will be either known from (VII.), or determined in the field by means of a system of rectangular lines. Let x', y' , be the co-ordinates, BK, KR, of the extremity of the proposed curve BMR, as estimated agreeably to the proper axes BX, BY'. The differences, KL, RQ, of co-ordinates, will then be expressed by $x + \alpha - x'$, and $y - y'$, respectively. Hence, taking w to denote the distance sought, the common principle of analytical geometry gives the following formula:

$$w = \sqrt{(x + \alpha - x')^2 + (y - y')^2} \quad \text{(XXIII.)}$$

And thus the distance w becomes known; for the values of the co-ordinates x, y, x', y' will be expressed as follows:

$$x' = \frac{\sin. 2mT'}{2 \sin. T'}$$

$$y' = \frac{1 - \cos. 2mT'}{2 \sin. T'}$$

Now, in order to determine a method of directing the instrument into the line FR, when placed at the given station F, let FH be a line whose direction is parallel to the axis of x , and whose position is in advance of the station F, with reference to the origin A, upon the axis AX. The instrument may then be directed into the line FH, either by means of (IV.), or by the principles contained in Art. 16, agreeably to the circumstances of the case. Take, therefore, the letter P, to denote the angle of position HFR; and when its value has been computed, by a method which will be presently shown, deflect the angle HFR = P, and the instrument will indicate the required direction FR. And thus the position of the station at R will be seen at once, without actually tracing the proposed curve BMR.

The value of the angle P is now to be investigated. By plane trig. Rad.: $\sin. QFR :: FR : RQ$; and, also, Rad.: $\cos. QFR :: FR : FQ$. That is, $\sin. QFR = \frac{y - y'}{w}$, and

$$\cos. QFR = \frac{x + \alpha - x'}{w}.$$

But, agreeably to the principles of trigonometry, $\sin. P = \sin. QFR$, and $\cos. P = -\cos. QFR$. Hence the following formulas are the obvious result:

$$\sin. P = \frac{y - y'}{w}$$

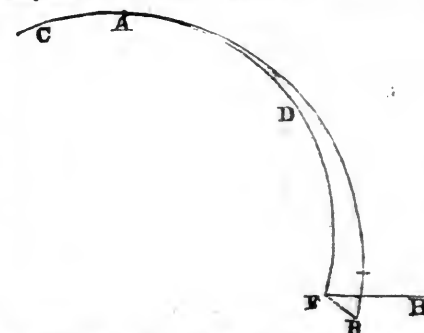
$$\cos. P = \frac{x' - x - \alpha}{w} \quad \text{(XXIV.)}$$

It will require a reference to both of the expressions (XXIV.), to determine the magnitude of the angle P, although one of them will be sufficient in finally making the computation. In this inquiry, the signs of the various quantities must be particularly observed in the following manner.

The quantity α is considered positive when the given origin A is in advance of the proposed origin B; and consequently, in a contrary case, the quantity α must have its sign reversed in (XXIII.) and (XXIV.). The angle P, is

supposed to be measured from the station F, and from the line FH, in a direction increasing from right to left, with reference to the line FH, through all four of the quadrants. By observing this principle, the position of the line FR, under all circumstances, will be immediately known from the signs of the quantities $\sin. P$ and $\cos. P$. Thus, when $\sin. P$ and $\cos. P$ are both positive, the line FR will be situated in the first quadrant; when $\sin. P$ is positive, and $\cos. P$ negative, then is the line FR posited in the second quadrant; when $\sin. P$ and $\cos. P$ are both negative, then will the line FR fall in the third quadrant; and lastly, when $\sin. P$ is negative, and $\cos. P$ positive, then will the situation of the line FR be found in the fourth quadrant.

The following example will illustrate the utility of (XXIII.) and (XXIV.)



Example. Let CADF be a curve already traced from a modulus of curvature of $2^\circ 30'$, and let A be a station in that curve 30 chains from the extreme station at F. Supposing a change of curvature to be made at A, such as to trace the curve AR, for a distance of 30 chains, from a modulus of curvature of $2^\circ 28'$, it is proposed to know how far those two curves would be separated from each other at their extremities; and it is also required to designate a line immediately from the extremity of the given curve, as already laid, to the point where the proposed curve would terminate.

In this case, then, $\alpha = 0$, $n = m = 30$, $T = 2^\circ 30'$, and $T' = 2^\circ 28'$. Hence, $2mT = 150^\circ$, $2mT' = 148^\circ$; and therefore, by (VII.),

$$x = \frac{\sin. 150^\circ}{2 \sin. 2^\circ 30'} = \frac{.50000}{.08724} = 5.731; y =$$

$$\frac{1 - \cos. 150^\circ}{2 \sin. 2^\circ 30'} = \frac{1 + .86603}{.08724} = 21.389;$$

$$x' = \frac{\sin. 148^\circ}{2 \sin. 2^\circ 28'} = \frac{.52992}{.08608} = 6.156; y' =$$

$$\frac{1 - \cos. 148^\circ}{2 \sin. 2^\circ 28'} = \frac{1 + .84805}{.08608} = 21.469.$$

Wherefore, $x + \alpha - x' = 5.731 - 6.156 = -.425$; $y - y' = 21.389 - 21.469 = -.080$; and

$$w = \sqrt{.425^2 + .080^2} = \sqrt{.1806 + .0064} = \sqrt{.1870} = .432 \text{ of a chain} = \text{required distance FR.}$$

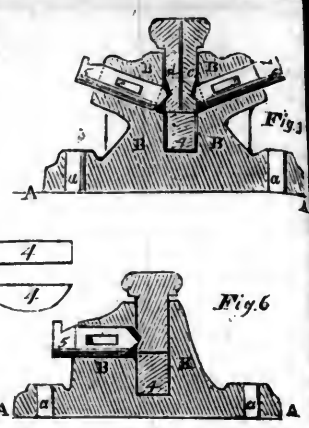
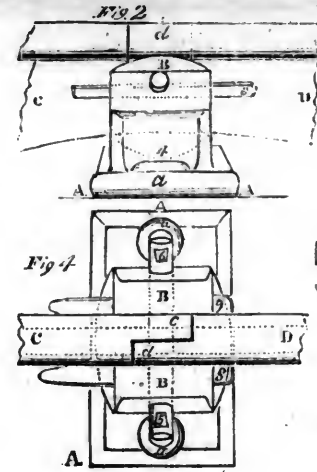
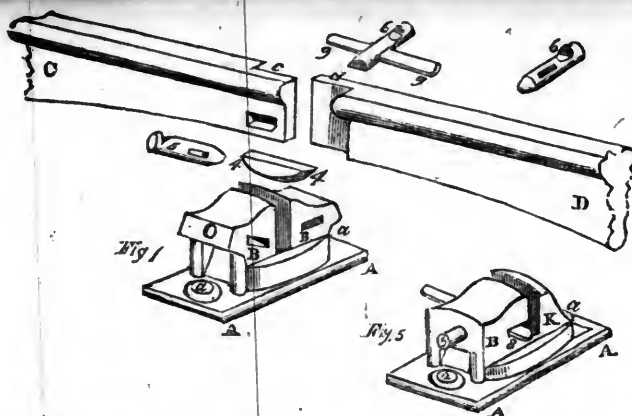
In this example, the position of the line FH, which is parallel to a tangent at A, must be obtained agreeably to the method explained in Art. 11; and then, $\sin. P = \frac{y - y'}{w}$

$$= \frac{-.080}{.433} = -.1848; \cos. P = \frac{x' - x - \alpha}{w}$$

$$= \frac{.425}{.433} = .9815. \text{ Here, } \sin. P \text{ is negative, and}$$

$\cos. P$ positive; and consequently the angle P falls in the 4th quadrant; that is, from $\sin. P = -.1848$, I find, $P = 349^\circ 21'$, which is the value of the exterior angle HFR; and therefore deflect the interior angle HFR equal to $10^\circ 39'$, and the instrument will then show the required direction of the line FR.

New Gold coinage.—The total amount of the new emission of gold coinage, coined since the 1st of August last up to the 6th inst. is three million two hundred and forty eighth thousand, eight hundred and ninety dollars!



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Specification of the Patent granted to ROBERT STEPHENSON the Younger, for an Improvement in the Mode of Supporting the Iron Rails for Edge Railways.—Sealed December 11, 1833.

My said improvement in the mode of supporting the iron rails for edge railways, relates to the construction of the chairs, or iron supports, in which the iron rails for edge railways are to be seated and fastened, and which chairs are to be firmly bedded and spiked down upon stone blocks, or upon wooden sleepers, or cross bearers in, the manner now usually practised for the ordinary chairs of edge railways; and the object of my said improvement is to provide firm and secure bearings at the bottoms of the notches in the chairs for the rails to rest upon, those bearings being capable of self-adjustment, in order that they may adapt themselves correctly to the under parts of the rails; and adequate provisions being also made for fastening the iron rails securely downwards upon such self-adjusting bearings, as well as for confining the rails laterally within the notches in the chairs, but in such manner that the said self-adjusting bearings will not be subject to be deranged, or the said fastenings to be loosened, by the effect of any such slight tilting or inclination of the chairs in the direction of the length of the rails as may result from partial or unequal subsidence of the ground beneath the stone blocks or wood sleepers, upon which the chairs are fastened, nor by the effect of any such slight elongations and contractions in the length of the rails as they are usually liable to from ordinary changes of temperature. And my said improvement consists in the application of a self-adjusting segmental bearing-piece into a suitable cell at the lower part or bottom of the notch in each chair, in order to form a bearing-surface for the rail to rest upon, the said segmental bearing-piece being in the form of a segment of a circle, and lodged with its convexity or circular arch of the segment downwards within the cell, which is of corresponding concavity, and excavated below the usual level of the bottom of the notch in the chair; the flat side or chord of the said segment being uppermost, and forming the bearing-surface at the bottom of the notch in the chair; upon that bearing-surface the under-side of the iron rail is to rest, and the said bearing-surface will always accommodate itself to the said under side of the rail, so as to form an even contact therewith, in consequence of the lower convex part of the segment-

al bearing-piece assuming a suitable position within its cell, whereby the said uppermost or rail-bearing surface of the said segmental bearing-piece will always preserve its conformity to the under side of the rail, although the chair itself in which the said bearing-piece is applied, should come to tilt or incline in the direction of the length of the rail in consequence of unequal settlement of the ground in which the stone block or the sleeper is bedded. And in order to fasten the rails securely downwards upon my said segmental bearing-pieces, as well as to confine the rails laterally within the notch of each of the chairs, the parts with which each chair is provided for the purpose of such fastening, must take its (or their) hold of the rail (or of the rails) at or very near to the centre of the circular curvature of the said segmental bearing-piece, and of the cell wherein the same is lodged, because a settlement or tilting of the chair, and the corresponding self-adjustment of the segmental bearing-piece in its cell, as aforesaid, will not have any material tendency to loosen or interfere with the holding-down action when the same is applied at or very near to the centre, about which the motion attendant on the said adjustment will take place. And further, the said holding-down action, which is to be applied, as aforesaid, by taking hold of the rail or rails at or near to the said centre, must take that hold in such manner as will permit of slight elongation and contraction of the rail or rails, in the direction of their length, without relaxing the effort of the holding-down action, or displacing the point of action thereof away from the said centre. And likewise, the same parts which perform the holding down must effect the lateral confinement of the rails within the notches of the chairs, and must also retain the rails edgewise upwards, in a proper position for the wheels of railway carriages or of locomotive steam engines to travel upon them. The mode of holding down and fastening the rails upon my said segmental bearing-pieces, which I recommend for the fulfilment of the aforesaid conditions, is by the application of cylindrical centre-pins of iron, which are fitted into corresponding sockets formed through the cheeks or sides of the notches of the chairs, so as to be firmly held in a horizontal direction, or nearly horizontal, and crossways to the direction of the length of the rails, and which cylin-

dricl pins terminate with obtuse conical points at those ends which project from the sockets into the notches of the chairs, and the said points enter into oblong or grooved recesses, which are formed in the upright sides of the under part of the rails, suitably for the reception of the said points, the oblong elongation of the said grooved recesses being in a longitudinal direction along the rails, each of the said cylindrical pins is transfixed by a tapering or wedge-like key, which is inserted horizontally through a suitable mortice opening in the cheek or side of the chair, so as also to pass crossways through a suitable mortice opening across the cylindrical pin, at right angles to the length thereof, and in a direction parallel to the length of the iron rails. The said tapering key being so applied in its mortices through the cheek of the chair and through the cylindrical pin, that when the key is driven in through its mortices, the cylindrical pin will be forced forwards endways with its conical end or point in contact with the rail, in consequence of the tapering form of the wedge-like key, and the conical end of the cylindrical pin being by that means forced into the aforesaid grooved recess in the rail, that conical end will bear on the lower part of that recess, with an oblong bearing-down action, which will jamb the rail downwards upon its self-adjusting bearing piece, at the same time that it confines the rail laterally within the notch of the chair. And, note—those chairs which are to receive and support the extremities of the several lengths of iron rails at the junction of those extremities, require to be provided with two of the aforesaid cylindrical pins and wedge keys, in each chair, namely, one cylindrical pin through each cheek or side of the notch in the chair, with the conical points of those pins directed towards each other. The extremities of the lengths of iron rails may be united by what are called scarf or half-lap joints, which apply flatwise to each other, side by side; and the double, or over-lapping parts, at the ends of two adjoining rails, being included within the notch in the same chair, the conical points of the two opposite pins of that chair are both to be forced forwards, by their respective wedge-like keys, into the grooved recesses aforesaid, which are made at the outside of each the two halves of the half-lap or scarf joint, by which means the pressure occasioned by the wedging up of the two

will hold the said two halves firmly together, at the same time that the action of each of the conical points of the pins in its own grooved recess in one half of the joint of the rails, will hold that half down upon my segmental bearing-piece, which is applied as aforesaid, in the cell, at the bottom of the notch in the chair, for the ends of the two rails to act upon, wherefore by the keying of the two opposite pins of the same chair the junction of two rails is made secure laterally; also, the extremity of each of those rails which form the junction is fastened downwards, independently of the bearing-down of the extremity of its own rail, in the same chair, and on the segmental bearing-piece at the bottom of the notch of that chair. But the chairs which are to form the intermediate supports for the several lengths of iron rails, between the junctions of the lengths, require only one of the cylindrical pins in each chair, viz. though one of the sides or cheeks of the chair, the opposite side or cheek being a flat vertical surface (or nearly so) against which the flat vertical surface of the iron rail is pressed laterally, and held thereto, by the keying up of the cylindrical pin through that cheek or side of the notch of the chair to which the flat vertical surface is opposite, and at the same time the action of the conical point of the cylindrical pin, in its grooved recess in the rail, holds the rail forcibly downwards upon my segmental bearing-piece, which is applied in its cell, as aforesaid, at the bottom of the notch of the chair for the underside of the rail to rest upon. The said intermediate chairs, having one cylindrical pin in each chair, by pressing the rails laterally against the flat side or cheek thereof, as above mentioned, will keep the rails edgewise, and firmly retained in their proper positions for the wheels of railway engines and locomotive steam-engines to travel over them. The other kind of chairs hereinbefore mentioned, with two cylindrical pins in each chair, confine the junctions of the several lengths of rails together laterally, at the same time that they hold down the extremity of the rail on my segmental bearing-piece, in the grooved recesses which are formed on the sides of the iron rails for the reception of the conical points of the cylindrical pins, and for giving them their bearing-down action, being of an oblique form, in the direction of the length of the rails, as aforesaid, that form will prevent any slight elongations or contractions of the rails lengthwise, without causing any relaxation or alteration in the movement of the rails in their chairs, and these elongations and contractions will have no influence on the lateral pressure of the said conical points are required to act against the rails, nor on the holding-down action which results from the lateral pressure, in consequence of the oblique bearing-down action of the conical points against the lower part of the grooved recesses in the sides of the rails.

And in consequence of the centre of the said conical points being at or very near to the centre of the circular curvature of the cell at the bottom of the notch of the chair (and of my segmental bear-

ing-piece, which is lodged in that cell,) any slight tilting or inclination of the chair in the direction of the length of the rails and consequent self-adjustment of the said segmental bearing-piece in its cell will not cause any relaxation of the confinement of the rails in their chairs, because such tilting will have no influence either on the lateral action of the conical points, or on the holding-down action, which results therefrom, by oblique action of the said conical points in the grooved recesses in the rails. And note—in lieu of mere conical points to the said cylindrical pins, the latter may terminate with obtuse wedge-like or chisel ends, adapted to enter into and act obliquely within the aforesaid oblong grooved recesses in the rails, in which case the cylindrical pins must be allowed a small liberty of turning motion in their sockets, through the sides or cheeks of the chairs, in order that their chisel ends may continue to conform to the grooved recesses in the rails, notwithstanding any slight tilting of the chairs themselves. For this purpose the mortices through the cylindrical pins must be as much wider than the thickness of the wedge-like keys which are to be driven through the said mortices as will permit of the requisite turning motion of the cylindrical pins in their sockets. And the acting extremities of the said cylindrical pins, whether conical points or chisel ends, may be case-hardened, or they may be made of steel, hardened and tempered, in order to give them durability if required. And note—the sockets for the said cylindrical pins may be made through the cheeks or sides of the chairs, in a direction somewhat inclining from the horizontal, instead of being horizontal, as hereinbefore mentioned, the conical or chisel-shaped ends of the pins being rather lower than the other ends, in order that the lateral action and pressure exerted by the pins, may act against the rails with a downwards tendency when the pins are forced endways by their cross-keys into the grooved recesses in the rails. The holding-down action on the rails will be rather greater if the pins are so inclined, than if the pins are horizontal, but their inclination from the horizontal must not be so great as to cause any sensible impediment to the turning-action, which the conical points of the pins must make within the grooved recesses in the rails, or else the turning-motion which the chisel-ended pins must make in their sockets, in order to accommodate to a tilting inclination of the chairs.

Fig. 1, in sheet I., is a perspective view; and in sheet II., fig. 2, is a lateral elevation; Fig. 3, a transverse section; and Fig. 4, a horizontal plan of a chair, for supporting and uniting the extremities of the lengths of iron rails for edge railways. A, A, is the flat bottom or base of the chair, which is to be bedded upon the stone block, or wooden sleeper, and firmly fastened thereto by spikes driven down through the holes, a, a. B, B, are the cheeks or sides of the notch in the chair, that notch being the parallel space which is left between the said cheeks or sides for the reception of the rails c, c, d, d, which may join together with a half-lap

joint, as is shown in the perspective view, fig. 1, and in the plan, fig. 4, the double or overlapping parts, c, d, being of the same size, or nearly of the same size, as the other parts of the rails, and those parts are included within the notch of the chair. The bottom of the said notch is deeper than necessary for receiving the rails, and is depressed into a concavity or cell suitable for the reception of my segmental bearing-piece, 4; see also fig. 1, where the same is represented separately; the under edges of the rails rest upon the uppermost flat surface of the said bearing-piece, 4, the undermost part of which is a circular curve, and the form of the cell corresponds thereto. 5 and 6, are the cylindrical pins, which are fitted into cylindrical sockets, through each of the cheeks or sides. B, B, and 8, 9, are the tapering or wedge-like keys, which are inserted through suitable mortices in the cheeks, and across the pins 5 and 6, for the purpose of forcing forward those pins, so that their pointed extremities may press obliquely upon the lower parts of the grooved recesses in the rails, with a bearing-down action, which will confine the rails downwards upon the bearing-piece, 5, at the same time that they are confined laterally in the chair. The cylindrical pins, represented in figs. 1, 2, 3, and 4, are in an inclined direction, in order that their bearing-down action may be more efficient, but the pins may be horizontal; in either case the centre of curvature of their points, at the places where those points bear in the grooved recesses of the rails, being at, or very near to, the centre of curvature of the lower part of my segmental bearing-piece, and of the cell in which it is lodged. In fig. 1, the cylindrical pins are shown detached, in order to explain the manner in which the pointed extremity applies into the grooved recess in the rails, so as to exert a bearing-down action thereon; and in the same fig. 1, a chisel-end is represented, as well as a conical point.

Fig. 5, sheet I., is a perspective view; and

Fig. 6, sheet II., is a transverse section of a chair for supporting the iron rails at intermediate distances between the extremities or junctions of their several lengths; it has only one cylindrical pin, 5, fitted through one of its cheeks, n, the opposite cheek, k, being a flat vertical surface against which the flat side of the rail is pressed and held firm, by the keying up of the cylindrical pin, 5, so as to confine the rail laterally at the same time that the oblique action of the point of the cylindrical pin, 5, in the grooved recess in the rail, produces a bearing-down action, which confines the rail down upon my segmental bearing-piece, 4, which is applied in a cell at the bottom of the notch of the chair, exactly the same as in the chair with two cylindrical pins, before described. The chairs are to be made of cast-iron; the sockets for the cylindrical pins, the mortices for their wedge-like keys, and the cells for my segmental bearing-pieces, being all formed in the casting, as well as the holes for the holding-down spikes. The wedge-like cross keys, the cylindrical pins, and the segmental bearing-pieces, are to be made of wrought-iron.

From the forthcoming number of the "Mechanics' Magazine and Register of Inventions and Improvements."

Memoir of Robert Fulton.

WHO WAS THE INVENTOR OF STEAM NAVIGATION?

[From Dunlap's History of the Rise and Progress of the Arts of Design in the United States.]

The parents of this gentleman were of Irish origin: the father, a native of Kilkenny—the mother a Pennsylvanian, by name Smith, and descended from Hibernian emigrants. Robert was the oldest of two sons: he had three sisters, two older than himself. He was born in Little Britain, in the county of Lancaster, Pennsylvania, in 1765, and showed early indications of his attachment to mechanics; but was, as a youth, still more devoted to the pencil. He commenced the painting of portraits and landscapes, as a profession, at the age of seventeen; that is, in the year 1782, and continued so employed until 1785. During this period, Charles Wilson Peale was the principal painter in Philadelphia, until Pine's arrival; and doubtless Fulton did not neglect the instruction to be derived from them and their pictures.*

Robert Fulton, at the age of 21, had, by his industry and frugality, enabled himself to purchase a little farm in Pennsylvania, on which he established his mother, and soon after crossed the Atlantic to seek instruction from Benjamin West. That Mr. West justly appreciated the character of his young countryman, is attested by his presenting him with two pictures: one representing the great painter with his wife's portrait on his easel; and the other Fulton's own portrait.

Mr. Fulton, perhaps by invitation, practised as a portrait painter in Devonshire, and here appears to have revived his attachment to mechanics. Canal navigation attracted his attention, as he here became acquainted with the Duke of Bridgewater, and they became united by their mutual love of science. Lord Stanhope and Fulton were attracted to each other by similar propensities. In 1793 was published a print, engraved by Sherwin, from a picture by Fulton, of Louis XVI. in prison, taking leave of his family. The only copy I have seen is possessed by my friend Dr. Francis: it is now a curiosity. As early as 1793, Fulton's mind was engaged in projects to improve inland navigation. In 1794 he obtained a patent for a double inclined plane, and other patents, from the British government. For eighteen months he resided in Birmingham, and improved his knowledge of mechanics in that great workshop.

In 1795 he published several essays, which elicited the compliments and recommendations of Sir John Sinclair and the Board of Agriculture. The profession of a painter was abandoned, and his knowledge of the art of design applied to drawings on the subjects which now engaged his mind.

In the year 1797 Mr. Fulton had apartments in the same Parisian hotel with Joel Barlow; and a friendship was then formed between these two eminently gifted and amiable individuals, which was only broken by death. When Mr. Barlow established

himself in a style befitting his public station, in a hotel appropriated to himself and lady, he invited Fulton to make one of his family. Here he resided seven years, during which he studied the modern languages, and the higher branches of science. During this time Fulton also projected a panorama, in imitation of Barker. It had some success, and is said to have been the first seen in Paris. But his mind was occupied with other projects, particularly the explosion of gunpowder under water. His torpedoes were offered to the French and Dutch governments; and when Bonaparte became first consul, he appointed a commission to examine Fulton's plans, and assist in making experiments.

When chancellor Livingston arrived in Paris, the intimacy between him and Fulton commenced, which led to the fulfilment of his destinies, by the accomplishment of steam navigation.

If the failure of Mr. Fulton's schemes for the destruction of ships of war, by torpedoes, fixed his attention upon navigating vessels by steam, we may congratulate the world that the conflicting nations of Europe, to whom with perfect indifference he seems to have offered his projects and services, for the destruction of their enemies, did not accept of them. If, as we believe, the views of Mr. Fulton were to banish naval warfare from the world, perhaps that change which will take place in defensive warfare, by the use of the steam frigate, such as Fulton built at New-York, in harbors and on coasts, may go far to answer the same end.

In 1801 Mr. Fulton repaired to Brest, to make experiments with the plunging boat he had constructed the preceding winter. This, as he says, had many imperfections, natural to a first machine of such complicated combinations. Added to this, it had suffered much injury from rust, in consequence of its having been obliged to use iron instead of brass or copper, for bolts and arbors.

Notwithstanding these disadvantages, he engaged in a course of experiments with the machine, which required no less courage than energy and perseverance. Of his proceedings he made a report to the committee appointed by the French executive; from which report we learn the following interesting facts:

"On the 3d July, 1801, he embarked with three companions on board his plunging boat in the harbor of Brest, and descended in it to the depth of five, ten, fifteen, and so to twenty-five feet; but he did not attempt to go lower, because he found that his imperfect machine would not bear the pressure of a greater depth. He remained below the surface one hour. During this time they were in utter darkness. Afterwards he descended with candles; but finding a greater disadvantage from their consumption of vital air, he caused previously to his next experiment a small window of thick glass to be made near the bow of his boat, and he again descended with her on the 24th of July, 1801. He found that he received from his window, or rather aperture covered with glass, for it was no more than an inch and a half in diameter, sufficient light to enable him to count the minutes on his watch. Having satisfied himself that he could have sufficient light when under water; that he could do without a supply of fresh air for a considerable time; that he could descend to any depth, and rise to the surface with facil-

ity; his next object was to try her movements, as well on the surface as beneath. On the 26th of July he weighed his anchor and hoisted his sails: his boat had one a mainsail, and jib. There was on light breeze, and therefore she did not on the surface at more than the rate of miles an hour; but it was found that would tack and steer, and sail on a wave before it, as well as any common boat. He then struck her mast and to do which, and perfectly to prepare boat for plunging, required about two minutes. Having plunged to a certain depth he placed two men at the engine which intended to give her progressive motion one at the helm, while he, with a bar before him, governed the machine, kept her balanced between the upper and lower waters. He found that, with the exertion of one hand only, he could keep at any depth he pleased. The propelling engine was then put in motion, and he, upon coming to the surface, that he had about seven minutes, made a progress of four hundred metres, or about five hundred yards. He then again plunged, turned round while under water, and returned near the place he began to move from, repeated his experiments several days successively, until he became familiar with operation of the machinery, and the movements of the boat. He found that she was obedient to her helm under water, and that the boat could be on the surface; and the magnetic needle traversed as well in this situation as the other.

"On the 7th of August Mr. Fulton descended, with a store of atmosphere compressed into a copper globe of a foot capacity, into which two hundred atmospheres were forced. Thus prepared he descended with three companions to a depth of about five feet. At the expiration of an hour and forty minutes, he brought up small supplies of pure air from a reservoir, and did so as he found occasion four hours and twenty minutes. At the expiration of this time he came to the surface without having experienced any inconvenience from having been so long under water.

"Mr. Fulton was highly satisfied with the success of these experiments; it determined him to attempt to try the effects of the invention on the English ships which were blockading the coast of France, and daily near the harbor of Brest.

"His boat at this time he called the marine boat, or the plunging boat; he afterwards gave it the name of the Nautilus, connected with this machine were what then called submarine bombs, to which he has since given the name of torpedoes. This invention preceded the Nautilus. It is indeed, his desire of discovering the mode of applying his torpedoes, that turned his thoughts to a submarine boat. Satisfied with the performance of his boat, his object was to make some experiments with the torpedoes. A small shallop was anchored in the roads, with a bomb containing twenty pounds of powder; he approached to within about two hundred yards of the anchored vessel, struck her with the torpedo, and blew her into atoms. A column of water and fragments was blown from the vessel to one hundred feet in the air. This experiment was made in the presence of the chief of the department, Admiral Villaret, and a multitude of spectators.

* "Robert Fulton," says Edward Everett, "was a portrait painter in Pennsylvania, without friends or fortune." A school-fellow of Fulton says, "Robert Fulton was a school-boy in Lancaster, Pennsylvania; his mother then a widow. He borrowed paints and brushes of another, and soon excelled, but neglected his books. He was sent to Philadelphia, to a silversmith; but not liking, he went to London."

"The experimental boat of Mr. Livingston and Mr. Fulton was completed early in the spring of 1808: they were on the point of making an experiment with her, when one morning, as Mr. Fulton was rising from a bed in which anxiety had given him but little rest, a messenger from the boat, whose precipitation and apparent consternation announced that he was the bearer of bad tidings, presented himself to him, and exclaimed in accents of despair, "Oh, sir, the boat has broken in pieces and gone to the bottom!" Mr. Fulton, who himself related the anecdote, declared that this news created a despondency which he had never felt on any other occasion; but this was only a momentary sensation. Upon examination, he found that the boat had been too weakly framed to bear the great weight of the machinery, and that in consequence of an agitation of the river by the wind the preceding night, what the messenger had represented had literally happened. The boat had broken in two, and the weight of her machinery had carried her fragments to the bottom. It appeared to him, as he said, that the fruits of so many months' labor, and so much expense, were annihilated; and an opportunity of demonstrating the efficacy of his plan was denied him at the moment he had promised it should be displayed. His disappointment and feelings may easily be imagined; but they did not check his perseverance. On the very day that this misfortune happened, he commenced repairing it. He did not sit down idly to repine at misfortunes which his manly exertions might remedy, or waste, in fruitless lamentations, a moment of that time in which the accident might be repaired. Without returning to his lodgings he immediately began to labor with his own hands to raise the boat, and worked for four and twenty hours incessantly, without allowing himself rest, or taking refreshment: an imprudence which, as he always supposed, had a permanent bad effect on his constitution, and to which he imputed much of his subsequent bad health.

"The accident did the machinery very little injury; but they were obliged to build the boat almost entirely new; she was completed in July: her length was sixty-six feet, and she was eight feet wide. Early in August Mr. Fulton addressed a letter to the French National Institute, inviting them to witness a trial of his boat, which was made in their presence, and in the presence of a great multitude of the Parisians. The experiment was entirely satisfactory to Mr. Fulton, though the boat did not move altogether with as much speed as he expected. But he imputed her moving so slowly to the extremely defective fabrication of the machinery, and to imperfections which were to be expected in the first experiment with so complicated a machine, but which he saw might be easily remedied."

Mr. Fulton returned home in 1806, and renewed his efforts to prove that he could destroy vessels by invisible means, and the next year he made an experiment upon a hulk anchored in New-York harbor for the purpose. The owner of the hulk having consented, the experiment was fully successful. In 1810 the United States made an appropriation for trying the effect of torpedoes and other submarine explosions. The experiments were made upon the sloop of war *Argus*, Capt. Lawrence, and failed. Mr. Fulton's friends still thought, or said, that the

experiments would be successful. Commodore Rogers thought and reported them altogether impracticable.

We all know that Fulton was not the first who propelled a boat by steam, but we know that we owe to him those inventions which remedied the failures of former experimenters, and, in fact, by his genius and skill, created the steamboat. Fulton was assisted by friends with advice and funds; but Fulton's was the mind and the perseverance which gave to the world a mode of conveyance, for speed, ease, and certainty, so powerful in its influence on travelling and commerce, as to have advanced civilization on its destined progress beyond any former gift bestowed upon man, printing excepted. He thus writes to his friend, Joel Barlow: "New-York, August 2, 1807. My dear friend, my steamboat voyage to Albany and back has turned out rather more favorable than I had calculated. The distance from New-York to Albany is 150 miles; I ran it up in thirty-two hours, and down in thirty hours, the latter is five miles an hour. I had a light breeze against me the whole way going and coming, so that no use was made of my sails, and the voyage has been performed wholly by the power of the steam engine. I overtook many sloops and schooners, beating to windward, and passed them as if they had been at anchor.

"The power of propelling boats by steam is now fully proved. The morning I left New-York, there was not perhaps thirty persons who believed that the boat would move a mile an hour, or be of the least utility; and while we were putting off from the wharf, which was crowded with spectators, I heard a number of sarcastic remarks. This is the way, you know, in which ignorant men compliment what they call philosophers and projectors.

"Having employed much time and money, and zeal, in accomplishing this work, it gave me, as it will you, great pleasure to see it so fully answer my expectations. It will give a cheap and quick conveyance to merchandise on the Mississippi and Missouri, and other great rivers, which are now laying open their treasures to the enterprise of our countrymen. And although the prospect of personal emolument has been some inducement to me, yet I feel infinitely more pleasure in reflecting with you on the immense advantage my country will derive from the invention."

Thus the first voyage, and that perfectly successful, was made in thirty-two hours from New-York to Albany. In consequence of this first voyage it is now made in nine hours.

Surely the discoverer enjoys a pleasure greater and purer than any other human being can enjoy. We mean the discoverer who has just views of the great advantages which will result from the successful termination of his researches. Not to mention many others, let us reflect upon the pure and intense joy of Columbus, when he landed on St. Salvador—of Franklin, when he succeeded in drawing the lightning, innocuous, from the thunder cloud—of Worcester, when convinced of the power of steam—and of Fulton, when he saw, felt, knew, that he could triumph over winds and tides, by machinery of his own invention—when he heard the acclamations of the scoffers, and received the praises of the wise.

"He published his work, entitled 'Tor-

pedo War, or Submarine Explosions.' He adopted as a motto for his publication, his favorite sentiment, 'The liberty of the seas will be the happiness of the earth.' He addressed it to the President of the United States, and to the members of both houses of Congress. It contained a description of the experiments he had made, of his engines as he had improved them, and of the manner in which they might be used. He expressed the most sanguine expectations as to the effects they would produce, when they had attained the improvements of which he believed them capable, and had the advantage of practice, by which gunnery, and other modes of warfare, had been brought to their present perfection." Fulton's ideas respecting submarine guns led to the invention of the steam frigate.

"He communicated to Mr. Jefferson an account of his experiments on submarine firing, with drawings of his various plans. Mr. Jefferson expressed himself much pleased with this novel mode of maritime warfare, and assured Mr. Fulton that he would recommend it to the attention of government.

"It is curious to observe how Mr. Fulton's projects grew one out of another.

"The submarine guns gave rise to the steam man-of-war.

"It having been suggested by a distinguished naval officer, before alluded to, that in approaching an enemy so near as was necessary to give effect to submarine cannon, the vessel, if she was rigged in the ordinary way, would be liable to be entangled with her adversary; to meet this objection, Mr. Fulton proposed to move the vessel by steam. His reflections on this project, and what he saw of the performance of so large a vessel as the *Fulton*, her speed, and the facility with which she was managed, led him to conceive, that a vessel of war might be constructed, in which, to all the advantages possessed by those now in use, might be added the very important ones which she would derive from being propelled by steam as well as by the winds."

The character of Mr. Fulton is elucidated by an incident given thus in Colden's life of him:

"We must all remember how long, and how successfully, Redheffer had deluded the Pennsylvanians by his perpetual motion.

"Many men of ingenuity, learning, and science, had seen the machine: some had written on the subject; not a few of these were his zealous advocates; and others, though they were afraid to admit that he had made a discovery which violated what were believed to be the established laws of nature, appeared also afraid to deny what the incessant motion of his wheels and weights seemed to prove. These contrived ingenious theories, which were hardly less wonderful than the perpetual motion itself. They supposed that Redheffer had discovered a means of developing gradually some hidden power, which, though it could not give motion to his machine for ever, would keep it going for some period, which they did not pretend to determine.

"One of these perpetual motions commenced its career in this city* in eighteen hundred and thirteen. Mr. Fulton was a perfect unbeliever in Redheffer's discovery, and although hundreds were daily paying

* New-York.

their dollar to see the wonder, Mr. Fulton could not be prevailed upon for some time to follow the crowd. After a few days, however, he was induced by some of his friends to visit the machine. It was in an isolated house in the suburbs of the city.

"In a very short time after Mr. Fulton had entered the room in which it was exhibited, he exclaimed, 'Why, this is a crank motion.' His ear enabled him to distinguish that the machine was moved by a crank, which always gives an unequal power, and therefore an unequal velocity in the course of each revolution: and a nice and practised ear may perceive that the sound is not uniform. If the machine had been kept in motion by what was its ostensible moving power, it must have had an equable rotary motion, and the sound would have been always the same.

"After some little conversation with the showman, Mr. Fulton did not hesitate to declare that the machine was an imposition, and to tell the gentleman that he was an impostor.

"Notwithstanding the anger and bluster which these charges excited, he assured the company that the thing was a cheat, and that if they would support him in the attempt, he would detect it at the risk of paying any penalty if he failed.

"Having obtained the assent of all who were present, he began by knocking away some very thin light pieces of lath, which appeared to be no part of the machinery, but to go from the frame of the machine to the wall of the room, merely to keep the corner posts of the machine steady.

"It was found that a catgut string was led through one of these laths and the frame of the machine to the head of the upright shaft of a principal wheel; that the catgut was conducted through the wall, and along the floors of the second story, to a back cock-loft, at a distance of a number of yards from the room which contained the machine, and there was found the moving power. This was a poor old wretch, with an immense beard, and all the appearance of having suffered a long imprisonment; who, when they broke in upon him, was unconscious of what had happened below, and who, while he was seated on a stool, gnawing a crust, was with one hand turning a crank.

"The proprietor of the perpetual motion soon disappeared. The mob demolished his machine, the destruction of which immediately put a stop to that which had been, for so long a time, and to so much profit, exhibited in Philadelphia."

In the year 1806, Mr. Fulton married Miss Harriet Livingston, daughter of Walter Livingston, Esq. One son and three daughters were the fruit of his marriage. In 1815 Mr. Fulton was examined as a witness in a steam-boat cause, at Trenton.

"When he was crossing the Hudson to return to his house and family, the river was very full of ice, which occasioned his being several hours on the water in a very severe day. Mr. Fulton had not a constitution to encounter such exposure, and upon his return he found himself much indisposed from the effects of it. He had at that time great anxiety about the steam-frigate; and after confining himself for a few days, when he was convalescent, he went to give his superintendence to the artificers employed about her: he forgot his debilitated state of health in the interest he took in what was doing on

the frigate, and was a long time, in a bad day, exposed to the weather on her decks. He soon found the effects of this imprudence. His indisposition returned upon him with such violence as to confine him to his bed. His disorder increased, and on the twenty-fourth day of February, eighteen hundred and fifteen, terminated his valuable life.

"It was not known that Mr. Fulton's illness was dangerous till a very short time before his death, which was unexpected by his friends, and still more so by the community. As soon as it was known, all means were taken to testify, publicly, the universal regret at his loss, and respect for his memory. The newspapers that announced the event, had those marks of mourning which are usual in our country when they notice the death of public characters. The corporation of our city, the different literary institutions, and other societies, assembled, and passed resolutions expressing their estimation of his worth, and regret at his loss. They also determined to attend his funeral, and that the members should wear badges of mourning for a certain time.

"As soon as the legislature, which was then in session at Albany, heard of the death of Mr. Fulton, they expressed their participation in the general sentiment by resolving that the members of both houses should wear mourning for some weeks.

"This is the only instance we believe of such public testimonials of regret, esteem, and respect, being offered on the death of a private citizen, who never held any office, and was only distinguished by his virtues, his genius, and the employment of his talents.

"He was buried on the 25th day of February, 1815. His corpse was attended from his last residence, (No. 1 State street,) by all the officers of the national and state governments then in the city, by the magistracy, the common council, a number of societies, and a greater number of citizens than had been collected on any similar occasion. From the time the procession began to move, till it arrived at Trinity Church, minute guns were fired from the steam-frigate and the West Battery. His body, in a leaden coffin, covered with plain mahogany, on which is a metal plate engraved with his name and age, is deposited in a vault belonging to the Livingston family."

As a painter Mr. Fulton does not rank high. Probably his best picture is the portrait of his friend Barlow. We owe to him the splendid edition of Barlow's Columbiad. Mr. Colden says:

"The elegant plates which adorn that work were executed under the superintendence and advice of Mr. Fulton. He paid about five thousand dollars for the paintings, the plates, and letter press, which gave him a property in the publication. He relinquished, by his will, all his right to the widow of Mr. Barlow, with the reservation of fifty of the proof and embellished copies of the work. It was printed in Philadelphia, in quarto, and published in 1807; it is dedicated by Mr. Barlow to Mr. Fulton, in such terms as evince the strong attachment which subsisted between these men of genius. The original paintings, from which the prints of the Columbiad were engraven, form a part of the handsome collection which Mr. Fulton has left to his family."

We owe to him the introduction into this country of the pictures painted by his friend

and master, West, from Lear and Hamlet, for Boydell's Shakspeare. The Lear cost him two hundred and five guineas, and the Ophelia one hundred and twenty-five, at Boydell's sale. At the same time he purchased a fine picture by Raphael West, from "As you like it." West's pictures were painted for Boydell, and his great project failing, the government allowed his pictures to be disposed of by a lottery. Whether Fulton was an adventurer in this lottery, or purchased of the owner of a prize, we know not. That he did not purchase of the Royal Academy is certain, or at any sale of their pictures. My impression is that he was an adventurer in the lottery, and gained these paintings as a prize. The inaccuracy of one part of Mr. Colden's statement renders further inaccuracy probable.

He endeavored to persuade his countrymen to purchase such pictures of West's as were at the artist's disposal, and he wrote to the citizens of Philadelphia thus:

"I now have the pleasure to offer you a catalogue of the select works of Mr. West, and with it to present you the most extraordinary opportunity that ever was offered to the lovers of science. The catalogue referred to is a list of all Mr. West's productions, portraits excepted. No city ever had such a collection of admired works from the pencil of one man; and that man is your fellow-citizen. The price set on the collection is fifteen thousand pounds sterling, a sum inconsiderable when compared with the objects in view, and the advantages to be derived from it."

Mr. Fulton was six feet in height, slender in his form, easy and graceful in his deportment. His countenance was animated, and his eyes and forehead betokened genius and unconquerable ardor. He was a kind father, a fast friend, an enlightened philosopher, and a good republican. The arts of America are indebted to him much—but the science and happiness of the world more.

Thus far we have copied Mr. Dunlap's Memoir of Fulton. As there are several claimants for the honor of first introducing steam for navigating purposes, we shall present our readers with extracts from Mr. Bowie's pamphlet advocating Mr. Symington's views, and, afterwards, insert portions of an article in Chambers' Edinburgh Journal, stating that to Mr. Taylor, the school-fellow and associate of Mr. Symington, the honor belongs. Mr. Bowie, in reply to the article in Chambers' Journal, says:

A very cursory perusal will show its utter worthlessness, and even to the veriest tyro in mechanics, render its folly and presumption apparent.

The letter and extract, with Mr. Symington's signature appended, can be explained in a manner any thing but creditable to the reputation of Taylor; and the assertion that he superintended the construction of the engine is at variance with the fact admitted, that it was upon the same principle as one for which Mr. Symington had previously procured a patent. Besides, Taylor has still further shown that he was unfit for the office of superintending the construction of the engine alluded to, by the absurd declaration that Mr. Symington in his invention had thrown off the air pump.

Notwithstanding the hollowness of Tay-

lor's pretensions, and notwithstanding Mr. Goulbourn's refusal to allow Mr. Symington's manly petition for parliamentary investigation, as to the justice of his claims, to be presented, the relatives or friends of the former individual,—described as an *amateur* by Captain Basil Hall,—have succeeded, by "*stealthy steps*" and secret influence, in obtaining for his widow a "*surreptitious*" pension from government of fifty pounds per annum. Surely such a glaring act of injustice and misappropriation of the public money deserves the reprobation of every honorable and well constituted mind.

[From Bowie's Narrative.]

William Symington was a native of Leadhills, county of Lanark, Scotland. While receiving an education to qualify him for the Church, an early predilection for mechanical philosophy led him to abandon his theological studies, and pursue with ardor those connected with his favorite science. His genius soon attracted the notice and secured the patronage of Gilbert Meason, Esq. then connected with the Wanlock Head lead mines. Before completing his twenty-first year, Mr. Symington had made several improvements on the steam engine; and, having protected them by His Majesty's Royal Letters Patent, constructed and introduced engines on his principle into different parts of England and Scotland.

As early as the year 1784, amidst the wild bleak scenery of the country he inhabited, and when he knew nothing of any attempts which might have been made to realize such an idea, it occurred to him that steam might be rendered available for the propulsion of locomotive carriages. He immediately set about embodying his idea; and, in 1786, submitted to the inspection of the professors and other scientific gentlemen in Edinburgh, a working model of a steam carriage, which afforded such proofs of capability, that he was warmly urged by all present to carry his invention into full effect.

While the model was in Edinburgh, Patrick Miller, Esq., of Dalswinton, who had heard of it from Mr. James Taylor, tutor in his family, who had been a schoolfellow of Mr. Symington, called at Mr. Meason's, and having minutely inspected it, expressed himself highly pleased with the construction and performance. In the course of conversation, Mr. Miller mentioned that he had spent much time in making experiments, for the propelling of vessels upon water by wheels, instead of sails or oars: and that they had been put in motion by applying manual strength to turning a handle or winch. He also said he had attempted to work them by the power of horses; as he had heard something of the same kind had been accomplished, even by means of oxen, in America. It occurred to Mr. Symington, and he stated his opinion to Mr. Miller, that a steam engine might be constructed which would propel a vessel, by communicating a rotatory motion to the paddles by the alternate action of two ratchet wheels, in the same manner as in the model of the steam carriage, then before them. Mr. Miller said he considered such a thing impracticable; and inquired how it would be possible to work such an engine on board, without setting the vessel on fire?

The description given of the model, and the manner in which it was intended to apply the power of steam, seemed to convince Mr. Miller of the practicability of the pro-

ject: and he observed, that if Mr. Symington thought he could construct a steam engine, and work it with safety on board of a vessel, an experiment should be made, on a small scale, as soon as he, (Mr. Symington,) could possibly attend to it: and it was explicitly understood that the plan and construction of the engine, the mode of producing rotatory motion, and the means to be adopted for guarding against danger, were to be left entirely to Mr. Symington.

Soon after this, he proceeded to construct a small engine on a similar principle to one for which he had previously procured a patent. It was executed under his immediate inspection, and fitted on board a small double keeled vessel, lying upon a lake, near the House of Dalswinton. With this vessel a trial was made of the powers of the invention, in the autumn of 1788, in presence of Mr. Miller, and various persons of respectability; when the boat was propelled in so satisfactory a manner, that it was immediately determined to commence another experiment, upon a more extended scale.

In the month of October, 1789, a second exemplification* was afforded on the Forth and Clyde inland navigation, in presence of hundreds of spectators, who lined the banks of the canal, to witness what seemed so extraordinary an attempt; and who testified by acclamation their satisfaction at its result. Mr. Miller, Messrs. John Adam, of Blairadam, John Balfour, of Pilrig, Ambrose Tibbetts, members of the Carron Company, James Taylor, and David Drysdale, an experienced seaman, who took charge of the helm, were on board. The boat glided along, propelled at the rate of nearly six miles an hour; and all parties interested declared their conviction of the success of the experiment.

After an interval of ten years, the late Thomas Lord Dundas, of Kerse, applied to Mr. Symington, and having alluded to his former experiments, expressed a wish that he would employ himself in constructing a vessel, capable of being propelled by the power of steam, and superseding the use of horses, in dragging vessels upon the Forth and Clyde canal; of which canal his lordship was an extensive proprietor. Accordingly, under the auspices of that intelligent nobleman, a series of experiments was commenced in January, 1801, and continued until April, 1803. The cost of these experiments somewhat exceeded £7,000; but they placed beyond the possibility of doubt the practicability of steam navigation.

Lord Dundas was so convinced of the efficiency of Mr. Symington's exemplification, that he requested a complete model of the steam engine and boat, (with a set of ice breakers attached,) should be made. This was done, and Mr. Symington proceeded to London and presented it to his lordship.

During the time that the boat lay at Bainsford, Henry Bell, of Glasgow, was frequently beheld inspecting it; and, in 1811, he, in conjunction with others, constructed the Comet steamboat, which in that year first plied upon the Clyde.

Much praise has been awarded to Bell for the introduction of steam navigation; but how far he deserves it, the following facts will elucidate: Notwithstanding the many opportunities he had enjoyed,—notwithstanding his having voyaged to America, to instruct, or to be instructed by, the celebrated Fulton,—the Comet was far inferior in her

performance, even to Mr. Symington's second exemplification. When the Comet commenced her operations as a passage boat upon the Clyde, she possessed four insignificant paddle-wheels; and took nine hours to sail from Port Glasgow to Glasgow.

* * * * *

In concluding this narrative, it is but doing an act of justice, to place on record the principal intelligent and spirited individuals alluded to in the preface.

It has been shown that Mr. Meason proved a warm and zealous patron; that Mr. Miller afforded the means of bringing the invention into notice; and that Lord Dundas perseveringly aided to bring it to the perfection which it attained. But it has not been stated, although deserving of acknowledgment, that his lordship, during the remainder of his life, frequently and generously befriended Mr. Symington.

For Mr. Bruce, the celebrated Abyssinian traveller, Mr. Symington entertained the strongest attachment. Mr. Bruce was so sensible of his worth, that from the time they first became acquainted, until death put an end to their intimacy, they were almost inseparable. And it was supported in the arms of Mr. Symington, that he who had travelled so far, and encountered dangers so many, yielded up his spirit.

To Sir Ronald Ferguson, Sir George Clerk, Prof. Leslie, Messrs. Gilbert Laing Meason, and — Jardine, engineer, Mr. Symington considered himself under deep obligations for the interest they took in his welfare; and to Mr. James Walker he owed the obtaining of a small donation from the London steamboat proprietors. The Messrs. Staintons, of Carron, were also kind and attentive to his interests; and Mr. Robert Wight, accountant, of Edinburgh, rendered him many acts of friendship, and much valuable assistance.

Mr. Symington during life ceased not to remember his benefactors, and it may, with truth, be said, whatever failings he may have possessed, ingratitude was not among the number.

We add the following corroborative testimony, including Judge Clerk's opinion when at the bar:

"Opinion of John Clerk, Esq., advocate, regarding William Symington's specification and patent for steamboats.

"1. I am of opinion there can be no well founded objection to the specification: it describes, in proper terms, the invention for which the patent was granted.

"2. The notice the patentee gives how the same is to be performed is by no means irrelative; but, on the contrary, is requisite and proper.

"3. If the proprietors, or builders of steamboats, refuse a reasonable compensation, the patentee is entitled to stop them by an interdict; but I would not advise that measure. He should rather bring an action of damages against them, for having invaded his privilege, and benefitted themselves by his invention. (Signed) JOHN CLERK.

"Edinburgh, June 30, 1834."

"It is much to be regretted that there existed not enterprise enough at that time, in Scotland, to encourage the ingenious artisan to repeat his experiments on the Clyde. All the subsequent improvements, however, in steam navigation, may be fairly traced to Mr. Symington's attempt; and we cannot

help thinking that he has a strong claim on the national gratitude. He is still alive, and we fear not in the most flourishing circumstances. Should the state decline rewarding such meritorious services, the opulent proprietors of steamboats might well evince their liberality and discernment, by bestowing on him some recompense."—[Article on steam navigation—Supplement to the Encyclopædia Britannica.]

"It is remarkable, also, that the unfortunate Symington, who has such claims to the original invention of the steamboat, had previously contrived a similar application for the propelling of carriages; and actually exhibited, in the year 1787,* in the house of Mr. Gilbert Meason, in Edinburgh, the first model of a steam carriage that was, perhaps, ever seen."—[Article on locomotive carriages—Quar. Rev., March, 1830, page 380.]

"Mr. Symington took out a patent for steamboats in the year 1801; and he has the undoubted merit of being the first person who applied the power of the steam engine to produce motion in vessels."—[Capt. Basil Hall's Travels in North America, Vol. 2, page 387.]

"The earliest successful application of steam appears to have been made on the Forth and Clyde inland navigation by Mr. Symington."—[E. Galloway on the Steam Engine.]

"Several attempts have been made to apply the force of steam to the purpose of propelling boats in canals; and there seems to be no reason to think the undertaking by any means liable to insuperable difficulties. Mr. Symington appears to have had considerable success; and the method that he has employed for making a communication between the piston and the water wheel is attended with many advantages."—[Journal of the Royal Institution of Great Britain, Vol. 1, 1802, p. 195.]

[From Chambers' Edinburgh Journal.]

The credit of the inestimable invention of applying steam to the purposes of navigation has now been claimed by so many pretenders, that we believe the public are at this moment as much puzzled to whom to assign the palm as they have all along been to penetrate the mystery of the authorship of Junius. Independent of the numerous claimants in our own country, our brethren on the other side of the Atlantic have not been slow to assert their title: but although it be true that the great and important results likely to accrue from the discovery were first fairly developed on the Hudson, we are perfectly prepared to show, that *there* certainly the idea did not originate; that it was altogether of British, or rather of Scottish origin; and from documents now in our possession, we have little doubt of being able to set this disputed question for ever at rest, to the satisfaction of the public, and to prove that to the individual whose name stands at the head of this memoir, the world is indebted for all the benefits they enjoy by means of that wonderful fabric, the Steamboat.

In 1787, Mr. Miller engaged in a sailing match with a party of gentlemen at Leith, in his double vessel, against a first-rate sailing wherry. Mr. Taylor was, of course, on

board; and to this circumstance may be attributed the primary projection of applying the steam-engine to navigation. Mr. Miller's vessel won the day, and Mr. Taylor felt perfectly convinced of the efficiency of the *principle* by which it was wrought; but, having taken a spell at the wheels, he found the labor so excessive, that he told Mr. Miller, that, unless he could apply a more commanding power than that of men, the invention would be of little use. Mr. Miller acknowledged the justice of the observation, and requested the aid of his cogitations on the subject, adding, that the only other plan he himself could think of was the employment of the capstan. Mr. Taylor's thoughts forthwith became steadfastly directed to the subject; and after much reflection, and many conversations with his employer, he at last suggested the steam-engine. Mr. Miller started many objections on the score of the danger of fire, &c.; but at last, after great persuasion, and not until Mr. Taylor had demonstrated by drawings the practicability of connecting the engine with the wheels, he agreed to have a small engine built, and to give the plan a trial. Accordingly, on the family coming into Edinburgh for the winter, from Dalswinton, Mr. Taylor was requested to find out a proper engineer for the purpose; and a young acquaintance of his, named William Symington, employed at the lead mines at Wanlockhead, Dumfriesshire, and who had invented a new construction of the steam-engine, (by throwing off the air pump,) being at the time in Edinburgh for his education, he recommended and introduced him to Mr. Miller. It was then agreed that the experiment should be made on the lake at Dalswinton, in the ensuing summer, (1788.)* In the autumn, Symington was sent for to Dalswinton to put the parts together, and fit the engine upon the vessel, a handsome double pleasure-boat. The experiment which followed succeeded perfectly; the vessel moving at the rate of five miles an hour, notwithstanding the smallness of the cylinders, which were only five inches in diameter. This trial took place in presence of hundreds of people, and an account of it, drawn up by Mr. Taylor, was inserted in the Dumfries Journal the same month, (Oct.) It was also noticed in the Scots' Magazine of the following November.

In 1801 or 1802, Mr. Symington, who, up to this time, had never laid the shadow of a claim to Mr. Taylor's invention, induced Lord Dundas to employ him to fit up a vessel for the Forth and Clyde Canal Company. This was accordingly done, but when set a-working, the agitation of the water and consequent washing of the banks, which it caused, was so alarming, that the Company would not permit it to be used again, and it was laid up at Lock Sixteen. It happened that, at this period, Mr. Fulton, the American engineer, was travelling in Britain for information in the line of his profession, and, whilst visiting the Carron works, in company with Mr. Henry Bell, then a carpenter at Glasgow, first heard of the steamboat. He forthwith applied to Mr. Symington, who resided in Falkirk, for leave to inspect the boat, which was immediately complied with, and every information readily furnished. The consequence was, that both Mr. Fulton and Mr. Bell immediately conceived the project of separately turning the

invention to their own account. Mr. Fulton launched his first boat on the Hudson in 1807, and he and his country claimed the merit of the invention. Mr. Bell was somewhat tardier in his movements, and it was not until 1812 that his first steam-vessel, the Comet, was set a-going on the Clyde—when he, like Mr. Fulton, also claimed the merit of the invention. In the mean time it appears that Mr. Symington, too, not only laid pretensions to it, but had secretly taken out a patent so far back as the year 1802 or 1803. This stealthy step, however, of which neither Mr. Taylor nor Mr. Miller had the slightest suspicion, serving him nothing: for when he raised an action of damages upon it in 1815, against the proprietors of the Clyde steamboats, they defended themselves successfully on the plea that he was not the original inventor. Mr. Symington's unfair and continued interference, and the discovery of the surreptitious patent, of which Mr. Taylor was not made aware, until long afterwards, and not until many years after Mr. Miller's death, seem to have called forth an indignant remonstrance from Mr. Taylor, as we find by a letter of Mr. Symington, dated February, 1821, evidently intended to soothe his irritation, and promising to pay him one-half of the interest and proceeds of the patent.

Very shortly after Mr. Taylor's decease, application was made to the government, by one of his relatives, on behalf of his widow and family, in which some pretensions, brought forward at the time by Mr. Symington, in a letter to the editor of the Edinburgh Evening Courant, were most satisfactorily refuted. In this communication to government, also, a letter was quoted, penned so far back as the year 1787, by Mr. Symington to Mr. Taylor, in which that gentleman so explicitly acknowledges the originality of the conception of the applicability of the steam engine to the purposes of navigation, as belonging to the subject of this memoir, that it seems altogether incomprehensible how he could ever afterwards presume to attempt the appropriation of it to himself. An extract from this letter of Mr. Symington, as well as of his promissory epistle to Mr. Taylor, of February, 1821, is subjoined; and it is thought proper here to state, that the originals of these, as well as of many other communications between the parties on the same subject, have been submitted to the inspection of one of the editors of this publication. Mr. Symington subsequently attempted to renew his pretensions in a communication to the editor of the Ayr Advertiser; but these were so thoroughly set at rest by a respondent in the same publication, that it is unnecessary here to allude to them more particularly.

"I must make some remarks on your summer's invention, which, if made to perform what its author gives it out for, will undoubtedly be one of the greatest wonders hitherto presented to the world, besides being of considerable emolument to the projector. Great success to you, although overturning my schemes; but take care we do not come upon your back, and run away with them by some improvement. Your brother John gives a kind of credit to your report, which, for some reasons, I did not discourage. I must conclude, &c. &c.

(Signed) WM. SYMINGTON."

"Sir,—In terms of our former agreement, when making experiments of sailing by the steam engine, I hereby bind and oblige myself to convey to you, by a regular assignment, the one-half of the interest and proceeds of the patent taken by me upon that invention, when an opportunity occurs of executing the deed, and when required. I am, Sir, your obedient servant, (Signed) WM. SYMINGTON.
"To Mr. James Taylor, Cumnock."

For further information respecting Mr.

* And in 1786.

* Referred to at page 164, vol. iv.

Taylor's claims to be the inventor, see page 164, vol. iv., of the Mechanics' Magazine.

NEW-YORK AMERICAN.

DECEMBER 27—31, 1834.

LITERARY NOTICES.

LETTERS TO ADA, from her brother-in-law; by the author of *Father Reuland*, &c. 1 vol. New York: Harper & Brothers.—Catholicism has a copious armory, and weapons fitted to all services. This is a light and withal somewhat sentimental and poetical appeal to young misses, "my Adas," and such like, whom honied words, and skilful flattery, can influence to adopt the creed and practices of the "Mother Church."

RECOLLECTIONS OF A HOUSEKEEPER: by Mrs. CLARISSA PACKARD. 1 vol. New York: Harper & Brothers.—This is not, as from the title some might suppose, a book of receipts for puddings and pies, cakes and jellies, but of very good moral instruction agreeably imparted. Not the least interesting and well written chapter is that of "reading a lesson of temperance."

THE CLASSICAL LETTER-WRITER; by the author of *The Young Man's Own Book*. 1 vol. Philadelphia: Key & Biddle.—A very prettily bound and printed little volume, designed for the use of young persons of both sexes, to give them ease and facility in letter writing,—a charming accomplishment by the way,—by setting before them a series of well selected letters on different subjects, by eminent persons, and accompanying them with some judicious and plain rules of composition. It is quite a book to be sought for.

THE SUNDAY SCHOOL TEACHER'S COMPANION. New York: N. B. HOLMES.—This excellent little volume is compiled, as far as we can judge, with much discretion, the fruit of experience as a Sunday School Teacher, from various publications, heretofore made with the same object. It is, as the compiler says, not a book to read through, and then cast aside, but to be kept as a companion to be consulted, whenever the teacher is in doubt, or hesitation. To this end, the extracts made are adapted to various heads, each one of which is enumerated in the index. We commend this little volume to Sunday School Teachers.

THE AMERICAN POPULAR LIBRARY. Conducted by an association of gentlemen. 1 vol. Boston: J. Allen, & Co. New York: Wiley & Long.—Here we have a new enterprise for the amusement and instruction of the community. The design of the conductors of it is to publish a series of volumes under the above title, not to consist of American works, nor to exclude them, but to embody such selections as shall be of enduring value, and not merely attractive by reason of their novelty. The conductors have another aim, in which we most cordially desire they may be encouraged to persevere, that of combining elegant literature and pure Christianity. Too little has this been attended to, especially in our country, where, because no religion is established by law, it seems to be considered an evidence of freedom from prejudice, and almost of patriotism, to avoid any reference, in works of taste, to topics connected with our Faith. We hail, therefore, the expression by the Editors of their purpose "to promote by their publication, as far as shall be in their power, the union of polite literature, sound learning, and Christian morals."

It is intended that a volume shall be issued every two or three months, of nearly uniform size, and each for sale separately. The volume before us, the first in the series, is entitled "*Leisure Hours*," composed of various tales from various authors, intended and calculated to be what the title expresses,

a companion for "*Leisure Hours*." Some of these tales have been published in different journals among us before: the mass, however, are not accessible to all; and as a collection, we are sure this volume will please.

SABBATH-DAY BOOK. 1 vol.

WEEK-DAY BOOK. 1 vol.

FAMILY STORY BOOK. 2 vols.

ADAM THE GARDENER. 1 vol; by Charles COWDER CLARKE, author of *Tales in Prose from Chaucer*.—Boston: J. Allen & Co. New York: Wiley & Long.

In addition to the undertaking to furnish a popular library for adult readers, we have here a series of works for children and young persons published under the revision of the same association of gentlemen. The first four volumes are partly original and partly compiled from other sources. They are well printed, have a few wood cuts scattered through the pages, and every where the occasional seriousness of the lessons inculcated is relieved by apposite stories and anecdotes. The same regard, too, is had in these minor works to purity of thought as well as of language, and to the importance of striving to make amusement and instruction go hand in hand with a sound and moral religious tone.

The last volume, "*Adam the Gardener*," is a republication from England, and is the first in a series to be called the "*Juvenile Popular Library*." It is a charming little book, which, while giving really useful knowledge and directions about gardening, has so many stories interwoven, so much good sense and useful information diffused throughout, as to render it quite an agreeable book, both for children and young persons, and those who are older. The directions about gardening, &c. being adapted to the meridian of England, must of course be applied in this country with some discretion, though in the Southern parts of this State, and still more so in the States immediately south of us, they will not need probably to be much varied.

FAMILIAR CONVERSATIONS, EXPLANATORY OF THE NEW TESTAMENT. New York: J. K. PORTER.—This is a little pocket volume, well designed, and well executed, conveying, in the form of a dialogue, a connected view of the books and personages of the New Testament.

THE PORTION OF THE SOUL; or, Thoughts on its Attributes and Tendencies, as indicating its Destiny. By the Rev. HERMAN HOOKER. Philadelphia: Henry Perkins.—The discussion in this volume, according to the preliminary notice, "had its origin in the fact, that the Scriptures seem often to speak of a communicable fulness of God, as the proper and highest good of rational creatures, and that all experience that the soul is empty, and cannot find what is suitable to fill it, in any of the forms of created good." This statement will suggest the course of thought which has been pursued.

THE YOUNG MAN'S POCKET COMPANION. New York: DANIEL COOLIDGE.—This miniature pocket volume contains Washington's Farewell, the Constitution of the United States, the Declaration of Independence, the Articles of Confederation, and other high political matter, which no American should be ignorant of, and which could hardly be put together in a more convenient and portable form—a complete political *Vade-mecum*.

COMPLETE WORKS OF SIR WALTER SCOTT,—parts xxxix and xl.—N. Y. CONNER & COOK. These are parts of the 1st volume, and comprize *Auchinrane* or the Ayrshire tragedy, Paul's letter to his Kinsfolk, the Essay on Chivalry, Romance, the Drama &c.

THE YOUNG MUSCOVITE,—a novel,—edited by Capt. Frederick Chamier, R. N.—2 vols. N. Y. HARPER & BROTHER.

THE LAST DAYS OF POMPEII,—1 vol. N. Y. HARPER & BROTHERS.—We have no space to do more than mention these books to day, the first purporting to be a translation from a Russian novel, the second presenting in one well printed and handsomely got up volume, the last remarkable work of *Bulwer*,—the exceedingly low price of half a dollar!

FOREIGN INTELLIGENCE.

FOREIGN NEWS.—The Havre packet ship *Chamagne*, *Pierce Master*, in a passage hitherto, as we remember, unprecedented in shortness at this season of the year, brings Paris papers to 3d inst.

The Chambers had assembled, but the King, the matter had, it would seem, been much discussed in his Cabinet, permitted the session to commence without any speech from the Throne, considering this as merely an adjourned meeting from July, he delivered a speech. Nothing can mark a more strongly embarrassed position with regard to the Cabinet and the Chambers, than such a course, indicating, as it seems to do, a want of unity between the Sovereign and his Ministers, and no distrust of the Chamber. *Non committal* is never the policy of the strong. The treaty this country is evidently a stumbling block. It, however, be got over. The shortness of the *Chamagne's* run to the Westward, authorizes the supposition that the vessels bound Eastward would have long passages, in which case the President's message may not reach France till the Chamber considered and decided upon our treaty. On the presumption that their decision will be favorable we hope such may be the case.

From England, although the accounts are a little later, there is no additional intelligence, as the member of the new State team, Sir R. Peel, had not returned from Italy. The impression seems to be, however, that the Duke means to go for the purpose of reform!—at least so far as the abuses of the Church establishment are concerned. We shall believe when we see.

Not the least extraordinary item of intelligence is that of Lord Brougham's having begged of Lyndhurst, his successor on the wool-sack, that Lord Brougham, might be appointed *Chief of the Exchequer*! under the new administration. *Courier* thus comments on this proceeding:

LONDON, Nov. 28.—It was whispered, on Wednesday, that Lord Brougham had made an overture to Lord Chancellor Lyndhurst, and we know the Tories were then boasting of it. We did not then know the truth of the fact until yesterday morning, and we then heard it confirmed. The substance of the Lord Chancellor's reply to Lord Brougham was as follows:—Lord Lyndhurst, after acknowledging the receipt of the letter, informed Brougham that it was not intended to fill up vacant offices until the return of Sir Robert Peel. His Lordship's letter should be communicated to Robert on his return; and that it would depend on Sir Robert, if Prime Minister, and on the individual who might then hold the Seals, whether his Lordship's offer should not be accepted.

Seriously, we view Lord Brougham's offer in all the circumstances of the case, to be one of the most extraordinary that ever was made by a public man. How would the learned person sneered and scoffed had Mr. Croker offered to retire to discharge the duties of Secretary to the Admiralty to Lord Grey, that the public might have a retiring pension, or had Lord Eldon offered to take the duty of Chief Justice when Lord Brougham was appointed. If Lord Brougham really saves the public money, he has only to do what James Graham has done—refuse to take it. We might say more, but we content ourselves with merely remarking, that of the various characters which Lord Brougham has performed, his certainly do not consider that of a Judge to be one in which he has been most successful.

The Duke of Gloucester "*Silly Billy*" is declared to be a cousin to the King.

M. Rothschild was assaulted on the Exchange.

th by a person named Priuen, who, at the mo-
renewing his attacks was seized by a son
Rothschild and handed over to a constable.

November 24th.—It is said to have been
on Friday in the Council, that the Bill re-
to the 25 millions claimed by the United
shall be presented to the Chamber in one of
sittings. M. Theirs, it is added, affirms
he shall be able to carry it.

Courier Francais says, "the motive assign-
M. Bresson for declining the proffered seat in
binet was the impossibility of his supporting
government with respect to the payment of the
lions to the United States. M. Bresson as-
that when he was Secretary of Legation in
ited States, he had an opportunity of knowing
ne money, if awarded, would not go to per-
who had really experienced losses, and that
did not, as a Minister, support what he con-
be contrary to the interests of France."

Courier Francais, referring to the Ministerial
tions, says:—"Thus then the day for expla-
is fixed. The public will be witness of the
, and will overwhelm with ridicule the brag-
who may be afraid to enter the lists. The
arts will be victorious if it preserve its dignity.
its Chief should not abandon it. M. Passy,
enne, will speak to the purpose. New speak-
as M. Sanzet may appear. The Opposi-
tless will afford its aid, but in order to give
nce to the hesitating mass of the Ceutres,
oin must take part in the debate. He is the
able speaker of the future Ministry, and
him the Ministry cannot exist. The Cham-
make that reflection, and a wager may be
it will not follow the movement unless M.
ake the lead."

ATER FROM FRANCE.—Another arrival, the
é de Grasse, in the unprecedented passage at
season, of 19 days from Havre, brings us
papers to the 10th December.

are disappointed in finding that up to the
the King's Minister had not submitted any
on respecting the American treaty. On
day the 8th various *projets de loi* were re-
d by the Chamber to Committees. Among
one concerning the responsibility of Min-
one concerning the accounts of 1832,
er respecting the Custom House and tobac-
and the House then adjourned, as a House,
h the members of the Committees meet
while—to Saturday 13th. We are concern-
eatly, thus to find the time fleeting, without
movement in our affairs—for we cannot but
hend more and more, serious difficulties
mbarrassments if the President's Message
Paris, before the Legislature has passed on
demnity.

OM ENGLAND.—By the Montreal, from Lon-
here are papers of the 8th December. Sir
t Peel was hourly expected. He passed
h Paris on the 7th December, having left
—where the messenger who was sent by
ke of Wellington to ask his return, found
ball, at the banker's, Count Torlonia's—
26th November. Until he should be on
ot, nothing would be decided about the new
ry. Rumours, however, were frequent that
res would be made to Lord Stanley and
who with him left the Grey ministry, on
sh Church question, to join the Duke. If
s would seem to preclude the idea of con-
on that question.

resses to the King, against a Tory Minis-
re multiplying.

ces from Lisbon to the 2d had been recei-
express from Falmouth, which announces
Queen, Donna Maria, was married by
o the Duke of Leuchtenburgh (the Duke of
ra officiating) on the 1st, when the great
business was displayed by all parties in
and the public rejoicings are described
been general and splendid.
rtuguese corvette, with the Duke of Leuch-
on board, arrived at Gibraltar, on the
ov.

SPAIN.—The Memorial des Pyrennees states
a rumor of a sanguinary engagement between the
forces of Mina and Zumalacarrégui, in which the
former was only saved by a vigorous charge from
being made prisoner. The news of the dismissal
of the remnant of Whigs from power in England,
produced a panic among the Queenites in Mad-
rid.

LONDON, Dec. 8.—Two o'clock, p. m.—We re-
main without any news, and business in the Mo-
ney market is very limited, and without fluctua-
tion. Consols being still 92 to 92 1/2 for the Ac-
count. Exchequer Bills are 40 41, and India
Bonds 21 23 premium.

In the Foreign Market, Dutch Five per Cent.
stock is 99 1/2 3/8; Two and a Half per Cent.
53 7/8 54; Belgiao 98 to 1 2; Russian 106 to
1/2; Spanish 53 3/4 to 5/4; and Portuguese 84
to 1/4.

SUMMARY.

THE CREATOR.—"Who but the Omnipotent could
have formed the sun, could have marked out its des-
tined course, suspended it without support in the
blue vault, saying, 'this be thy station, and this thy
brilliant seal?' Could any power; save that of the
Eternal, have created the earth, the moon, and all
the planets? these undeviatingly perform their course
within the orbits he has prescribed them."

LITTLE ROCK, Dec. 2.—*The Eclipse of the Sun*,
on Sunday last, was witnessed here in its fullest
grandeur. It commenced about half-past 11 A. M.,
and ended about 20 minutes after 2 P. M.—duration
about 2 hours and 50 minutes. The obscuration of
the sun was fully total for the space of 2 1/2 or 3
minutes, commencing about 3 minutes before 1 o'clock.
One large star was visible for more than an hour,
and we understand several others were seen. The
weather was perfectly clear—not a cloud to be seen
—affording a most excellent opportunity of witness-
ing this magnificent phenomenon of nature in all its
sublimity.—[Arkansas Gazette.]

Gallantry.—A person advertises in the Daily Ad-
vertiser, that he has found a lady's kid glove, near
Mrs. Le Cain's, Pearl street, and adds, whoever has
lost the same if as beautiful as Cinderella, may have
the glove and the hand of the gentleman who found
it, if agreeable to her.

The passengers by the Rail Road Cars from Phila-
delphia, were, it seems, exposed to much inconve-
nience on Monday by reason of a deep snow drift in
the track, which they encountered about four miles
from Amboy. Unable to proceed, the passengers, in-
cluding several ladies, remained all night in the Cars,
and were only relieved by sleighs early on Tuesday
morning. Why did they not go back? The
road they had come over was certainly open and the
engine could have pushed them back if it could not
have been turned so as to drag them. There was
certainly want of proper care and foresight in this
matter, on the part of the Company's servants.

Airy enterprize in the West.—A Mr. Kirby, who
had perviously made two unsuccessful attempts to
"clear out for the clouds," in a balloon from Cincin-
nati, succeeded in his third trial on the 15th inst. and
actually ascended to a great height—coming down
afterwards in perfect safety, and without at all
injuring his balloon.

INTERCOURSE BETWEEN THE CITIES OF NEW YORK
AND BROOKLYN.—It is estimated that as many as ten
thousand persons, with several hundreds of carriages,
from coaches to hand-carts, pass daily at the Fulton
Ferry. The ferriage for a single person is 4 cents
—amounting daily for 10,000 persons to \$400. Sup-
posing 400 vehicles of all sorts and horses to pass
daily at an average price of 25-cents each, the re-
ceipt further would be \$100, making \$500 per diem,
or for the 365 days, composing the year, the enor-
mous sum in gross of \$182,500. The capital which
produces this enormous return, consists we believe,
of four steamboats, costing at the outside, we appre-
hend \$10,000 a piece, and the docks, bridges &c.
valued at \$10,000, making \$50,000, produce \$182-
500 subject to deduction for fuel, collectors, crew of
the boats, repairs &c.

This is the fruit of monopoly,—and it is such a
monopoly as this, that some of the uptown interest of

this city wishes to perpetuate, by refusing to Long
Island a new South ferry.

INDIAN ANTIQUITIES.—On Saturday last, says the
Pawtucket Chronicle, the bones of an Indian, and
seven guns, four brass kettles and seven bottles of
spirits, were dug out of a bank to the southward of
the Meeting House, near the stone bridge, in Tiver-
ton, State of Rhode Island.

A Horse at a Supper Table.—Last evening, just
after dark, a horse and sleigh came full speed down
Pearl-street, and on arriving at Fulton-street, the
horse sheered a little to the left, and entered the
Refectory under Holt's building, leaving the sleigh
behind. The animal received no injury; and, after
paying his respects to those who were at table, he
was unceremoniously "put out," being considered
an uninvited guest.

True Friendship.—"The water that flows from a
spring does not congeal in winter; and those senti-
ments of friendship which flow from the heart, can-
not be frozen by adversity."

Great Minds.—"One of the surest marks of a
great mind is the confidence with which it knows
how to inspire others. The frailties of great men
form the comfort and delight of fools."

Steamboat Lost.—On the 11th inst., the steamboat
Champlain left St. Louis for Cincinnati. About half
past 11 o'clock at night, two miles below St. Ge-
nevieve, she ran foul of a large snag, and sank, so
that in a few minutes there were three feet water in
her upper cabin. It is supposed that three or four
of the passengers were drowned.

Landing of the Pilgrims.—The anniversary of
this ever to be remembered day, was celebrated at
Plymouth, on Monday. The weather was fair and
a large number of the respectable inhabitants of the
adjacent towns were present. Among the guests,
was His Honor, Lieut. Governor Armstrong. The
address was delivered by the Rev. Mr. Blagden of
this city, and was an effort worthy of the high repu-
tation of the speaker and of the occasion. A melan-
choly accident happened in the course of the after-
noon which excited the deepest sympathy for the
venerable sufferer. Dr. Thatcher, well known as
the author of the Revolutionary Journal, was thrown
down and run over by a vehicle, and injured very
severely. Being very deaf, he was not aware of
the danger until it was too late to avoid it. The ex-
tent of the injury could not be ascertained at once,
but from the advanced age of the Doctor, now
eighty-two, the most serious apprehensions were
entertained of the consequences.—[Boston Atlas.]

Senatorial Munificence.—The legislature of Indi-
ana, at its last session, by joint resolution, required
the governor to ascertain on what terms the hon.
John Tipton would surrender to the state the Tip-
pecanue battle ground. The governor applied ac-
cordingly, and reported to the legislature, that Mr.
Tipton proffers to "transfer it without charge."

Anecdote.—An innkeeper in England, requested of
Lord Wellington, to permit him to place his por-
trait over the door of his house, which was hitherto
known as the sign of the ass; his lordship having
consented, the new sign was hung up in due form,
but a knowing one in the same line of business
hoisted the old sign over his door; and the sign of
the ass being a well known stopping place, travel-
lers poured in at the new establishment, to the
great regret and mortification of the Wellington
host, who to prevent utter desertion, wrote under
the portrait of the noble Duke, "This is the real
Ass."

A curious fact relative to the procuring of otter
furs is related in an Ohio paper. Improving the hint
suggested by the fact of the superiority of "live"
feathers over those plucked from the dead fowl, we
are told that a Mr. Entz, of Cambridge, in that State,
has succeeded in the experiment of domesticating
the wild otter, and rendering it a source of profit by
the fur picked from its body. It is added that the
same otters yield two crops a year, and that the
quality of the fur is superior in fineness and gloss to
that taken from the skin of the dead animal. Mr.
E. is going extensively into the business of taming
otters, muskrats, &c. for their live fur. His esti-
mate of the annual profit of an otter, at the present
prices of furs, is about fourteen dollars.

An Earthquake.—The Georgetown, Ohio, Casti-
gator of the 24th ultimo, says—A severe shock of an
earthquake was felt at this place by a number of our
citizens, at about half past one o'clock, P. M. on last
Thursday. The first appearance was that of a loud

rumbling noise, succeeded by a tremendous shaking. The same was felt at Maysville, Ky., at about the same hour of the day.

Another Shipwreck on Lake Ontario.—A correspondent at Pultneyville, of the Wayne Sentinel, gives the following particulars relative to the wreck of the schooner General Brock: "The British schooner General Brock, Capt. Campbell, from Prescott, U. C., bound to Toronto, seventy tons burthen, laden with merchandise, was run ashore about two miles west of Pultneyville, during a severe gale on Sunday, the 14th inst., at about 3 o'clock P. M., but was not discovered until 4, when the people of the village were notified and went to their relief, and in the evening all on board, seventeen in number, including one female, were got on shore—but not without much hazard and some frozen limbs. They were all taken to the house of William Waters, where they received every attention necessary. The greater part of the deck load was hove overboard before she struck.—They were on the lake about 15 hours after the storm had become extremely severe, the wind blowing from the northward, accompanied with snow.—The cold was intense. Considerable of the remaining cargo was got on shore, which is not much damaged, but much yet on board will be entirely lost, it being on board. The loss, at best, will be very great, though it is said the goods are insured. Much credit is due to those who aided in relieving the sufferers from their distressed condition."—[Oswego Patriot.]

The pride of woman has an hypocrisy which can deceive the most penetrating, and shame the most astute.

When we experience neither candor nor justice in mankind, it almost drives us in despair to suppress every generous emotion, and to exist in a state of carelessness, hardness, forgetfulness, and self-indulgence.

Fraternal Generosity.—The late Mr. Grawshaw, in the testamentary disposal of his property, bequeathed the bulk of his immense fortune to three sons and one of his daughters, almost entirely overlooking his other daughter, Mrs. Frederick Wood.—The three brothers and the sister of that lady, with a fraternal affection which does them the highest honor, have within the last week, each presented her with 5,000l; which, with the sum of 20,000l. originally presented to her by her father, makes her fortune equal to 40,000l.

THE WIFE OF LAFAYETTE.—The following is taken from that portion of Mr. Everett's beautiful tribute to the memory of this friend of America, and champion of liberal principles, which relates to the attempt of his wife to effect his liberation from the dungeons of Olmutz:

Relieved from anxiety on account of her son, the wife of Lafayette was resolved, with her daughters, to share his captivity. Just escaped from the dungeons of Robespierre, she hastened to plunge into those of the German Emperor. This admirable lady who, in the morning of life had sent her youthful hero from her side to fight the battle of constitutional freedom beneath the guidance of Washington, now goes to immerse herself within the gloomy cells of Olmutz. Born, brought up, accustomed to all that was refined, luxurious and elegant, she goes to shut herself up in the poisonous wards of his dungeon—to partake his wretched fare; to share his daily repeated insults; to breathe an atmosphere so noxious and intolerable, that the gaolers, who bring them their daily food, are compelled to cover their faces as they enter their cells.

Landing at Altona on the 9th of September, 1795, she proceeded with an American passport, under the family name of her husband (Motier), to Vienna. Having arrived in that city, she obtained, through the compassionate offices of Count Rosenberg, an interview with the Emperor. Francis II, is not a cruel man. At the age of twenty-five he has not yet been hardened by long training in the school of state policy. He is a husband and a father. The heroic wife of Lafayette, with her daughters, is admitted to his presence. She demands only to share her husband's prison, but she employs the Emperor to restore to liberty, the father of her children.—"He was indeed, Sire, an officer in the armies of republican America; but it was at a time when the daughter of Maria Therese was foremost in his praise. He was indeed a leader of the French revolution; but not in its exercises, not in its crimes: and it was owing to him alone, that on the

dreadful 5th of October, Marie Antoinette and her son had not been torn to pieces by the blood thirsty populace of Paris. He is not the prisoner of your justice, nor your arms; but was thrown by misfortune into your power, when he fled before the same monster of blood and crime, who brought the king and queen to the scaffold. Three of my family have perished on the same scaffold, my aged grand-parent, my mother, and my sister. Will the Emperor of Germany close the dark catalogue, and doom my husband to a dungeon worse than death?—Restore him, Sire, not to his army, to his power, to his influence, but to his shattered health, his ruined fortunes,—to the affection of his fellow citizens in America, where he is content to close his career,—to his wife and children."

The emperor is a humane man. He hears, considers, reasons, hesitates;—tells her his hands are tied by reasons of state, and permits her to shut herself up, with her daughters, in the cells of Olmutz! There her health soon fails; she asks to be permitted to pass a month at Vienna to recruit it, and is answered that she may leave the prison whenever she pleases; but if she leaves it, is never again to return. On this condition, she rejects the indulgence with disdain, and prepares herself to sink, under the slow poison of an affected atmosphere, by her husband's side. But her brave heart—fit partner for a hero's—bore her through the trial;—though the hand of death was upon her. She prolonged a feeble existence of ten years, after their release from captivity but never recovered the effects of this merciless imprisonment.

[From Dr. Lieber's Letters from America to a Gentleman in Germany.]

I always have considered Mahomed very impolitic for denying women a soul, and the Andalusians ought to be ashamed to this day, that their forefathers, the gentlemen of Gades, according to Strabo, prohibited women from entering their temple of Hercules. But I really wish ladies would keep out of the way where they are not in their sphere. I would say, "Don't show this passage to the ladies of your family," did they not know already my opinion on this point, and, moreover, that it originates from my great veneration of the sex.

A poor fellow of a traveller wants, for instance, to hear the great men of the nation "talk." He goes to Washington; by eleven o'clock, the morning after his arrival, he proceeds to the Senate, though his business only begins by twelve o'clock. He thinks he has secured a seat. But by that time ladies begin to drop in; presently they seize upon all the seats. Very well, allow the poor fellow but a fair stand, but no, he is obliged to squeeze himself in a corner, pressed in from all sides; mercy, ye gentle souls, allow him but a free passage from his ear to the debaters, and treat the rest of his body as though it were a bale of cotton under the hydraulic press! The prayer is said; he stretches his neck like a turtle, and turns his eyes away, in order to bring his ear the better into a position that it may catch a sound, which Echo, more merciful than the ladies, may throw into it. His twisted neck begins to ache; his eyes are closed, he thinks "now for the treat," when, unhappily, some officer of the Senate taps him on the shoulder: "Sir, there are ladies coming," at the same time, shuffling and pushing chairs over the heads of innocent listeners and constituents, crammed in like the camomile flowers of the Shaking Quakers; but they have nothing to do here, it seems. At last, the officer succeeds in working a passage, and lo! as if a canal of bonnets, feathers, and veils, had broken through, in they rush; there is no use in resistance "when this element breaks through." Without a single "I beg your pardon," or betraying the least sorrow at disturbing you, the ladies drive the poor man out of his last retreat; "out with you, badger, out with you!" he must needs give way, the contrary would be rude; and—*manos blancas no ofenden*. The poor man who has come, say five hundred miles, to hear the Senate, is standing, by this time near the door, with a longing look toward the President, if he has found an opportunity to turn his head back again; and now the debates begin, but, alas! the ladies, also, begin, and our unlucky traveller retires, all he has heard of the Senate having been a lisping from sweet lips, directed, perchance, to a polite Senator himself. I truly and sincerely think, that legislative halls are, generally speaking, not places precisely calculated for ladies, for many and, I humbly think, very weighty reasons.

Taken all in all, it seems to me, that woman, in the best times of the Roman republic, had a position in society as near to what she ought to have, as at any other period of the world, and with any nation. Thus much is certain, that the history of no people

has recorded so many adorable examples of her virtue and elevation of soul, as the history of "ter Rome." But Lucretia, Valeria, Veturia, Cornelia, Portia, and the late and noble never went to the Senate-house. I know full that our society, resting on different principles than that of ancient Rome—witness our refinement, industry, our generally diffused system of education, our social intercourse, which has grown of a natural transformation of that of the chivalry times, of which, nevertheless, many elements passed over as integral parts of the new order of things,—has different demands, and requires different positions in the members composing it; yet it is ever to be learned, from whatever once was good.

Why not have, in the good old style of the church, a box with lattice work, of some seats a few metrons; but as to giving up the whole place left for humble listeners, to young ladies of sixteen and seventeen, who turn the senate house into a lounging place; it is, permit me to say it with a blush, which craves indulgence, unfair. Now, if a were passed that no lady under twenty-five years should be admitted, I bet my life the whole difficulty would be removed. The English, as yet great masters of what I would call parliamentary management, in which we are the next best, but French, to no little injury of their whole scheme of liberty, are totally deficient, do not admit ladies, except on some particular occasions, in the gallery of the house of lords.

Suppose, the same disappointed man, whom I have seen swimming, without success, against the current in the senate-house, is desirous of hearing an oration on some political subject, to be delivered in public hall or church. He starts early, to be certain of a place, but, oh Jove, protector of the stranger when he arrives, all seats, below and in the first rank above, are already taken by the ladies, whose pretty heads are in as quick motion as their fans which gives to the whole scene the appearance of an agitated sea between breakers. But the stranger spies a yet empty space; to this he directs his course; it is difficult, and may cost him a flap of his coat, but never mind, he is anxious to hear the orator of the day. He penetrates at length, to the spot where he expects to rest in peace. "Sir," says a very politely, a man with a short stick in his hand "these seats are reserved for the gentlemen who form the possession." Confound it, internally exclaims the disappointed man, and makes his exit.—I remember, I was once unable, on occasion of the delivery of a Latin oration at a public commencement of some college, to penetrate a crowd of ladies, composed, almost without exception, not of mothers, but of young fashionables. I am resolved to do my best to get up a *Polite anti-ladies thronging-poor-men-out-of-every-chance-of-seeing-any-thing-Society*, and have branches established all over our Union. If I am made president, I'll certainly use my influence to get Mr. Stuart elected an honorary and corresponding member.

THE NAVIES OF FRANCE AND ENGLAND.—We gave the other day, from an official French journal of last year, an account of the French Navy. We now translate from the same periodical for January of this year, a comparative statement of the English and French Navy, as to the number of ships and officers:—

Comparison between the Navy of France and England.—According to official documents, the officers of the English Navy are, 44 Admirals, 62 Vice Admirals, 64 Rear Admirals, 43 Rear Admirals on half pay, 786 Captains, 877 Commanders, 279 Lieutenant Commanders, 3172 Lieutenants, 487 Masters, 625 Quarter Masters, 1088 Medical Officers, 63 Chaplains.

There are 22 ships of 100 guns and over, 99 seventy-four gun ships and over, 104 frigates of and above 42 guns, 22 steam vessels, and 310 ships ranging from 40 to 36 guns—in all 557 vessels.

The officers of the French Navy are, 3 Admirals, 12 Vice Admirals, 22 Rear Admirals, 70 Captains of line of battle ships, 70 Captains of frigates, 90 Captains of corvettes, 450 Lieutenants of line of battle ships, 550 do of frigates, 315 Medical Officers, 12,500 Masters, Seamen, and boys.

There are 40 line of battle ships of from 74 to 80 guns, 52 frigates of 1st, 2d, and 3d rate, 25 corvettes, 17 steam ships, 300 brigs, schooners, gun boats, &c.

England, with three times as many ships and officers as we, spends only 125 millions of francs annually, [25 millions dollars] on its Navy. Ours costs 70 millions francs, [14 millions dollars.]

PAY TO NAVY OFFICERS.—The House of Representatives has been for some time engaged on, and finally adopted in committee, a bill for raising, as most just and proper, the pay of the Navy.

The Journal of Commerce gives the following as exact provisions of the bill, as reported to the House by the Committee of the Whole. It is to go into operation from the date of its passage:

The Senior Captain.—The bill provides that the senior Captain shall receive, at all times when in service, \$4500. When on leave of absence or waiting orders, \$3500.

All other Captains.—When commanding squadrons, coast stations, and when acting as Navy Commissioners, \$4500. When commanding Navy Yards, \$4000. When on other duty, \$3750. When on leave of absence or waiting orders, \$3000.

Masters Commandant.—On sea service, \$2500; on other duty, \$2000; waiting orders, \$1800.

Lieutenants.—Commanding, \$1800; on other duty, \$1500; waiting orders, \$1200.

Assistant Surgeons.—Waiting orders, \$650; at sea, \$950. After passing, and found qualified for promotion to Surgeon, \$850; at sea, \$1200; stationed at Navy yards, hospitals, rendezvous, and receiving ships, \$950. After being passed, and stationed as above, \$1250.

Surgeons.—First five years after date of commission, \$1000; second do, \$1200; third do, \$1400; fourth do, \$1600; afterwards, \$1800. An increase of one-fourth on those rates, when under orders for duty, at Navy yards, receiving vessels, rendezvous, or naval hospitals; an increase of one-third when ordered to any vessel for sea service; an increase of one-half, when ordered as fleet surgeons; and three-fourths, when appointed to perform the duties of Surgeon General. When attached to vessels for service, or at Navy yards, \$1400; when on leave of absence or waiting orders, \$900.

Chaplains.—When attached to vessels for sea service or at navy yards, \$1200. On leave of absence or waiting orders, \$800.

Professors of Mathematics.—When attached to vessels for sea service, or in a yard, \$1200.

Secretaries.—To commanders of squadrons when commanding in chief, \$1000, do. when not commanding in chief, \$900.

Sailing Masters.—Of a ship of the line for sea service, \$1100; on other duty, \$1000; on leave of absence, or waiting orders, \$750.

Second Masters.—Attached to vessels for sea service, \$750; on other duty, \$500; on leave of absence or waiting orders, \$400.

Passed Midshipmen.—Attached to vessels for sea service, 600; on other duty, \$500; on leave of absence, or waiting orders, \$400.

Warranted Masters Mates.—Attached to vessels for sea service, or at navy yards, \$450; on leave of absence, or waiting orders, \$300.

Midshipmen.—Attached to vessels for sea service, \$400; on other duty, \$350; on leave of absence, or waiting orders, \$300.

Clerks.—Of a yard, \$900; first Clerk to a Commandant of a Navy Yard, \$900; second do., \$750; clerk to commanders of squadrons, captains of fleets, and commanders of vessels, \$500.

Boatswains, Gunners, Sailmakers, Carpenters.—Of a ship of the line for sea service, \$750; of a frigate for do. \$600; when on other duty, \$500; when on leave of absence, or waiting orders, \$360.

General Provisions.

Officers temporarily performing duties belonging to those of a higher grade, shall receive the compensation allowed to such grade, while actually so employed.

No officer shall be put on furlough except at his own request; and all officers so on furlough, shall receive two thirds of the pay allotted to leave of absence.

An Assistant Surgeon, having been absent on duty when others of his date were examined, shall, if not rejected at a subsequent examination, be entitled to the same rank with them; and if from any cause his relative rank cannot be assigned to him, he will retain his original position on the register.

Only one ration per day allowed to any officer when attached to vessels for sea service.

The compensation above specified, shall be in full for pay and subsistence, and for all allowances in lieu of cabin furniture to commanders of vessels and squadrons, and for all allowances to officers attached to Navy Yards, or employed on any shore duty, except for detention and employment on special service, for house rent or chamber money where quarters or public accommodations are not provided, and for

travel under orders, for which 16 cents per mile shall be allowed.

From the pay of commission and warrant officers, hereafter to become due, the Secretary of the Treasury is directed to deduct 3 per cent. and to pay the same to the Secretary of the Navy and the Navy Commissioners, as a fund, in connexion with other monies, for the relief of the widows, children, widowed mothers and unmarried sisters of said commission and warrant officers.

The distribution of prize money to the officers, seamen, and marines of the Navy, shall hereafter be in proportion to the pay of such officers, seamen and marines, respectively.

THE CAUSE OF TEMPERANCE is the cause of all; for the curse of Inemperance falls with its withering blight, in some way, more or less, upon all. It is, therefore, with unfeigned satisfaction, we give place to the following notice, handed to us for publication, by the President of the New York State Temperance Society. Of the meritorious character of this gentleman, of his untiring zeal and virtuous enthusiasm in the great cause to which he has dedicated himself, this is not the place to speak at large; but we could not insert the notice of such a result, as is announced below, without some allusion to the individual through whose instrumentality it was effected:—

The following gentlemen have agreed to contribute the sums set opposite to their respective names, towards the support of the Press, the efficient agent under Divine Providence, in the great cause of Temperance. The Executive Committee take this mode of tendering their heartfelt thanks to the gentlemen who have thus so generously and so liberally come forward in aid of this noble cause:—

Stephen Van Rensselaer, Albany,	\$1,000
Henry Dwight, Geneva,	1,000
A. Champion, Rochester,	1,000
E. Corning, Albany,	1,000
Samuel Ward, New York,	1,000
Brown, Brothers & Co., do.,	1,000
Peter Remsen, do.,	1,000
Boorman & Johnston, do.,	1,000
John Jacob Astor, do.,	1,000
P. G. Stuyvesant, do.,	1,000
J. W. Leavitt, do.,	1,000
Charles Hoyt, Brooklyn,	1,000
Anson Blake, New York,	1,000
A Friend,	1,000
E. C. Delavan, Albany,	1,000
	\$15,000

The leading object, as we understand, of this munificent subscription, is to enable the friends of Temperance to disseminate more and more widely through the land their admirable exhortations and rebukes.

COLUMBIA COLLEGE, S. C.—Governor McDuffie, in his Message to the Legislature, thus refers to this College, of which it will be remembered the noted Dr. Cooper was the President, and the affairs of which had been closely investigated by the Board of Trustees:

"This investigation has resulted in a most thorough conviction, founded upon information derived from authentic sources in every quarter of the State, that the Faculty of the College have become so generally obnoxious to our fellow-citizens, on the score of the supposed religious heresies of some of them, and of the relaxation of moral and general discipline, and have so irrevocably lost the public confidence as suitable persons to guard the morals and mould the opinions of the rising generation, as to render a radical reform and thorough re-organization of the institution, a measure of indispensable necessity, and the only practicable means of reviving its prosperity and extending its usefulness."

As the first step, they have invited all the members of the Faculty to resign—and these have promptly complied with their request. They have proceeded to fill the vacancies, and appointed the four following Professors:—1st. "Mr. Dew, now a Professor in the College of William and Mary, in Virginia, has been elected Professor of Political Economy and History." 2d. "Mr. Cogswell, of Massachusetts, who has been for many years known to some of the members of the Board, as the head of an eminently

successful institution in that State, has been elected Professor of Greek and Roman Literature." 3d.

"Mr. Davies, now and for many years past, acting as the Professor of Mathematics in the Westpoint Academy, has been elected Professor of Mathematics, Mechanical Philosophy and Astronomy." 4th.

"Professor Nott, whose scholarship and devotion to the College, are well known to us all, has been re-elected Professor of Logic and Belles Lettres."—The Governor asks for \$20,000 to repair the buildings, &c.

[From the Salem Gazette of Friday.]

We observe, in a perusal of the debates in the French Chamber of Deputies, that it appeared to be agreed on all sides, that as under our embargo law no American vessel could lawfully navigate the ocean all those who were found on it were trading on British account, and were lawful prize under the French decrees. Some of the American editors, we perceive, fall into the same error. The fact, however, was otherwise. At the time the embargo was laid, a great number of our vessels were at sea engaged in their usual commerce; many of them on distant voyages. Their absence, especially as no previous notice could be given to them, was strictly justifiable under the law; and as no obligation was imposed on them by the law to return, they committed no offence by remaining abroad. Other vessels inconsiderable in number, left the United States, in violation of the law. The latter committed an offence against their country, but none against foreign powers. They were not disfranchised by the act. They were entitled to the protection of their government, and it had a right to inflict on them the penalty to which their conduct had exposed them. The government of France could withdraw them from neither of these claims.

Rather Cool.—The thermometer at Eastport on Monday morning last, stood at 13 degrees below zero, and at Calais, at 18 below.

Duke of Newcastle.—A poor fellow having with difficulty procured an audience of the late Duke of Newcastle, told his grace he came to solicit from him something by way of support, and as they were of the same family, being both descendants from Adam, he hoped he should not be refused. Surely not, said the Duke, there is a penny for you, and if all the rest of your relations give you as much, you'll be a richer man than I am.

Irish Biography.—An Irish writer thus concludes a biography:—"This extraordinary man has left no children behind him, except his brother who was killed at the same time."

[From the New Monthly Magazine for November.]

THE FALLEN LEAVES.—By THE HON. MRS. NORTON.

We stand among the fallen leaves,
Young children at our play—
And laugh to see the yellow things
Go rustling on their way;
Right merrily we hush them down,
The autumn winds and we;
Nor pause to gaze where snow-drifts lie,
Or sunbeams gild the tree.

With dancing feet we leap along
Where wither'd boughs are strown:
Nor past nor future checks our song—
The present is our own.

We stand among the fallen leaves
In youth's enchanted spring—
When Hope (who wears at the last)
First spreads her eagle wing.
We tread with steps of conscious strength
Beneath the leafless trees;
And the color kindles in our cheek
As blows the winter breeze;

While, gazing towards the cold grey sky,
Clouded with snow and rain,
We wish the old year all past by,
And the young spring come again.

We stand among the fallen leaves
In manhood's haughty prime—
When first our pausing hearts begin
To love the olden time;
And, as we gaze, we sigh to think
How many a year hath pass'd
Since 'neath those cold and faded trees
Our footsteps wandered fast;

And old companions—now per chance
Estranged, forgot, or dead—
Come round us, as those autumn leaves
Are crush'd beneath our tread.

We stand among the fallen leaves
In our own autumn day—
And, tottering on with feeble steps,
Pursue our cheerless way
We look not back—too long ago
Hath all we loved been lost;
Nor forward—for we may not live
To see our new hope cross'd;
But on we go—the sun's faint beam
A feeble war with imparts—
Childhood without its joy returns—
The present fills our hearts!

MECHANICS' MAGAZINE.

THE NOVEMBER NUMBER is now ready. It contains Baldwin's Address before the American Institute, verbatim, corrected by himself; a supplemental account of articles exhibited at the Fair, and a great variety of interesting scientific intelligence, both American and European.

The Mechanics' Magazine and Register of Inventions and Improvements is published by the Proprietors, D. K. MINOR & J. E. CHALLIS, at No. 35 Wall-street, New York: in weekly sheets of 16 pages, at 6¢ cents—in monthly parts of 64 pages, at 34¢ cents—in volumes of 384 pages, in cloth boards, at \$1.75—or at \$3 per annum, in advance.—Jens Knout, (formerly proprietor of the London Mechanics' Magazine,) Editor.

The following encomiums on the MECHANICS' MAGAZINE and REGISTER OF INVENTIONS and IMPROVEMENTS, are selected, from many others, from newspapers published in every section of the Union:

"No respectable mechanic who feels the least interest in the manifold improvements of the age, should be without this, or some similar publication."—*Susquehanna Register.*

"It ought to find its way into the house of every artisan, and no mechanic who desires to keep pace with the various improvements of the day, will be without it."—*Geneva Whig.*

There is no periodical in this country which more deserves the patronage of the mechanic than this, and which will better repay him for the expense incurred and the time spent in its perusal."—*Elmyra Gazette.*

It contains information on almost every subject connected with mechanics, and a register of inventions and improvements."—*Montreal Gazette.*

MILL DAM FOUNDRY FOR SALE,

The Proprietors of the Mill Dam Foundry offer for sale or lease, their well known establishment, situated one mile from Boston. The improvements consist of:

No. 1. *Boiler House*, 50 feet by 30 feet, containing all the necessary machinery for making boilers for Locomotive and other steam Engines.

No. 2. *Blacksmith's Shop*, 50 feet by 20, fitted with cranes for heavy work.

No. 3. *Locomotive House*, 54 feet by 25, used for putting together Locomotive Engines. Several of the best Engines in use in the United States have been put in this establishment.

No. 4. A three story brick building, covered with slate, 130 feet by 46, containing two water-wheels, equal to 40 horse power; Machine Shop, filled with lathes, &c.; Pattern Shop; Rolling Mill and Furnaces, capable of rolling 4 tons of iron per diem, exclusive of other work; three Trip Hammers, one of which is very large; Engine for blowing Cupola Furnaces, moved by water-wheel; one very superior 12 horse Steam Engine, which could be dispensed with; and a variety of other machinery.

No. 5. An Iron Foundry, 80 feet by 45, with a superior air Furnace and two Cupolas, Core oven, Cranes, &c. fitted for the largest work. Attached to the Foundry is a large warehouse, containing Patterns for the Castings of Hydraulic Presses, Locomotive and other Steam Engines, Lead Mill Rolls, Gearing, Shafts, Sproves, Grates, &c. &c. These were made of the most durable materials, under the direction of a very scientific and practical Engineer, and are supposed to be of great value.

No. 6. A building, 65 feet by 36, containing a large stack of chimneys, and furnaces, for making Cast Steel. This building is at present used as a boarding-house, and can accommodate a large number of men.

No. 7. A range of buildings, 300 feet long by 36, containing counting room, several store rooms, a Brass Foundry, room for cleaning castings, a large loft for storing patterns, stable for two horses, &c. &c.

The above establishment being on tide water, presents greater advantages for some kinds of business than any other in the United States. Coal and iron can be carried from vessels in the harbors of Boston, to the wharf in front of the Factory, at 25 to 30 cents per ton. Some of the largest jobs of iron work have been completed at this establishment; among others, the great chain and lift pumps for freeing the Dry Dock at the Navy Yard Charleston.

The situation for Railroad work is excellent, being in the angle formed by the crossing of the Providence and Worcester Railroad. The Locomotive "Yankee," now running on the latter road, and the "Jonathan," purchased by the State of Pennsylvania, were built at these works. With the Patterns and Machinery now in the premises, 12 Locomotives and as many tenders, besides a great quantity of cars and waggons, could be made per annum.

For terms, apply to THOS. J. ECKLEY, Treas. &c., Boston, or to ROBERT BALSTON, Jr., Philadelphia. Boston, Dec. 20, 1834.

PATENT HAMMERED SHIP, BOAT, AND RAILROAD SPIKES.

Railroad Spikes of every description required, made at the Albany Spike Factory.

Spikes made at the above Factory are recommended to the public as superior to any thing of the kind now in use.

Ship and Boat Spikes made full size under the head, so as not to admit water.

Orders may be addressed to Messrs. ERASTUS CORNING & CO., Albany, or to THOMAS TURNER, at the Factory, Troy, N. Y. sept. 13-1 y

TOWNSEND & DUFFEE, of Palmyra, Manufacturers of Railroad Rops, having removed their establishment to Hudson, under the name of Duffee, May & Co. offer to supply Rops of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rop, the public are referred to J. B. Jervis, Eng. M. & H. K. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbon Dale, Luzerne county, Pennsylvania. Hudson, Columbia county, New-York, January 29, 1835.

SURVEYORS' INSTRUMENTS.

Compasses of various sizes and of superior quality warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glassess made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 134 Water street, J21 51 corner of Maldenlane.

RAILROAD AND CANAL MAP.

THIS long promised Map is now ready for those who wish it. Its size is 24 by 40 inches. It is put up in a convenient pocket form, in morocco covers, and accompanied by over 70 pages of letter press, giving a concise description of, or reference to, each Road and Canal delineated on the Map. It will also be put up in *Marble Paper covers*, so as to be forwarded by mail to any part of the country; the postage of which, cannot exceed 44, and probably not 25 cents, to any part of the county.

Published at 35 Wall street, N. Y. by D. K. MINOR & J. E. CHALLIS.

AGENTS FOR NEW PUBLICATIONS.

HENRY G. WOODHULL, of Wheatland, Monroe county, New York, is agent for the following Publications: The New York American Daily, at \$10.00—Tri-Weekly, at \$5.00—Semi-Weekly, at \$4.00 in advance. The American Railroad Journal, Weekly, at \$3.00 per annum.

The Mechanics' Magazine, two volumes a year, at \$3.00 per annum.

The Quarterly Journal of Agriculture and Mechanics, at \$5.00 per annum, or \$1.25 per number.

The Family Magazine, 416 pages a year, at \$1.50 in advance.

The Monthly Repository and Library of Entertaining Knowledge, of 36 pages a month, at \$1.00 in advance, now in the 5th volume, bound volumes \$1.25.

The Ladies' Companion, of 54 pages a month, at \$3.00 per annum, in advance.

The Rochester Gem, at \$1.50 in advance.

All Communications addressed to me, at Wheatland, Monroe county, will be promptly attended to. September 19, 1834.

ALBANY SEED STORE AND HORTICULTURAL REPOSITORY.

The subscriber having resumed the charge of the above establishment, is now enabled to furnish traders and others with FRESH GARDEN SEEDS, upon very favorable terms, and of the growth of 1833, warranted of the best quality.

The greatest care and attention has been bestowed upon the growing and saving of Seeds, and none will be sold at this establishment excepting those raised expressly for it, and by experienced seedmen; and those kinds imported which cannot be raised to perfection in this country; these are from the best houses in Europe, and may be relied upon as genuine.

It is earnestly requested whenever there are any failures hereafter, they should be represented to the subscriber; not that it is possible to obviate unfavorable seasons and circumstances, but that satisfaction may be rendered and perfection approximated.

Also—French Lucern, White Dutch Clover, White Mulberry Seed, genuine Mangel Wurzel, Yellow Locust, Ruta Baga, and Field Turnip Seeds, well worth the attention of Farmers.

W. THORBURN, 347 N. Market st. (opposite Post Office).

Catalogues may be had at the Store; if sent for by mail will be forwarded gratis. Orders solicited early, as the better notice can be done in the execution.

Mr. Thorburn is also Agent for the following publications to wit:—NEW YORK FARMER and American Gardener's Magazine; MECHANICS' MAGAZINE and Register of Inventions and Improvements; AMERICAN RAILROAD JOURNAL and Advocate of Internal Improvements; and the NEW-YORK AMERICAN, Daily, Tri-Weekly, and Semi-Weekly: either of which may be seen and obtained by those who wish them, by calling at 347 North Market street, Albany.

TO RAILROAD COMPANIES.

The subscriber having erected extensive machinery for the manufacture of the Iron Work for Railroad Cars, and having made arrangements with Mr. Phineas Davis, patentee of the celebrated wire chilled wheels, will enable him to fit up at short notice any number of cars which may be wanted.

The superiority of the above Wheels has been fully tested on the Baltimore and Ohio Railroad, where they have been in constant use for some months past. Having fitted up Wheels for six hundred Cars, the subscriber flatters himself that he can execute orders in the above line to the satisfaction of persons requiring such work. The location of the shop being on the tide-water of the Chesapeake Bay, will enable him to ship the work to any of the Atlantic ports, on as reasonable terms as can be offered by any person. All orders will be executed with despatch, and the work warranted. When there are but a few sets wanted, the chills and patterns are to be furnished, or the company pay the expense of making the same, and if required, will be sent with the wheels. All Wheels furnished and fitted by the subscriber will have no extra charge on account of the patent right.

Samples of the above Wheels, which have been broken to show their superiority, may be seen at the office of the Railroad Journal; at the Depot of the Boston and Providence Railroad, Boston; and at John Arnold's shop, near the Broad street House, Philadelphia. All orders directed to J. W. & E. PATTERSON, Baltimore, or to the subscriber, Joppa Mills, Little Gunpowder Post-Office, Baltimore county, Maryland, will be attended to. DEAN WALKER. a3

PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having counterbore heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

Tro N. Y. July, 1832. HENRY BURDEN, Agent.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janviera, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J23 1am H. BURDEN.

LOCOMOTIVE ENGINES.

THE AMERICAN STEAM CARRIAGE COMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States; and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c., with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1/2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine, wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company, WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, pag 772, Vol. 2, of Railroad Journal.

RAILWAY IRON.

	Flat Bars in length of 14 to 15 feet, counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.
Ninety-five tons of 1 inch by 1/2 inch,	
200 do. 1 1/2 do. 1 do.	
40 do. 1 1/2 do. 1 do.	
800 do. 2 do. 1 do.	
800 do. 2 1/2 do. 1 do.	
soon expected.	

250 do. of Edge Rail of 36 lbs. per yard, with the requisite chairs, keys and pins.

Wrought Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive wheels.

2 Axes of 24, 24, 24, 34, 34, and 34 inches diameter for Railway Cars and Locomotives of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the Drawback taken in part payment.

A. & G. BALSTON, 9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pine, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. 471mcwr

SURVEYING AND ENGINEERING INSTRUMENTS.

The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG, Mathematical Instrument Maker, No. 6 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832. In reply to the inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later al angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying off rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend, JAMES P. STABLER, Superintendent of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I have it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors.

E. H. GILL, Civil Engineer. Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad. Germantown and Norristown Railroad,

ml 1 y

ERRATUM.—The following lines should have been inserted at the commencement of the third page of this number, (page 819,) but were accidentally omitted.—[PRINTER.]

AX, BX', converging in advance. It is evident that the same signs will appertain to both of the figures 3 and 4; that is, $\alpha = +3$, $B = -2$, and $z = -10^\circ$. And therefore in this case,

$$\sin. T' = \frac{12-2 \cos. 10^\circ + 17+3 \sin. 10^\circ}{12-2 + 17+3} =$$

Extract of a letter from a friend:

"I will just say for your own gratification that the surveys of the Rochester and Olean Canal are completed. Great care has been taken to make them as perfect as possible, and the report, which will appear early, will be favorable."

We learn from the Springfield Pioneer that the Mad river railroad is to be commenced early next spring:

MAD RIVER AND LAKE ERIE RAILROAD.—At an annual meeting of the stockholders, convened agreeably to the Charter, on the third Monday, (20th) Oct., 1834, at Urbana, the following officers were duly elected:

Joseph Vance, Esq., President.

Horatio G. Phillips, Charles G. Swain, Pier-son Spinning, Charles Cavileer, Jonathan Harshman, John C. Pearson, Benjamin M. Piatt, Robert Patterson, Josiah Hedges, John G. Camp, Isaac A. Mills, Talman Wildman, Directors.

At a meeting of the Directors present, held the same evening, they re-elected John H. James as Treasurer, and Jeremiah Warder, Secretary; and appointed a committee, consisting of Joseph Vance, H. G. Phillips, and Talman Wildman, to carry into effect the object of the Company, by procuring further subscriptions of stock, and putting the work into operation at as early a day as practicable. Adjourned to the first Wednesday in April, at Urbana, unless sooner convened by the President.

NEW YORK AND ERIE RAILROAD.—The influence which this enterprise is destined to exercise over large portions of our country, and the interest already felt far beyond the limits of its immediate field, may be judged by the annexed extract, which we make from a Journal printed in the town of Monroe in the Michigan Territory.

[From the Monroe Journal and Michigan Inquirer.]

In the year 1832, the Legislature of New York, incorporated the New York and Lake Erie Railroad Company.

This enterprise, to its projectors so honorable, and to our Territory so important, we have witnessed with deep interest; and we rejoice that measures are to be adopted which must ensure its consummation.

The Report of the Engineers who explored the route, is more favourable than was anticipated; and we understand that the Common Council of the city of New York have recently entered into the spirit of the subject, and that the Company are about to ask Congress to extend to them a helping hand.—Michigan having before Congress a petition for similar aid, the construction of a Railroad across the Peninsula, this subject, to our citizens, is one of peculiar interest. But taken as a component part of the great line of direct, rapid, and cheap communication contemplated from the Valley of the Mississippi through Illinois to Lake Michigan, and by the Wabash Canal to Lake Erie, its importance can hardly be appreciated.

The fertility of our soil—the amazing current of immigration which is winding its way into every part of our Territory, and the great commercial facilities which are presented upon every side of us, all conspire to render the enterprise to which we have alluded, to us, of incalculable benefit. To Illinois, Indiana, and the northern parts of Ohio, the benefits resulting from this great enterprise will be no less important, and with a confidence, that twenty years since, we did not dream of, we anticipate, that at no distant period, the produce of those fertile and beautiful states, and the immense region of country beyond them, will find its outlet through this new and splendid avenue.

NEW YEAR'S DAY was kept in old fashioned style very generally. The beauty of the day seemed to animate every one; and one half, though not the better half,—of our citizens were in active movement, from early morn to,—not dewy, but freezy,—eve, to visit the other. It was altogether a jubilee of kindness and good will.

NEW BANKS.—The Legislature of this State will convene at Albany next Monday. Applications will be made, in the course of the session, for the following new Banks, and probably others.

	Capital.
Cortland Co. Bank, Cortlandville.	\$200,000
Oxford Bank, Chenango Co.	200,000
Tompkins Co. Bank, Ithica	250,000
Olean do Cattaraugus Co.	100,000
Canal Bank of Lockport, Niagara Co.	300,000
do do do	250,000
Kingston Bank, Ulster Co.	200,000
Delaware Co. Bank, Delhi	150,000
Fredonia Bank, Chautauque Co.	100,000
Phenix Bank of Lewiston, Niagara Co.	250,000
Clinton Co. Bank, Plattsburgh	200,000
Inland Bank and Insurance Company, Ithica Tompkins Co.	300,000
Dunkirk Bank, Chautauque Co.	200,000
Owego Bank, Tioga Co.	200,000
Wool Growers Bank Norwich, Chautauque Co.	200,000
Farmers Bank at Batavia, Genesee Co.	200,000
City Bank of Buffalo, Erie Co.	600,000
Bank of Lockport, Monroe Co.	200,000
Putnam County Bank, Carmel	200,000
<i>Increase of Capital.</i>	
Ogdensburg Bank	100,000
Jefferson County Bank	120,000
Saratoga County Bank	100,000
Union Bank N. York	1,000,000
Greenwich Bank do	300,000
Total	\$5,920,000

Notice for applications are also published in the Argus for the following Rail Road Companies.

Syracuse and Utica Railroad Co.	1,200,000
Rochester and Lockport	400,000
Ithica and Auburn, do	600,000
Attica and Buffalo, do	250,000
Rochester and Syracuse, do	2,000,000
Total	\$4,450,000

also for the
Canisteo Canal Co 200,000
Erie Insurance Co. Buffalo. 200,000

ORATION OF J. Q. ADAMS IN HONOR OF LAFAYETTE.—On Wednesday there was no sitting of Congress, the day being devoted to the speech of Mr. Adams in honor of Lafayette. Our letter sketches that speech partially; and the writer says of it, we doubt not justly, that it was eminently worthy both of the subject and the orator.

The delivery of it occupied two hours and a half, in the course of which, frequent indications of a disposition to applaud were manifested in the galleries and privileged places. At the conclusion of the oration, "members of all parties," as we are told, "vied with each other in tendering their congratulations to Mr. Adams on the admirable manner in which he had fulfilled the honorable duty confided to him."

The fact noticed in our Washington letter, that not a single representative of a crowned head, though all invited, was present on this occasion, is worthy of note.

HANDSOME NEW YEARS GIFT TO THOSE CONCERNED.—The Atlantic Insurance Company (Marine) have declared a dividend of Ten per cent out of the profits of the last six months.

RAILROAD CARS,

Messrs. D. & J. MITCHELL, Eclipse Foundry, Hollidaysburgh, Huntingdon county, Pennsylvania, are now prepared to manufacture, at short notice, any number of Railroad Cars—in the most approved and substantial manner. Jan. 24 t

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad
No. 264 Elizabethstreet, near Bleekerstreet,
New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad, now in operation. J35 tf

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS. Also, Flange Tires turned complete. J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18



INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

EWING & HEARTT, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewing & Heartt.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, (I trust) should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES F. STABLER,

Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit Levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewing and Heartt.—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in your line, deserve our unqualified approbation and our warm encouragement. Wishing you all the success which your enterprise so well merits, I remain, yours, &c.

B. H. LATROBE,
Civil Engineer

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them, upon application, to any person desirous of perusing the same. m26

